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AIDED SELF-HELP HOUSING IN

PAKISTAN

PRELIMINARY CHAPTER REPORT PREPARED UNDER

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INDEX

I. INTRODUCTION

II. FINDINGS

GENERAL

POPULATION CHARACTERISTICS - RELIGIOUS & SOCIAL CUSTOMS

PHYSICAL PLANNING

EXISTING HOUSING SUPPLY, NEW SOURCES & NEED

GOVERNMENT HOUSING & LAND DEVELOPMENT

NON-GOVERNMENT HOUSING

EVACUEE HOUSING

SELF-HELP HOUSING

BUILDING INDUSTRY, MATERIALS & LABOR

PROFESSIONAL SERVICES

BUILDING TECHNOLOGY & RESEARCH

III. CONCLUSIONS & RECOMMENDATIONS

COMPREHENSIVE PLANNING

SITE PLANNING CRITERIA

HOUSING STANDARDS AND BUILDING TYPES

HOUSING AUTHORITY

SELF-HELP HOUSING

ORGANIZATION OF THE BUILDING INDUSTRY

IV. INITIAL FEASIBILITY STUDY OF A MODEL COMMUNITY

V. EXHIBITS

EXHIBIT A - K.D.A. HOUSING PROJECTS

EXHIBIT B - K.D.A. HOUSING PROJECT DATA SHEETS

EXHIBIT C - STAR TEXTILE MILLS LTD., S.I.T.E.

EXHIBIT D - DATA SHEET S.I.T.E.

I. INTRODUCTION

The principal objective of the report is to formulate an initial feasibility study for a model community of industrial workers housing, based on an assessment of prevailing conditions in Pakistan and Karachi. The scope of physical planning and architectural recommendations are the result of a brief study of existing planning and housing standards, materials, construction methods, self-help schemes and an appraisal of the local building industry as related to the development of workers housing.

Most of the data and information obtained in this report was provided directly, or indirectly, by the Karachi Development Authority whose assistance and cooperation ^{HAS} have proved invaluable. The professional guidance received from the K.D.A. staff, ^{AND} the ~~many~~ others, was of a very high calibre, but equally important was the manner and sincerity with which it was given. Neither will the friendliness and hospitality of the Pakistani people be soon forgotten.

Before focusing attention on Karachi a week was spent visiting Government Officials and housing projects in Lahore and Islamabad. The experience provided considerable insight and perspective for some of the problems confronting a dynamically developing country. The new capital at Islamabad is an outstanding achievement for a relatively new nation, both from a planning and architectural standpoint. It will set a high standard for the many other rapidly developing cities in Pakistan.

II. FINDINGS

GENERAL

Karachi is located at the mouth of the Indus River at the southern end of

an alluvial plain extending roughly 1000 miles in length from north to south and more than 300 miles broad. The Indus Valley is watered jointly by the Indus and the five rivers of the Punjab. Karachi is the major port of West Pakistan with an extensive industrial concentration. Approximately 60% of all industry in West Pakistan is located in Karachi. The city is now the largest industrial center of Pakistan, the number of industrial establishments having increased more than 100 times since independence in 1947. The industrial establishments in Karachi employ about 25% of the total industrial labor of the country. Karachi enjoys a pleasant year round climate with invigorating sea breezes except for April, May, June and October.

In West Pakistan the deficiency of moisture and lack of rainfall has been amply compensated by nature in the form of perennial rivers coming from the Himalayas. A bulk water supply system brings water to Karachi from the Indus river at a distance of about 60 miles. The present capacity is 70 million gallons per day. The water is pumped 200 feet high at the Dhabaji Pumping Station and flows to a purification plant through a gravity conduit. Although there are indications of a water shortage in the immediate future, it is planned to increase the water capacity to 280 million gallons per day. The sewerage and sewage disposal scheme treats some 40 million gallons of sewage per day. The two treatment plants are located at the Sind Industrial Trading Estate and Mahmoodabad Colony. Methane gas is to be extracted from the sewage and utilized for fuel engines and power production. Sludge will be dried on sand beds for use as fertilizer and plant effluent will be used for irrigation purposes.

Population Characteristics - Religious & Social Customs

Since 1947 the population has grown from 300,000 to almost 3,000,000 in 1967. The city concentrates more than 25% of all urban population of West Pakistan and about half of the total population living in towns greater than one half million inhabitants. Present forecasts indicate the population may reach as high as 6 million people by 1990.

The population of Karachi is extremely diverse, consisting of thousands of evacuees from all parts of India and a continual flow of migrants (30-50,000 per year) from rural areas. Roughly 72% of the urban families belong to the lower income group, 23% can be classified as middle income and 5% are in the upper income bracket. Approximately 40% of the population are children under 15 years of age, 40% are married, 15% are single unmarried adults and 5% are widowed. A large proportion of the married male population have migrated to Karachi without their families in order to seek gainful employment. There is insufficient data to indicate the length of time they remain in Karachi as single person households. Most of the rural migrants set up housekeeping in temporary settlements, consisting of mud and straw huts, scattered in small and large clusters throughout the city and inhabited by other migrants usually from the same rural village. A deep tie seems to exist with the ancestral village and many have hopes of returning someday.

Privacy is essential to nearly all Pakistani families. Except for the juggies even very modest homes are surrounded by a compound wall. Careful attention must be given to buildings over one story in height so that a window does not overlook another persons yard or look directly into

another apartment. Although 'purdah' is slowly dying out it is still practiced to a large extent. Women spend most of their time in the home or compound. As a general rule men do not socialize with women outside the home.

The one unifying factor in the heterogeneous population is, of course, religion. But even this bond breaks down to some extent into a variety of sub-units based on various MOSLEM SECTS. There are several minority groups, principally Christian, Hindu and Parzi (Zoroastrian).

PHYSICAL PLANNING

Due to a very rapid physical expansion the city today extends over about 40 miles in the W-E direction and the developed or under-developed area covers approx. 400 square miles. Two kinds of problems confront the planners -

- (1) the necessary reconstruction and amelioration of the existing city
- (2) future physical expansion. At present the population density is very low and few buildings exceed one or two stories. The time has arrived when serious thought must be given to increased utilization of land and increased densities allowing a greater amount of medium and high-rise construction. If the city continues to grow horizontally it will become more and more difficult to finance the initial and maintenance cost of necessary streets and utilities.

The transportation problem has already become alarming and will only grow worse if the present horizontal pattern of growth is allowed to continue. No coherent transportation system now exists in Karachi, which results in waste of energy, time, diminishing efficiency, cost and loss of human life. A circular railway, when completed, may help to alleviate the transportation

problem but only if it is integrated with an organized radial bus system. At present there is a preponderance of bus companies most of which operate only one unscheduled bus at unspecified stops. The number of privately owned automobiles is increasing, adding to the already existing confusion of pedestrians, bicycles, taxis, donkeys, camels, busses, motorized cabs and trucks.

Preparation of a master plan for Karachi was begun in 1947 by a firm of Merz-Rendel-Vatten-Pakistan based on many assumptions and eventually completed in 1951. It has been the guiding factor for the development of the city but is now outdated. It was designed for a total population of only 3 million persons and many other unforeseen changes have now taken place. The Government has decided to take up the question of the provision of the master plan and has requested assistance from the United Nations in its preparation. Preparation of a new master plan, however, will be under the direction of the K.D/A. Preliminary studies have been under way for some years but work cannot start in earnest until funds are forthcoming from the United Nations. At one point the U.S. Gov. agreed to provide planning funds but the offer was eventually rescinded.

Existing Housing Supply, New Source and Need

The total population of Karachi is rapidly approaching and may have already exceeded the 3 million mark. The population is increasing at an estimated rate of 6% annually. Housing supply, based on a 1961 survey - the latest available - is estimated to be 360,000 dwelling units. Only about half of the population is modestly housed. About 120,000 units are classified as "Juggies" (mud and straw huts). Another 100,000 units are located in

slum areas. The average number of persons per room is 3.7. It is estimated that 3/4 of all dwelling units have no water supply. In spite of all the housing efforts by the Government, there are still about 600,000 shelterless people, including many refugees from India, and their number is not diminishing. An analysis of available data indicates there is an immediate need for at least 100,000 new low-income dwelling units.

Government Housing and Land Development

The Central Government had provided 50,000 units for refugees in several displaced persons colonies but no longer participates directly in the development of housing for these refugees. The Karachi Development Authority now has the primary responsibility for organizing, planning, and developing housing schemes. Under the greater Karachi Resettlement Program the K.D.A. has constructed approx. 26,000 low income units at Korangi and 18,600 low-income units at North Karachi. In order to encourage the development of multi-story housing by private enterprise two apartment buildings are nearing completion. In addition to the actual construction of projects the K.D.A. is extensively involved in planning and developing large tracts of Government land. It installs streets and utilities and sells plots at low cost to private developers, housing societies and individuals. In this respect the K.D.A. is a very unique organization and through its efforts has been instrumental in providing shelter for many low-income families and indirectly an adequate supply (approximately 3,000 units per year) of very good housing for the middle and high income groups. However, due to the exploding population it has

not had the resources to keep abreast with the ever increasing demand for the low-income groups. (For a detailed list of K.D.A. Housing Schemes see "Exhibit A" & B").

Other sources of Government sponsored housing are provided in the seven independent cantonments located in Karachi and by the Public Works Dept. who constructs and maintains housing in a number of settlements established by the Central Government for its employees.

Non-Government Housing

Private institutions, religious groups, employees associations and developers provided a substantial amount of housing. For example, The United Bank, The Agha Khan Community and the Parsi Community provide housing for their employees and members. Mr. Sardar Amir Azam, a private builder, is currently developing a 1,000 unit project on eleven acres of land.

→ Most of the flats will be in five story gallery type buildings and will sell for Rs.11,000 each. A down payment of Rs.3,000 is required with a monthly payment of Rs.68 per month (not including utilities). Each flat consists of a drawing room, one bedroom, dining room, a small kitchen and bath. Each building in the project will form a tenant society for operation and maintenance.

Another active builder is the firm of Hussain-D'Silva Enterprises, Ltd. An attractive subdivision, Hussain-D'Silva Town, for middle income families developed by the firm consists of 235 bungalows of two types on 200-400 sq. yds. plots. The larger bungalows with 3 bedrooms, 2 baths, drawing room, dining room and kitchen sell for Rs.40,000 and a 2 bedroom

bungalow sells for Rs.25,000. Currently the firm is developing Hussain-D'Silva Gardens, an estate of hire-purchase flats in nine story elevator buildings. The two bedroom flats contain approximately 800 sq. ft. each. The cost of a flat, including a proportionate share in the land and the common facilities is Rs.32,000. Each tenant becomes a member of the Cooperative House Building Society and is required to make an initial down payment of Rs.12,000, after which the society arranges a loan of Rs.20,000 repayable in monthly installments of Rs.200 at the rate of 6½% interest per annum for 12 years.

It is difficult to determine the number of servants and their families housed in private homes but this supply should not be overlooked in future housing surveys.

Evacuee Housing

A large supply of existing housing, particularly evacuee property, continues to deteriorate at an alarming rate. Shortly after independence immigrant claimants who had previously owned property in India were given title to evacuee housing and land of approximately the same value. In many cases the claimant was given title to a flat but no arrangements were made for operation and maintenance of these buildings and the situation has never been resolved.

Self-Help Housing

The K.D.A. is providing approximately 40,000 developed plots of a minimum standard at cost for families who wish to build on a self-help basis. Materials must be supplied by each family and little or no technical assistance is provided. (See also Exhibit A).

A very exciting self-help project is now underway by the Telephone Employees Cooperative House Building Society, Ltd. organized by Mr. A. Hamid, Director General of the Telephone and Telegraph Dept., and Mr. R. A. Khan, Director of Telegraphs. The project, consisting of ten initial units, has been under construction since October 1, 1967 with final completion anticipated by February, 1968. The 10 plots (120 sq. yds. ea) with site improvements were obtained at cost (Rs.4 per sq. yd.) from the K.D.A. and technical assistance is provided at no cost by the Building Research Station in Karachi. Each dwelling unit contains approximately 720 sq. ft. with drawing room, two bedrooms, kitchen and bath. Cost of materials per house is Rs.3,500 requiring a monthly payment of Rs.50 to the society. When payments become six months in arrears the house will revert to the society. It is estimated that the total value of each house when completed will be worth Rs.16,000. The project is exceptionally well organized and much of the credit must be given to Mr. Hamid who spent two years planning and researching the self-help method. His pioneering spirit and sincere enthusiasm are to be admired.

Another self-help project of 1,000 units, to cost Rs.1000 each, is being planned by "C.A.R.E." with land and assistance provided by K.D.A.

IV. INITIAL FEASIBILITY STUDY OF A MODEL COMMUNITY

The following illustration is based on the area within the Sino Industrial Trading Estate located approximately three miles from the center of Karachi. It is the oldest, most dynamic and successful industrial area in West Pakistan. The administration of the estate is managed by a Board of Directors, of whom four are nominated by the Government and three are selected from among the tenants of the estate.

A paragraph from "Industrial Estates in West Pakistan," a publication of the National Institute of Public Administration, Lahore, describes its establishment and operation:

"The oldest industrial estate in West Pakistan is the S.I.T.E.I.E., The Sino Industrial Trading Estate in Karachi. It has been functioning for the last sixteen years. This pilot enterprise was launched by the former Sino Government in November, 1947, when a company was floated called, "The Sino Industrial Trading Estate, Ltd., Karachi: The object was to establish a planned industrial area where prospective industrialists could obtain all facilities such as land, roads, railways, water supply, electricity, telephones, godowns, sanitation, drainage, labor colonies, and other public amenities. Land measuring 4,000 acres was provided by Government free of cost and a loan of Rs 46 lakhs, bearing a simple interest of 4% per annum was sanctioned for the financing of the project. Although the primary aim of the estate was rapid industrialization, the objectives of the estate were extended to include the problem of

relieving unemployment, particularly resulting from the influx of refugees."

It seems entirely appropriate, therefore, that a model community for industrial workers should be developed at S.I.T.E. A total of 630 acres has been reserved for housing within the estate divided into two housing colonies - Housing Colony #1 with 220 acres and Housing Colony #2 consisting of 410 acres. The only workers housing so far completed includes 210 two room family quarters developed and owned by the Star Textile Mills Limited. (See Exhibit C) Community facilities provided within the estate are: 200 bed hospital, stadium, auditorium, club, six banks, 13 petrol pumps, two shopping centers, one model school, seven mosques, one police station, two post offices, one telephone exchange, one employment exchange and one polytechnic institute. (See Exhibit D)

Although the proposed density of housing is 250 persons/acre (22 bachelors accommodations plus 46 family units per acre) it is suggested this be increased to a minimum density of 315 persons/acre or approx. 15 bachelors accommodations and 60 family units. This would allow the construction of a variety of accommodations in dormitories, one and two story single family dwelling units and five story flats permitting a total population of approximately 200,000 (37,800 family units and roughly 9,500 dormitory bachelor accommodations). The objective of the model community would not only be the provision of sorely needed housing but a practical

illustration of contemporary planning and building design incorporating mass production techniques, self-help methods, efficient administration and new methods of financing.

As recommended under Housing Standards the basic unit for the lowest income families should consist of 2 rooms (Approx. 10' x 12' each), a verandah or balcony, space for food storage, a bath and water closet. To reduce monthly utility costs each unit should be provided with a gas outlet (the most inexpensive type of fuel) and at least one electric outlet. A variety of more spacious accommodations should be provided ranging from the basic 2 room unit up to a 4 room modern flat with appropriate increases in monthly payments in order to achieve not only a variety of building types but more important a mix of income groups. Families with higher incomes serve as an example and act as an incentive for those at the bottom to move up. Community leadership will also be derived at least initially from the higher income groups. Without a socio-economic mix communities can soon become ghettos of despair regardless of or in spite of the quality of the dwelling unit. As a general guide it is suggested that approx. 70% of the total family units should consist of 2 and 2½ rooms, 20% 3 rooms and 5 - 10% 4 rooms. It is highly recommended that all or most accommodations be made available on a lease-purchase, hire-purchase, or condominium arrangement to permit the possibility of eventual home ownership by all residents of the community desiring to participate. One of the difficulties

in relocating squatters has been their reluctance to give up any real (or unreal) rights to possible ownership of land. If they understand, through community action type programs, that they can become property owners, it should be easier to move them voluntarily into decent, safe and attractive neighborhoods.

Since most families seem to desire one story homes and only about 25% of the land (approx. 6,000-20' x 50' plots) should be available for this type of "luxury" housing it is suggested individual plots only be allotted for those families willing to participate in self-help schemes. A sweat equity on the part of the family would be required in order to obtain a one story dwelling unit. Any income level could participate in the program and would be allowed to select either a 3 or 4 room plan - depending on their ability to meet monthly payments for materials. As one story housing is best suited for self-help schemes of construction and although a method might be devised for multi-story flats it should not be attempted in the initial phases of development.

Self-help or mutual-help projects should be developed in increments of approximately 10 dwelling units on plots subsidized by the estate, including site improvements such as water, sanitary facilities, gas and electricity. The project would be supervised by a technical expert and would require that at least one member of the family (or a friend) spend at least 40 hours a week in helping to build the home. There should be constant surveillance by a general superintendent as well as a construction supervisor

who would assist and advise participants in actual construction. The superintendent would have the overall responsibility for the procurement and timely delivery of materials for the ten houses, which would be financed by the proposed financing institution in an amount that would cover the entire cost of materials plus a reasonable fee for administration and technical assistance.

The loaning institution should make funds available as the project proceeds and pay for materials in place based upon the superintendents certification. (See illustration - Exhibit)

Bachelors should be accommodated in three to five story dormitory buildings. The bachelor units, with possibly three to four persons to a room, should be designed for conversion at a later date to small two room flats when there is no longer a pressing need for this special type housing. The dormitory building should be insulated but not isolated from family housing and should be an integral part of the community. Rents should be on a daily or weekly basis and sufficient to cover management, maintenance and amortization of the construction loan.

A firm or team of qualified consultants consisting of a planner, architect, sociologist, attorney, contractor and financier should outline a specific program for the development of the model community in cooperation with the K.D.A., representative of S.I.T.E. and the National Planning Commission. It is suggested that when a program has received the necessary approvals a limited international design competition should be held to select a firm or firms to draw up the final plans.