

Projects

Islamabad the Capital of Pakistan

1. INTRODUCTION

Many were the reasons for which Pakistan needed a new capital city. During the first stages of the life of the new State it was natural that Karachi should have been selected as the capital, since it was a large city and a convenient centre of sea and air transportation. This was not, however, a satisfactory solution from points of view of climate, tradition and the existing buildings, which were not adequate in number or to the standards required by a capital. The layout and structure of the existing port city did not allow it to take on the functions of a modern capital. On the other hand, the influx of refugees intensified the existing problems and created new ones.

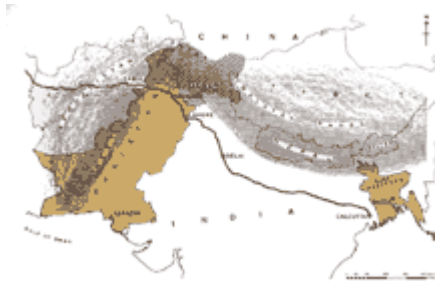


Fig. 1. Map of Pakistan

The government of Pakistan decided to cope with the situation by creating a new capital and proceeded toward this end in a systematic manner. By decision of H.E. the President of Pakistan, Field Marshal Mohammed Ayub Khan, a special commission was established to study this problem having as its chairman Major General A.M. Yahya Khan, Chief of the General Staff. This committee had its first session in February 1959, under the chairmanship of General Yahya, and during this session nine sub-committees were set up.



Fig. 2. Islamabad. Model of the area

In February 1959 H.E. The President of Pakistan honoured Dr. C. A. Doxiadis by naming him advisor to the Special Commission for the Location of the Capital and in compliance with a request from the President and from the chairman of the commission, a report was issued by Dr. Doxiadis with reference to this problem, in an effort to incorporate the knowledge and the experience of the members of the committees as well as of that of each committee as a whole. The result of this report was that two areas were suggested for the new capital, one outside Karachi and the other to the north of Rawalpindi.

On the basis of reports and recommendations of the Commission for the Location of the Capital, H.E. President Mohammed Ayub Khan decided in favour of the site North of Rawalpindi, on the Potwar Plateau and made a public announcement to this effect in June 1959. On July the 2nd, 1959 Major General A.M. Yahya Khan requested Dr. Doxiadis to prepare and submit a report in order to facilitate the task of the commission in preparing the next stages of the work, especially regarding the setting up of a commission for building the new capital and setting up a programme of action. During late July and early August 1959, Dr. Doxiadis visited the site of the capital and, as a result, the report "Impressions from the site - The necessary data" was issued.

In September 1959, the government of Pakistan decided to establish the Federal Capital Commission for the preparation of the master plan and programme of the new capital. Simultaneously, Doxiadis Associates were appointed as consultants to the Federal-Capital Commission. Fourteen sub-committees, later named committees, were appointed during the first session of the Federal-Capital Commission, who issued a number of reports in connection with the surveys of the existing conditions in the capital area.

Following the decision of the government of Pakistan to entrust Doxiadis Associates with the design of the new capital of Pakistan, the first team of experts of the consultant arrived at Rawalpindi early in November 1959 and a methodical collection of data was started, in close collaboration with the Federal-Capital Commission and Pakistani experts. Another team of experts also started work in Athens under the leadership of Dr. C. A. Doxiadis on the study and classification of all collected and available data.

A most important milestone in the history of the capital was the decision taken on February 24th, 1960 by H. E. the President and his Cabinet to give the New Capital of Pakistan the name of ISLAMABAD (the City of Islam). It can be considered that the New capital of Pakistan was born on this day.

Several reports covering all facets of the problems related to the creation of the new Capital of Islamabad were prepared by Doxiadis Associates. These reports referred to the size of the Capital, the cost of the project, the facilities needed, highways, transportation in general, and so on. On May 24th, 1960 the preliminary master Plan of Islamabad and the planning principles that will make this capital a model for "A City of the Future", were presented to the Cabinet and approved by H.E. the President of Pakistan.

A special authority, the Capital Development Authority, which took over from the Federal-Capital Commission, was set up in Pakistan and charged with the overall development of the new capital. The greater area of the capital, the metropolitan area, has been planned for a future population of about 2,500,000 inhabitants within a period of two generations.

Many factors influenced the decision regarding the location of Islamabad, such as transportation and communications, factors of national interest, defense, economic factors, civic factors, existing facilities, etc. After a careful study of these, the present area - represented by the model on the front page - was selected. The nearby existing city of Rawalpindi would offer Islamabad considerable aid in facilities and initial housing needs. The Chaklala airport of Rawalpindi will help air transportations, the Rawal dam will secure water supply, the existing railroad and highway connections will serve communication needs. All these will

contribute towards avoiding large investments during the first phase of development of Islamabad.

2. THE CONCEPTION OF THE MASTER PLAN

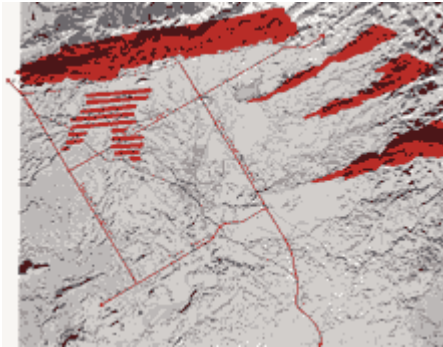


Fig. 3. The main highways

2a. The Landscape Pattern and the Highways

The backbone of the Islamabad Metropolitan Area Master Plan is formed by two highways, Islamabad Highway and Murree Highway, the alignment of which was dictated by the natural landscape pattern and the existing man made obstacles.

The chief characteristic of the landscape is that it runs from north-east to south-west along valleys formed by a series of hills running in the same direction.

The Murree Highway had to follow this direction through a valley formed by two hills: the Islamabad highway has been aligned vertically to the Murree Highway between the existing airport and Shakarparian hills.

Two more highways, by-passing the existing town of Rawalpindi, have been proposed.

On the basis of the above ideas, a system of four highways becomes the basic step for the metropolitan area. These axes form a big square, which will define all future transportation systems and all major functions within the metropolitan area.

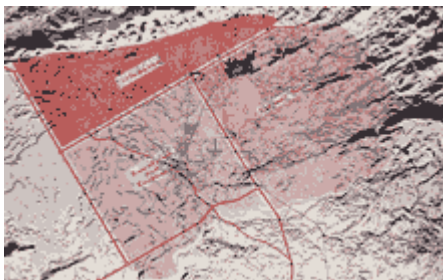


Fig. 4. The three parts of the metropolitan area

2b. Formation of the Metropolitan Area

The principal system of axes in the metropolitan area of Islamabad defines three distinctive areas:

- a. the area of Islamabad proper.
- b. the area of Rawalpindi, the center of which is the city of Rawalpindi.
- c. the National Park area which will retain certain agricultural functions for several years and where sites must be provided for a national sports center, the national university, national research institute, etc.

The areas of Islamabad proper and Rawalpindi are both open for expansion towards the south-west, while the National Park area is rather restricted from the surrounding hills and Soan river to the south-east.

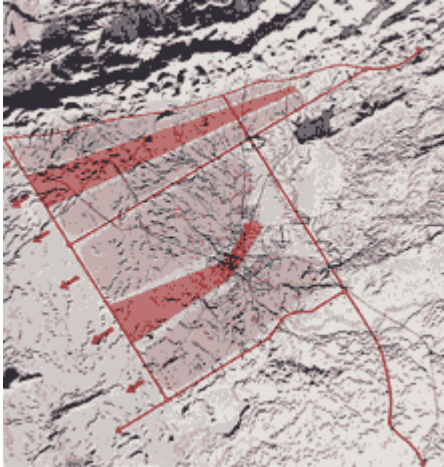


Fig. 5. The central functions of Islamabad and Rawalpindi

2c. Dynametropolis

The cities of Islamabad and Rawalpindi will develop as twin cities serving each other in complementary ways.

Islamabad will be the capital of the nation and will serve mainly administrative and cultural functions. Rawalpindi will remain the regional center serving industrial and commercial functions.

The master plan for both cities has the flexibility to allow for future expansions of the center. It has been designed on the basis of the ideal city of the future and to form a dynametropolis. Each is planned to develop dynamically towards the south-west, their center cores growing simultaneously and together with their residential and other functions.

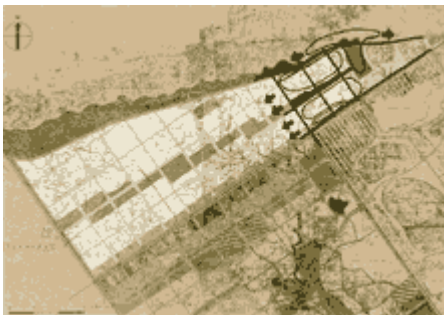


Fig. 6. Islamabad
The sketch indicates growth of functions in the direction of the city's future expansion

2d. Islamabad

The whole metropolitan area is sub-divided into sectors, called Communities Class V, each for about 20,000-40,000 people and each according to the income group it will serve. The sub-division of the metropolitan area into sectors resulted from the adoption of a pattern of principal roads placed 2,200 yards apart in both directions.

This pattern forms a modulus in the town and maintains a unified scale for the whole metropolitan area. At the same time, it facilitates the road traffic as well as the organization of the various land-use zones into communities of the same order.

The field pattern provides for an hierarchical distribution of roads, starting from the highways, which have 1,200 ft. rights-of-way. The secondary roads have 600 ft rights-of-way. The third category consists of roads 100-300 ft wide entering the sectors, and surrounding the residential communities. The last category of roads, those leading to individual houses and buildings, run into the residential communities. These access roads are either for vehicles or for pedestrians. There is full segregation of motorized and pedestrian traffic.

Longitudinal sections of the roads follow the same classification. The highways are designed with the sole objective of serving high speed motor-traffic. In the other categories of roads, the landscape is more respected, and on roads for the pedestrian, there are even steps where the ground rises steeply. The human scale and that of the machine are kept clearly distinct, and the elements of road design strictly observe the requirements of this separation.

The many zones of Islamabad serving various functions have been planned to allow for future expansion. The administrative sector is placed at the heart of Islamabad, from which it spreads first towards and then along the hills.

The civic center is developed in a strip running south-west, which is the main direction of the town's growth. The residential and the light-industrial zones follow the same trend.



Fig. 7. Rawalpindi

2e. Rawalpindi

The existing town of Rawalpindi was the major man-made obstacle in designing the new capital. After a thorough study of the possibilities regarding the relation of the new capital to the existing town of Rawalpindi, it was found advisable to place Islamabad at such a distance so as to:

a. form an independent settlement for purposes of allowing the design of a physical plan independent of the existing restrictions imposed by the plan of Rawalpindi town.

b. provide the new capital with services and buildings already existing in Rawalpindi in order to save the maximum amount of costs.

Rawalpindi has been the subject of a special study so as to permit the coordinated and balanced growth of the two towns in a balanced way. A master plan for Rawalpindi was prepared, and regulations about zoning and interim development control were proposed. For many years to come, the existing town of Rawalpindi will perform the duties of a mother caring for her child, until the child is grown and becomes self-sufficient.



Fig. 8. The National Park

2f. The National Park

The third part of the metropolitan area is the National Park, situated so as to serve both Rawalpindi and Islamabad.

The National Park has been designed to provide space for:

a. educational and scientific institutes of national importance, such as national university, atomic energy center, research center, national health center, etc.

b. recreational facilities, both active and passive, such as sports centers, exhibition areas, zoo, botanical gardens, etc

c. agricultural areas for cultivating vegetables and fruits required for the two cities.

The National Park already has the Rawal lake which was created in 1961 following the construction of a dam to collect irrigation water and to supply water to Rawalpindi. In the future, running water, may be dammed to form more lakes.

2g. Unity of Scale

A principle adopted in designing the Islamabad- Master Plan



Fig. 9. Islamabad (model) - Bird's eye-view from N.E.; the Capitol with the main administrative center, the sectors of public buildings and residential communities

was unity of scale. This was considered absolutely necessary to achieve a cohesion between the various elements of the town. The city is not a conglomeration of isolated and unrelated spaces, but one entity of interrelated spaces.

A scale measurement was determined to govern the elements composing the city, such as plots, streets, open spaces, squares, roads, etc.

The selection of a system of axes or prevailing orientation is equally important for the achievement of unity of expression.

Based on a study of the scale of the city made by the chief consultant, volume, heights, densities, and floor indices of the buildings were specified for each particular sector. This study led to concrete proposals for the public-buildings area, the layout plan of which was designed to harmonize with the buildings of the administrative sector opposite the public-buildings area.



Fig. 10. The Master Plan of the Metropolitan Area

2h. The Master Plan of the Metropolitan Area

Each of the three parts defined by the alignment of the main axes of the metropolitan area is sub-divided into sectors. The approved Master Plan for the Metropolitan area, as shown on these pages, covers the whole area of Islamabad, Rawalpindi and the National Park. Details of land uses are given in the captions to the illustration.

3. THE ADMINISTRATIVE SECTOR OF ISLAMABAD

3a. Perspective of the administrative sector of Islamabad

The primary function of a capital city is to serve as an administrative centre for the country, and this is particularly true of a new city like Islamabad which has been created to fulfil this role. The administrative functions of a capital include :

- administration on a national level.
 - cultural services physically or symbolically connected with the country's administration, such as a national museum or a national library;
 - special non-governmental institutions of national importance, such as banks, welfare organizations, etc.
 - the diplomatic representation of foreign countries.
- As Consultants to the Capital Development Authority of the Government of Pakistan, Doxiadis Associates

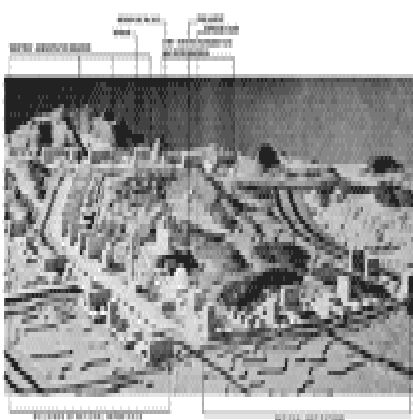


Fig. 11. The Administrative Sector

proposed the above layout which has already been approved.

During the early stages of design it became apparent that two types of central functions should be provided within the city; those serving the inhabitants, where the centre of local administration (incorporating the civic, business and recreational centres) will be located ; and those which represent purely capital-city functions on a national level. It has become clear that the capita-city functions, and only these, should be placed at the foothills within a more or less elongated area (see front page). Detailed calculations concerning the designated area were made covering both present and future requirements. These were based on assumptions concerning the number of civil servants, incomes of the inhabitants, expected traffic density, and other general data.

The buildings shown above comprise the presidential palace, the supreme court and the parliament, as well as certain other special features such as an amphitheatre for national or international conferences, an academy of letters and arts, a mosque, a historical museum, and an official guest house. The military headquarters, as well as the ministries, are established in special groups of buildings, as seen above. The diplomatic enclave is located outside and below the area shown above, and will include the embassy buildings and the residences of the diplomatic corps. The entire conception assures free movement of traffic and facilitates speedy orientation (see drawing on last page) as people, when moving towards or from the administrative sector, will be travelling at right angles to the hills. The administrative sector is developed in an elongated synthesis. In this way communication between the various administration services can be carried out in a rational manner, whereas at the same time possibilities for future development of the city towards a predetermined expansion area are maintained, in accordance with the principles of the dynamically expanding city of dynapolis.

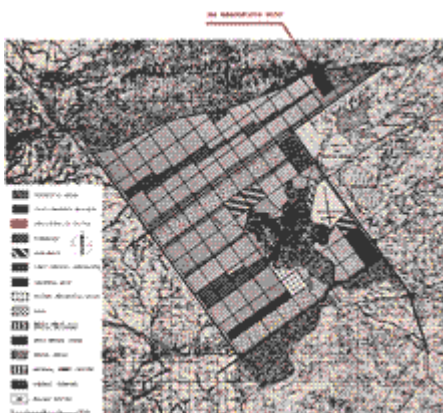


Fig. 12. The administrative sector within Islamabad

3b. The administrative sector within Islamabad

This drawing shows the location of the administrative centre within the overall plan of Islamabad. The main axis runs through the core of Islamabad. This will be called Capital Avenue and looks towards the presidential palace located in a commanding position on the top of a hill. Due to the fixed road, and the location of the administrative centre on a higher level, this section of the capital - which is its brain centre and pulsating heart - will dominate the city even after it has expanded and fully grown along the patterns provided for.



Fig. 13. Interrelation of functions in the administrative center

3c. Interrelation of functions in the administrative centre

The main reason for which the new capital of Pakistan is being created is that a proper environment should be provided for the country's administrative functions. The hills lying north-west of Rawal lake form an ideal setting for the administrative sector, at the core of the city of Islamabad and at the end of the main axis. Thus, and on the basis of the theory and principles of the city of the future (dynapolis) the administrative as well as the central sector of the city both begin at the core of Islamabad. The Capitol complex will lie at the heart of the synthesis. It is from here that the administrative sector will have to be developed towards and following the direction of the Margala Hills, in order to spread along them in the future. The sketch on this page is a zoning map of the administrative centre of Islamabad.

4. THE LAYOUT PLAN

4a. Organization

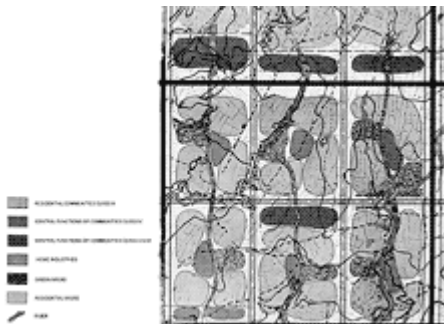


Fig. 14. Structure of Communities

Each sector (Community Class V) of Islamabad is self-contained and self-supported with respect to everyday life. It is sub-divided into three or four smaller Communities (Class IV) by income groups of occupants. In the centre of the sector is the civic centre, containing all types of shopping, business and civic activities. Each Class IV Community is subdivided into several Communities Class III, which are further subdivided into Communities Class II.

4b. Hierarchy of Functions

Adequate space has been provided for buildings serving certain functions at various levels, in accordance with the number of people served by these buildings. In each sector or Class V Community there is space for three or four secondary schools, each for a Class IV Community. There are three or four primary schools per Class III Community and a kindergarten or children's playground in each Class II Community.

The same hierarchical planning of spaces of several sizes is provided for functions such as health, recreation, sports activities, etc. This arrangement best serves the inhabitants of each sector and with the least time required for the approach.



Fig. 15. A Community Class IV for about 12,000 people



Fig. 16. A Community Class III for about 3,000 people

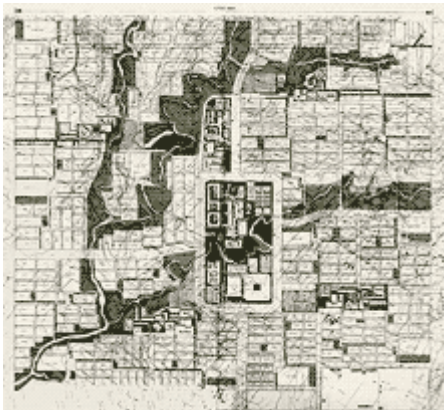


Fig. 17. The green areas in a Community Class V for about 40,000 people

4c. The Landscape and Climate

The main feature of the landscape near Islamabad is the many ravines that cut the fields from north to south. The ground continuously undulates in one direction, giving great variety and challenge for architectural treatment of buildings and green spaces. This natural landscape has been fully respected when designing the layout of each sector, and green spaces created by this physical feature have been fully exploited by locating such functions as schools, gardens, parks, and playgrounds next to them. Climatic conditions have been also taken into account, with orientations for the purpose of insulation and taking advantage of the prevailing winds being studied thoroughly.

4d. Social Planning

Whether the inhabitants are government servants or supporting population, incomes vary very considerably. Complete intermixing would cause difficulties in physical planning and could also create social problems. After a sociological study, the principle adopted was that gradual integration should be sought, both to help the lower-income people to mature, and to assure the comfort of the higher income-classes

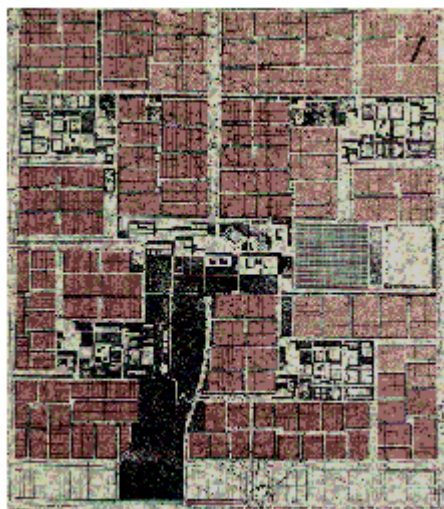


Fig. 18. Distribution of incomes in a Community Class IV

Each Class IV Community provides housing for no more than four, and preferably only three income groups. Another question was whether civil servants should live separate from other citizens of Islamabad. Although government-housing management favoured the grouping of government houses in specific areas, the opinion of sociologists won the day and civil-service housing has been mixed in with that of the rest of the population.



Fig. 19. Vehicular and pedestrian roads

4e. Pedestrian and Vehicle Traffic

In the Class V Community, pedestrian and vehicle traffic have been segregated by a road system where the scales of human and motor-vehicle movements differ. Pedestrians move within the human community through a spatial hierarchy from small pedestrian streets towards the larger ones of a Class II Community, then to the centre of a Class III Community, and so on. Spaces and perspectives created along way agree with the same hierarchical order. This layout is for roads leading to specific targets aesthetically related and presenting a unity of scale. By the extensive use of cul-de-sacs at the end of the access roads, motor traffic follows a pattern of roads leading to individual houses without interfering with the pedestrian-street systems.

5. FACILITIES

5a. Water Supply System

The water-supply system was designed by Doxiadis Associates. Water is now being tapped from two springs in Nurpur and Saidpur, but it is planned to dam the Swan river to bring water to the town by gravity. Water storage tanks, filtration plants, and similar works have been built, and the distribution system is now under construction



Fig. 20. Water softening installations at the Nurpur spring

5b. Sewerage and Drainage

Sewage and drainage networks, designed by Doxiadis Associates, are being constructed by the Capital Development Authority. A sewage treatment plant, designed in collaboration with Dorr-Oliver, is under construction.



Fig. 21. Sewage aeration tank in Islamabad, during construction

5c. Road Construction

The first roads under construction are sections of the two main highways each having a width of two lanes, which is sufficient for the needs of first stage development. In addition to the two lanes, there is a ten-foot shoulder on either side.



Fig. 22. The intersection of the Islamabad and Murree highways under construction

Roads servicing highways and principal roads are also under construction and will carry all traffic required for proper development of residential and industrial areas. Road design was done by Doxiadis Associates. Construction is being done departmentally by the Capital Development

Authority Directorate of Works. Bridges and culverts were designed and are under construction by the Capital Development Authority.

6. STREETS AND HOUSES



Fig. 23.

6a. Street Design-The Positive Space

While designing detailed layout plans, great attention was paid to the shape of each space in a given community. The usual weakness with regard to the shape of space in the contemporary city is that it becomes negative compared to what it was in the past when space in the old city was positive. In the arrangement of isolated buildings, space is quite often lost.

Detached houses are the greatest challenge in terms of a proper shaping of space. It is difficult to form them into a synthesis, and areas containing detached houses often turn into completely negative space. This mostly happens when small low-income houses are involved, which does not allow for the individual building to be properly fitted into the over-all landscape.



Fig. 24.

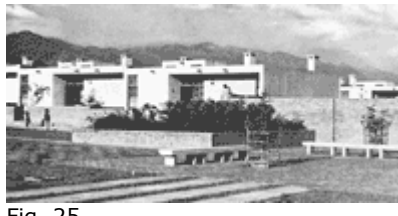


Fig. 25.

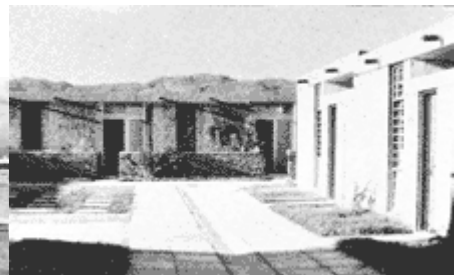


Fig. 26.

6b. Adjustment to the Landscape

It was attempted to situate the houses as much as possible in accordance with the morphology of the site. The undulating landscape of Islamabad offers the city a high degree of variety, and in the most economical way. Introducing yet more marked variations would have deprived the plan of simplicity and been tiresome in many ways.

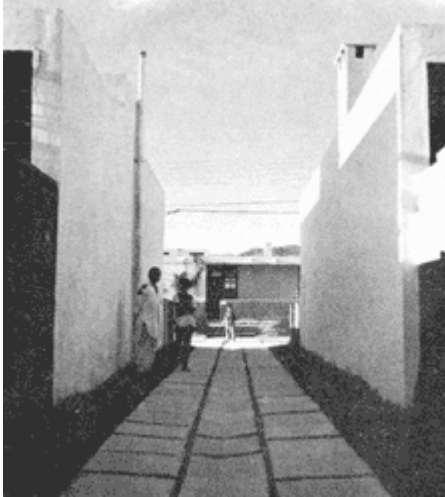


Fig. 27.



Fig. 28.

6c. House Design -The Plots

With few exceptions, Islamabad plots vary from 111 sq. yards to about 3,000 sq. yards, depending on income group. As a principle, and to improve urban economics, the frontage dimensions of plots are less than their depth. Most plots are rectangular. Special efforts were made to avoid irregular plots, especially in low-income areas.

A

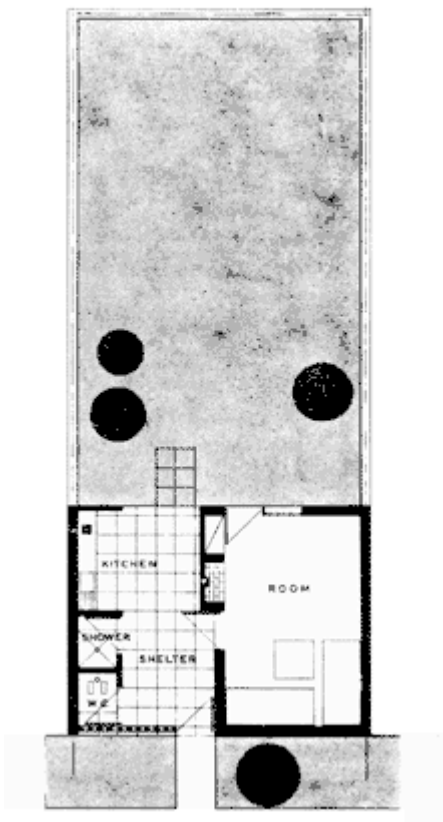


Fig. 29. Plan A

B

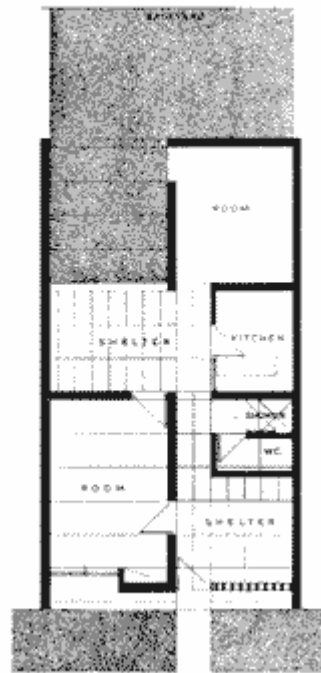


Fig. 30. Plan B

C

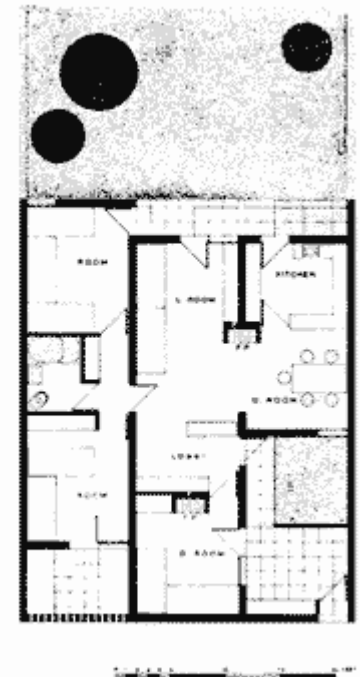


Fig. 31. Plan C



Fig. 32. View from the courtyard



Fig. 33. Entrance view



Fig. 34. Entrance view

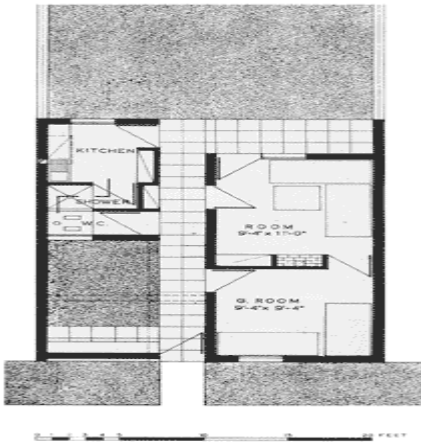


Fig. 35. Low-income house (plan)

6d. Minimum Accommodation

In Islamabad no house has less than two rooms and a kitchen, W. C., and a shower room. Sufficient space is left for outdoor living. Each house has closed, semi-covered or open living spaces, necessary for comfortable living in a country with cold winters and very hot summers, is supplied with running water and electricity, and connected with the sewage system.



Fig. 36. Low-income house (perspective view)

6e. Privacy

Privacy within the residential unit is very important. It was given serious attention in designing individual houses, especially those near the civic centres. For this reason, residential apartments are few, as they do not offer privacy as readily as do individual houses.



Fig. 37. Perspective of Class III Community Centre

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