

Ain Shams University, Scientific Bulletin of The faculty of Engineering

Vol. 29, No. 1, March 1994, Page. 113-144

**CONTRIBUTION OF SITE & SERVICES TOWARDS  
HOUSING DEMAND FOR THE URBAN POOR.**

**PRESENTED BY**

*Dr. BASHAYER EL SAYED MOHAMED KHAIRY*

**LECTURER**

**URBAN PLANNING DEPARTMENT**

**FACULTY OF ENGINEERING**

**AIN SHAMS UNIVERSITY**

**CONTRIBUTION OF SITE & SERVICES TOWARDS  
HOUSING DEMAND FOR THE URBAN POOR.**

**BY**

***Dr. Bashayer El-Sayed Mohamed Khairy***

*Lecturer, Urban Planning Dep., Faculty of Engineering, Ain Shams University*

**Introduction :**

The research work and field study aims at analysing the experiences of "Site & Services" in four different regions in the developing world; El Salvador, Philippines, Nairobi, Egypt. The research describes some of the critical issues involved in "Site & Services" method and compares it with Subsidized Government Housing and illustrates, through the examples given, the achievements and limitations in order to forward a number of aspects and recommendations which should be considered in any location in the developing world for future action.

**INDEX**

**Forward :**

- 1) The American Example - El Salvador Experience
  - 1) Tugurios
  - 2) Mesones
  - 3) Coloias Hegales
  - The foundation programme
- 2) Philippines Experience
- 3) 1st African Project - Nairobi, Dandora Experience

Phase I

Phase II

Phase III

a) The Technical Division

b) The Finance Division

c) The Community Development Division

Evaluation

4) 2<sup>nd</sup> African Project - Helwan, Egyptian Experience

Three Major Goals

Lot sizes

Housing Options.

Community Organization

Tenure

Evaluation



### Foreword:

Since the end of World War II, cities in the third world have been inundated with millions of squatters and slum dwellers. At first, these were mostly migrants from the village, but lately the growth in their numbers has been due to natural birthrates exceeding death rates. The urban poor have shown a tremendous capacity to survive, with only rudimentary skills they have built their own houses. After almost three decades of trying to eradicate slum and squatter areas, most governments in developing countries have now adopted a more conciliatory and accommodating attitude. The main principle behind basic housing is progressive development. The housing can be gradually improved on in stages, using the combined resources of the people, community, government and other institutions. In the process, the shelter and services that evolve are in response to the basic needs of the people and their inherent capabilities to achieve those needs.

In the experience of Zambia the main housing programs prevalent before the 1970s were urban renewal, low-cost housing and housing finance. Developers with the support of the government, assembled land in depressed areas, moved people out, demolished old structures and then built new housing. Because this approach was subjected to modification in many developing countries however, it rarely went beyond moving the people out and dumping them into "temporary" resettlement sites outside of the city limits. Instead of building new housing, authorities constructed expensive prestige projects such as cultural centres, convention halls, government offices and transport terminals. In some countries, the cleared land was allocated to shopping plazas, high-rise condominiums and parking lots. Instead of solving the housing problem, squatter eradication only made it worse<sup>1</sup>.

<sup>1</sup> Laquian, Aprodicio A. "Basic Housing" Policies for Urban sites, Services, and Shelter in Developing Countries. International Development Research Center 1983. Ottawa, Canada.

Destroying existing shanties meant a reduction in the housing stock. It also entailed a large loss to poor families who had invested considerable sums of money in their dwellings. It was estimated that when almost 39,000 people were evicted from the Eastleigh area of Nairobi in 1970, the 6733 dwellings demolished represented a capital loss of US \$ 285,000 on the part of the people<sup>2</sup>. Another eviction of squatters along the Nairobi River several years later resulted in a sharp reduction in informal sector jobs because the destroyed structures were also the workplaces of bicycle repairmen, automotive mechanics, handicraft manufactures.

The failure of squatter eradication programs is evident from the fact that squatters and slum dwellers are the fastest growing segments of urban population. There are very few housing authorities using urban renewal or squatter eradication programs now. The common policy is to delay resettlement until an acceptable area is ready to receive the people to be moved. Most governments now attempt to preserve even substandard housing, counting even squatter shanties as part of the housing stock. Subsidized housing has been the most common response of governments to the housing problem. It is now realized that, even with minimum standards, subsidized housing programs are just too expensive to adequately house all the people needing housing. There are a few examples, such as Singapore & Hong Kong, where public housing programs have been successful<sup>3</sup>. In most countries, however, subsidized housing has been beset with problems. People who have benefitted from this housing could have acquired housing on the open market while people who needed subsidized housing have not gained access to it.

Many governments realized the organizational capabilities of squatters and proposed that these could be harnessed for development of

<sup>2</sup> Haldane, D. 1971 Survey of Temporary Structures in Nairobi Urban Studies, Nairobi, Kenya.

<sup>3</sup> Yeh, S. H. K. & Laquian, A. A. ed. 1979. Housing Asia's millions: Problems, policies, and prospects for low-cost housing in Southeast Asia, Ottawa, Ont., Canada.



their communities rather than being turned against by authorities. In India, 1971 "Van Huyck & Rosser" noticed the adequacy of even the worst slum dwellings<sup>4</sup>. In Venezuela, Peattie (1968)<sup>5</sup> witnessed mutual assistance patterns in low-income neighborhoods that were found to be useful in housing and service provision. Studies in Brazil disproved the notion that squatters are dangerous radicals and noticed that the organized behaviour of low-income people was used mainly to attain basic housing and services.

Based on studies of slums/squatter communities, a number of generalizations with relevance to basic housing were put forward. The most important were :

- 1) Squatters and slum dwellers have the resources, skills, and personal motivations to provide adequate shelter for themselves.
- 2) When given security of tenure and resources, squatters and slum dwellers can build their own houses and improve them as their life situation improves.
- 3) Squatters and slum dwellers develop their own market mechanisms and can provide themselves with building materials appropriate to their needs.
- 4) Squatters and slum dwellers are well organized and use mutual-aid and self-aid in building their own houses and community facilities.
- 5) There are valid reasons for the locations chosen by squatters and slum dwellers and these usually dictate their choice of housing sites.

In the 1960s squatter eradication and resettlement programmes gave way to programmes that respected the existence of squatter

<sup>4</sup> Van Huyck, A. P. 1971. Planning for sites and services programs. Washington DC, USA Ideas and Methods Exchange No. 68 .

- Rosser C.1971. Housing for the lowest income groups, the Calcutta experience Ekistics, 31.

<sup>5</sup> Peattie L. R. 1968. The view from the barrio. Ann Arbor, M1, USA. University of Michigan Press.

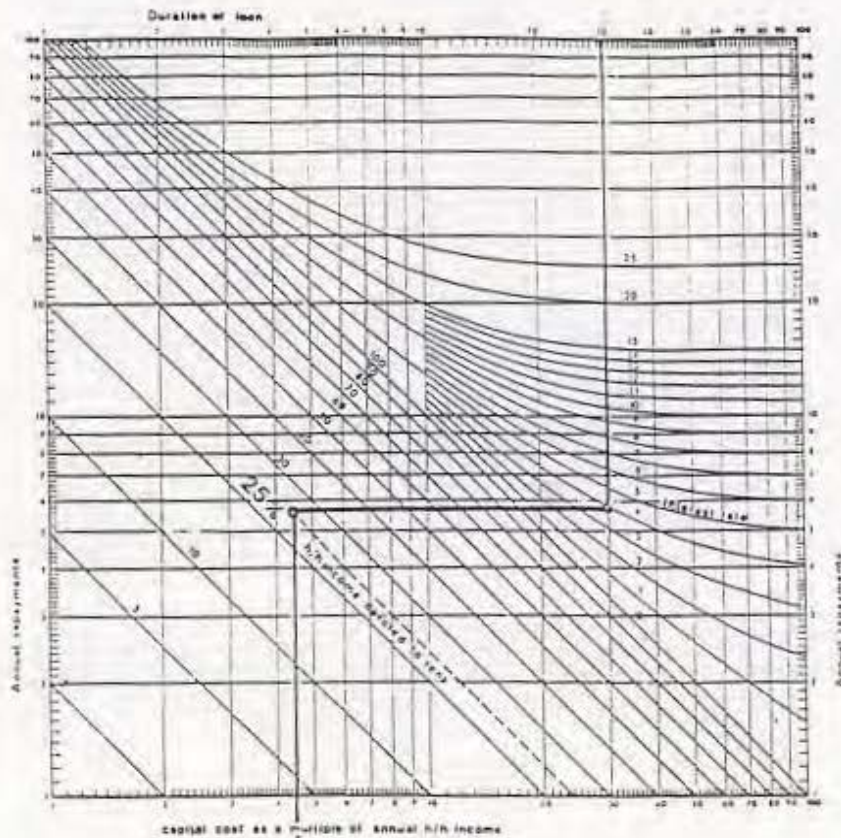
communities. Existing slum/squatter areas were even improved in Chile, India & Iraq by extending basic services to such places. A review of "sites and services" projects (Grindley & Merrill, 1971)<sup>6</sup> revealed that such projects were being used in 32 countries. A number of the projects were more than 10 years old and were successful in improving conditions of the urban poor.

The importance of these projects emerges from the positive role they play towards the beneficiaries and target group in building their housing units to match their social requirements and economical resources. Another aspect is that in these projects the government's participation is less than that in government subsidized housing which in general does not conform with the target population's resources. The role of the government, here, is limited for it provides the new housing system with only the needs that the group cannot provide themselves, which includes :

- 1) Site: Residential building plot of land described by its size, location and project density.
  - 2) Public Utilities: basic amenities such as water and sanitation, electric lighting, side walks and paved roads.
  - 3) Neighbourhood facilities, such as schools, markets, police and fire protection, parks, community centers and religious and cultural centers, transportation (the tenants can also participate).
  - 4) Contractual arrangements, deciding the legal relationship between the government and the residents.
- Offering affordable loans for construction of the housing unit and giving tenure of land and house with actual price rates with a graduated and longer period for repayment according to the tenant's monthly income. [the financing agent could be international e.g. The World Bank or the United States Agency for International Development USAID or national by the government's cutting out part of the housing budget to support these projects] and which could be determined by the Wakely curve (Fig. 1).

<sup>6</sup> Grindley, W. & Merrill R. 1971. "Sites & Services". A preliminary study of the experience and relevant issues. New York, N. Y, USA, United Nations Centre for Housing, Building & Planning.





ANNUAL INCOME  
1000 TO 2000 LE

(average 1500 LE)

loan = 1500 x 4.5 = 6750 LE

loan	savings	total
6750	.....	6750
6750	1500	8250
6750	3000	9750
6750	4500	11250

condition	plot area	7.2x21	7.2x18	6x21	6x18
Cost of plot		3020	2600	2520	2160
Plot-unfinished ground fl.		10520	9100	8820	7560
Plot-finished ground floor		14270	12350	11970	10260
Plot-two unfinished floors		18020	15600	15120	12960

condition	flat area	90 m <sup>2</sup>	75 m <sup>2</sup>	60 m <sup>2</sup>	45 m <sup>2</sup>
semi finished flat		10800	9000	7200	5400
finished flat		15300	12750	10200	7990

Fig. (1): Wakely curve relationship between family income, possible loan and dwelling cost (Open House International Vol. 14 No.2,1989).



- Actually the selection of the target group cannot depend only on the economical view but other factors must also be taken into consideration social, cultural and intellectual to afford an accurate and complete estimation of the target group and to ensure that they could be easily channelled and coordinated to form a "Building together company"<sup>7</sup>
- Another important issue is planning a layout of plots economically successful with the least infrastructure and utility services; limiting as much as possible the network externally and internally for every plot and that depends on the size of the plot and proportion of length to breadth. Generally the proportion (2:1 or 2.5:1) would serve more economically for technical needs.
- The proportion between private areas of the users to circulation to service area 3:1:1 in a suitable proportion for these kinds of projects to be economically successful.

**Building material and systems of construction:** the building material is financially preferable to be local and construction systems should be familiar with the target group to encourage the user's participation in the building process, through technical training programmes, to be used either in their own units or in increasing their economical resources, later on, on working in similar projects. This participation will give them the knowledge needed for the maintenance of the units. Also their participating continues on to the administrative and coordinative committee and gives them the opportunity to join in the decision-making of their own community.

**Examples :**

**1) The American Experience**

**El Salvador Experience**

Sine the inception of San Salvador's squatter areas in 1969, the shelter programmes [FUNDASAL]<sup>8</sup> by the late 1970s, produced about

<sup>7</sup> The Building Together Company" was promoted in Bangkok in 1978 by the members of academic organizations, non-government voluntary agencies and government agencies united by their desire to "explore ways and means of assisting low-income people to gain access to secure housing arrangements and be part of the community building.

<sup>8</sup> FUNDASAL, a private non-profit Salvadorean foundation, based upon the concepts of community participation, progressive shelter construction, financial accessibility to the low-income population.

1400 units a year [7000 units completed by 1975 and 1980]. The programme, here, differs from most sponsored by national and international agencies in two fundamental aspects : first it is a non-governmental organization although it reached a scale that it was operating in six major cities. Second the shelter programme is aimed at achieving community social awareness through community participation. The principal objective of the Foundation's shelter programme is to overcome the restraints on formal and informal housing supply by producing a wide range of serviced sites and basic dwelling units.<sup>9</sup>

Located on Central America's Pacific coast, El Salvador is the smallest and most densely populated country of about 5 million population, it has a population density of over 230 persons/km<sup>2</sup>. Due to unstable employment, insecure rural land tenure and lack of basic services have all contributed to rural migration. According to the 1972 census 55% of the existing housing stock needed replacement or improvement. For many of the poorest urban households there were only three principal types available.

- 1) Tugurios : Built in areas not suitable for construction including ravines and railroad. Most Tugurios have no individually supplied sanitary services. Water is sometimes available from public taps or from private individuals who sell water (Fig. 2).
- 2) Mesones, generally consist of 5-50 rental rooms clustered around a central patio. In most cases a family rents a single room and has to share water and sanitary services (Fig. 3).
- 3) Colonias Hegales consists of peri-urban subdivisions sold without the installation of basic services or official subdivision standards. "Sale" is normally through "rental payments" with promise of ownership without title for as long as 15 years. These colonias are considered illegal (Fig.4).

<sup>9</sup> In addition to the shelter programme the families selected by the foundation, participated in savings and loan co-operatives, employment and production enterprises, community education programmes ...etc.





*Fig. (2): Footpath into a hillside tugurio*



*Fig. (3): View of typical mesone in San Salvador*



*Fig. (4): Colonia Ilegal, San Salvador*

*The foundation programme was carried out by providing the following interrelated components :*

- a) Serviced plot with individual connections for water, sewerage and storm drainage, optional electrical connections, unsurfaced footpaths, public lighting, and a minimal semi-surfaced access road;
  - b) Sanitary core units and optional expansions to the level of an unfinished base unit of 36 m<sup>2</sup> including living area;
  - c) Off-site water distribution and sewerage mains as well as upgrading of existing off-site access roads;
  - d) Financing for construction materials, designed to induce self-help extension of core units;
  - e) The construction and equipment of health clinics, multipurpose community centers, sports fields, and markets.
  - f) The provision of loans for small-scale industries;
  - g) Short-term technical assistance for training, studies and the evaluation of the socioeconomic effects of the programme.
- It was explained during the group selection process that participation in the mutual-help construction groups was a requirement for acceptance to the project. It was explained to the families that mutual help was both a way of eliminating the need for a 10% downpayment and also a means of teaching construction



and organizational skills which would prove useful in the future of the community. In general it was found that groups worked best if formed by 20-25 families.<sup>10</sup>

There are a number of significant design concepts:

- a) Considerable efforts were made to learn from the experience of the earlier projects and tailored the projects to the needs and priorities of the families who would live there. This was reflected in plot sizes, width and quality of streets, levels of infrastructure construction around open spaces. (Fig. 5).
- b) Grouping of houses around common open spaces, which provided plot access and semi-private recreation areas.



*Fig. (5): Layouts of sites and services projects. Chintuc site in Apopa, north of the San Salvador Metropolitan Area (720 units)*

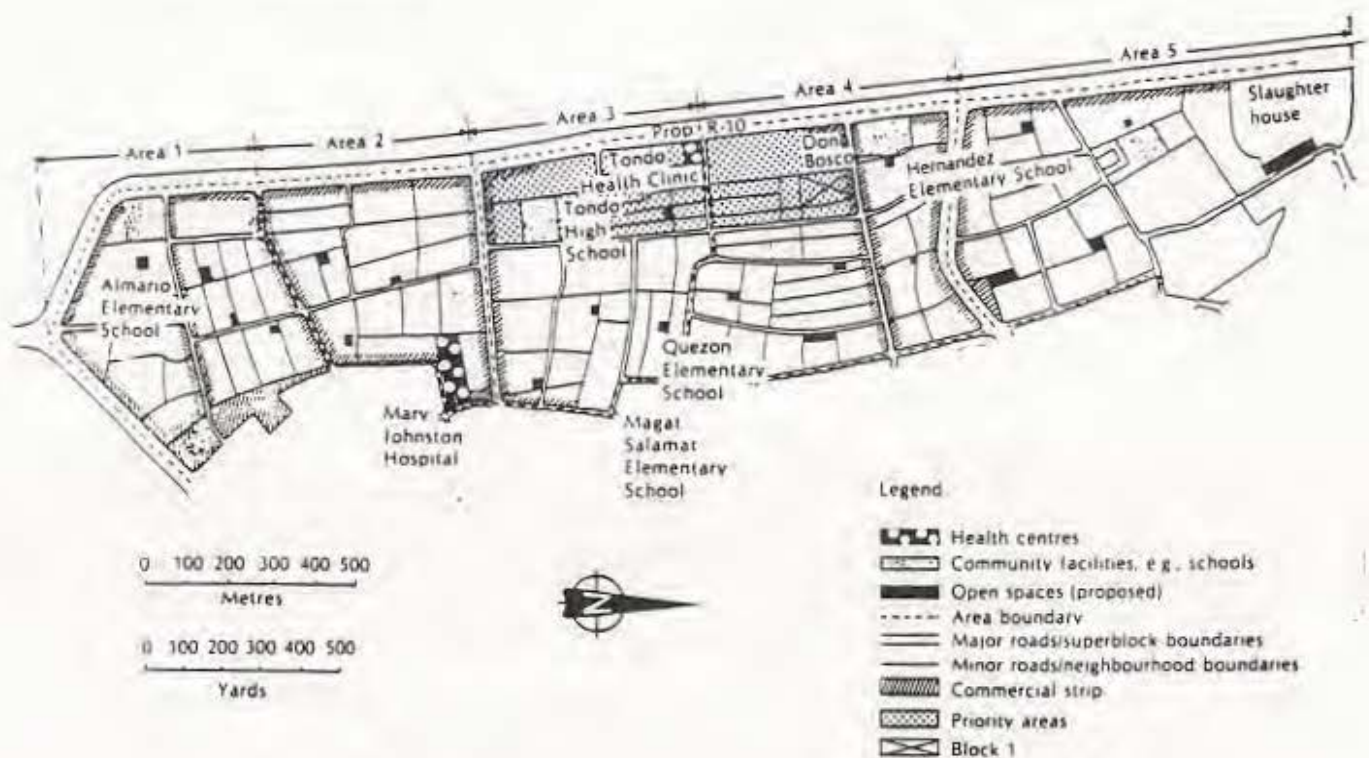
In 1982 the Foundation had one of the best loan repayment records of any shelter programme financed by the World Bank. The impressive cost recovery performance is due to a number of factors including: the active involvement of the community in the collection process, an efficient record-keeping and billing system, loan collectors who visit

<sup>10</sup> "Housing Built by Mutual Help and Progressive Development: To What End?" by Mauricio Silva and Alberto Harth Deneke in P. Ward (ed) *Self-Help Housing: A Critique*. London. Alexandrine Press 1982.

each household every month, the threat of eviction for defaulters, and a careful selection of project participants <sup>11</sup>.

## 2) Philippine's Experience

The Philippines project focused on two sites; the community of Tondo, Manila and the site and services project at Lloila. The main approach in Manila was the upgrading of conditions in the old Tondo foreshore lands (1974 World Bank made its Loans) which shows 5 areas, this involved the construction of roads and pathways, relocation of houses introduction of piped water and waterborne sewerage systems, building of community centers and schools (Fig. 6). About 12000 houses were to be upgraded in the old community. Another 4000 families were to be moved to a "site and services" project in Dagat-Dagatan, located 3 km away. Families were given a number of options on "core houses" that could be built.



*Fig. (6): Tentative Tondo foreshore development plans.*

<sup>11</sup> Marisa Fernandez Palacios and Michael Bamberger. "Economic Analysis of Low Cost Housing Options in El Salvador. World Bank.



These ranged from a sanitary core and a shared fire wall to a sanitary core with shared fire wall, posts, roof and sidings (a basic house that could be moved in) (fig. 7). In addition an industrial estate was set up where factory sites and buildings were offered to investors to help create jobs within the community Serviced plots were also offered for sale in a commercial strip.

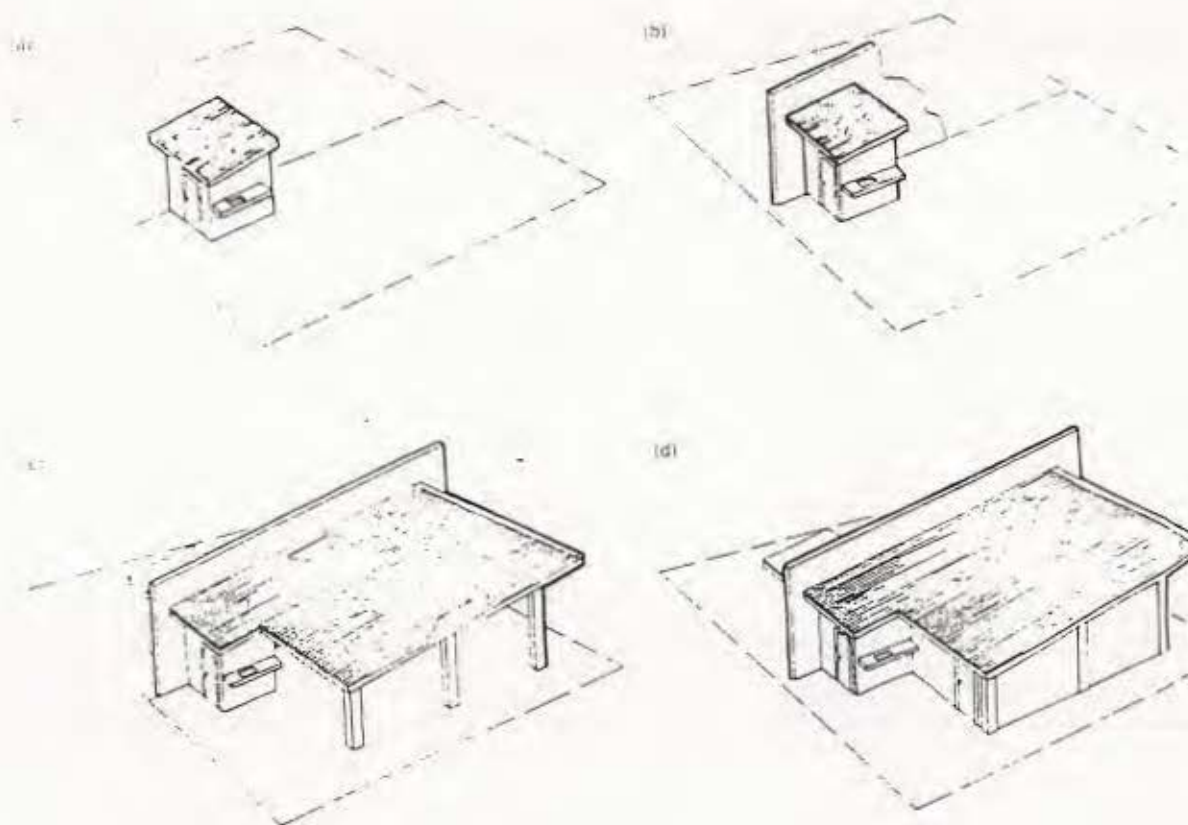


Fig. (7): Basic service options offered by the National Housing Authority in the Tondo sites-and-services project. (a) Sanitary core only, (b) Sanitary core a fire wall, (c) Sanitary core, shared fire wall, posts, and roof, (d) Sanitary core, shared wall, posts, roof, and siding

In upgrading the old community the project organization followed the principles :

- 1) Maximum retention of structures.
- 2) Minimum displacement of families.
- 3) Maximum community participation. "Freedom to Build"

The non-governmental group operating in Manila prefers user-controlled action to what it regards as alienating and expensive professional control. "The greatest untapped resource for housing is the capacity of the poor to provide their own housing - a capacity that has been stifled by professional controls, high standards, legislation processes and the demanding requirements of financial institutions. The second site, an urban development project in Lloila, the consultants<sup>12</sup> prepared preliminary planning and costed engineering layouts for some 1860 plots varying in size from 60 to 150 m<sup>2</sup>. Fig (8, 9). The circulation space was planned less than 20% of the area, the site is offered with sewerage system and sewage disposal by waste stabilization ponds. One of the most notable accomplishments in the Philippines, however was the active role played by the community in all aspects of decision-making pertaining to the projects. Organized Community groups played an active role in setting standards for the project, selecting participants, formulating procedures, and implementing project activities.

---

<sup>12</sup> Gilmore Hankey Kirke Partnership, London. Roger Tym and Partners, London, and P.M.D.S.I., Manila.



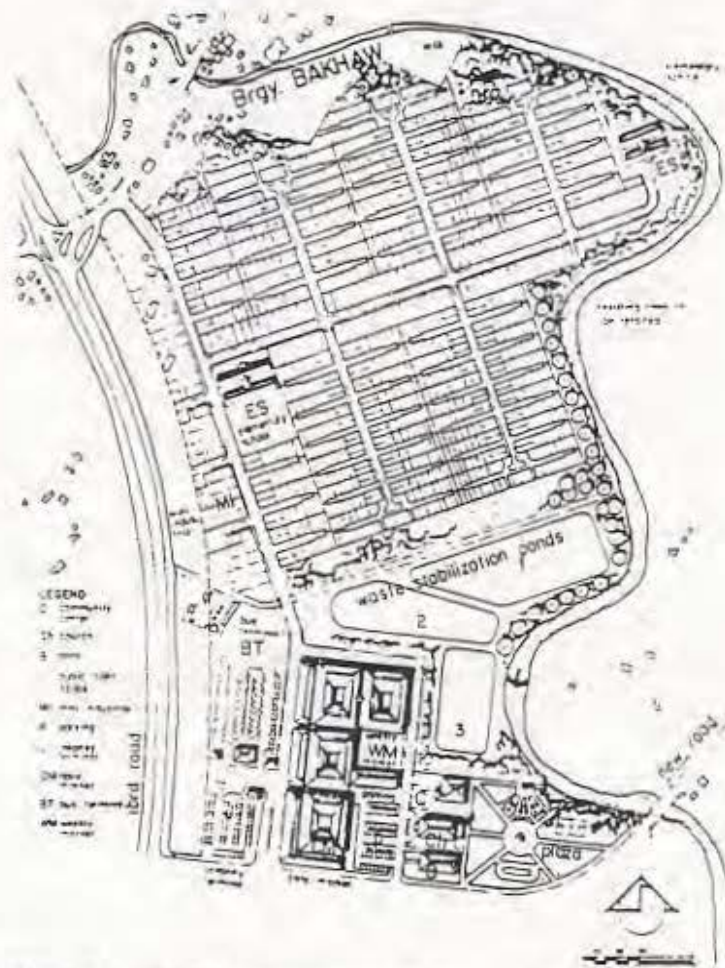
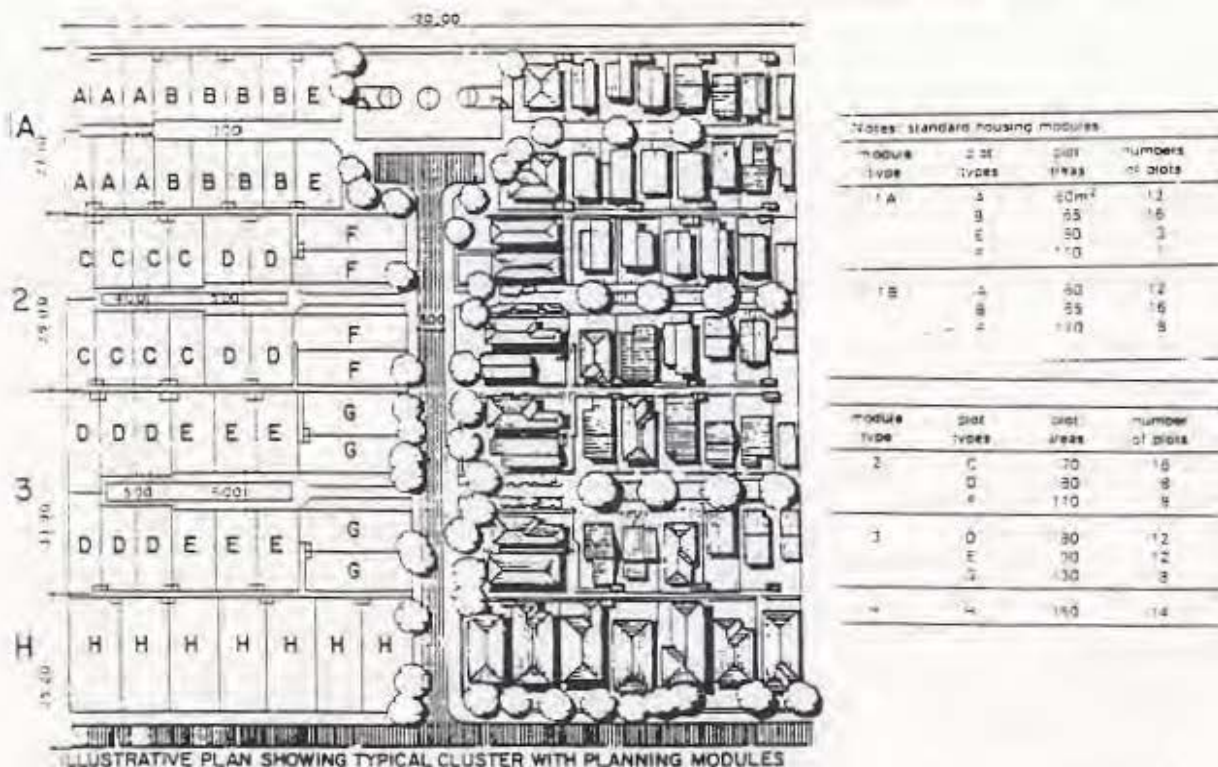


Fig. (8): Part of a site and services project at Iloilo in the Philippines, showing the layout of plots, major facilities and waste stabilization ponds



ILLUSTRATIVE PLAN SHOWING TYPICAL CLUSTER WITH PLANNING MODULES

Fig (9): Typical compound and plot layout in Iloilo, project showing how plots are priced and the types of development anticipated. On-plot development costs (sanitary costs and connection charges) were 2340 pesos for all plots)

### 3) 1st African Project

#### The Experience of Nairobi, Dandora

In 1979, Nairobi accounted squatters as being 45% of the total urban population which is around 2 million and expected to reach 7.1 million by the year 2000.

Existing housing available to the low-income groups is provided through the public, private formal, and private informal or popular sectors. The informal or popular housing activities in the uncontrolled and squatter settlements are a response to the failure of the public and the private formal sectors to supply enough housing at affordable prices to meet the needs of the low-income households. These low-income settlements, which are located mainly in the eastern and western outskirts of the city provide shelter for over one-third of the city's population. Future housing needs in the city for the various income groups have been outlined by Nairobi City Council (NCC); according to this study 14,500 units are needed every year up to 1985, of which 6700 are for low-or lower-middle-income groups. This need is expected to double from 1986 to 2000 resulting in a projected total of 348,100 housing units and an average annual rate of about 23,000 units<sup>13</sup>. The Housing Research and Development Unit (HRDU) of the University of Nairobi has provided policy inputs in the formulation of sites and services and squatter upgrading during the past 15 years since its establishment in 1967; It carried out over 100 research studies in socioeconomic, technical, and administrative aspects of housing, building and planning; implemented several demonstration projects on various local low-cost construction methods, indigenous building material and self-help community participation<sup>14</sup>.

The Nairobi city council (NCC) expanded to the Housing Development Department (HDD) to implement the Dandora project and

<sup>13</sup> Nairobi City Council. "Nairobi's Housing Needs" Meeting the Challenge", Nairobi, Kenya: Coopers and Lybrand, 1976.

<sup>14</sup> International Bank for Reconstruction and Development (IBRD) Kenya. Appraisal of a Site and Services project. Washington DC, USA 1975.



similar low-income housing development projects in Nairobi. The following were its objectives:

- To prepare and service 6000 residential plots of 100 to 160 m<sup>2</sup> each, with individual water and sewerage connections, access to roads, security/street lighting and refuse collection services.
- To construct the following wet cores and demonstration houses for the services plots (Fig. 10).

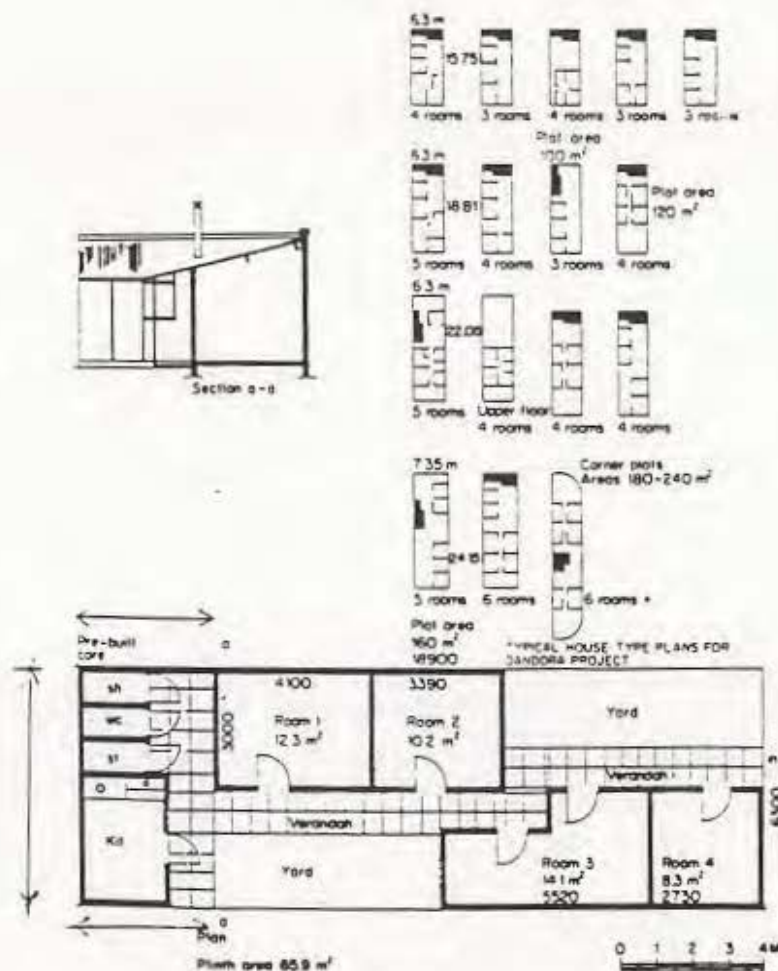


Fig. (10): Dandora Phase I: House type plans

- 1) Option A: 3870 plots with wet cores (toilet & shower) on plot sizes of 100, 120, 140 m<sup>2</sup>.
- 2) Option B: 1800 plots with wet cores and one kitchen and store on plot sizes 100, 120, 140 m<sup>2</sup> (Fig. 11).
- 3) Option C: 300 plots with wet cores, kitchen, store and one room on 160 m<sup>2</sup> plots; and 30 demonstration houses to illustrate housing for option A & B plots. The option C plots to be sold at market prices.

**N.B.:** The wet-core blocks are designed as groups of two with one shared wall. Fig. (12).

- c) To operate and administer a materials loan fund to enable plot tenants for options A & B to borrow appropriate amounts for building materials required to expand such plots to have two rooms through self-help or small contractors.
- d) To construct community facilities including six primary schools, two health centers, two multi-purpose community centers with day-care facilities, one sports complex and 400 market stalls.
- e) To construct trunk access roads to the project site.
- f) To ensure impartiality in the selection of prospective plot tenants who must meet the following requirements :
  - 1) The total income at the time of application of the tenant and his household has to be enough (K. shs 280- K. shs 500 per month) to enable him to pay 25% for the expenditure of shelter and services.
  - 2) The prospective tenant has to have lived in Nairobi for at least 2 years immediately prior to his application for a plot and not own any residential property in Nairobi.
  - 3) The tenant's family at the time of application, and upon allocation of a plot have to reside with the tenant.
  - 4) Prospective tenants have to pay NCC the appropriate fees for sewerage and water connection and a deposit within 60 days of notification that they have been allocated a plot.





*Fig. (11): Contractor-built wet core, shower, store and kitchen.*



*Fig. (12): Dandora Phase I: Segment layout plan*

The Dandora project site is located 10 km east of the city center and is easily accessible to existing and proposed employment centers near the site, city center and the industrial areas. The project has been

carried out in three phases (Fig. 13) namely Phase 1: which consists of Residential areas of a total of 1038 residential serviced plots: 704 option A plots, 273 option B plots, 5 unserviced plots, 56 option C plots (including 21 demonstration plots) 3 community facilities plots for daycare; 6 commercial plots for corner kiosks; 1 primary school, 2 markets, and 1 pilot workshop cluster for small-scale industries.

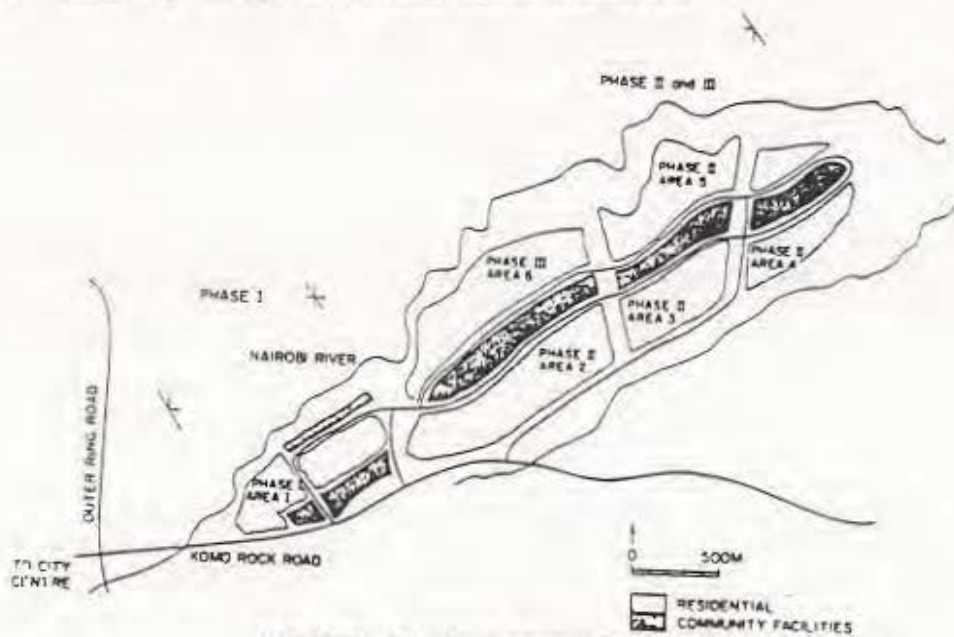


Fig. (13): Dandora project layout plan

Phase II of the project consists of a total of 4971 residential serviced plots, with 3180 option A plots; 1536 option B plots, 246 option C plots, and 9 demonstration plots. In addition 5 primary schools, 4 markets, 2 multi-purpose centers, 2 health centers, and a sports complex.

Phase III which consists of about 1000 serviced plots of 200 m<sup>2</sup> each within 25 residential blocks and is developed as part of the second urban project. Small local developers and cooperatives will be offered these residential blocks at market prices.

The total number of staff in the HDD is about 60 professionals, para-professionals and support staff:



*a) The technical Division functions :*

- i) Supervise detailed planning, engineering and preparation of tender documents for site, infrastructure, wet cores and community facilities.
- ii) To ensure proper supervision of construction.
- iii) Provide technical staff with specific building skills on site to show allottees how to perform technical skills.
- iv) To illustrate the techniques of housing construction by erecting demonstration units on the site.

**The Finance Division to :**

- i) Keep all project accounts involving expenditures related to the project.
- ii) Develop an accounting and management system.
- iii) Prepare quarterly financial reports and annual project accounts.
- iv) Operate and administer the materials loan funds.

*The Community Development division to:*

- i) Publicize the project
- ii) Solicit and process applications for the residential plots.
- iii) Orient and train allottees prior to the occupation of the plots.
- iv) Work with families during the construction phase.
- v) Assist residents in developing institutions and programmes to enable them to create a genuine community.

**Evaluation:** According to the data from the monitoring and evaluation reports, almost half of the allottees were paying over 30% of their income for housing although the anticipated figure was 25% at the project planning stage. But in spite of this figure, the default rate on the repayment was reported by HDD to be negligible,

- Surveys showed that about half of the occupied plot in phase I were rented out fully to non-allottees by the absentee allottees. In a few cases plots, either developed or undeveloped, were also sold. Both

the selling of the plots and the complete renting by the allottees were violations of the plot agreement.

- One of the innovative features of the project was the participation of the allottees in the construction of the houses. Three methods of house construction were used; a) self-help building by the allottee; b) self help building using subcontracted labour; c) self-help building by the building group.

Of these three methods, the second was most popular:

- The institutional and management resources need to be strengthened in order to ensure more effective and efficient planning, programming implementation and management of the sites and services projects.
- There is a shortage of trained professional and para-professional staff to plan and implement site and services projects both at the local and national level as there is a tremendous need for various training programmes.<sup>15</sup>
- Community and employment facilities, such as health centers, refuse collection, schools, markets and workshops were not yet built on the site when the allottees moved to occupy their plots but were built later on.

However the major consequence of the Dandora Project has been the impact of the project on other low-income housing and urban development programmes of the government. The project is a success and a reality. It has by its presence removed some of the stated fears about large scale Site and Services projects at the policy level. Furthermore, the success of the Dandora project as a major project has had useful political impact and will hopefully be incorporated and applied in the implementation of similar projects in low-income Housing in the developing world in the future.

---

<sup>15</sup> T. S. Chana, g. de Kruijff et al. Evaluation of the site and service programme in Kenya Unpublished draft, 1979.



#### 4) 2nd African Experience

##### **Egyptian Experience : Helwan Housing and Community Upgrading Pogromme:**

From the late seventies in Egypt there is a continuing need for low-income housing, the government of Egypt is using new approaches to meet this growing demand. for e.g. the Helwan Housing & Community Upgrading program or the World Bank Projects in Alexandria and Assiout or in Ismailia or in some communities as in 10th of Ramadan, Sadat or Amyria new towns.

The Helwan project has been chosen for the research work and field study because it is almost completed. Many of its phases have been completed and people have already moved in which makes it possible for them and us to evaluate the project, socially and economically.

In addition most of the other Sites and Services projects either are delayed and still under construction or have not been constructed due to the budget's being transferred to other projects e.g. The World Bank financing the Alexandria project has been transferred to build a factory on the same site.

The Helwan project is a demonstration for the new approach to housing and community development in Egypt. Through the project, key elements of housing such as land, infrastructure, building material and financing are accessible to low-income groups who in turn build their own housing.

The program is located in the district of Helwan, about 30 km, south of Cairo. The Helwan New Community will provide low-cost housing for an estimated 110,000 persons in seven existing low-income communities; more than 200,000 will benefit from a comprehensive upgrading program <sup>16</sup>.

<sup>16</sup> Joint Housing Projects Executive Agency, Egyptian Ministry of Housing and Public Utilities & State Ministry of Housing and Land Reclamation. Shooting Club Road, Nadi El Said Street, Dokki, Giza.

The Helwan New Community will provide housing for a target group of low-income factory workers who must commute long distances to their jobs in Helwan.

Utilizing desert land on the edge of Helwan, the new community will have secondary schools, mosques, churches, community health centers, 10 neighborhood centers JHP/PIU administrative offices and public services, 1 credit cooperative office, police, fire, post and telecommunications (Fig. 14). The 7000 serviced lots are organized into ten communities, each maintained by residents through Mutual Housing Associations, Residents in the new Community will become members of an association when they obtain a building lot. Association members will own their homes and have a common share of all the property in their neighbourhood.



It is important to point out that in 1984 a governmental decision was recruited in changing the policy of the plots and that was; only five sites would be "Site and Services" projects namely-3, 4, 6, 7, 8



neighbourhoods, while the rest; 1,2,5,9,10 would be designed as subsidized Government, housing projects (Fig. 15)<sup>17</sup>.

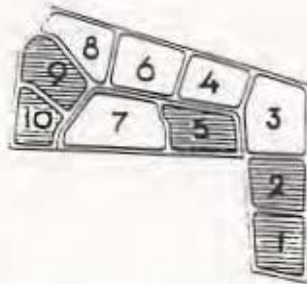


Fig. (15): Shaded Areas are Subsidized Government Housing

In this method we can compare between the two policies by evaluating them and concluding the best policy in solving the trauma of low-income housing.

**The Helwan Project has three major goals :**

- 1) To Demonstrate that when the government provides infrastructure and public facilities people can build their own low-cost housing .
- 2) Informal settlements contain valuable housing resources which can be improved with new infrastructure public facilities and home improvement credit.
- 3) The new community and upgrading demonstrations can be used to develop an institutional capability to carry on the programme in other regions of Egypt.

- In the site and services project tenants have three building options of areas. (Fig. 16)

**Lot sizes :**

A:	56 square meters (5.1 x 11 meters)		Target group
B:	68 square meters (6.18 x 11 meters)		

<sup>17</sup> Ashour, Aiman. "Site and Services" Projects as low-Income Housing." ALAM AL BENAA Issue No. (144), July 1993.

- C: 84 square meters (7.6 x 11 meters) —  
 D: 100 square meters (— x — meters) —  
 E: 200 square meters (— x — meters) — Free market

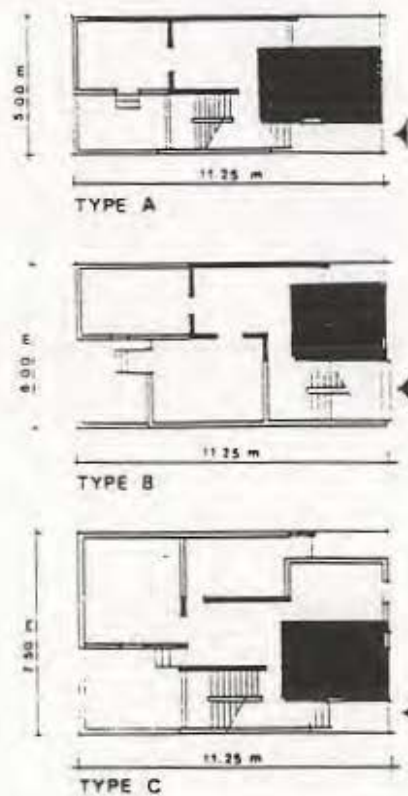


Fig. (16): Types of plots provided

The plots have been sold to low-income workers in Helwan factories at the price of infrastructure which has been rated at 60 L.E. per m<sup>2</sup>. There are also two other options D & E and their areas 100 m<sup>2</sup> and 200 m<sup>2</sup> which are sold at free market price to help in covering the rest of the project's finance are rated at 250-300 L.E. per m<sup>2</sup>.<sup>18</sup>

<sup>18</sup> A completed Model Housing Estate of 182 units has been constructed to demonstrate the unit and introduce new site planning concepts for government sponsored Housing. A trained staff will work with factory workers to help them choose the lot and housing option which best meets their housing needs and income levels.



### Housing options :

- Stage 1 Lot with utility connections.
- Stage 2 Lot, utility connections and kitchen, bathroom core
- Stage 3 Lot, utility connections, kitchen/bathroom core and one room. (Fig. 17)

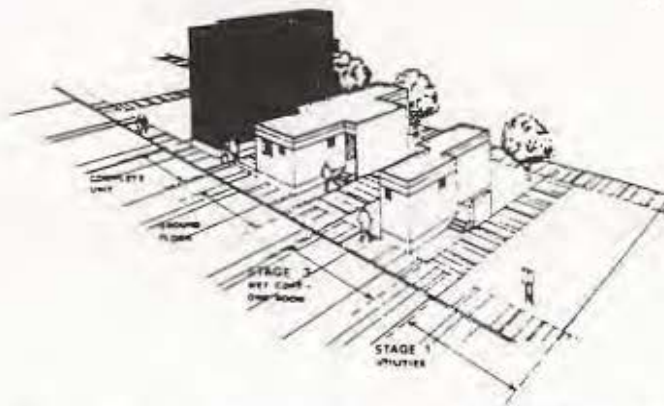


Fig. (17): Range of housing provision for the lowest income groups.

### Community Organization:

Ten Home Owners Associations, one for each neighbourhood. Associations are made up of members who are home owners and governed by a board of Directors elected by the members. A Union of Associations coordinates the activities of the ten associations (Joint Housing Projects Executive Agency (JHP), the Project Implementation Unit (PIU) has a staff of more than 200 for design, contracting and tendering, construction supervision, land acquisition and purchase, and coordinating with other government ministries and agencies.

### Tenure:

Individual ownership of the house. Building lot and other common property in each neighbourhood under common ownership of Home Owners Association.

The target group have been chosen only according to the economical factor. Their monthly income should not exceed 125 L.E. (30 th to 60th income percentile). The tenant should be from outside Helwan and should not own another house in the area. The repayments should not exceed 20-25% of his monthly income.

#### **Financial Systems :**

The loan system for "Site and Services" has been classified into two systems. The first system indirect and the second is direct and both systems could be explained as follows: The first system is the tenure of the land and the beneficiary pays directly 20% of its cost & the remaining 80% will be paid by repayments over 30 years at a project rate 7%. He does not directly get the loan, but he receives it as price of land. The second system is a direct loan, an amount of money, namely construction loan which is given according to the plot area and has been decided lot size A receives 6000 L.E.; lot size B receives 7000 L.E. lot size C receives 8000 L.E. with annual profit rate 7% and which should be repayed on monthly payments over 30 years.

The loan covers the costs of the foundation construction (for three floors) with the walls and columns of the ground floor and the tenant has to pay for the finishing of the ground floor which has been evaluated as 20% of the house cost. The tenant receives the loan in stages according to the construction implemented and does not receive the next stage loan until he has completed the 1st stage construction.

#### **Evaluation :**

The field studies showed many problems in the loan system e.g.

- 1) At the beginning the repayment system was graduated to give the tenant the opportunity to direct his saving towards building his house at first and then later, towards repayment of the loan, but suddenly the Real Estate Bank, responsible for the financing of the project, began to demand the repayments as a monthly steady



amount and cancelled the previous system and also asked the people to pay the previous difference between the two systems and that of course caused an economical burden on the tenants at the beginning of the project.

- 2) The supervising committee had allowed the tenants to delay the repayment loan until they had finished the ground floor (time esteemed :12 months) and suddenly the tenants were asked to pay all the late repayments and a fine was demanded for the defaults.

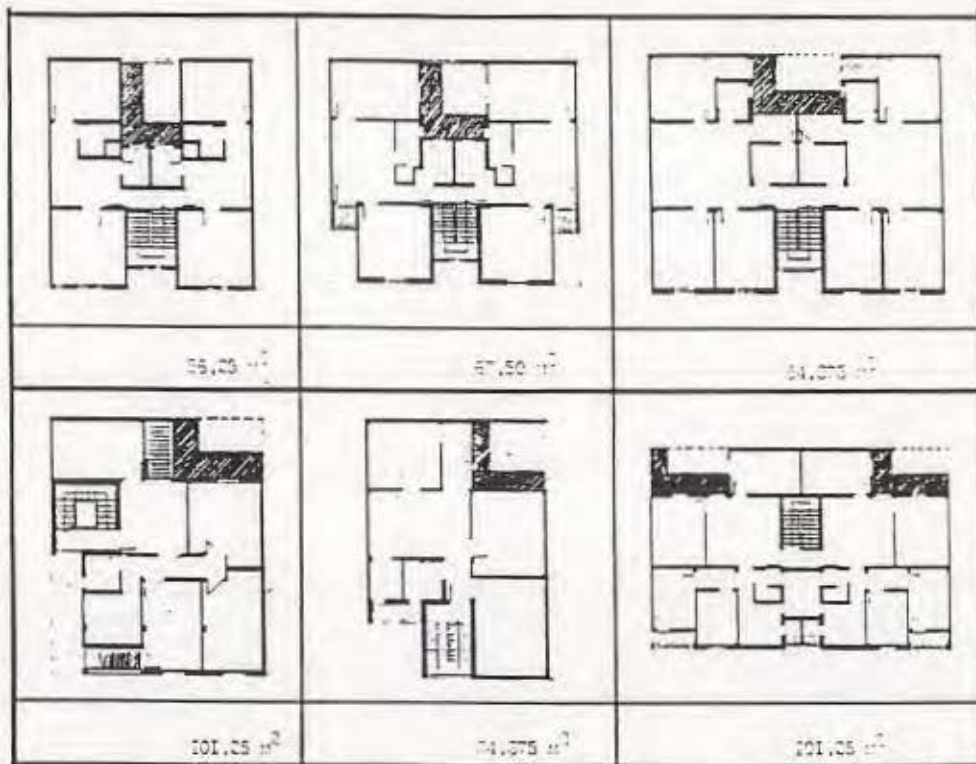
All these economical burdens were forced on the tenant during the first five years of his establishment in addition to the down payment which he pays on receiving his plot and in that way he paid 41.7% of his monthly income in the first five years and ended by his paying 31.4% of his mostly income in the rest of the years, about 25 years, and this amounts to more than the tenant can pay, especially in the first five years when he needs all his savings to build his house.

As for the Subsidized Government Housing which are in neighbourhoods 1, 2, 5, 9, 10; only neighbourhood (5) has been given to the tenants because it was the first one built. The price of the flat types ranged from 8,500 L.E. - 11,000 L.E. and the monthly repayment is calculated about 24% of the monthly income of the family. The price of the unit has increased with the inflation rate and the prices have become; A) 16,000 L.E.-B). 19,000 L.E. C) 24,500 L.E. (Fig. 18). In this way the workers of Helwan cannot afford this type of Housing and it has become beyond the reach of the target group.

**So if we evaluate between the two methods: "Site & Services" and "Low-cost Government Housing" we have to compare the Actores of Production of both methods. In the "Site and Services" method we find that the target group and the small contractors or para-technical workers are the main participants of the project, even though they have faced many economical problems. This participation has been**

organized beginning from the house blocks where they have formed "Home Owners Associations to coordinate and adminstrate the construction work of the ground floor on the plots. Less than 10% have built their own units, with the help of small contractors only in the R.C. foundations or the skeleton construction of the ground floor.

In the "Low-cost Government Housing" method we find that the responsible supervising Agency and large Contractors are the main actors of production and the role of the tenants was only to pay the monthly instalments.



*Fig. (18): Types of Government Subsidized Housing. Their prices have become too high for the target group.*



Finally the field study for the Helwan New Community project has proven the success of the "Site and Services" method and suitability to the tenants economically and socially; despite its economic problems and high default rate which was caused by :

- a) Inadequate coordination.
- b) The funding was underestimated.
- c) The schedules for project development did not recognize that participation by residents can be time consuming.
- d) Planners should be able to identify the target community in time for local leaders to be involved in project preparation and possibly early negotiations for funds and loan repayment systems.
- e) Default rate, resulting from excess functional burdens on the tenants, should be coped with in future similar projects by lessening the repayment instalments annual profit rate and lengthening the period of repayment and graduating it to give the tenant the opportunity to begin building his unit with less obligations.

By evaluation it has also been found that in the "Site and services" method the sum of offering loans to the tenants for construction and providing infrastructure in the plot is equal to: half the cost of the construction of one subsidized government unit, yet still some governments tend to prefer subsidized housing although the resident's participation, himself or with the help of small contractors, in building and coordinating his own community, enhances his feeling that it belongs to him and he continues to take great care of its maintenance.