

Derek Lovejoy

Islamabad

Pakistan was created by the partition of India in 1947, and emerged as a nation with two wings. East Pakistan was separated from West Pakistan by 1,100 miles of Indian territory, and has subsequently become independent.

For a number of years the new country suffered from many internal conflicts and instability, but with the accession of President Mohammed Ayub Khan in 1948, stability and confidence were restored and there developed a sense of national purpose instilled with real progress.

A committee set up under the chairmanship of President Ayub Khan investigated a number of sites and finally selected an area of land situated between the existing city of Rawalpindi and the Margalla hills, which may be described as the foothills of the Himalayan range. The site possessed a number of important advantages. Being nearly 2,000 ft above sea level, it has a more equable climate than Karachi, which is surrounded by desert, and it is close to plentiful water sources although many impounding dams were necessary to provide an adequate supply to the city. The land, although badly eroded in places, yields reasonable crops and dairy produce. The site is also close to the historic trade routes from Central Asia, through the desolate Khyber Pass in the north-west to the plains leading to the rich lands of Kashmir and the Orient. Since it was one of the principal approaches to the valley of Kashmir before the latter was closed following disputes between India and Pakistan concerning Kashmir's political affiliation, the British constructed through here the trunk road linking Peshawar and Rawalpindi with Lahore, Delhi and Calcutta. Although appearing generally flat, the site has suffered from serious erosion, largely as a result of the monsoons, and ravines, some of which are 50 ft deep, cutting through the area.

Following partition, Pakistan had to fight its way to increasing prosperity. The millions of refugees who came from India af-

ter partition created almost insuperable socio-economic problems. The merchant fleet was virtually non-existent and communications, particularly the railways, were desperately short of equipment and rolling stock. Raw materials were lacking, and industry was largely inefficient and uneconomic. One of the major factors contributing to the state of the country's economy was the upheaval created by partition itself; and a shortage of foreign exchange further exacerbated the problems. Scarcity of heavy constructional and earthmoving machinery caused serious difficulties, and in the building of Islamabad some tens of thousands of donkeys were used, particularly for the transportation of materials and the movement of vast quantities of soil for the cutting and filling of roads and building works. However, many of these difficulties were overcome as a result of foreign aid.

Four matters that have a serious effect on the appearance of the Pakistan landscape must be mentioned: salination of the land, lack of afforestation, erosion and poor fertility of the soil. During the British rule of the Indian subcontinent, great progress was made in the irrigation of the arid areas of the western part of India, what is now Pakistan. A vast network of canals was built and the gradual seepage of water from these canals over many decades raised the water table to within only a few feet from ground level. Low rainfall and excessive heat increased evaporation and as a result drew salts to the surface, rendering the land sterile. In simple terms, what irrigation brought into cultivation, salination has now destroyed. An extensive programme was developed to sink tube wells into the ground in order to continuously pump the water back into the canals, thus lowering the water table.

A journey by air or road from Rawalpindi to Lahore reveals a sick landscape ravaged by decades of terrifying erosion. The gradually increasing width and depths of the ravines lost Pakistan hundreds of thousands of square miles of once fertile land. The soil of the treeless landscapes is

windblown in the dry season and eroded with water in the torrential downpours of the monsoons.

The fertility of the soil has been impoverished not only by erosion and the stripping of vegetation but by the necessity to obtain fuel for cooking and heating during the cold winter nights. Dung from animals, instead of being returned to the soil, was collected, dried and used for fuel. Educating the population in good agricultural techniques that has continued slowly but surely and the increasing of prosperity in the region have helped in solving these problems.

The Capital Development Authority appointed Dixiadis Associates of Greece to prepare a master plan for the city and to provide the framework for all subsequent efforts. There have been departures from the original lay-out, but the pattern of the city today is substantially in accordance with the initial planning approach and recommendations.

Robert Matthew, Johnson-Marshall & Partners were appointed consulting architects for the administrative sector, which contains the principal government buildings. Architects of international acclaim were commissioned to design these buildings, and Professor Gio Ponti of Italy was appointed to design the secretariat buildings.

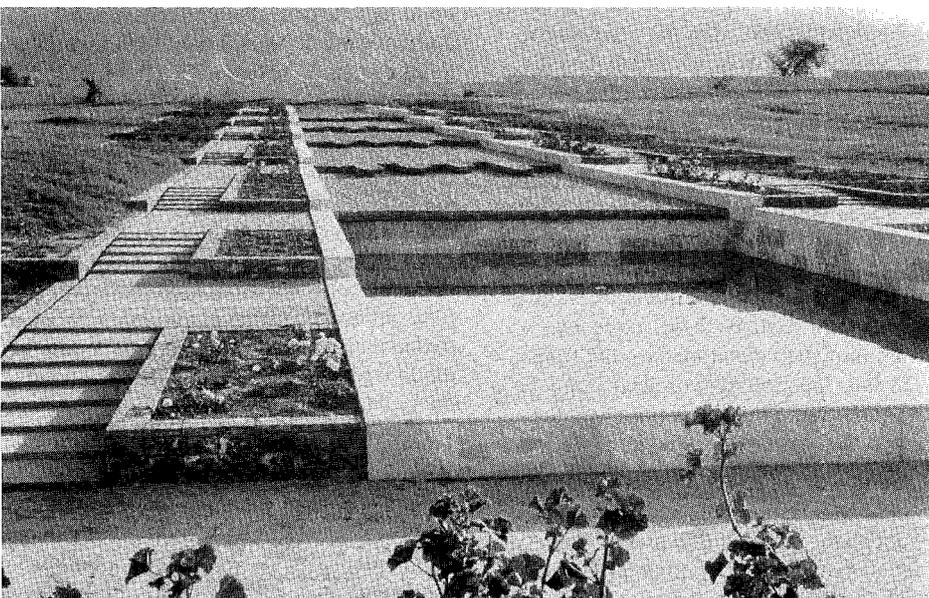
Derek Lovejoy and Partners were retained as landscape consultants and advised the Capital Development Authority for ten years on the landscape treatment of all major roads, housing areas, commercial centres, diplomatic enclave, national and town parks, and the planning of some 20 miles of the Margalla and Murree hills which form the great cyclorama to the city.

The studies prepared by Doxiadis for the plan of the city were based on a most impressive and fully documented set of reports dealing not only with the basic concepts of the city, but with a score of other considerations involving traffic movements, socio-economic investigations to determine the structure and composition of communities, and studies of the site and its



Government buildings, Islamabad

Photo J Betant/AKAA



Landscaping, Islamabad

Photo J Betant/AKAA

climate, of sources for local materials and methods of construction, of traditional town and village patterns, and of selected examples of historically significant building groups.

The master plan was based upon fundamental and environmental determinates of site, climate, geological, ecological and biological considerations which restore landscape architecture to its role in the total planning process as one of the prime generators of ideas and solutions, and not just the cosmetic exercise involved in clearing up after building operations. It also took into full consideration the history, culture and religions of the people of Pakistan. An insight into the background may be gained, for example, from the study of the great gardens of the Indian subcontinent to see how the great Mogul emperors controlled the hot climate by the use of water, fountains and trees.

As for the form of the master plan, it contains many elements of current planning theory. The major highways determine the city's macroform. The plan was elaborated into a complex hierarchical organisation according to the function of each part relative to the whole. Roads were classified by the nature of their traffic. The Islamabad and Murree highways are both a quarter of a mile wide and eventually will comprise six or more lanes running in each direction. The principal roads are 600 ft wide and divide the city into sectors of one square mile. The plan is based on the fact that Islamabad will eventually become a motorised city with the roads designed for speeds of up to 100 miles per hour. These speeds partly dictated the need for making these highways straight and level, and this has resulted in the cutting of great swaths across the landscape. On a large number of major highways the road may very well be in 60 ft of cut at one point, and in 60 ft of fill only a quarter of a mile away.

It has already been pointed out that the city is traversed by *nalas* (eroded water courses). From the viewpoint of landscape this has resulted in almost insuperable problems of cut and fill, since it is the cus-

tom to dig borrow pits or soil in the immediate vicinity of the work. It must be remembered that, at the outset, donkey labour was used owing to the lack of heavy earth-moving machinery. These problems cast doubt upon the advisability of the inflexible grid pattern. Perhaps a continuously curving alignment scaled to a consistent design speed represents the ideal. On the service roads the vertical alignment conforms closely to the ground form and gives a roller-coaster effect.

The planning of the housing areas emphasises the hierarchical organisation. Each sector has five categories of communities, ranging from the prestigious individual house to very low-cost housing, and each particular community has a proportionate range of services and facilities appropriate to its class. The place of residence was initially determined by salary, and as employees move up in their economic scale, so they move into a higher class of community. This pattern was consistent, at that time, with the deeply-rooted social organisation of the country. The architecture and site planning of some of the earliest housing areas constructed some twenty years ago have revealed many shortcomings, but the latest housing areas have set higher standards. These housing areas have proved beyond doubt the importance of good landscape treatment in creating a fine environment, particularly where financial expenditure must be kept to the absolute minimum. Trees and shrubs grow very quickly in Pakistan if watered and maintained regularly, and the vegetation becomes lush in a very short time, thus humanising the rectilinear layouts. The *nalas* which cut across the site give continuity to the landscape and provide a magnificent contrast to the early rigid layouts.

The diplomatic enclave presented special problems, particularly with regard to the need for security arrangements since uncontrolled security enclosures for embassies and high commissions could present a prison-like appearance from the surroundings roads. Guide-lines were prepared for the architects to enclose the sites in a varie-

ty of imaginative ways, such as setting the enclosing walls back in order to allow additional planting along the roads. Architects were also encouraged to design the enclosing walls in a variety of shapes, colours, patterns and materials. However, strict measures were taken so as to ensure that the final appearance reflected unified and not a haphazard design.

The policy for planting in Islamabad was not merely aesthetic but highly functional in order to temper the climate. Trees were located, and species selected to provide barriers against the cold winds from the north, to counteract erosion, to rehabilitate the soil, and also to act as a filtering and cooling agent for the hot winds from the south. The indigenous trees and shrubs in the region are magnificent and had the planting design been limited to these particular species it would have provided an interesting range of plant material. Unfortunately, the authorities and general public objected to the use of such native flora as they felt them to be too "common", and preferred the planting of imported species. An advantage of using indigenous plant materials would have been their ability to withstand the severe climate and ecological conditions.

Over the years the new capital city of Islamabad has expanded to 355,000 people. Architecturally and environmentally, there have been many achievements and many disappointments but most of the initial objectives have been achieved.

Dodoma

The reasons for the establishment of Dodoma, the new capital city of Tanzania, were similar to those of Islamabad: to build a prestigious new capital taking into consideration the social, economic, climatic conditions and communication needs of the country.

Dar-es-Salaam is an exceptionally fine historic port but climatically unbearable during many months of the year. Dodoma is

located in the centre of the country, thousands of feet above sea level, where the climate is much more amenable. It was also intended that the new capital would open up the central region of Tanzania for development and would be ideally located as a centre for communications.

The lack of financial resources constantly hindered the development of the new capital. The new city had to be grafted onto the old city of Dodoma, just as Islamabad was grafted on to Rawalpindi. The whole of the Dodoma region is beset with problems. The escalation of oil prices and the country's poor economy has curtailed fuel imports to such an extent that there is a severe shortage in meeting the everyday needs of the people. The people have to forage for fuel; trees are being torn down at an ever-increasing rate, opening up the land to erosion and on to wide-spread desertification. The unrestricted movement of goats and cattle also create severe problems as far as the fertility of the soil is concerned. All of this is putting severe pressure on the Tanzanian economy which in turn severely affects the funding and consequent development of the new capital city.

Brasilia

Like Islamabad and Dodoma, Brasilia was established in order to open up the centre of Brazil with a prestigious new capital. Moving the capital some 1,000 miles inland presented many problems, especially for the diplomatic and business communities who were reluctant to leave Rio de Janeiro. The Brazilian Government had to exert great pressure in order to encourage these communities to move.

The master plan for the new city was prepared by Oscar Niemeyer and was a magnificent expression of urban design for the age of the automobile, taking little note of the pedestrian. The design nevertheless left enormous spaces which have to be traversed by pedestrians leaving the city

with very little feeling of enclosure. Even today pedestrians find it extremely difficult to cross the city thereby limiting close social contacts. Europeans have found that the pedestrianisation of their city centres has produced enormous environmental and business advantages, a lesson the Brazilians have yet to learn.

The first developments within the city produced some of the finest buildings of the century but, unfortunately, the standards were not maintained and now much of the construction is degenerating into a conglomeration of various styles of architecture, all of which never seem to match up to the original design concepts. The standard of landscape architecture has also diminished. It is, however, the maintenance of the city which gives rise to concern; buildings are allowed to deteriorate and open spaces are barely maintained. Admittedly, this is not the case with many of the buildings in the diplomatic enclave which have been designed and built to very high standards, this includes the new British Embassy buildings.

A few conclusions can be reached from a brief survey such as this one:

- 1) A prerequisite for the building of any new capital city is that adequate resources for economic strategy and functions must be fully guaranteed from international and national sources, at least for the first five years of its development.
- 2) In developing countries international expertise should be commissioned for master planning.
- 3) Experienced professionals should be appointed to ensure a highly efficient beginning for the new capital until nationals are experienced enough to take over their responsibilities.
- 4) Nationals should take every advantage of international training programmes to prepare themselves for future executive responsibilities.
- 5) Advisers and consultants should be completely conversant with the historical, cultural and religious background of the country.
- 6) An adequate and efficient control system should be developed to maintain the highest of standards.