LAND USE AND INDUSTRIALIZATION
IN LAGOS, NIGERIA

A thesis submitted for the degree of
DOCTOR of PHILOSOPHY in Geography, 1974
at the University of Leicester

by
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<td>E.G. or Econ. G.</td>
<td>Economic Geography.</td>
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<td>F.C.N.</td>
<td>Federal Government of Nigeria.</td>
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<td>F.M.G.</td>
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<td>G.J. or Geog. J.</td>
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<td>I.A.P.A.</td>
<td>Ikeja Area Planning Authority, see also I.T.P.A.</td>
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<td>Ikeja Town Planning Authority.</td>
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<td>L.C.C.</td>
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<td>L.C.T.S.</td>
<td>Lagos City Transport Service.</td>
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<td>L.E.D.B.</td>
<td>Lagos Executive Development Board.</td>
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<td>L.M.T.S.</td>
<td>Lagos Municipal Transport Service.</td>
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<td>L.S.G.</td>
<td>Lagos State Government.</td>
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<td>L.S.P.D.C.</td>
<td>Lagos State Property Development Corporation.</td>
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This chapter considers various methods and aids available for analysing the effect of industrialization\(^1\) and rapid urban expansion\(^2\) on the use of land in Lagos. For the particular study of Lagos, it was found useful to devise some means of "measuring" the effects of industrialization on the way land is used. This was conceived as "degrees of IMPACT" referred to in the first chapter of this thesis as ...."Industrial Impact Forces 0 - 5 (FO to F5)". Map. 18.

In working out impact scores (maximum = 100), five items are taken into consideration as follows:

**Item 1** - Physical alteration of the natural landscape as a direct result of industrialization. \(^{16}\) up to 10 marks (10\% of maximum score) is allowed for this item, and should be estimated on the basis of field experience of the particular unit of the study area (in this case a 5 Km\(^2\) grid is used).

**II** - Space Coverage by Industrial Use: This is simply a percentage of the square grid (as originally mapped in the 1972 field survey) under land-use category 2B, occupied by industrial activity. (Use Maps 8 and 11).

**III** - Density of Factory Presence: For each complete factory known to be present within a grid (except in industrial estates) a score of 10\% is awarded for that grid square.

**IV** - Distance from Industrial Activity - If industry is actually absent from the grid square, a score of 5\% is awarded where industrial activity exists within \(\frac{1}{2}\) mile of the grid square in any direction. This item is used only where item II does not apply.

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6.1 See glossary for standard definition used. For a summary of the effects of industrialization in Lagos see Appendix 41. For Economic and social aspects (by Hughes and Moore respectively) of industrialization see International Encyclopaedia of The Social Sciences published by Macmillan & Free Press, vol. 7, pp. 252-270.

6.2 Map 34 refers. As used here Lagos has expanded at two levels: the first level is seen as the continuously built-up space forming physical outgrowth of Lagos City from Lagos island to the mainland and beyond to the various districts covered by a single mesh at various dates as shown in Map 34. A second level refers to the general urban influence of Lagos, which at the time of this study (1972) takes in all the Lagos Study Area as the urban fields of Lagos. At this level it is possible to ascertain the frontiers of the industrial impact generated from the original point of introduction in Lagos City.
V - Allied Industrial Space Users: The percentage of space reserved for, acquired or occupied by industrial firms (e.g. as housing estates provided by firms for their workers, such as the Nigerian Railways Corporation had done at Oke Ira and Shell has recently done at Surulere and Ikoyi), even though the industry itself is located outside the grid.

The scores for all items (recorded in appropriate columns) are added up to obtain an "Impact Score" out of 100 maximum possible score. This aggregate score is punched on to a Fortran computer card for easy retrieval and any subsequent graphic representation is easily reproduced. (See Appendix 44 being a computer printout of the impact scores for the 288 grid areas).

The aggregate scores alone are posted on the map worksheet in their appropriate grid references, similar to Map 16a). The pattern of "Impact" may be obtained from cartographic treatment of the posted data, e.g. isolines may be used but a shading convention proves more effective. The raw cartographic data on the work-map is made into a smoothed-off map, giving a fairly accurate idea of the spatial impact of industry on the use of land in Lagos (see Map 16).

The isolines or shadings are grouped to correspond with a scale of "impact forces" which indicate a measure of influence exerted by industrial activity on units of surface space in the Lagos Study Area. A grouping of impacts ranging from 0 to 5 in increasing order of magnitude grades as follows:

- F0 ..... Nil/zero          impact scores less than 1%
- F1 ..... Slight           "   " 1 to 19%
- F2 ..... Threshold        "   " 20 to 39%
- F3 ..... Balanced         "   " 40 to 59%
- F4 ..... Advanced         "   " 60 to 79%
- F5 ..... Full/Complete    "   " 80% +

The impact notations used here simplify the task of relating industrial activity to the economic realities of land-use competition, particularly in the context of newly industrializing regions. (see pp. 393 - 444 of this thesis).

6.3 Shading is preferred since available data refers to grid units and the final grouping of impact scores was found to follow a more realistic pattern in the shaded form.

6.4 For Land Use Competition and differentiation as treated in this thesis See chapter 9, pp. 390 - 400.
Descriptive Analysis of the observed impact zones:

F0 - Zone of zero impact: the areas of zero impact occur in three significant sectors. First and most apparent are the very remote districts of Epe Division, the southern Atlantic foreland half of Ikorodu Division, the northern and western frontiers of Lagos State boundary with Western State, the unreclaimed swamps of the northern littorals and secluded islands of Badagri and Porto-Novo creeks; and, finally, the high class residential districts of Ikoyi and Victoria islands. In these districts only 5% or less of the land use is associated with, induced or conditioned by industrial activity.

F1 - Slight Impact: Locations in this zone experience a slight degree of impact from industrialization in Lagos; but in nowhere do the general computed impact scores amount to as much as 20%. Pockets and cells of this zone are found in the districts of Epe Division from Agbowa, along the new Ikorodu-Epe Road to the neighbourhood of Ikorodu Town and a substantial part of Ikorodu Division outside approximately four miles radius of Ikorodu town. The north-eastern districts of the study area, comprising Alagbado Station and, excluding urban lands of Agege and Ikeja, the western districts fringing the industrially remote frontiers of the borderlands.  

6.5 Newly industrializing regions today are found all over developing tropical countries. (See Hodder (1968) "Economic Development in the Tropics" chapters 10 and 11). The regions represent the centres at which industrial activity has been introduced for the purpose of diversifying the economy - creating more job opportunities, benefitting from borrowed technology, cutting down on imported goods and raising the general level of consumption and living standards in the society - through the modernising influence of this new form of economic activity.

The recent realization among Economists and geographers that industrial activity is an essential part of economic development tends to give impression that "developing" and "industrializing" are synonymous descriptive terms. While these coincide in the case of Lagos, it is noted that for some other developing regions, the manufacture of goods need not be that important. Modernization of agriculture or specialization in commerce and administration can also promote adequate responses or urban influences for the development process or desired economic change. See also chapter 6 by B.J.L. Berry in "Geography and Economic Development" edited by N. Ginsburg (1968.)

6.6 Border between the Lagos industrial region or zone of influence and the non-industrial region either in distant rural districts or at zones insulated (by superior location such as at Ikoyi) from effects of industrial activity.
There are also the delta region of Ogun river and Majidun creek, outside the proposed Ogun River Industrial Estate, which stand out in the 'Impact Map' as Force 5; the Badagri and Porto-Novoo creek districts south of the new Lagos-Badagri road and west of Kirikiri; and, the Light House Beach district taking in the Port entrance, Tarqua Bay and the Kuramo and bar beach districts of Victoria island.

A substantial part of Ikoyi island belongs to this zone, although explanation for the low impact lies not on physical remoteness or reclamation obstacles but on the exclusive nature of the high-grade residential district at Ikoyi, which uses all available means to shield the district away from severe consequences of high industrial impacts.

F2 - Threshold: The zone covered by this degree of impact may be said to have been subjected to just about adequate industrial experience to adopt industrial land-use characteristics. Between 20 and 39% impact score per square kilometre is recorded for all tracts of land in this zone.

The lands here represent extensions to the established major routeways of Ikeja and Badagri divisions and include Ikorodu Town and its immediate urban vicinity. Thenew land opened up by the Badagri-Lagos Road, Western Avenue (for Shurelere), Agege Motor Road, Ikorodu Road, the new Ilupeju Industrial Estate stretching from Isolo/Ilanamaja, across Husbin to ObaGada, and the western extension of Agege along Ipaja road. These are the districts that are on the verge of intensive impacts from industrialization as they begin to absorb the urban expansion processes associated with the industrial growth in the study area. They are fast growing centres ready in many ways to absorb new industries and their associated land use.

F3 - Balanced Impact zone: Industries have become fairly well established in this zone without unduly crowding every other land using activity out. Some kind of balance has been achieved, at least for the present time of study (1972), enabling industrial activities in the area to exist alongside other land uses.

6.7 To a great extent these are similar to urban land-use characteristics. q.v. Charles Abram's "The Uses of Land in Cities" in Scientific American September, 1965, pp.150-156. More specifically the "industrial land-use characteristics" involve differential location of activities or zoning for such items as homes industry, commerce, recreation, transportation, institutions and open spaces. Outside the Lagos industrial region land use is characterised by rural activities such as subsistence and other farming activities, footpaths and roads, unreclaimed forests and swamps, and the hunting and gathering zones remote from urban centres.
Average Impact scores for this zone range from 40 - 50% per km².
The existing industries have somehow become adjusted to conditions in their respective locations and two patterns of movement are observed:-

(a) new industries are not moving in.

(b) existing industries are not in a hurry to move out. It might even be said that some sort of equilibrium exists at this degree of impact.

However, the total surface area covered by this degree of impact in the Lagos study area as a whole is very small indeed. It resolves itself into a few pockets close to or within some established or projected industrial centres in the study area. The largest concentration of this group is found adjacent to the north and south of Ikeja industrial estate and the north-western extension into Agege. A second pocket has become established west of Apapa-Iganmu industrial complex and in particular west of the former Federal Territory boundary into Ajegunle. This particular pocket reflects the high concentration of industrial labour force (actual and potential) in a low grade residential district and the conveniently located factories in the neighbourhood. These factories tap what labour force is surplus to the needs of the port or other industrial centres but more significantly they take advantage of former cheap land in the area.

A new pocket is emerging near Ojo Town on the Badagri-Lagos road; but this represents the new projects (Volkswagen Car Assembly Plant for instance) and industries for which the area has been zoned. The high impact score is contributed by factor I (viz. the dramatic change in physical landscape, attributable directly to transport and industry). The vast raffia palm swamps and quagmire in this district have been reclaimed or drained in the process of building the road.

Finally, there is the Ikorodu enclave which brings out very well the long established industries at Ikorodu recently receiving a boost and a newly appraised locational advantage on account of changed political and transport situations, both of which have favoured Ikorodu in recent years.

6.6 At this saturated level not only is space often fully allocated but urban facilities and public utilities may have become so fully loaded that additional industries would create strain and may lead to a general breakdown of the organised system. Government intervention is usually applied to maintain the balance. For Lagos an early indication that such a phase has been attained in some parts of the industrial region came with the announcement by the Federal Commissioner for Industries, Dr. J. E. Adetoro that "...the Federal Government has decided to halt the concentration of industries in Lagos" and that hence .... "nine out of every ten newly approved industries would be located outside Lagos under the government's industrial dispersal policy". WEST AFRICA, p.379 of 19th March, 1973.

The chronically inadequate provision of public utilities and poor land use planning in Lagos gives the false impression of overcrowding of all urban activities there; while the relative concentration of industrial activity in Lagos compared with the rest of Nigeria, tends to convey a false picture of imminent over industrialization.
F4 - Advanced impact: The zone to which this degree of impact suitably applies is narrowly confined towards the central districts of the Lagos Study Area. For the most part lands recorded under this degree of impact constitute pockets of older established industrial centres, e.g. the ex-estate industries. Impact scores for this zone range from 60-79% per Km². The firms found in such districts are long established and either cannot afford to move to new locations or are too well established to bother.

The eastern and western wings of Irupeju industrial estate outside the fully developed centre of that estate, come under this degree of impact, in spite of their relative lateness. So does the tract of land lying between Agege and Ikeja, east of the railway line and forming part of the Ikeja industrial complex. Yaba features prominently among areas subjected to this degree of impact (F4) at a district centred at the pioneer Yaba Industrial Estate. For the most part this means land east of Herbert Macaulay Street, stretching from "Casino Cinema" in the south to Yaba College of Technology and the University Road. Many land using activities here are closely associated with industrial activity, factor presence is substantially dense and there is a high degree of admixture in land use between categories 1 bode, 2b, 3 ab, 4 a, 5, 6 and 9. The physical nature of the districts has also undergone alterations as a result of industrial presence in the area, e.g. the swamps of Onike have been reclaimed since industry came to the area and the thick 'bush' at Irupeju and Anthony village have been cleared for residential and factory accommodation consequent upon industrialization. Two hitherto separate towns of Agege and Ikeja have coalesced into a continuous built-up.

6.9 Ikorodu is a divisional headquarters within the new Lagos State. It is the closest Ijebu town to Lagos and has always been important as a route centre between Lagos and the interior (Ibadan, Eastern and northern states of Nigeria.) With the deterioration of Abeokuta road, Ikorodu has become even more important as a route centre. There is yet no industrial estate as such but when the Ogun River industrial Estate is fully developed Ikorodu is likely to receive further impact and offers potential industrial space to the south of the town.

6.10 The importance of Yaba Industrial Estate as a pioneer centre in Lagos Industrialization has already been noted in chapter 2 pp. 97-99 of this thesis. It was established primarily for small-scale industries featuring standard factory buildings, common service facilities and advisory services. Commerce and transportation are important allied industrial space users in the Yaba district.
extension of Ikeja industrial estate, providing factory as well as residential accommodation.

F5 - Full or Complete Impact: The districts of Apapa, Ebute Metta and the northwestern half of Lagos island form one central area which has experienced complete impact of the industrialization process. In Ikeja division, the fully allocated parts of Ikeja Industrial estate and Ijupeju stand out clearly. The Iganmu/Ijora Causeway, and Mushin districts form important nuclei calls. At Iganmu for example, the Brewery business is well entrenched into its location and high capitalisation has kept that industry securely chained to the old site.

A section forming the nucleus of the newly established Ogun river Industrial estate runs from Oregun northwards to an abrupt end at the swampy border with Western State. The main "impact" of this last nucleus is associated more with the substantial alteration of the physical landscape than with actual presence of factories which are still to become established there.

In general, the areas of full impact are areas of intensive industrial activity. They take in such important industrial centres as Apapa estate and the port area, although the adjacent creek islands included in the zone represents more of a cartographic freak. In addition the Iganmu/Ijora industrial complex, the Lagos island C.B.D., the Railway Property at Ebute Metta and the Saw Mills area at Ebute Metta east, all join to make a compact whole of this zone. Less competitive land uses in the area have been pressed out, e.g. housing estates, recreation, cemeteries and food production (besides the few poorly organised adhoc illegal market gardens on temporary vacant property).

The landscape in this district (all areas under F5 impact) is littered with a congested complex transportation network, factory works of all types, slummy residential property and a high incidence of category 3 a and b land use. The swamps of the area have been fully reclaimed, vacant land is hardly existent, land price is comparatively high and units of land

6.11. One of the disadvantages of calculating data on grid unit-values is that grids tend to cut across homogeneous areas and group together different phenomena; but this is considered a tolerable sacrifice of detail for a generalised pattern of the phenomenon under consideration. For the actual land use of those creek areas see Map 8 (folded sheet).
holdings (where not vested in government, corporation or business firms) are in the smallest possible dimension - in plots and square feet of floor space. Public utilities (water, electricity and sewage) are stretched to the limits and frequent breakdowns of the services occur. There is need for a replanning or adjustment in land use. In some cases the response on the part of the enterprises involved, government authorities and individuals had been to expand into less "pressed" districts of the study area. With the removal of the political constraint and the expansion of "Lagos Area", relocation and moves are taking place away from this crowded zone. The setting up of a New Town at Amuwo, the various slum clearance programmes and the many development projects initiated by the Lagos State Government are moves designed to ease the congestion and abate the bad conditions consequent upon this degree of impact.

In general the centres now found under F5 impact are the nuclei, hearth, or "receiving" centres of the industrial innovation. They are the districts in which the early seeds of industrialization were sown and from whence the Lagos Study Area derived its present share of industrial activity which is influencing other land uses in the area and which accounts for the rapid physical expansion of Lagos. (Map 18 shows a distribution in the study area of various degrees of impact forces expressing units of land area under each force.)

Trends and Projections of Industrial Impact on Lagos: What has been observed so far represents early days of industrialization in Lagos. Industrial activity, which was introduced into the region only in the last 25 years, has come to stay and will intensify its impacts on all of the study area within another 20 years if the present trend continues. What looks like emerging is a vast industrial region centred at the port and spread out to the eastern and southern parts of the lagoon, once the various road projects being executed by the L.S.G. materialise. There is room for expansion if only essential infra-structure in the form of public

6.12 See chapter 4, p. 133 and note 5.8 and Ch. 6, pp. 345-351.
6.13 1948 is generally regarded as the date industrialization really started in the study area; but this is probably because that was the date a government Ministry was set up specifically charged with responsibility for promoting industrial activity in Nigeria generally and particularly in Lagos. However, as noted earlier industries started coming to Lagos during the 2nd World War.
6.14 Infra-structure here refers to roads, railways, water supply and tele-communication facilities. They are regarded as the foundations for industrial development.
utilities or services and transportation routes (including water borne transport) are developed as top priority.

Among areas where impact scores are expected to increase within the decade are: the lands on either side of the Lagos-Badagri road to Ojo and beyond; the districts zoned within Ilupeju Industrial Estate from Gbagada (near the lagoon coast) across Shomolu, Ilupeju, Mushin, Isolo and Isasamaja to Itire, Ishagatedo and along the projected Ikeja-Apapa Road (across the Lagos-Badagri road and via Ajegunle) to Apapa Port. The new road will open new lands for industrial establishments. The Atlantic foreshore from Kuramo eastwards to Iwerekun or beyond (possibly as a second approach route to Epe) will change dramatically, once the projected L.S.C road is built to remove the present isolation. Even if industries do actually locate in these parts, the area will be opened up for tourism and recreational land use which are close associates of industrialized regions.

Ikorodu-Epe Road will also attract a substantial amount of industrial impact and it is possible for factories or a whole industrial estate to be set up in the new lands being "opened up" by this road. However, the existing industrial estates in Ikeja division (aided by the present concentration of the region's labour force and major market in Ikeja and Lagos divisions) still have much room to be filled before new estates are contemplated; and, the present alignment if services (water, electricity and telecommunications) are such that the western half of the study area will continue to prove more attractive to industrial enterprise than the poorly endowed eastern half.

When the so-called Dolphin Plan is completed, the new transport system and the provision of industrial sites are likely to increase the impact at the north-eastern half of Lagos island, possibly from F2 to F4 (from 25% score at present to over 50% after a completion of the "Dolphin Plan").

6.15 See Maps 11, 22 and 23. Ilupeju Industrial Estate is still developing and space is available for new industries.

6.16 The Dolphin Scheme consists of a motorway ring road around the northern foreshore of Lagos Island from the new Eko Bridge to Ikoyi, Traffic from Ikeja Airport and the mainland to Ikoyi, Kingsway and Victoria Island will thus by-pass the city centre. The road will be constructed in the present lagoon on an embankment which will enclose 112 hectares of reclaimed land, which will also provide space for residential and commercial development. The total scheme also includes realignment of the MacGregor Canal, development of an esplanade along the lagoon shoreline and construction of one or more piers to serve water borne traffic. It is part of an estimated £48 m. development scheme to decongest Lagos, allowing for easy flow of traffic and promote better land use. See WEST AFRICA magazine of 28.1.1974. pp.86-87.
All the high class residential districts (category la land use) are likely to remain relatively low impact areas, although the nearness of Apapa and Ikeja government residential area (G.R.A.) to high impact industrial centres continue to exaggerate the actual impact experienced in those residential areas. The western borderlands (with western state) will remain low impact zones until the valley of River Illo, which forms the actual boundary, is developed for industrial purposes, e.g. local hydro-electricity may be usefully introduced here and a medium scale saw-mill able to tap the forest resources of the surrounding districts can be set up either by private enterprise or government initiative. Alternatively, the entire valley may be turned into a "green zone", with option for recreational land use which could become fashionable as Lagos metropolis becomes more industrialized.17

The expected trend is likely to be in the form of gradual adjustment through redistribution of impacts as industry and its associated land using activities permeate the Lagos landscape and as planned general economic development leads to expansion of well organised land use throughout the study area. Efficient planning tendencies would aim at maintaining the impact level at Force 2 by encouraging some form of dispersal, for instance away from F5 areas into F0 areas.18 However, the positive trend envisaged above cannot occur without a drastic improvement in the transportation system, better telecommunications and an evenly distributed and

6.17 The way of life associated with industrial life include imported ideas about work and leisure. Recently (since Lagos-Badagri Road was opened) it has become fashionable for Lagosians to get away from the noisy city atmosphere of Lagos for weekend rests at Badagri and Epe. The little available facilities there are already too small to meet the growing demand.

6.18 Here the position of Lagos as part of a large developing country acts as a modifying factor. As already noted the concentration of industry is being halted by Federal Government policy to direct industry to other parts of Nigeria, thereby creating growth centres elsewhere in the country.

6.19 All the corporations and agencies connected with these three aspects are planning massive increases but the position of telecommunications (particularly telephones) and postal services remain seriously neglected. To begin with, it is a fact that even a slight improvement in telephone and postal services would cut down on traffic congestion; but the authorities have not paid adequate attention to this despite evidences made available to them over the years, notably by Akinola, Mabogunje and Onyemelukwe, op. cit.
reliable supply of public utilities\(^{19}\) (water, electricity and waste disposal) throughout the study area.

"Industrial Impact" as described above is having direct bearing on land-use organisation in Lagos. The effects range from arousing the perception of planners and land users on potentials of Lagos land resources, to inciting the development of land uses complementary to industrial activity\(^{20}\). Whereas land use in the study area is known to have been organised in the traditional rural system\(^{21}\) prior to the introduction of industry, definite changes have occurred since the first industrial estate was built at Yaba, with the net result that the entire study area has become drawn into serving the needs of an urban centre thriving on non-agricultural activities. In the process, distinctive phases are observable in various parts of the study area as one form of land-use organisation evolves to the next in response to changes in human uses of the land. Differentiated housing types\(^{22}\), denser transport network, reclamation of agriculturally "useless" lands and a greater complexity in land use types of the area are some of the changes associated with increasing impacts from the industrialization process.

6.20 Of these transport (by road, rail and water) for movement of raw materials, personnel and finished products; residential districts for different income or socio-economic groups relating variously to the industrial centres; commercial and warehouse districts (for the products of industry) and the business districts are most obvious.

6.21 The Yoruba of this region traditionally lived in non-industrially based towns and, besides trading, went to cultivate their fields (Oko) Kolanut plantations and food crops for subsistence purposes. When slaves were available they lived in these "farms" where they cultivated the fields for their masters who visited the farm from his town residence as he wished. One change created by industrialization on this pattern is that people here now go from home in the suburbs or residential zones to work in the central area; thus reversing the traditional direction of movement between home and work place.

6.22 Types of housing in Lagos developed in the past 25 years have tended to correspond with the different classes of workers. As industry has been a strong factor in drawing potential workers to Lagos, the need to house these immigrants - workers and surplus labour force - as well as housing for non-industrial workers constituted formidable problems for the former L.E.R.B. and now the Lagos State Property Development Corporation. Between these two a large variety of houses have been designed and different residential districts have evolved. See Map 19, Plates 6, 7, 26 and 27.
The present Lagos study strongly identifies industry as a major consumer of space. The facts indicate that industry is a generator of "allied" or ancillary land uses which cover the site (actual factory, works or office space); transport facilities, utilities, allied residential purposes, and primary production (food for the labour force and raw materials for the factory). Many hitherto "unused" lands in the study area are being drawn into the emergent system designed to serve a newly industrialized region, with its attendant urban expansion. The process continues to unfold.

6.23 Road development has progressed remarkable in the past ten years, notably the Apapa Port expressway linked to the Eko Bridge system, the new Lagos- Kadagiri road; the Airport - Apapa Port expressway nearing completion; the Dolphin Scheme described in Note 6.16 and the several local Lagos State Government road Schemes to "open up" several presently isolated parts of the State. The Port has been developed to handle the vastly increased traffic in the country's import, export and other external relations. An area of 400,000 square metres is being added to the Port. See WEST AFRICA magazine, p.368 of 19.3.1973. The development of the airport is also related to the industrial growth of Lagos; for as Lagos becomes important and a centre of economic affluence, high level personnel, air freight and commercial and business materials, many associated with industry increase the air traffic using Ikeja airport. In turn the need for expanding airport facilities and linking it with both central Lagos and the port at Apapa as well as all the industrial estates is strongly felt. By December 1972 a further 2,500 acres of land was acquired by the Federal Government for expanding the airport. Added to the 1,705 acres previously acquired in 1944 the airport now occupies a total of 4,205 acres at Ikeja. For rail transport the large tracts of land acquired very early on are just becoming full utilised as industry grew in Lagos. Apart from bringing in raw materials and export produce from the interior and taking workers to the industrial estates of Apapa, Ikeja and Iganmu from the residential districts of Mushin, Surulere and Agege, rail transport is also playing active part in distributing the products of local industry and imports to the inland market of Nigeria.

6.24 The serious inadequacies in Lagos public utilities was not felt until recently when industry became a substantial consumer of the available water and electricity supplies. The Electricity Authorities did not record power consumption separately for industries until 1966. The water supply authorities still have not fully recognised the needs of industry as their plans for supplies up to 1985 use population growth as indicator for water demand potentials. The telephone, telex and post authorities are probably the most ignorant of the needs of industry for their services. They therefore create massive problems for industrial development.
An Illustrative Dynamic Model of Land-Use Organisation
Under Impact of Industrialization in Lagos.

It is possible to construct a simple model illustrating how the Lagos landscape is evolving through different phases of development as a human variable - industrial activity - becomes a significant factor in transforming the region's natural features to an organised complexity of cultural features. The cultural features are themselves expressed in terms of land use for various human needs and purposes.

In the present writer's view, five phases appear to be distinguishable. It is important that readers understand the succession of phases as taking more the form of subsequent occupancy than the Davisian cycle in geomorphology to which this idea, although acknowledging the debt of a few terms, should not be related. In terms of economic growth of the region, the present idea finds parallel in earlier theories,

6.25 Food and raw materials for the industrial region comes from all over Nigeria: Abundant fresh fish is available within Lagos State. From the Western State comes vegetables, peppers, wood fuel, palm oil and foodstuffs such as garri, yam flour, fruits and maize; the midwest state supplies plantains, palm oil, snails, fruits, yams and dried fish; the Eastern states supply yams cocoyams, beans, fruits, maize and assorted condiments; the Northern States supply grains, groundnut oil, beef cattle, dried fish and assorted foodstuffs. Provisions, wines, dairy products, stockfish and exotic (non-African) foods are imported from Europe, the Americas, Australia and Japan through Apapa Port.

6.26 The term "phase" is preferred to such available alternatives as 'stage', 'cycle' or 'level' of industrial development. A phase of land use organisation could not properly be equated with Rostow 'stage' or a Davisian 'cycle' nor with any view of each land use condition as a 'level' of development. 'Phase' as a descriptive term avoids all the shortcomings and limitations to which 'stage', 'level' or 'cycle' have proved susceptible. Time factor is easily incorporated in each phase according to what data is available for the place and the time span for either the complete process (phase I through V and back to Phase I or from one phase to another. A generation or several centuries could be involved. Besides it is possible vary the programme according to the size of region involved - from a single village to an entire country or continental unit. It is also possible to vary by emphasis any other factor or variable (usually an aspect of economic activity) which is regarded as the controlling agent of change on the cultural landscape. The author is grateful for the several opportunities he had at the Department of Geography both at Lagos and Leicester Universities to try out by discussion, arguments and criticisms, the concepts and empirical evidence which led to the construction and refinement of this mode. The conceptual framework benefitted much from earlier work on subsequent occupancy, among other themes in Geography, Economics, Anthropology, Sociology, Planning and Computer programming.
such as Rostow's 26 much criticised "stages of economic growth";
but it makes no claims yet for universal applicability. Until the writer
gets the expected opportunity of doing empirical work in other tropical
African (and possible wider) regions undergoing similar developmental
experience as Lagos, the model refers strictly to the writer's empirical
study of land use in Lagos. Moreover, the changes noted are those
identifiable as visible surface expressions on the landscape.

The five distinguishable phases may be conveniently labelled as:-

Phase I - Elementary
Phase II - Dynamic growth
Phase III - Sustained Growth and Maturity
Phase IV - Waning and Decay
Phase V - Rejuvenation.

A brief reference and introduction has already been made to these terms
in Chapter 1, pp.48-50 of this thesis. We now direct attention to the
components or items used in constructing a model embodying this idea.

Appendix 7 lists the ten items. Each item was chosen from a multitude
of possible items following the principle that only those items that are
reasonably known, measurable and universally applicable to the study
area are good enough inputs for the model. Thus, for each phase we consider
the state of such inter-related factors as (i) the amount of land available,
(ii) utilised percentage of available land, (iii) land ownership types
(1 to 9 and X), (iv) land-use categories represented or dominant
(of 56 possible kinds), (v) public utilities (scale 1 to 10), (vi) industrial
impact factor (Map 18), (vii) state of industrialization - scale 1 to 10,
(viii) settlement types, (ix) planning control, (x) development parity
ratio - indicating the degree of difference between most used and least
used areas).

From the details collected on these items, it is possible to 'build'
the model in the form of a 'flow chart' stating the main characteristics
(summarized from those details) observed for each phase of land-use
organisation.

6.27 After D. Whittlesey's term of "a succession of pictures in time" of
changing geography of an area". Whittlesey, D (1929): Subsequent
Occupance", A.A.A.C. Volume 19, pp.162-165.

Assets of the Model: It is a synthesis of formerly disconnected aspects of change occurring in the geography of this region. All the information rigorously collected about the region became summarised and presented in the flow-chart as inter-related phenomena, which, together, give interpretative, explanatory and predictive clues to man-land relationship in the study area. The model can be said to be truly geographical in that it brings out the links and harnesses between most themes common to any study of physical and human aspects of Lagos geography (the physical landscape, historical, economic and applied geographies).

Limitations: Like most models, it is limited in range of applicability by certain necessary simplifications which have the effect of suppressing some factors and stressing some variables considered more relevant to the problem under investigation. In this case, for instance, industrial activity features as an important variable because it relates to our problem of land utilization under impact of the industrialization process. Other seemingly important variables, such as population density and other demographic factors have had to be suppressed to avoid the complications which would arise from such a "more difficult to measure" factor. As already noted in passing, the model is also subject to limitation imposed by paucity of corroborative data or similar empirical research from similar regions elsewhere in the world. However, this type of limitation serves the useful purpose of inspiring further research into the frontier of geographical knowledge, particularly in the matter of land-use studies in developing regions.

Observed Details:

Phase I: Elementary Land-Use Organisation. A natural state prevails. Man seems to obey Zipf's principle of least effort. Land use conforms

6.29 In a fully quantified version of this model and given reliable data (which in the case of demographic and spatial industrial details are comparatively rare in the Lagos region), it should be possible to augment this limitation. See also R.C. Brown (1967): "Use and Misuse of distance variables in Land-Use analysis". in Professional Geographer 20 (1968) pp. 337-341.

with the natural landscape, confining activities to primary production and subsistence agriculture or adopting the fishing, farming and hunting mode of livelihood. There is minimum external contact or rather a high degree of isolation from active centres. Population pressure is low, industries are absent and the area scores a zero impact force from the region's industrialization process. Settlements of the area are farmsteads and villages distributed in a random pattern. Planning control is absent but the practice of shifting cultivation and communal land tenure west authority on "bales". Development parity ratio, presented as a form of standard deviating from the general development level of the study area, is in the extreme negative. See Colour Plate 19.

The relatively remote villages of Epe division, Ikorodu division and Badagri division, together with the borderlands to the north and west of Lagos state are experiencing this phase. The village of Meiran in Ikeja division, described late in this thesis, typifies the situation, and so are the creek settlements of Badagri and Porto-Novo creeks. (see p. 246).

Phase II - Dynamic growth: With the introduction of a new idea or new type of production activity, e.g. new crop, quarrying, plantation system or industrial innovation, the physical landscape undergoes a form of transformation. More cultural features appear, more land becomes 'used' for a wider range of human activities. External contacts begin to feature, resulting in intra-regional exchange between the most advanced parts of the study area and the new growth cell. New types of land ownership follow new uses and may totally replace types 5 and 6; but the 'X' type (disputed and unknown titles) also becomes noticeable. Transportation, agriculture, residential accommodation and industry become significant land users. Industrial impact is still low - about Force 1; but the growth element has been introduced and rapid changes are generated. More people may migrate into the area from outside and a snowballing effect can be set in motion.

6.31 The area feels remote from the industrial centre, exhibits all forms of traditional Yoruba rural land use and lacks modern amenities. Public utilities are not available in organised form e.g. no pipe-borne water or electricity. Contact with the industrial centre of Lagos is minimal.

6.32 Communal (village) and family lands become acquired for development either by individual entrepreneurs or by the government intent on introducing industrial activity, plantation agriculture or some raw material based activity such as plywood, factory, mining or livestock production in response to needs of the industrial centre.
The need for public utilities begins to appear, but may not be implemented until a threshold level is reached. There is more attempt to offset this need by exploiting the natural environment, e.g. water from wells, fuel from firewood collected from the forest neighbourhood, and for waste disposal the many unreclaimed swamps, holes in the ground left by quarrying and brick works and the open waterways (creeks, streams and lagoon) which serve as open sewers, are used.

The type of settlement is semi-urban as the original Lagos township or present day Ojo Town, Agege, parts of Ikorodu and indeed the entire rural urban fringe within metropolitan Lagos. The settlement may therefore be located in an urban fringe or a peri-urban market centre such as present day Agege. Such places may have derived their initial advantage from a new accessibility (road, rail, beach or airfield). Planning control may become newly introduced, often from a higher organised authority than the local communal headman. Health reasons have in the recent past, featured as major reasons for introducing planning control in this region (e.g. control of malaria). This may lead to more reclamation of swamps and drainage of marshes. For the most part early planning measures appear in the form of building regulations which are oftenflouted in Lagos because of the high level of corruption.

Development parity ratio is still low but active.

Where this phase fails to arise naturally from developments in phase I, people at the site are likely to migrate (see flow-chart) to an external territory experiencing phase II, about which they might have received information. In that case, phase I, through lack of progress, may rapidly give way directly to dereliction and the site becomes deserted settlement of bush. Many such ghostly settlements could be traced within Ikeja division just prior to the creation of Lagos state as noted in an

6.33 At the threshold level enough impact has been generated to establish a pattern of demand on public utilities. The electricity authorities seem (by their bookkeeping system) to recognise 1956 as the date industrialization started making serious demand on their services. At that level two allied land uses have appeared e.g. a transport pattern serving industrial centres and actual industrial districts appear to stand out, even if zoning has not been applied.
unpublished study by Adefolalu. Ogudu village has long served as a lingering example, now about to be drawn into phase II when the proposed Lagos State road from Oworonshoki via Ogudu to Ogun River industrial estate materialises.

Phase III - Sustained growth and Maturity: This progresses naturally from phase II. The available space has become considerably enlarged from what it was at the initial phase prior to the dynamic growth. Many more have been won either by natural "capture" of neighbouring territories or by extensive reclamation of local swamps, forests, beaches and sundry landscapes. There is a general expansion beyond the unnatural barriers such as a political boundary. Lagos island and the entire city of Lagos subsequently, are good examples in this respect.

Almost all available space in the structure is used up or has become committed to a category of land use. Unoccupied sites are scarce and land value reaches an all time high. The area enjoys a steady economic prosperity. Industry, commerce and residential accommodation have become the major land consuming activities. An entirely urban land-use system is established with considerable "drawing in" of land use in the rural-urban fringe. There is a high degree of impact force (F3 to F4) from industry on local land uses and an advanced but healthy state of industrialization is observed throughout the district. The settlement type may be a town, a city or even a metropolis; but the urban outlook of the place is unmistakably well established. Land ownership types have become largely of the la, lb, 7, 8 and 9 types; while communal or family lands have almost complete disappeared.

6.34 Building regulations have existed for Lagos since 1899 when under the Health Ordinance the island of Lagos was declared a "Sanitary District" and the district was duly extended in 1900, in 1917 and by 1926 the building bylaws of Lagos was applicable beyond Yaba. Nevertheless these regulations have obviously not been rigorously applied in the past 20 years. The several apparently illegal buildings were found during the 1972 field-work to have been erected on "genuine" documents - their plans received "Official approval" from unscrupulous officials in authority. Even in 1973 many plans continue to receive approval "through the back door" and the authorities seem to let these go by default. Until corruption of this and related forms are removed, it is difficult to see how land use in Lagos could ever be efficiently planned.

6.35 This unpublished BSc by A. A. Adefolu of Lagos University Department of Geography contains valuable information which could serve as useful basis for a historical geography of Ikeja Division prior to the introduction of modern industrial activity into the region.
Planning control in an area experiencing this phase of development in land-use organisation becomes an obvious necessity, initially aimed at controlling the adverse affects of intensive competition among various space using activities. Later it becomes even more urgent to protect land allocation for public purposes (usually poor competition in an open land market) against more viable but apparently selfish private land users. For instance, there is a great need to preserve space for categories, 4, 5, 6, 7, 8 and 9 land uses, especially for schools and public recreational purposes against private developers who would deprive the public of that space by erecting lucrative office blocks or rented accommodation on the site. The need for an efficient planning control leads to wider organisation of the planning body at a higher level to ensure the political power, financial resource and personnel organisation that would evolve and implement efficient measures. For the study area, the merging of Lagos Executive Development Board and Ikeja Area Planning Authority (former rival planning authorities) into a single more powerful body from 1.4.74. is an acknowledgement of this principle.

Public utilities are actively developed to an all time high; yet on all accounts (water, electricity and sewerage) supplies are inadequate to meet the high demands. Internal and external communications are developed to effect much needed movement of people, goods and services within the city and between the city and other parts of the study area, or even similar urban centres in Nigeria which constitute the hinterland of Lagos in her capacity as port, capital and prime city. Despite the high rate of development on category 4 land use (transportation), congestion persists because of lateness in planning and the multiplier effect produced by other space using activities which flow into and are interbred within any area experiencing this phase. The present situation in Lagos city and neighbouring built-up areas typifies the experience in its acute form. It is in this respect that Westergaard's view of "transport as maker and breaker of cities" hold good for Lagos, among other world cities.

The poor state of the infra-structure on which Lagos industrialization is based and the seemingly uninspired planning behind it are reflected in the bad organisation of land use at this stage. For the same reasons, many

of the relatively developed parts of Lagos do not fully realise their natural "life span" at this phase. The need for urban renewal is more frequent there than would be the case if efficient planning had taken care of telecommunications, city transportation system and reliable public utilities. Moreover, the necessary "renewals" are slowly perceived and are rarely effected by the authorities. The net result is that many parts of the study area which should now be enjoying this phase of land use organisation and developmental level have either quickly degenerated into the next phase or are currently so threatened. However, the novelty of industrial activity and "western type" urbanisation in Lagos, poor environmental perception, together with the inherent problems of Lagos as a West African primate city and the federal capital of Nigeria are factors jointly responsible for the apparent chaotic organisation of Lagos at this phase of its development. Space in the area is full. Further entry of industry or other major land use easily strains available resources in public utilities, transportation and residential accommodation

Phase IV sets in closely at the heels of Phase III on account of the poorly co-ordinated services and land use plans of Lagos. New towns (e.g. at Amuwo) are built to settle overspill population and activities without waiting for imminent decline.

Phase IV - Waning and Decay - There is a general blighting effect starting from the low income and mixed residential districts. Slums have developed. Public utilities have become overloaded or obsolete and movement within the city has become difficult as a result of internal congestion. This is typical of conditions prevailing on parts of Lagos island. Industries, business firms and residential land users who can afford it move out of the congestion and slum areas, possibly to dynamic centres in other nearby regions. Many derelict sites appear within the city and a general decline in property values, possibly a reversal of prices outwards to sites outside the city centre, is observed. The area under effective use shrinks or contracts leaving many idle plots. Unless there is effective planning control by the local planning authority, applying new planning techniques and borrowed ideas or inciting some new development, the district may degenerate directly to a derelict or deserted landscape.

6.37 A life span is defined as the period (in years) a neighbourhood or district (usually built-up) remains in good structural form and active or efficient use before decay or the blighting process sets in.
Usually planning measures have been forthcoming at this phase as the local authority makes a desperate effort to stem the decline.

Phase V - Rejuvenation - Planning activities are seen to be altering the congested landscape. Urban renewal and special zoning receive major emphasis. Special subsidies may be offered by the local authority to attract "growth generating" activities, i.e. such land users as would encourage growth, especially the job providing land uses, such as factories and offices. The streets and roadways are improved and possibly laid out anew. Generally, the authorities commission studies and invite experts to identify causes of decline and recommend means of arresting the situation by revitalising the waning city. Most of the services (public utilities and telecommunications) need replacement and modernisation.

Land ownership may easily pass into types 8 and 9; while decline in private hands follows the general trend of a dying city. Sometimes the huge public works required to make the renewal effective enough to yield positive results, becomes too expensive to a point where a fresh site would be advisable. The many open spaces in the city at this phase could be turned to playgrounds and car parks but in Lagos island these are quickly occupied by category if land use in the form of shacks and shanties and by unofficial market places, really disguising the idle state of such tracts in a depressed part of the city (e.g. Offin, Isale-Eko, Epetedo, Okesuma, Idumagbo and parts of the former Taiwo street slummed in 1955-56 and close to the C.B.D.). At this phase, it is obvious to any

Lagos has received a series of experts at an average of two teams per annum in connection with advising the government on her planning problems. Most notable among these expert teams was the U.N. sponsored one led by Otto Konigsberger and whose finding and recommendation for the creation of a Lagos Metropolis as well as better land use planning was published in 1964. Most recently (1973) the traffic problem (a natural development from Lagos industrialization) has brought about the Dolphin Scheme and for the development of the city centre (Lagos C.B.D. centred at Tinubu Square) a British firm of Traffic engineers, Macowan and Associates of Pontefract, Yorke, have been commissioned. The author is indebted to this last team of experts for the information contained in Map 36 - volume of traffic flow at Lagos C.B.D. In this author's opinion there can be no end or effective solution to Lagos development problems as long as the Lagos state of Federal Government relies on ad hoc unco-ordinated consultation with assorted experts, without paying attention to a comprehensive land use survey and a properly executed land use planning for the long term benefit of the emergent Lagos Metropolis.
casual observer that less space is under effective use; but the local authority, possibly worried at the consequent loss of revenue, is actively planning on a basis of latest techniques. Industrialization has attained an advanced state and has strewn the landscape with relics of obsolete organisation and technology as they move away to new or modern sites outside the district. In the case of Lagos however, the high number of surviving cottage industries, made up of local cloth-weaving, gold-smithing and similar trades, reflect economic inertia of a very interesting kind.

If the planning measures fail, the district site or city may pass directly into dereliction, leaving a deserted cultural landscape overgrown by weeds or serving as refuse dumps. Alternatively the waning district may linger in a state of economic inertia as may be noted in the Okepopo district of Lagos island. It can be inferred that a fully deserted site eventually returns to phase I at some point in time.

If the planning measures are successful, the site or city springs back to life. People and activities are attracted back to and retained within the city; and a new equilibrium in land-use organisation is sought by the planners. Depending upon the degree of planning measures applied and the soundness of its basis, the successful result achieved would vary from starting a new phase II to merely bringing back a phase III situation.

6.39 In Fig. 1 the new region, town or district is represented as an "EXTERNAL DYNAMIC REGION" to which industrial activities, population and associated facilities tend to migrate from phases I, III and IV. At that new region or land (the distance of which is free to vary) the entire process repeats itself as our model indicates.

6.40 The concept of equilibrium as used here and in chapter 9, refers to "a state of balance" when various forces have created a state or form which would not normally be altered but change over time is experienced as the controlling factors change therefore with the introduction of any temporary tendency towards change, that tendency is countered by an opposing force which tends to restore the system to its former state. The role of man on the landscape to condition that change and the tendency for the landscapes as it were to "return to native" over time, give the conceived model of land-use organisations its dynamic form.
Chapter Seven

CASE STUDIES - The Rural Sectors of Lagos

As indicated at the base of the land use map, uses of land in rural parts of the study area are arranged to correspond as much as practicable with uses in urban districts.1 (See Map 8). The rural system of land use in Lagos tends to complement life and activities in the urban districts and both systems have the appearance of interacting with each other. Besides, the present rural lands, covering an estimated 42.5% of the total Study Area,2 may be seen as the land resources bank for the future needs of the growing metropolis. The land use survey was conducted at a time when an estimated 700 acres of land3 per annum is being drawn from the rural districts into the urban system in direct response to urban or Metropolitan expansion of Lagos. In this chapter, we examine by means of case studies and field samples, the 21 categories of land use mapped in the rural districts of the study area. The first eleven categories are basic allocations associated with the settlement(s) of the rural district and broadly agrees with similar land uses in urban districts. A1 to A10 are different categories of use based on rural activities (primary production) varying as much as possible to cover all human activities not already included in urban districts. (See Appendix 30).

7.1 Compare details Appendix 8a with Appendix 8b.

7.2 The Lagos Study Area is estimated as constituted by the following proportions of Urban, rural and water surface:

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Districts</td>
<td>33%</td>
</tr>
<tr>
<td>Rural Districts</td>
<td>42%</td>
</tr>
<tr>
<td>Water Surface</td>
<td>25%</td>
</tr>
</tbody>
</table>

7.3 Prior to May 1967 the growth of Lagos was artificially restricted to the 27 sq. miles which is now Lagos city. Since the boundaries were removed by the creation of Lagos State the growth has been phenomenal and much of former rural land have been drawn into the Metropolitan growth (See Map 34). Estimate of exactly how much land is drawn into the urban from the rural system is difficult to arrive at because of poor basic data. Now that, as a result of this study, a proper land use map has been produced, it would be easier to plot the rate of consumption by merely updating annually the computer cards in which present data has been stored.
Residential Uses:

Living accommodation is sure sign of human presence on the rural landscape. In the Lagos Study Area such accommodation stands out in the form of a nucleated settlement ranging in size from a farmstead to a large village or 'rural town'. The social organisation of the Yoruba (whose ethnic territory the entire study area forms a part) does not favour a dispersed pattern of settlement, so, except in the case of farmsteads normally manned by hired labour for town dwelling folks, the settlement is often a full-fledged village (at its lowest level), complete with bale and houses are arranged together in 'compounds' with gardens and fruit trees belonging to each family or compound. In quite a few cases the village grows into a rural market centre such as one witnessed at Ojo until recently (late 1973) when the Lagos-Badagri Road is about to draw this rural town into Lagos Urban land use system.

The built-up portion of the settlement represents primarily a residential unit, differing from its counterpart in the urban sector, in that the residence is undifferentiated on economic, ethnic or political basis. Quite often the only noticeable difference is 'social' - as the position, size or design of the 'bales' house. The size of compound may vary according to the size of the household (wives, children and adults of the extended family).

Where strangers reside in the village or rural town (as itinerant farm workers, Palm wine tappers, traders, teachers or missionaries, they are allocated a section of the village where they may build their home. Schools and places of worship (Christian and/or Muslim) are usually built by the villages but may be sponsored by an outside body such as a missionary organisation or the government.

The rural settlements of the Study Area (many of which have been listed in Appendix 2 as the Data Centres for the 1972 Survey) are represented in the finished land use map 8 as a modified form of residential land use. For only the amount of land covered in the physical site by house or built-up space was used for cartographic calculation of the "extent of the settlement".

7.4 The important exercise here is to keep to a standard practice in field mapping or recording of information, as comparative data for other settlements would become necessary eventually. In the 1972 survey the settlement considered as terminating at the last building or residence associated with the village. For a Yoruba compact system of settlement, this practice was easy to follow.
In a case study of one of these villages in Ikeja division it was possible to glean the characteristics of these rural settlements as residential and economic units. It is pertinent therefore to present here (before further examination of other uses of rural land) a write-up on Meiran Village at Ikeja division - as a representative rural settlement in the study area. Attention is particularly drawn to the origin, external and internal forms, economic activities and population of Meiran. Any peculiar uses of the village lands, links with the study area and organisation of basic amenities (such as water supply, fuel, sewage disposal and communication) are also expected to present themselves in the Meiran Village Study.

Meiran is regarded as a small village and like most of the villages dotted all over the rural landscape of the study area (outside the swamps and any uncultivableable lands of the area), it is an offshoot of a larger town and identifies with an ethnic or sub-ethnic group within whose territory the land is acknowledged to lie. There is often a legendary or historically remembered founder (the ancestor of the current Bale or father of the land - not landlord in the usual sense).

7.5 All other uses listed in Appendix 8(b) in the order tabulated.

Meiran was found to possess most of the features common to rural settlements in the study area, was more accessible and had some ready facilities (including co-operation from the Bale) for the author. The cultural background and land use organisation approximates that of most villages in the study area.

7.7 The traditional adherence of people in this part of the tropics to land whether fertile or not has been remarked upon by Harrison-Church thus: ..."Tradition is stronger in West Africa than in most temperate regions. Attachment to the soil (land); even in poor areas, and dislike of nearby fertile but non-traditional areas are important factors" Quoted in Morgan and Pugh (1973) p.13. "West Africa", 1966 pp.163-4.

7.8 See Glossary for "Bale".
As far as could be ascertained from oral tradition\textsuperscript{9} one Ogunsi, an Awori man from Otta\textsuperscript{10}, six miles north-west of Meiran, founded the settlement. About a century ago he had "bought" the site\textsuperscript{11} in the form of a farm and brought his family down from Otta to settle on the farm. He built the first hut and called it Meiran\textsuperscript{12}. Eventually other Awori people from Otta joined the little settlement and subsisted by farming. The present Village head (Bale); Chief Gabriel O. Croja is the fourth general direct descendant of the original founder of Meiran. The families of Otta consider themselves of a common lineage and acknowledge a strong link between Meiran and Otta - the home town of the founder and ancestral City of All Awori people.\textsuperscript{13}

\textbf{Layout Plan of Meiran Village and External Relations}

Map 26 refers. The map is in two parts: The upper half shows the rural-urban setting of North-west Ikeja division from Agege town northwards and westwards. The location of Meiran is clearly marked just above the 100' Contour of the western tributary ravine to Abesan stream. The approach to the village is either from Ijaiye/Wasimi - Ojokoro on the Agege (Lagos) - Abeokuta Road, via Akitan to Meiran, or a mile nearer Agege on the same Motor Road and via Iroko to Akitan.

The map of Meiran at the lower half of the page is presented at fourteen times the scale of the inset to show details of the layout of this village. The map also shows the internal structure of the village and land use details of its 'inner' lands.\textsuperscript{14} Every house or compound (active or derelict) is represented and to scale as far as possible in the field.


\textsuperscript{7.10} Otta - in the western state and just north-west outside the Study Area - is the ancestral city of the Awori people, although it is a later foundation than their traditional place of origin at Isheri - on the Ogun River and shown in Map 8.

\textsuperscript{7.11} Enquiries failed to ascertain from whom or which group of people he bought the land; but the present Bale insists that his ancestors "bought" the land, presumably what he actually bought was an existing farm on the present site, very likely from a fellow Awori man.

\textsuperscript{7.12} The meaning is obscure. None of the Awori speakers interviewed gave adequate clues as to the meaning of "Meiran" or "Meran". Usually all Yoruba names (persons or places) have meaning. Note also that/directory of Place names yet exists for the region as such although one exists for some towns of the Nigerian Federation.

\textsuperscript{7.13} As related to the author by an Awori friend and fellow geographer - I. A. Adalemo of Lagos University - the Awori are said to have journeyed the Ogun River (possibly in rafts or canoes, or overland) from Ife to the present site of Iskeneri town east of Ogun River and just off the Lagos State border into Western State. They offered a sacrifice to the river god (on Ogun River or the north-western shores of Lagos Lagoon). They continued
sketch but the footpaths to Ajasa Village and to the stream represent only general direction, while 'bush' for the most part varied from an overgrown garden to refuse dumps, toilet grounds and sacred groves within the village.

Meiran is sited close (about 500 yds) to a stream locally known as Ereolu which serves as the local source of water supply. The stream occupies the ravine mentioned earlier, forms a tributary of the Abesan stream which in turn forms a tributary of River Illo - the natural boundary feature between Lagos State and Western State.

Iroko Village another Awori settlement with whom Meiran shares a common boundary is 2 miles to the north-east, while other neighbouring villages are Moroga and Ajasa about a mile each from Meiran.

Houses in the Village: Meiran houses are arranged in rows as shown on the sketch map. They appear to have been built around (oval really) the Bales house as is traditional in many Yoruba settlements. The common building materials for all the houses are mud for the walls and floor; corrugated iron sheets for the roof these days; but it is said leaves instead of these iron sheets were used for covering the roof only twenty years ago. The average house here (excluding kitchen, animal pen, etc) is an inadequately ventilated one storey oblong mud structure of 96 to 100 sq.ft floor space capacity (often having only one window and a door). Through lack of repair and emigration to urban centres of Agege, Ikeja, Mushin and Lagos Island, many old buildings have crumbled and lie in ruin awaiting a prosperous son to return and rebuild on the site someday. In all built-up space for Meiran Village occupies 8 acres. Demographic details for a village which is said to have numbered 30017 in 1951 the present (1972) population of 220 (net loss of population) deserves some explanation. Meiran people do not encourage immigration into their community by "strangers"; the urban centres of Agege and Lagos attract

7.13 continued. considered their sacrifice accepted when the plate on which the sacrificial offering was placed on water sank. The news of the acceptance was proclaimed by shouting "Awo ri" - "the plate (or similar receptacle) sank". Thee see they adopted the name Awori and settled at Ishei. Both Ishei and Otta are today boundary towns in the Western state; while Ishei rulers today wish to be regrouped with Lagos State. If the oral tradition holds, this author thinks it possibly occurred before 1854 and likely during the first Modakeke confrontation with Ife.

7.14 This corresponds with Prothero's A. & D. Land Use Zones at Soba in Zaria (See Prothero, R. M., Economic Geography 1957) - permanent cultivation and cultivation within village walls respectively, except that there are no village walls at Meiran.

7.15 Parts of the surrounding forest are set aside for unorganised disposal of human waste but the School Master and the enlightened Bale have, for better sanitation and hygiene, encouraged the provision of pit type latrines by communal labour for the village. It was not yet built by 1973. The present system and even the proposed improvement constitute sources of pollution (of soil, water and air) around the village. It is noted here that while the local and State government are commendably thinking of rural water supply and rural electrification, no thought so far has been given to the provision of healthy toilet facilities to village dwellers in the study area.
young and enterprising members of Meiran Community; life could be very boring for the young and able bodied at urban centres of the study area or beyond. A noticeable decline of both population and birth rate was recorded between 1966 and 1971 as a result of young school leavers going to big towns for further study, and the rush to enrol in the Nigerian army during the civil war and the search for employment in the factories of Lagos.

The 220 persons accounted for in the village during the 1972 survey are grouped as follows:

- **Children** under 20 years old: 60
- **Male** 20 - 39 years old: 40
- **Female** 20 - 39 years old: 50
- **Male** 40 years and over: 30
- **Female** 40 years and over: 40

**Total 220**

All are contained within eighteen houses similar to the type described above. We see from this demographic analysis that the amount of space actually committed to residential use is relatively small and in many villages within the rural districts of the study area a similar decline is observed - loss of population to the urban centres, resistance of local villages to immigration from ethnic areas other than their own; all leading to stagnation or further decline, returning more land to the wild.

**Economy of Meiran Village:** The means of livelihood in this village provide valuable insight into the use to which land within and around Meiran is put. This is based on the assumption that various parts of the land available to Meiran people (either within the territory declared as belonging to them absolutely or in a free zone for all villages belonging

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7.16 An authentic description of traditional structure of Yoruba towns and villages is provided in Chapter VI pp.90-93 of "The History of the Yoruba by Rev. S. Johnson (1921) now published in paperback by CSS Bookshops, Lagos. He had written ... "In fact if there are but half a dozen huts in the place, that of the Ebele would be recognised" - a situation still prevailing in the field area.

7.17 Information confirmed in Census figures for Ikeja district - Colony Province.

"Strangers" include everyone who is not a native of Meiran. Some are more "strange" than others, e.g. Fellow Awori people visiting Meiran are not so strictly labelled as "strangers". The attitude is mutual in every Nigerian village. It is a distinction between "Sons of the Soil" and "Outsiders" and applies at the lowest base of Nigerian ethnic principles. It creates difficulty in land ownership.

7.9 It is not unusual in these areas to find primary "school children" of up to 19 or 20 years of age. This was confirmed at the nearest full Primary Sch. for the district at Old Agbado on Abeokuta-Agege Road. People are seen at only two levels - adults or children, but adults are further divided into continued
to the same Awori ethnic territory). The allocation of land to the various categories of use, other than for residential purposes which we have already examined, makes sense to the researcher when viewed in full appreciation of available background information on the local economy during the land use survey of 1972.

At this point it is important to bear in mind the following basic information on acreage of 'Meiran land':-

<table>
<thead>
<tr>
<th></th>
<th>A - Residential land for Meiran (Total built-up space)</th>
<th>0.8 acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Total land covered in Meiran Sketch map</td>
<td>930</td>
</tr>
</tbody>
</table>
| C  | Total land available to Meiran People\
   | (i.e. C - B)                                           | 1395      |
| D  | Free zone land used by Meiran People\
   | (i.e. C - B)                                           | 465       |
| E  | Intensively cultivated land closest to\
   | the village                                           | 0.3       |

For this case study, preliminary field work was done along with the land use survey in 1972, specifically in supplement Worksheet "A" Form 72/AL/2/Lag. /S "A". See Appendix 1.

Subsistence farming, wood (fuel) gathering for sale; palm oil and kernel production; lumbering of yam, sgbasa processing (for garri), Palm wine tapping, basket making; hunting and trapping; herbal medicines, tending poultry and domestic animals (goats and sheep); and trading in farm products (mainly local vegetables and fruits). Kolanut and cocoa are grown as cash crop. The people are inter-dependent one another and most of their basic needs are obtainable within the village circle - goods are bought and sold in cash, barter or credit and it is

7.19 continued. adults or old people. Adolescence as such is not recognised, "children" are dependent upon their parents up to the age of 20 years or thereafter until they secure work (or marry if female).

7.20 As for note 7.14.

7.21 The felling of local 'wild' trees - often Iroko trees. The tree resources in this part of Ikeja division is nearly depleted and the teak cultivated in government plantations or reserves do not yield trees of equivalent girth. The logs from Meiran district are of high demand at the Saw Mills of Ebute Metta East. There were, in 1972, no official regulations to conserve this valuable resource, despite the existence of a forestry resources policy.

7.22 Kolanut is an important item in Nigerian inter-regional trade between the southern growers and the northern consumers. Cocoa is for international trade. Meiran is located at the one of the few districts in the cocoa belt where soil conditions and climate overlaps for both crops. See also note 2.13.
not unusual to borrow foodstuffs until the next market day.

All male adults (20 years old and over) are engaged in farming. An average farmer has one or two acres of food crops and over 4 acres of fruit trees. More attention is given to the production of fruits (e.g. Kolanuts, pears, guava, bananas) palm produce (oil and kernel) than to any other economic activity. What passes for cottage industry concerns only such activities as rope making, basket weaving and similar craft which claim only the people's spare time. The raw materials for these come from the local forest. This is one part of the study area where migrant farmers from Igbirra land far away in Kwara state. They had settled in Meiran Village between 1950 and 1965 offering their services as daily paid labourers or as yearly paid labourers for the Meiran land owners. They were given large acres of Kolanut plantation to clear and in the process also cleared 'bush' for growing root crops and vegetables. These 'Agatu' farmers, as the Igbirra migrant farmers were locally known, contributed a great deal to the economic welfare of Meiran during that period. The troubles of 1965/66 leading to Military takeover in Nigeria and a long civil war.

Meiran villagers obviously concentrate on production of cash crops in preference to food crops. For cash crops do not require as much attention as food crops, they fetch more money than root crops and old farmers can cope with the relatively little labour cash (normally tree) crops require. Moreover, cash crops fetch capital savings for the farmers, whereas food crops are mainly for consumption only. Where the root crops are grown the farmers practice shifting cultivation system.

How much money is realised from farming among Meiran villages, proved most difficult to ascertain, posing the same field interview problems noted earlier for the entire Lagos Study Area. To a great extent the respondents had to be believed and some degree of common sense had to be applied when evaluating responses to these sensitive issues on wealth and income: how much land is owned and how much money was realised from farming? Farm holdings seem to vary from ½ acre to 20 acres. The average farmer is capable of saving between ₦60 and ₦100 annually in the absence of drought and crop failure.

7.23 Root crops - viz. cassava, yams and cocoyams are known to be more demanding in soil nutrients. The subsidised prices for fertilizers as offered by the extension department of the Lagos State Government Min. of Agri. & Natural Resources is making it unnecessary to retain the old system. Permanent cultivation is now more common except that the farmers still do not seem to cultivate more land than they did under the shifting system, probably because the tenure system still inhibits initiative and incentive.
Women help their husbands in farm work, often doing the fetching and carrying. For the most part, however, these women are engaged in collecting oil palm fruits and palm oil processing. There are no cultivated palm trees in Meiran village lands or the nearby gathering zone; therefore the actual procurement of palm fruits and nuts involve going into A5 and A0 land use districts; collecting palm fruit and/or palm nuts; carry these home and crack the nuts for palm kernel, while the fruits are processed for palm oil. Next market day, they sell these for cash. As there is no market at Meiran Village itself, or indeed at any village within 5 miles radius of Meiran, the people attend markets at Agbado Railway Station five miles away (just north of Map 26 and clearly marked in the land use survey Map 8) - or at Agege (the largest 'regional' market for this village). From these markets Meiran villagers buy consumer goods such as canned foods and dairy products (mostly "rape milk"), clothing materials, jewellery, drinks (alcohol and soft drinks), foodstuffs especially grains not produced locally at Meiran, e.g. rice, beans, (particularly the black eye peas used for making such traditional dishes as moiyn moiyn and akara) fish, meat, egusi and other ingredients used in local food preparation. Farm implements are also bought - notably: hoe, cutlass (steel blade), knife, axes and various other household utensils.

Apart from selling the usual palm produce (palm oil for local consumption) 'gari' and vegetables, Meiran Villagers travel to the main markets to sell their cash crops, namely Kolanuts which is considered more important here than palm oil.

Transport facilities for the Village are poor. Bicycles are considered prize possessions and are rarely used. Only two or three lorries (bolekajas or mammy wagons) go to Meiran from Agege and that only on market days. This mass transporter carries goods and people to and from the markets and these are often seriously overloaded. Fares are arbitrarily calculated, varying according to the awkwardness of the load to be carried.

7.24 See chapter 8 - section on Agege Market, p.317.

The local market for vegetable oil generating very high demand for local palm oil has long wiped out the export potential of palm oil from south-western Nigeria. Indeed the region is a net importer of palm oil from sister regions farther east.

7.25 See Map 13. Notes 2.13 and 7.22 also apply.
and either the whims of the lorry attendant or the effective bargaining caprice of the individual passenger. The only motorable road linking Meiran with Agege - Abeokuta Motor road is shown in Colour Plate 17. Frequently blocked by lumber transporters, the road could become very rough in rainy seasons. In 1973 fares paid for single journeys were: Meiran to Agege 20 kobo

Meiran to Agbado Station 15 to 20 Kobo.
Quite a few people, intent on saving themselves both inconvenience and expense, walk to the periodic markets (Agege and Agbado)! Sometimes as a means of economising on the high freight rate, the women engaged in petty trading unite to hire lorries for services only when they have enough goods to carry to the markets. Women traders from Agege or as far afield as Lagos occasionally (usually at harvest time) journey in specially hired lorries to Meiran, buy up cash crops in bulk from the farmers either in the farm or harvested/stored stock. In a few cases it was observed that wives bought from their husband for resell at reasonable profit.

Lumbering at Neighbouring Forests: See Colour Plate 17. Although this activity is no more an important occupation for Meiran people as was the case ten years earlier, lumberjacks and professional contractors supplying logs to the saw mills district at Ebute Metta, Lagos, so far most of the mahogany trees which grew luxuriant in this part of Ikeja division have been felled and fed to the mills in Lagos. In the absence of control or enforcement of forest conservation regulations in this district, more trees often immature continue to be felled and carried down to Lagos. Already the natural vegetation is seriously disturbed and some destructive sheet erosions have been reported by farmers at Meiran and Iroko villages.

Wood gathering forms an important occupation as special lorries are hired to convey the carefully packed firewood stacked up at the Agege-Abeokuta roadside. The village of Alagbado-ile (on the Abeokuta Road) is one place where a hard-up Meiran Villager could be sure of selling a load of carefully bundled twigs, branches or split logs, for immediate cash. The Alagbado villagers, taking advantage of their road location, engage in this form of procurement and wholesaling to visiting lorries from the urban centres down south.

7.27 Mainly women and children engage in firewood gathering but as a part-time activity in supplement to farming in slack season, or just when quick cash is required. Only dry wood is involved.
There is only one village shop at Meiran. It is a small shop where small things like beer, soft drinks, cigarettes, matches, sweets, biscuits, kerosine, soap, tobacco and stationery may be bought—at just about twice the price applying at Agege or other urban centres. Despite the high price, the shop is considered very important to the villagers.

While the economy of Meiran tends generally to be self-sufficient; it is nevertheless limited only to the basic needs of the people. These include water supply, food and fuel (based on firewood). Local food stuff such as maize, vegetables, gari, palm oil, plantains and fruits (but not rice, meat, fish, eggs, dairy products, egusi and yams grown outside the Lagos region) are cheaper at Meiran than in the urban centres of Lagos Metropolis. Meiran villagers depend on other towns such as Agbado and Agege for manufactured goods in the factories of Lagos and imported goods as well as ideas from abroad. These include assorted consumer goods (textile goods, iron sheets, radios, toilet products—such as razor blades, soap and cosmetics) and ideas or techniques of farming and other means of livelihood.

In the section which follows we report the political, administrative, religious organisation of Meiran Villagers as well as any health and social services for them, which for analytic clarity and simplicity might have been missed out in our discussion so far of the village residential units, economy and external relations. It should be borne in mind that information collected in the course of this case study is reported here in so far as they create the need and are relevant to our understanding of the various categories of land use in Meiran and similar rural districts of the Lagos Study Area.

Political Organisation: 28 As noted earlier, Meiran village is headed by a "Baale" who had inherited his position from birth. The right to the throne, as in most Yoruba communities, is hereditary and goes to the eldest son of the last Baale. He is assisted by heads of families who play the role of 'chiefs' in a Kingdom.

The act of governing is exercised through irregular meetings of the elders at which it is the Baale's right to preside as chairman.

7.28 At the village scale, one is almost faced with the smallest "grassroots" level. Three parts are involved: First, there is the village affairs concerning only the villagers and their social relationships to one another. Secondly, there is the local district affairs: This involves the organised relationship of neighbouring villages of which Meiran is a leading member in this case, and the ethnic bond between Meiran and Aworiland or broader ethnic grouping. Finally there is the 'government' affairs which links Meiran Village, through its Local government unit at Ikeja Division to Lagos State and finally to the Nigerian Federal Government at the national level.
"Irregularity" here refers to the fact that the meetings are summoned only when there are enough matters to discuss. Matters for discussion include the security of the village, especially the employment of a night watchman \(^\text{29}\), cases of divorce, family quarrels, communal service (especially for clearing the overgrown 'bush', footpaths and stream sides of the village) and building or repairing the local school when necessary. The meeting also discusses the report and information sent down from Ikeja District Council meetings (the lowest arm of government touching the village).

Discussions, debate and decisions follow the well known procedure in Yoruba land.\(^\text{30}\) Meiran village is one of several villages for whom a customary court has been sited at Ojokoro (see map) and the Bale of Meiran is one of the "Justices of the Peace" sitting at that customary court. He uses his dual position to control his people and check any insubordination from them. However, case can be transferred from the customary court to the Magistrate Courts at Ikeja.

As a member of Ikeja District Council the Bale of Meiran also attends the council meeting regularly and participates in the affairs of the council. He represents Meiran in the Council. He has a duty to enlighten his people about all government policy affecting or likely to affect them. He sees to the collection and assessment of taxes\(^\text{31}\).

7.29 There is no electricity and life can be insecure in the pitch black nights experienced in villages of this type amidst thick forests and remote from the nearest Police Post at Agege. Of course there is no telephone. The night watchman, (sometimes coming as far away as Niger Republic or northern-most parts of Nigeria) raises alarm in the event of danger or a raid. Night Marauders occasionally visit remote villages like this and carry away valuable livestock, stored farm produce prior to market days or even children. Armed robbers from Lagos Urban Sector may also be tempted to hide away here with their loot. Life and property in villages of the study area can be more insecure than is usually realised by Local government authorities, yet there are no government provisions for them.

7.30 Yorubaland comprises all that territory as shown in Map 12 and of which the entire study area forms a part.

7.31 Taxation is levied on all male adults from the Ikeja District Council. In 1972 the minimum rate was \(\text{₦8}\) - for those with total income less than \(\text{₦200}\) per annum.
A regular meeting of all the village heads in and around Meiran is usually held. The villages involved are Araromi Okemeiran (a sister village), Koroga, Agasa, Agbele Kale, Ekor, Abule Egba and Isaga. The meetings always discuss the overall development of the area, focusing attention on mutual co-operation, peace, security, improvement of schools, road and health services for the area.

Women are excluded from active role in the political affairs of Meiran; nevertheless, their interests are not undermined or disregarded in any form. As matters stand at the time of this study, the Bale plays or is expected to play the most important role in the political affairs of Meiran or matters affecting Meiran. He is respected as both the local political (Nigerian government) representative and the cultural leader of his people. The people's lives are subjected to Yoruba native law and custom as interpreted and enforced by the village head. Any political excesses of the ruler of his subjects can be easily checked by an appeal to the higher courts at Ikeja. Police officers or other law enforcement agencies would not normally visit Meiran except in very serious cases, such as when they have to arrest criminals. There is no complaint therefore against the fact that no police station exists within five miles of Meiran village.

Religious and Social Life: Like other Yorubas, Meiran villagers hold strongly to the "traditional worship" or Pagan ways. For Meiran this involves worshipping the spirit of their ancestors for whom they organise special ceremonies and festivals. Notably they are strong believers in the "Cro" cultural festival - an exclusively male cult - which they believe is capable of driving away evil spirits from the village.

For the ancestors, a ceremony known as the "Egun gun" (masquerade) is organised as an annual dance in which old, middle aged and young men wore the masquerade masks and danced the Egungun dance from one village to another collecting money and gifts. Gelede is another festival similar to the masquerade and is a very popular festival in Awori land.

The existence of secret societies such as the Ogboni Fraternity also featured as influential politico-religious factor in this district before the decline in population and prosperity of the area.

7.32 The bringing together of these former rival villages is a new feature in Local Government activity of the district and the credit for its success is attributed to the leadership of the present Bale of Meiran. Lagos State Government supports the idea and give support through Ikeja and the Ministry of Local Government and Chieftaincy Affairs.

7.33 The decline is attributed to the lure of urban life nearby at Agege and farther south in Lagos.
During this study, however, all respondents preferred to be identified with christianity or at least Islam rather than with any traditional religion, although it is obvious from the active use of their sacred groves (mapped as category 10 or forbidden land use) and never neglected festivals that they are at least as much traditional worshippers as christians or muslim, as it were, giving unto ceasar what is ceasars...! The practice of mixed religions is already an established feature in the entire Lagos Study Area. To some extent it is admissible that establishment of a church and a primary school in Meiran by the African Church Mission (who own many of Northern Ikeja schools) is making every effort to give Meiran the image of a christian village. The traditional religions had not provided school and education which the villagers feel is now a key to better life for their children as teachers, clerks, etc. in the neighbouring urban centres. All the christian festivals such as Harvest Day, Easter Day and Christmas Day are strictly observed. In a way these christian festivals appear to have taken the place of the old cultural festivals and usually draw many visitors (or people now in the big cities who trace their origin there) to that village.

The presence of the church and school has brought some 'official' elements to the village. Some of the church officers - lay preachers and readers - live in Meiran. A large number of church members are drawn from the neighbouring villages e.g. Ajasa and Araromi Oke - Meiran. This is a very important development in Meiran land use. For with the church and school built there an institutional land use has emerged whose need is at a level high enough to draw in a wider territory or zone of influence/service. Ten years ago this school had 400 pupils but consonant with the general decline here only 210 pupils were schooled there in 1972. All the teachers live at Agege, the urban centre, so there are no houses for teachers at Meiran.

Meiran villagers, like their counterparts in other parts of Nigeria believe in the efficacy of what is generally known as "native medicines" mostly herbs, roots, incantations and host of highly complicated traditional knowledge or science. They see nothing wrong in mixing their 'charms' with prayers.

7.34 Genuine Yoruba herbal cures, with a touch of cysticism and crude psychiatry such as is practised by the "babalawo" or medicine man. Activities of Spiritualists (ALADURAS) appear to be taking over these days.
Health and Social Services: Meiran Village does not have any health facility of its own, whether private or public; but she uses or can use one common dispensary at Ojokoro serving about a dozen villages within that district. This dispensary is not only ill-equipped and poorly staffed but is so far away from many of these villages, that they (the expected participant villages) tend to disbelieve that it is for them. The distance from Ajasa Village, Meiran and Oke-Meiran averages 3 miles to the dispensary at Ijoko. Moreover, since the people are aware of the poor facilities and unnecessary insult on patients only very few people care to attend. The villagers prefer using native herbs and prescriptions to long frustrating queues at the dispensary. In serious cases, however, they carry their patients to the big hospital at Ikeja or Otta. Unfortunately such patients have come to the doctor too late for any useful cure to be effected.

The joint health services include the occasional clearing of the bush in and around the village. This occurs whenever there is an important festival or at the approach of the Sanitary Inspector in charge of the area. The people collectively clear the footpaths, the byeways and banks of the local stream.

Using the land: As in almost all the rural settlements of the Lagos study area there is no special plan made for the economic and judicious use of the lands of Meiran. Throughout the tract of land occupied by Meiran or commonly acknowledged as Meiran territory, the growing of tree crops such as Kolanut, cocoa, bananas, oranges, pears and guava and partly for subsistence farming where yams, cassava, maize, cocoyams and vegetables form a large percentage. The open bush of secondary vegetation often dominated by the ubiquitous oil palm is used for cultivating food crops in the shifting system.

7.35 There is only one dispensary or health centre situated at Wasimi Ojokoro on the Agege-Abokuta Motor Road. The centre is poorly manned and the staff, as in most parts of the study area, lack basic courtesy and vocation even to the point of insulting the poor, mostly illiterate, villagers.  

7.36 The Sanitary Inspector is a highly respected visitor "from the city". His very rare visits are of doubtful value to the villagers of this area. What is required is a resident junior health officer, preferably combined in the post of Headmaster of the local Primary School. He should take more active interest in their affairs and lead regular "clean up" campaigns.

The communal cultivation of different tracts of land belonging to the village. Each villager is entitled to an allocation by the Bale, of land for cultivating his subsistence crops. As the land becomes depleted, the Bale or his assistants decide to declare when to abandon the sector and open a new sector for new allocations.
We had noted that the total acreage of land 'available' (C above) to Meiran people is estimated as 1395 acres of which about 465 acres form part of the free zone or common land. Individual villager's farm holdings vary between 20 and 50 acres. A reliable informant (youngish farmer with full primary education) who himself holds 20 acres for all agricultural purposes and following roughly the practice of his co-villagers and predecessors used his estate in 1972 as follows:-

| Area occupied by oil palm | 8 acres |
| " " Kolanut | 4 " |
| " " Other cash crops (cocoa, etc.) | 2 " |
| " " Food crops | 2 " |
| " " Thick bush (unused) | 4 " |
| **Total** | **20 acres** |

The author is convinced that most farmers not only in Meiran but throughout the agriculturally useful rural districts of Aworiiland and the Ijebu lands of rural Tokorodu and Epe divisions, individual rural holdings of whatever dimensions (often less than 50 acres per farmer or village male adult) would be allocated in roughly the same proportions as our young farmer. Emphasis would vary slightly between the cash crops and more of the "thick bush" could be won over for food crops according to the farmer's calculation each year of his chances at gaining or losing a few Naira. Quite often he gambles against many odds - nature, who dictates his chances against drought, pests, wind or destructive rains and consequent by harvest prospects; and external market conditions (falling demand for his cash crops, politics over which he has no control and competition from fellow tropical or even Nigerian farmers).

To market the produce from villagers' holdings, a Farmers' co-operative movement is organised by the villages around and including Meiran, with Meiran as the headquarters. There again the current Baale of Meiran who has distinguished himself as a Progressive hard working leader, is serving as the current President of the farmers' Union.

The farmers in the area meet once a month to discuss general matters.

7.38 The Farmers' Union is another positive idea inspired and encouraged by the present Lagos State Ministry of Agriculture & Natural Resources. Through such Union government policy and aid are transmitted to the lowest level.
affecting them. Since the Movement was inaugurated in 1968 (after the "Agatu" immigrant farm workers had left) the farmers have co-operated in establishing a ten acre farm. The Ministry of Agriculture (Lagos State Government) through its Agricultural Extension Services, gave them the vice to plant and later bought up their harvest in bulk. The Ministry's experts visit Meiran and its sister villages, through arrangement with the Farmers' Union, to educate farmers in modern farming techniques (mostly crop management, use of fertilisers and insecticides, and practical demonstration of new tools and seedlings brought to the villagers). All tools, seedlings, fertilisers and other farm aids introduced by the Ministry's experts are available for sale to these farmers at subsidized prices.

Attention and assistance of this type is new to Meiran and neighbouring villages and represent a positive impact of the new Lagos state on long neglected rural districts of this peripheral zone before the creation of states in 1967. It is very likely that with the government's interest in farming and continued assistance to Meiran and other villages in this important agricultural district of Ikeja division, a better or more rational use of the land in these rural districts would soon appear. In turn we may witness a better organised production of food crops for the hungry markets of Lagos Urban Centres. At the time of this study one widely advertised aim of the Farmers' Union at Meiran is to "encourage efforts towards bridging current imbalance in cash crop and food crop production."

Summary: Meiran, an Awori village, retains a good deal of traditional values and is typical of the many rural settlements in the agriculturally viable parts of the Lagos Study Area. This study is conducted at a time when the declining village of Meiran is being revitalised under a strong leadership of her influential Baile, Chief Gabriel O. Oroja, whose activities have placed Meiran at greater advantage than the village had probably ever experienced. Educationally, Meiran is now a centre to be reckoned with, as the only Primary School in the area is located there. Directly associated with this, the African church Mission has registered positive religious impact on Meiran Village.

Economically Meiran people are poor. Their capacity for capital savings remains hopelessly low despite impressive efforts at making a living from the land. Subsistence farming remains the net means of livelihood in the district, even after one has allowed for the sale of cash crops and foodcrops in the neighbouring urban markets. For the food crops sold are not
what might be regarded as genuine surplus over production.³⁹ It can justifiably be said, however, that events in the 5 years tend to arrest the apparent decline Meiran as a village community has suffered. More of Meiran land may now be cultivated or used more effectively and it is possible to discuss further grass root development projects for the district, both as a means of checking population drift to Urban Centres of Lagos and for making fuller use of all land resources in the Study Area.

In further economic development of the area, as for many other rural districts of the Study area, a few basic facilities have to be provided; the main access road (only motorable but untapered road as shown in C.P.17) linking the village with Lagos-Abeokuta road should be improved. A local market could be built for the numerous villages around Meiran. A Farm Settlement⁴⁰ could be set here raising the threshold level for the possible supply of rural electricity and pipe-borne water to Meiran and other villages around it.

This case study holds valuable clues to the various uses to which lands in the rural districts of the Lagos Study Area are put. Supplementary information was derived from examination of rural settlements (towns and villages) in slightly different environments, such as the riverine settlements of the Southern Creeks centred at Ojo in Badagri division; the Lagoon villages of Epe and Ikorodu division; and the far eastern Atlantic shorelands where Iwerekun and Sangotedo represent the scattered remote settlements of that part of the Study Area. The creek settlements differ from the Meiran type of rural settlements essentially on the mode of livelihood. The villagers in creek environments are basically engaged in subsistence fishing⁴¹ but they undertake part-time or spare-time farming on what little infertile land is available in their environment. As may be deduced from Map 13 the creek areas and their neighbouring swamps are from what would be regarded as "good agricultural land". The study relating to the water environments was based on Work Sheet 'G' - See Appendix 1. Their

7.39 The fact that Meiran villagers grow food for sale and even grow cash crops for sale would give the impression of a surplus and therefore existence above subsistence level. In reality this is not so. The Meiran villager sells not because he has a "surplus" as such, but because it is the only way of raising cash or trading for his basic necessities (often basic food items) which he could not grow or make for himself e.g. fish, tinned milk, meat, grains and onions, all of which are imported from the northern states where his kolanut will eventually be sold.

7.40 See Glossary. A farm settlement has the chief advantage of concentrating resources in the form of an establishment aided by the government and providing basic education on better agricultural land use. Under a farm settlement system individual initiative flourishes as a farmer eventually becomes owner of his land and "can market it". Local people are suspicious of Farm Settlement consequences and fear that it would eventually lead to foreigners (non-native Awori or Meiran people) .... "coming to own land in Meiran."
land and water resources are used for the basic production of food (in this case fish, some vegetables, fruits and vegetable oil) and cash crop equivalents - coconuts, raffia palm (for fibres) and cashew the last named of which are doing surprisingly well at the sandy saline soil of the islands between Porto-Novo and Badagri creeks. From the collecting zone of this environment reeds and straw for mat, hat and roofing materials and mangrove trees (the branches, trunk and props) are obtained. A rudimentary industrial activity based on coconut oil production, mat weaving, primitive salt manufacture (using sea water and mangrove ashes) and crafts such as the making of fish traps, fish nets and ropes are found in these areas.

The rural lagoon settlements like the Creek settlements to the west of Lagos engage in fishing, part-time agriculture and trade. They are in Ijebu sub-ethnic territory (in Ikorodu and Epe divisions) and have always retained emphasis on trade supplemented by fishing. These present rural settlements were in the 19th century very active trading stations and Ijede for example was a well known palm oil trading lagoon port until this century. Settlements such as Badore have declined in relative importance as modern economic activity became increasingly based on the growth of Lagos as a port and a Metropolitan Centre.

The rural districts in the eastern part of the Study Area suffer as a result of their geographical location away from the axis of impact (a highly skewed distribution) from the industrialization of Lagos. This situation is likely to be radically altered as a result of the road development programmes being mounted by the Lagos State Government to open up these parts by direct route linkage to central Lagos. The expected development of water borne transport which would bring the vast lagoon surface into active use once more promises to open up the vast land bank of this district which would be required for the sustained growth of an industrialized Metropolitan Lagos likely to cover our present Lagos Study Area. Meanwhile vast swamps and unclaimed or neglected forests and river basins tend to separate the coastal rural settlements of those districts from their hinterland, turning their outlook and connecting links to the lagoon and central Lagos from which they feel equally isolated on account of physical distance and poor waterborne transport organisation.

The last group of rural districts sampled at the villages of Iwerekin and Sangotedo concern the Atlantic foreshore constituting the remotely eastern

7.41 Same concept as subsistence farming but applying to the creek communities where fishing rather than agriculture is the way of life and a family can barely catch enough for its own needs. There is no genuine surplus for sale.
districts of the Lagos Study Area (See Map 8 and Plates 2(x) and 2(xi). Their economic life is organised in much the same way as all the previous types, with perhaps the only distinguishing difference that they are unusually thinly populated, less corporately organised (many of the villagers here display more individuality than was observed elsewhere in the rural districts of Lagos Study Area) and economic productivity is much lower. Explanation for these are said to lie in the fact that the majority of people who went to settle in those areas were mostly adventurers, outcasts, religious bands and assorted non-conforming characters who sought peace away from the traditional settlements of the contiguous mainland or rest of Yorubaland.

Until recently these districts were not served by motorable roads and water transport to the rest of Lagos Study area was not easy. They remained closed communities until recently when their importance as sources of land supply to the land hungry State Government and displaced communities from urban Lagos (particularly from the south-eastern sector), religious communities and others. Proposed Lagos State roads linking these remote districts with Victoria Island are marked. However, the coastal settlements such as Iwelekun are easily accessible to all those who care to walk on the golden sandy beach (see Colour Plate 2) all the way. One certain feeling awaiting any visitor to these parts is the stronger sense of 'isolation' of places like Sangotedo, Iwelekun and Awoyaya from the urban influences of Lagos than is felt in any other part of the Study Area. Not even the more physically distant Agbowa (Epe division) gives one such a feeling of "distance from Lagos".

All the case studies lead to the following observations about categories of rural land use in the Lagos Study Area as at 1972:-

1. Residential: Very little but significant space is used for this purpose. It is usually the best available land - providing security, a relatively near water supply, access (by footpath, water or road) to other settlements and often constituting the most permanent use. Other uses could be shifted around or even discontinued, but the land occupied by residential units constitutes the de-facto core of the settlement. The density is usually high and probably for defence purposes, the actual acreage involved could be smaller than one.

7.42 From Victoria Island across the northern shores of Kuramo waters eastwards. The road forks: a northerly route passing through Maiyegun, Ajia, Sangotedo and Awoyaya to Oju-Olokun south of Epe. A southerly route follows the Atlantic coast, linking all the small coastal settlements to a yet undetermined course eventually to end up at Epe. The proposed routes are similar to Audifferen's proposal earlier present in Map 30 of this study. See also Fig. 2 under "Proposed and Under Construction".
acre for villages and seven acres for small rural towns. In the creek areas where land is scarce some wet lands are built upon (on stilts) and would be included in any calculation of site occupied.

While the small acreage on which the village houses are built may not necessarily bear any regular relationship with the actual land held by or available to the village; it is reasonable to suggest that the ratio is about 1:1,000 (i.e. for one acre occupied by houses for the entire village, another thousand acres could be available to the village for other uses essential for their livelihood. We may further generalise to the effect that residential land use is undifferentiated in rural districts, probably because the space it actually takes up is not large enough but all rural activities take up substantial land for relatively lower productivity than would be expected in urban districts.

2. **Industry:** is not an important land use but where it occurs (as concrete brick making or palm oil processing centre) it takes up enough land to merit representation. For Lagos Study are only at Ojo Town, which was already about to be drawn into Urban Lagos consequent upon the Lagos-Badagri expressway, was industrial activity adequately represented to merit our attention or mapping in the field. The bulk of goods produced in rural districts of Lagos are handicrafts made from local raw materials, e.g. mats, baskets, ropes and such processed food as garri. One important exception is the distillation of alcohol (ogogoro) which is a common part-time activity in all the palm wine producing districts (raffia and oil palms alike). The more remote villages - in the creeks, forests and lagoon settlements were producing this highly intoxicating liquor even during the colonial period when it was the prescribed "illicit gin".

3. **Business, Commerce/Market:** The "Market", usually periodic, is a significant land-use feature in some of the more important rural settlements. They were the places for the exchange of produce from various complementary regions, of consumer goods from the urban centres, of modern ideas and a social meeting round between Kinsfolk. The markets draw people from far and near. In a rural town like Ojo, the 4 day market occupied twice the size of the built-up or residential space in 1972.
4. **Transport**: The conspicuous absence of good roads and other transport installations is a common feature of the rural districts of the Lagos Study Area. A road is recognised everywhere as an important means of opening up or developing the rural districts. Its civilising influence in these parts was recognised long ago and expressed by Sir Walter Egerton in 1905 in this sublime sentence, cited by Nicolson:

"Give me roads - good, broad straight roads right through the jungle from one tribal area to the next - then we'll be able to let in the light."

In Colour Plates 9 and 10 of this thesis the significance of roads in and through rural districts of the study area is presented more vividly. Still more dramatically the impact of new roads built by the Lagos State Government to link all hitherto isolated divisional headquarters (particularly Badagri and Epe) to Lagos City, have transformed the areas closest to these roads and those villages through which the roads traverse. In 1972 during this study, Ojo was a purely rural town fairly remote from Central Lagos; Agbowa was far away in the east and was reached after a long journey through Ikorodu and Ijebu ode on the Epe Road. Huge swamps and thick forests lay between Iganmu and Ojo as between Ikorodu and a straight imaginary path to Agbowa. By the end of that year, straight multi-million Naira expressways linked Ikorodu to Epe via Agbowa and Lagos (Iganmu) to Badagri to Badagri via Ojo - opening up 100 and 120 square miles of territory respectively to immediate urban impact and transforming the rural landscape, in particular of the Iganmu-Ojo section, in addition to removing the problem of accessibility to the centre of Lagos. Large bridges such as the one at Itoikin can also represent big local land uses in the rural districts. Sometimes the existence of a bridge or fording point was a direct cause for the siting of a village as shown in C.P. 13 and 14.

For rural districts there is no doubt that roads of some kind or other (footpaths, untarred roads or large trunk well surfaced roads such as are shown in C.P. 18 and 19 near Agbowa) are precious amenities. They create new patterns of accessibility and may lead to reappraisal of resource development or economic prospects of these rural districts which enjoy this advantage and others which remain isolated from other parts of the study area for lack of roads. The lands of rural districts also serves as the reserve for future road developments of both the local urban district and urban districts which lie far beyond study area but have to be linked with Lagos. Airfields, railway lines and trunk roads are all potential consumers of rural land - albeit for strictly urban purposes. The complications of Audifferen's road development project for Metropolitan Lagos, shown in Map 35 illustrate this point.

In this respect we see once more the complementary nature urban and rural lands, one linked to the other but urban development relying on rural land supply close at hand.

The Railways appear to be contained within the urban sector and provided initial advantage for a rural market town like Agbado station. Water transport is possible between all the Creek and Lagoon settlements of the rural districts but they differ essentially from water borne transport facilities in the central Urban Sector in the sophisticated and expensive installations available as at the ports at Apapa and Lagos. All the existing lagoon havens which appear to be in decline today were, prior to the growth of Lagos Port, important communication centres or trading stations in the "east-west" trade within the Lagoon and creeks of West Africa from the Western Niger delta region to the lagoons of Ivory Coast, prior also to the development of road, rail and sea transport which made the traditional lagoon canoe transport unviable.

If and when the proposed water borne transport development project by Lagos State Government is actually implemented, turning Lagos Lagoon into a Central lake and evening out the skewed concentration of development at its western lands, the coastal rural settlements will resume active use of their local resources which, to some extent, now lie idle. More swamps will be reclaimed
and more lands of the hinterland cultivated once life returns to these lagoon and creek settlements.

On the whole transport as a 'land' user in the rural districts takes very little land so far; and, rather than being seen as an undesirable competitor against other rural land users, roads in the study area at the present time are welcome amenities for the rural districts and, with the only railway, constitute Metropolitan Lagos life line with the interior. For Lagos transport development in rural districts have the positive effect of attracting other developments or spreading existing development in the form of urban invasion and urban related land uses to the rest of the Study Area.

5. Government: Land for government Purposes are very few in the rural districts. However, the very small size of land (about one plot) which could be regarded as such (government post buildings, courts, etc.) did not merit representation on the map. Several large land acquisitions by the governments (F.G.N. and L.S.G.) which were expected to be recorded in this Category had already been allocated as observed in the field to various uses for which separate categories are available in this instance.

6. Security/Defence/Military: This category was absent from all rural districts of the Study Area at the time of this study; but there are plans to commit some yet unspecified tracts of land in the eastern parts of the study area (at Ikorodu division) for the air-force purposes, and a few of the Category 10 land use would easily serve as military training grounds.

7. Recreation: The rural districts have high potential for new ideas in public and private recreation but at the time of this study land use for this purpose was not significant enough to feature at our scale of mapping. Such recreation as angling, boating, country walks and cycling which were anticipated for these districts have not yet in fact featured in the rural districts of the study area. Shortly after this study, however, and following the opening

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7.44 In Urban districts and in developed countries "Roads" are seen as undesirable competitors against other land users. Roads displace homes, cut across ownership units and ruin agricultural land.
of Lagos-Badagri road picnicking and weekend camping started featuring in the land use of districts around and west of Ojo. People in the study area appear until recently to be too busy making ends meet to spare any time for recreation far from the urban facilities at Victoria Beach, Ikoyi Park and local playing fields.

8. Public Utilities[45] The provision for these is pathetically non-existent - at least not for the rural districts themselves. However, Iju waterworks (main source of Lagos water supply) uses a substantial part of such a district as a catchment area. To the north-west corner and enclosing a frontier zone at Upper Ilo river valley, the western state government uses substantial space for public utility purposes, again not for direct benefit of the rural districts in the study area.

Although plans are now being hatched by the Lagos State Government for rural electricity and water supply, none was operative outside Ojo and Agbado station. The economic problem had been the low ineconomic demand caused by inadequate threshold population for such a public service. Nevertheless it is currently thought that these utilities constitute social amenities which ought to be provided to as many settlements as possible without too much consideration for costs. If and when the plans are translated into action, the beneficial effect on rural life would be tremendous and would no doubt affect present rural land use. As for telecommunication, provision for rural districts remains remote.

As at 1972 the tracts of rural land committed to Category 8 use are (a): Miles of linear tracts which represent way-leave negotiated and acquired by/for N.E.P.A. for their electricity pylons as shown specifically in C.P. 16 and incidentally in Plate 5.

(b) Water supply catchment areas.

(c) Pylon and wire farms for transformers and transmitters of electricity destined for the urban area of Lagos.

(d) Farms of T.V. radio and telecommunication transmission stations such as exists just east of Ikorodu on the Epe Road.

Sewage disposal and treatment do not take up space in any significant form - not even the sewage problems of Lagos urban sector has yet in any way affected the rural districts; again, perhaps land
in these districts would be unavailable to Lagos City for such purposes prior to the creation of Lagos State. In the search for space to set up sewage farms for the growing Lagos Metropolis, some rural district would be an obvious source. Until then, the urban sector appears to be containing or harbouring its own waste, except in so far as the lagoon is polluted, as noted earlier in this study, by the nightly discharge of several tons of raw human waste over Carter Bridge with the acquiescence of the health authorities.

Generally for Lagos study area where land in rural districts is used for public utilities it is often not for the benefit of the rural districts as such but as sources of production, storage or passage routes to the urban sector.

9. Institutional: Very few of this use was found during the 1972 survey.

The Rural districts as mapped in 1972 were significantly different in this respect from what the case would be in areas that were rural districts just outside the urban district in the 1950s or earlier. This study was conducted at a time when sudden urban growth had just overtaken many hitherto rural lands. (See Map 34). Those Institutional land users who traditionally sought rural locations were already committed to locations which have suddenly become 'Urban'.

The most significant users in this category now found in rural districts are primary schools and churches (except in the case of Agbowa, Ikosi, Oriwu and Cardoso colleges). As noted in the case of Meiran, these primary schools, churches and/or mosques consume very little land indeed (0.125 of an acre) and were for the most part included among the village residential land. A significant rural dispensary is represented at Ojokoro, on the Agege-Abeokuta Road.

The case of Ojo deviates from our analysis so far; in that this rural town with no institutional land use other than a vacant throne a small primary school and a church at the time of this study had within one month of collecting our data, become transformed into an important centre for Lagos State Government Civil Service College

Public utilities in rural districts are not subdivided. It covers all: water, electricity, waste disposal, fire and telecommunications. They are often absent in rural areas, and constitute the main attractive amenities offered in Central Lagos, however frustratingly inadequate that might be.
with substantial land holdings, close to the industrial complex planned for the district. As it occurred before the land use map could be made data for the area had to be adjusted to take account of this
dramatic change.

We see from the foregoing analysis that institutional land use by their peculiar requirements had earlier on pioneered the opening up of frontier zones of Lagos lands, helping in the process (sometimes against its interests or unable to control the change) to transform rural lands into urban lands. For the moment they could be safely regarded as minor land users, in the rural sector as currently mapped.

10. Open Space/Idle Land: This category accounts for about 35% of all land in the rural sector of the Lagos Study Area. The huge swamps thick uncultivated forests, flood prone terrains, impenetrable river banks and vast mangrove swamps and infertile sand dunes are among the features mapped under this category in the rural sector. They are not to be confused with AO land use which occurs in common-land or free zone (of forest or other not usually cultivated tract) from which firewood, medicinal herbs, lianas, wild fruits, etc. are collected.

For the most part this category of land in the rural sector were found in the form of unreclaimed or "unoccupied land", forbidden grounds (such as sacrificial groves or unspecified military grounds which normally bear the now familiar tersely worded sign board "Military Zone - Keep out" in which case the tract was mapped as Category 6 land use.

Many of the study area's unreclaimed land supply lie dormant in this form in the rural sector. They represent areas of difficulty for which reclamation would be profitable only at certain levels of development and after all other available (less difficult) land has

7.46 Earlier in the development of Lagos (pre-1960) schools, asylums or health centres, missionary establishments and even prisons sought locations outside the city in more quiet rural surroundings. The I.D.H. at Yaba, Ikeja General Hospital, Isheri Borstal school, Kirikiri maximum security prison, Igbobi College, Ifako College and St. Agnes Convent at Maryland were all securely located in what was (at the time of their foundation) rural districts or even remote bush of Lagos. Today not even Ifako College far away amidst the Kolanut plantations at Iju Road north of Agege; nor Kirikiri prison far west of Ajegunle falls within the 1972 rural district. Urban growth has engulfed them. However schools and Colleges at Ikosi, Agebowo, and possibly the Govt. Orinu College, Ikorodu still enjoyed these privileged locations at the time of this study. Their treasured amenities include a quiet atmosphere seclusion from the undesirable effects of urban life, abundant land and fresh air. In return for these rural advantages they had to put up with lack of pipe borne water, electricity, modern toilets and sometimes
has been fully utilized. The current high cost of reclamation (for mangrove swamps, raffia palm swamp or stream basin marshes) matches the high cost of land in the urban sector but reclamation within the more accessible urban areas is preceding those in more remote districts.

The swamps of Rivers Ihase and Illo, the basin and lower Solodo river and coastal swamps west of Ikosi, the omu creek area, the sand dunes and unreclaimed forests of the eastern Atlantic foreshore and the low islands of the western creeks are clearly identifiable for the rural districts. They are expected to diminish through reclamation and drainage with the increasing development of Lagos.

Unknown: There was no significant tract of land in the rural sector which could justifiably be mapped under this category. The category was devised for contingency purposes, as a convenient 'pigeon hole' for any tract of land the use of which could not be readily ascertained in the field. Back at the map room such tracts were re-examined and prepared for further investigation "until it shall become conclusive that their use cannot be ascertained in time for this map to be completed in 1973. As it happens, the combination of field observation, documented reports, airphotos and spot enquiries, no use for any land unit at our scale of mapping was "unknown" to the author, by the time this map was finally prepared.

The predominantly agricultural use of the rural districts in the Lagos Study area and the reliable knowledge of local people on boundaries of communal land interests, ensured that nothing was missed despite the absence of physical pillar markings on land.

Market Gardening: The present "boundaries of rural districts" as against "Urban districts" is so new, considering that the sudden expansion of Lagos covered areas that were at rural-urban fringes of pre-1968 Lagos. Al land use which thrived in these districts now constitute category 2a of Urban land use (see below). For the moment the only significant category Al land use is that at the north-western edge of the Lagos Urban land sector (at Ojokoro on Lagos-Agege-Abeokuta Road).

7.46 continued. telephone in addition to the physical distance from the hub of national events and library facilities.
Most of the market gardening activities in the study area are now carried on within the urban lands of Lagos and was mapped as Urban food production (Category 2a) as reported in chapter 8 of this study.

Despite the rising demand (based on acquired taste by overseas Nigerians, foreign nationals in the capitalcity and the hotel industry's requirements) there is no shortage yet of the special vegetables, fruits and flowers produced in these conditions and so far total demand is met from the few market gardens dotted over the urban area and the government farm at Agege.

For the Study Area Market gardens in rural districts have traditionally originated from the initiative, not of the villagers but of urban dwellers who are aware of the special vegetables required and of the horticultural techniques for producing them. These innovators (often ex-servants of Europeans or expatriate officers), usually borrow, purchase or merely 'occupy' land at the urban periphery and there cultivate vegetables, flowers or fruits intensively watering the crops regularly. He sells his weekly or periodic harvest to the supermarkets or by arrangement direct to residents at the high class residential districts of Ikoyi, Apapa C.R.A. Palm Grove or Ikeja C.R.A.

Now that the former urban fringe has been pushed well into urban land proper, the bulk of market gardening activity is located outside rural land. It could be said therefore that until the present space for this activity in urban districts have become built-up (as they would in a few years) the rural districts could for the moment be regarded as not used for market gardening activities. One exception is the government run "garden" near Ojokoro. When the need arises it is likely that the originators will come from the urban sector and that their products would be purely for urban consumption.

**Extensive Commercial Foodcrop Farming:** This features in two main zones of the rural sector, viz. one at the district north-west of Agege and directly to the north of Ikiran Village at Akutan Village, the other is at the north and north-west of Ikorodu, along Sagamu/ Ibadan Road and around the farm settlement southwards across the

7.47 Special vegetables and fruits produced under market gardens conditions in Lagos: - lettuce, spinach, cabbages, parsnips, potatoes, turnips, peas, tomatoes and flowers.
Agbowa/Epe Road; with an offshoot east of Gbogbo. A third group has developed to the south-west, south and south-east of Agbado station. In a few cases such as at Gbogbo they are natural extensions of cultivated lands in the urban zones.

The farms here are much larger and better organised, using some modern machinery and employing more hired labour than the traditional farms of the rural district. They are run on business lines but they differ from plantations in that they produce food crops for the local (Lagos) markets. Fertiliser and modern techniques are used. The acreage in each enterprise averages 20 acres. The products of these farms are: Cassava, maize, okra, pulses, assorted vegetables, some yams, cocoyams in diminishing order of importance to the farming entrepreneurs.

Some of the farmers own vans and trucks for handling their own sales. They would normally supply dealers or clients in bulk as they harvest each crop. In one case the entrepreneur plans to set up processing machines for his cassava and maize to produce garri from the cassava grown on his estate and husk his maize before selling direct to dealers. His idea is not enthusiastically shared by his farming competitors who would rather concentrate on producing food crops cheaply and efficiently to compete against suppliers of Lagos markets from the interior.

The growth of Lagos and the consequent rise in the price of land throughout the study area is a major threat to the commercial farmers, as this is increasing their overheads, and depriving them of the large land unit they normally require. Besides land normally available to rural inhabitants for subsistence agriculture and other purposes essential to their economy shrink in response to these impacts.

Plantations: These are now very few in the rural district and are for the most part government sponsored establishments for the raising of tree crops such as cocoa, citrus, coconuts, oil palm and rubber. Those mapped in the field for the rural districts are the coconut plantations at the Atlantic foreshore south of Iyagbe, the citrus plantation on both sides of the road between Agege and Agbado-ile on the Lagos-Abeokuta road.

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7.48 Okro - favoured by all the commercial scale farmers. Continuous yield and an assured market. Pesticides used.
For several privately owned plantations which used to be common features at Ikeja division only relics are left as the land is taken over for urban uses e.g. as housing estates or industrial estates. A few private Kolanut plantations exist in Ikorodu Division but in units too small for separate mapping and mixed up with A4 land use.

In spite of the apparent or relative absence of plantations in the rural districts of Lagos at the time of this study, it is noted that the Lagos State programme for Agricultural development of the State based on agricultural extensions, promotion of cash crops and farm settlements will have to seek land in these districts most probably on land currently mapped under Categories 10, A4 and A0. The usual plan is to establish at each environment, a form of crop production most suitable for the area e.g. swamp rice cultivation in many of the swampy environments, coconuts for the Atlantic foreshore, creek and lagoon coasts of the study area; rubber for the rural lands of Epe division where and topographic factors are suitable; Kolanuts and palm in most of the lands currently used for A4, A5 and A0 purposes; while citrus foodcrops are encouraged at the fertile lands of Ikeja and Ikorodu divisions.

The Ogun River Forest Reserve was included in this category for data accounting purposes and would therefore represent the largest single A3 land use in the Study Area.

A4 Subsistence Farming: This is the major use to which most of the rural district is put. It forms the main economic activity of the villages dotted all over the rural sector of the study area. Actual yield per unit of cultivation is poor and the cultivators produce hardly enough to feed themselves. The food they sell to the urban centres are not surplus to their needs in the real sense.

Defined for this thesis as a system whereby the farmer grows only enough to feed himself and his family usually as basic items of their diet. There is no net surplus as such. In the study area the subsistence crops are foodcrops notably maize, cassava and vegetables, while cash crops are tree crops yielding kolanuts, cocoa and palm produce, for sale. Note, however, that in the case of palm produce, the palm oil is also an essential cooking oil and sometimes lighting fuel for the producers.
These sales represent the commodity they hold in exchange for their other basic needs - often food they do not produce, as well as consumer goods and farming implements. They supplement their income from the sale of cash crops. (See note 7.49). A significant feature in the field area is that all villagers engage simultaneously in subsistence and cash crop farming.

This form of land use represents the traditional means of livelihood of the people in these rural districts, particularly the Ijebu and Awori people, although the former tend to have concentrated more on trade which has resulted in heavy population migration away from rural Epe and Ikorodu division to the urban centres of Lagos, Western States and beyond.

As a rule A4 land use is closely associated with rural settlements - never far away from villages and rural towns.

Patchy clearing and forest culture: Most of the land lying at intermediate distance between areas of rural settlement and the very wild unreclaimed forests or swamps. They involve large units of land relatively far from the residential place of their users, and generally represent frontier cultivation which could be the beginning of forest reclamation.

Several acres of the rural district were found to be used in this way between the closely cultivated farms of neighbouring villages and the wild unreclaimed forests or borderlands. As the term suggests the farms are small, often overgrown and hardly distinguishable from secondary forest invasions. The crops commonly produced here with relatively little attention are cassava, maize, pulses and some vegetables. They have etiolated appearances. In some cases e.g. at Iba the villages have by communal labour cleared the forest and cultivation on a free for all basis followed; but that was as a deliberate step to establish claim of the land against neighbouring villages. In the field this form of land use is easily mistaken for previous fallowed lands of A4 land use. A major distinction lies in the "virgin" appearance of the vegetation and the really patchy nature of the farms - scattered in untidy fashion.

Fishing: As expected the distribution of this form of land use in the rural sector is restricted to the south-western creeks, the coastal lagoon settlement zones and some sea fishing on the Atlantic Coast stretching from Victoria beach to Iwerokun and beyond. This
last form is exclusively operated by skilled fishermen in surf boats using nets. The teams of fishermen who may settle temporarily by the beaches are led by Charnarian skilled surf riders (the renowned Fanti tribesmen).

As noted earlier, settlers at the lagoon coasts and western creeks practice a form of subsistence fishing, supplementing their livelihood by part-time or seasonal farming and trade. In the western creeks (Badagri division) it has become the way of life of the natives (Eguns). In the eastern lagoon proper, much of the fishing, as noted in chapter 2, is done by itinerant fishing communities - the Ilaje fishermen from Okitipupa and Ibadan districts of Western State (extreme south-eastern parts of the "Lagos Geographical Region").

The amount of land involved is usually a narrow band along the coast or creek - far enough to take in the fishing settlement and what lands they may use in connection with their livelihood as part-time farmers, for processing their catch (e.g. smoking and drying) and, in the case of Ilaje fishermen, what land they had borrowed for the temporary settlement of their families.

Hunting: This includes all hunting and trapping of animals and birds. Although hunting was reported in several parts of the rural sector, it was difficult to ascertain the amount of land actually covered by each hunting area. It was discovered that hunting is in fact a sideline of many adult farmers and occurs in most areas already mapped as categories 10, A5 and A0. However, category A7 land use is not considered totally unnecessary in the study and mapping of land use, in as much as it usefully accommodated all information made available to the researcher in the field on hunting activities and stock distribution in the study area. The decision not to present it on this land use map derives from the technical problem of delineating reasonable boundaries of where the activity claims predominance over other activities. As noted stock has seriously diminished throughout the area as more land becomes committed to urban activities or farming; but there was no community or rural settlement in the study area where part-time hunting did not feature.
In this respect we may seek to understand the use of land throughout the study area for hunting purposes, from reconsidering the comments by Rev. S. Johnson\(^50\) on forest and the role of hunters (ode) in Yoruba land:

"The forests" he wrote, "are under the direct guardianship of the hunters who form among themselves a fraternity recognised all over the land, subject of course to the town authorities. Any laws, rules, or regulations relating to forests that are to be made, must recognize the rights, privileges and services of the hunters, especially, as it is by them effect can be given to those laws. It is their duty to apprise the chiefs of any town, of any spies, expeditions, or raids that have that town or its farms for their objective. Crimes committed in the forests must be traced, and the authors tracked and unearthed by them. Any animal bearing traces or marks of their bullets or arrow-wounds must be restored to them. All information relating to forests to them. All information relating to forests must be given by the hunters to the chiefs of the town".

That sums up the significance of hunting zones in rural land use.

### Poultry Farming

Table 23 and Appendix 23 present a summary of information collected during the 1972 field work and land use survey. This relatively new form of stock farming has taken up much capital, land, labour and enterprise which would normally have gone into categories A1, A2 and A3 forms of rural land use. Nevertheless, A8 occupies in all a relatively small proportion of land in the areas now presented as rural districts. The poultry farms at Ikeja, Isolo and Agege are now virtually within the Urban Sector. As such they were included in Category 2a examined in Chapter 8.

There are indications, however, that the higher cost of land and the nuisance effect of Poultry farming in Urban environment will soon force the poultry farmers to relocate their enterprise in more rural surroundings. Large operators like Ashamy and Shogunro are already preparing for such relocation. None of the scattered private poultry activities in the rural sector at the time of this study was large enough for our scale of mapping.

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7.50 Johnson, (1921): The History of the Yorubas, chapter 6, p.96, 3rd paragraph.
The largest of poultry farms in the rural district was Ladipo farm at Olud Agbado (4 acres) and was more part of an A3 land use than a separate unit close to related activity.

Like A1 land use, poultry farming is yet to 'migrate' into the present rural sector proper.

A9 **Live Stock/Ranch:** There is no privately operated ranch or organised livestock rearing yet within the rural sector of our study area. Even the Lagos State Ministry of Agriculture and Natural Resources who introduced cattle ranching into Lagos state recently, has not located any of the proposed ranches in any part of the rural district of this study area. The project at Agege is fully within the present extent of urban land. It is expected that once the ranch near Badagri is fully established the project will be extended to the lands south of Ojo and within the creeks and that the Easter Atlantic foreland from Ogombo to Sango-tedo and Iwerekun will be turned into rich ranches.

A0 **Collecting Zone:** As noted earlier this is an essential part of rural land use. For the zone is the source of fuel wood, the herbalists zone is the "botanical garden", wild fruits and nuts, land snails, seasonings and cooking aids, materials for crafts such as basket and mat weaving, rooting and other building materials. These are usually collected free by the villages, the zone serving as a common land.

The zone generally lies close to the common boundaries of neighbouring villages and represents uncultivated land often merging into the wild forest mapped as Category 10.

Those actually shown in Map 8 are the areas the villagers themselves confirmed to the author or his assistants during field work as specifically acknowledged in common by neighbouring villages. It does not mean that the zone is not owned by any community, only that "the right to gather, collect or carry away" wood, wild herbs, snails, wild animals, birds, palm nuts or similar moveable on the land (not earth or sand as frequently occurs)" is open to all". The zones are fewer than would be expected in the large area covered by the rural sector in this study area. Thus a fairly wide zone between Maya and Isinu; a narrow strip north of Ikosi, close to the thickly forested left bank of River Solodo; a large zone north of Osu creek between Ladeba and Gbogbo in Ikorodu division; the track of territory between Iba and the new expressway (now included
in L.S.G. land acquisitions); parts of the west bank of River Illo; the upper parts of River Abesan until it merges with the nearest western frontiers of Agege territory east of the Iju water works reservation.

Through the foregoing detailed analysis of land use in the rural sector of Lagos the various categories of land use devised for the study have been placed in their proper context. By relating each to the distribution pattern shown on Map 8, it becomes easy to understand their inter-relationships and significance for man's use of space to meet his various needs as it applies in the changing physical and cultural environment of rural Lagos. The changes and patterns observed on the present landscape are seen as the net result of man's effort to adapt and make rational use of his environment. The land use systems (rural or urban) are not as separate as one would suppose. They are inter-linked and interdependent one upon the other. The interdependence of rural and urban communities is also seen as a strong factor in shaping the entire land use organisation of a developing region.

7.51 Closely questioned, most Bales interpret 'all' as meaning people from neighbouring villages, presumably belonging to the same ethnic territory. They do not expect that all would be extended to include what they would regard as "strangers from other sub-ethnic groups or from the city". It is obvious that with the growth of Lagos Metropolis the village elders may soon have occasion to revise their concept of "strangers". At the time of this study, AO land use areas in Ijebuland e.g. between Maya and Isiwu, is open to fellow Ijebus. It is not thought that an Awori or Egun man might wish to consider the zone free for him too. It is the same situation in the other two ethnic territories.
Chapter Eight
Case Studies continued.
The Lagos Urban Sector

In this chapter we turn to the land use situation in Lagos Urban Sector. A slight change in presentation is applied here to treat the categories in two forms. First we examine sets of land use in three groups to establish linkages and relationships between certain categories in the same system and between both systems (urban and rural land use systems). In the second form we examine samples from the urban sector of Lagos study area. Each category (1 to 10 and X factor) is examined alongside field examples (including the sub-categories of each major category).

The two part treatment should lead naturally to an appreciation of the nature of cities as a factor in urban land use patterns. We also examine land use types and intensity, e.g. intensively used areas as distinct from unoccupied idle lands; and, finally, some field consequences of industrialization on land use and relate our conclusions derived from the various case studies to the general background of economic development in Lagos.

Physical Linkages and Special status Land Use Categories 4, 8 and 10:

We have already demonstrated in chapter seven, the importance of transport for opening up rural districts and for linking both the rural settlements and other urban centres lying beyond them to the Lagos Urban centre, by road, rail, air and water. In the present context we view transport routes as: the means of accessibility to Lagos urban centre, the tentacles with which the city grows and as essential corridors for the internal circulation of people, services and goods within central Lagos. In these respects transport has been a vital factor in the growth of Lagos and lately it has accounted for a large part of the inefficiency we observe in the functioning of Lagos as an urban centre. Westergaard's view of transport as maker and breaker of cities would be appropriately applied to Lagos at the present time. The heavy expenditure committed to the improvement of transport in Lagos and the massive land taken up for


8.2 Massive land taken up by or assigned to Category 4 - Fed. Govt. land purchases for road - proposed N.P.A. projects. Amount also spent by L.S.G. from National Devt. plan (1st and 2nd). (Ports, roads and streets, airport and railway, Eko Bridge, etc. Major roadworks and frontiers.)
category 4 uses in all forms (land, water and air) confirm the high priority accorded to transport in the developing of Lagos.

Public utilities constitute essential features of an urban environment, supplies have to be organised in vast quantities to meet the volume and variety of demand made necessary by the concentration of large population engaged in specialised activities. Water, electricity, telecommunications and waste disposal are the nerves and life block of an Urban sector. The provision of these utilities has implication for all other forms of urban life - in particular efficient maintenance of residential districts, industrial activity, business and commerce. In this respect we we adopt as appropriate, Wolman's view in "The Metabolism of Cities, as needing an assured water supply, sewage disposal and control of air pollution.

An extract from his article, defining his symbolic expression, sums up the special status and role of our category 8 land use:

"The metabolic requirements of a city can be defined as all the material and commodities needed to sustain the city's inhabitants at home, at work and at play. Over a period of time these requirements include even the construction materials needed to build and rebuild the city itself. The metabolic cycle is not completed until the wastes and residues of daily life have been removed and disposed of with a minimum of nuisance and hazard."

The present short comings of Lagos as a city result from failure to make adequate provision for this simple fact of urban life.

Open spaces are scarce in the urban sector and such land as is left out of the normal fiercely competitive urban uses for home, work, movement, leisure, utilities, security administration and institutional purposes may be said to occupy special status, in the urban land use scheme. One feature of that special status is the apparent isolation or insulation of that space from human activities, services or existing urban land market. They have the appearance of being idle. Nevertheless most of the space in this category represents "standby land" which can, if necessary, be drawn upon to relieve land shortage or scarcity for the more active urban uses. In a way, the size, and

distribution of category 10 land use tend to indicate the level and, possibly, phase of land use organisation.

An urban sector with many derelict lands suggests decay and blighting; extensive unreclaimed land suggests youthful urban development; while the size and distribution of cemeteries and forbidden grounds may hold valuable social, cultural or political clues to the nature of the city to which they relate. For Lagos, the last two units of Category 10 are not yet of great importance but derelict space in the urban core suggesting the blighting process from slum development and the unreclaimed swamps of Lagos, Ikeja and southern Ikorodu divisions are featuring as important potential space for the continued urban growth in Central Lagos.

Economic basis of Interaction between Rural and Urban Lands

A second set of land use categories which may be examined together here in view of their role as main economic linkages with rural land use are Category 2 (Functions of Production- Food and/or Goods) and Category 3 (Business and Commerce). Production of Food and Goods in the Urban Sector adopts highly specialised features and methods which makes a clear distinction between rural and urban activities; yet these same peculiarities of the urban sector in productive activities give rise to the need for interaction between both sectors: The rural districts become potential sources for raw materials, labour and sometimes food required for the production of goods and sustainance of life in the urban sector. The urban sector in turn becomes the beacon of hope and source of economic prosperity for the rural districts. As the growth of industry (work opportunities and goods) and trade (commerce and allied business activities) in the urban sector attracts more activities into the area, the resultant impact is felt quite early in the need for additional land. Thenceforth the competition for space between various urban land uses (notably between industry and commerce/business) leads to the expansion of districts or encroachment of urban land into rural districts as is clearly demonstrated in this study of Lagos.

Two industrial estates - Ikeja and Ilupeju - have so far been developed in what was until 1965 mostly rural land. The Ilupeju estate

8.4 This is clearly demonstrated in the case of Washington D.C., USA, where the 800 acre cemetery (one of the largest single units in the world) serves a symbolic political role strongly appealing to the patriotic spirit of Americans and serving as a tourist attraction; while the various forbidden grounds (for security and other purposes) are constant reminders to the strategic importance of that city.
is being extended farther eastwards into Gbagada and southwestwards into Isolo and Ilasanaja (see Map 11) - all of which were rural lands, swamps and forest barely two years prior to this field study. The Ikeja estate has transformed the rural areas which until 1966 separated the three settlements of Agege, Ikeja and Isheri Oke. A third estate (the 700 acre Ogun River estate) is being developed now at the previously rural land between the Forest Reserve and Agidingbi.

Category 3 land use represents the market and commercial premises which constitute important features of urban districts. These are the special centres for the exchange of goods and services. As business premises or markets Category 3 land use has played important roles in the economic life of urban and rural districts in that most of so called "growth poles" or cells originate in one of these two forms (business/commercial district or market centre).

Political and Social. The political and social linkages which administer, unite and sometimes determine the organisation of the various parts of the developing metropolis are represented by Categories 5, 6 and 9 Land use types. In the case of Lagos these are particularly relevant categories in view of the roles she plays as a national capital, a State capital and the largest local government unit in tropical Africa (the Lagos City Council). Foreign governments and missions also have headquarters in that City. In particular the role of government as a land user or holder has had revolutionary influence on the development of land use and ownership ideas in the entire study area and beyond.

The essential institutions found in Lagos today were able to obtain land for their developments only from land acquired on their behalf or negotiated for them. We have seen in chapter five how land tenure idea has developed under government direction or encouragement. Today land within the urban areas at least, could be bought, sold, transferred or inherited in less cumbersome tenure system than obtained in the traditional Yoruba systems. Government decisions and interventions have also been responsible for the siting of important economic activities (such as the industrial estates, transport developments, public utilities and farm settlements). One of the largest compulsory government acquisitions in

8.5 The role of government as a land user or holder - acquiring land for other uses. More important than land actually occupied by government.
Lagos City was the 1,000 acre site at Akoka appropriated for institutional use - the University of Lagos main site - in what was, until the 1962 acquisition order, well in the rural district of Lagos. As much as possible, all land effectively occupied by a Government (5a for State or divisional government, 5b for Federal Nigerian government and 5c for foreign governments, Missions or international organisations such as the UN) was mapped under Category 5.

However, it is important to note that these exclude land which although held by a government is being used for or included in other use categories e.g. 4, 6 and 9.

The prosperity and the very existence of the urban sector cannot be guaranteed without some form of security organisation. Much land is consumed in the essential provision of defence from external aggression, internal security and the maintenance of Law and order, primarily for the Urban Sector but generally affecting the adjacent rural lands, sometimes as locations for some of the installations. As demonstrated recently during the Nigerian Civil War the Urban Sector of Lagos attracted many refugees and others who considered themselves safely inside the city than outside it. Besides the city offers protection for everyone, strangers and all, whereas the security arrangements of rural settlements, as observed in the study area, is often only adequate for the natives of those settlements.

The special status of Lagos as a national capital, seaport currently the largest populated West African City, makes it an ideal headquarters for the Army, Navy, Airforce and Police organisations. The relatively secure environment guaranteed at Lagos has allowed or indeed encouraged the development of all other land-use categories, even though their space requirement occasionally restricts the freedom of other land users. Land for this category of use sometimes by-passes the normal market forces - above the usual competitive channels.

Institutional land use is an essential feature of the city. The status of Lagos as a political, education, religious and business headquarters give rise to a concentration of Category 9 land use. All four sub sections of Category 9 are fully represented. As already noted in chapter 7, this category (particularly educational, health and religious establishments) sought rural fringe locations in Lagos but the urban growth of Lagos has overtaken 90% of lands so occupied. On the whole, this class of land use, irrespective of location in rural fringe or central Urban district, has far reaching implications for the civic,
cultural and social organisation of Lagos urban development which in turn influences the location of other land uses - particularly categories 1, 2b, 3a and b, 4, 5 and 10

Details of Land-Use Samples from the Urban Lagos:

Residential land use in the urban sector of Lagos differs significantly from what obtains in the rural districts. Essentially the geographical segregation of residence or residential distinctiveness is a feature of Urban Land Use for residential purposes. For Lagos six clear types of residential districts are recognised in the field. Except in the case of Government Residential Areas (G.R.A.) and the colonial segregated former white residential district of Ikoyi, the basis of geographical separation of one residential district from another is purely economic or at best socio-economic.

1a - High Income Residential: This group, also referred to as High Grade Residential Districts, arose from the need to provide accommodation for elite groups of Lagos society led to the setting up of "special" high class housing districts at various times in the history of Lagos. Such districts are usually insulated from undesirable economic or social classes of the Lagos public. A green buffer at Ikoyi, a fence at Palm Grove, tall walls at Maryland or a Canal at Apapa, usually serve as conspicuous physical barriers between these estates and the abode of common folk. As noted earlier in this study, housing density is low (about 4 houses to the acre as against 16 to 20 houses per acre in low income residential districts) and the houses are properly laid out usually in grid iron plan. Rooms are large and airy, boys' quarters and garages are provided. All amenities in the form of reliable water, electricity, refuse disposal toilet facilities and telephone, together with guaranteed isolation from general nuisance (noise or pollution and factory effluence).

8.6 Lagos is by all standards an emergent capitalist society. The new life brought about by industrial economy and the consequent break with traditional extended family residential units. Land has become a marketable commodity and where an individual lives is increasingly determined by his ability to pay. People of the same income group eventually move into the same neighbourhood - the poor remain in their squalid surroundings until they can afford a home in a better residential district. Already there exists at the higher level, the bureaucratic elite who occupy the well planned government residential quarters.

8.7 After Naborunye (1968) p.299. He used the rent index (% of houses with monthly rent #4 or more but in grade A).

8.8 "Ikoyi Type" of residential districts was the first of its type. It is the celebrated exclusive residence of the European colonial administrators. Over twelve years after Independence, Ikoyi retains its image of exclusiveness to officials and the well-to-do. Other la residential districts were patterned after it but with more tropical type modern architecture, not racially but exclusive to higher socio-economic group. Exclusiveness is no longer in terms of race. People reside there either on account of their high government office or their economic ability to pay.
All the residential districts in this category are well within the urban zone of Lagos and specifically in Lagos and Ikeja divisions only. The author finds it convenient to refer to them as the "Ikoyi type" residential districts. The districts identified, mapped as such during the 1972 survey are:

1. Ikoyi (Plates 2 (ix) and 16(b))
   C.P. 29 and 30 refer.
2. East Marina (Map 10 - southwest of Lagos Island).
3. Apapa (The G.R.A., as shown in Map 21, east of Ajegunle Canal and west of Apapa industrial and commercial district).
5. Palm Grove Estate see Plates 27a and b.
6. Maryland
8. Victoria - the newest with the best sewage system. It is probably the most expensive and contains a mixed bag of private residents, senior Civil Servants, Ambassadorial staff and senior executive staff of business firms.

The Railway Compound at Oke Ira, Ebute Metta, which would normally be reckoned among this class of residential district on the basis of similarity in housing type and layout, was actually mapped in the field as Ic because it is more of a housing scheme for senior railway employees.

The oldest of these residential districts (Ikoyi) has been undergoing important changes both in the style of house construction (from a British Colonial style to a more tropical and airy architecture) and in the type of occupants. For while a high socio-economic status remains a strong qualification for householders at Ikoyi, the racial overtone was swept away at Nigeria's attainment of political independence, there is a high concentration of Senior Civil Servants and some of the newer buildings (post 1955) are laid out for multi-occupation for senior executives from business firms, civil service, embassies and private citizens. Compare Colour Plates 29 and 30.

C.P. 29 taken on a dull morning, is an architype colonial house built about 1930 on two floors but providing living accommodation only on the first floor with its timber floorboarding and ceiling. There is no

8.9 "Ikoyi" as used in this text is the island of Ikoyi, excluding the Obalende resettlement scheme shown at the lower right hand sector of Plate 14.
ground floor accommodation as such; rather a garage and a store form the enclosed parts of what is really stilt-like structures on which the building stands raised just under 6 feet above ground level. The old fireplace or imitation English chimney stack has been blocked off. A guest house is provided in the form of a bungalow a few yards away from the house. Boys quarters (for a butler, a cook and a driver and their families) is provided at the rear of the house. The building stands in one half of a plot which was originally No. 5, Macgregor Road. The other half of the ½ acre plot has been used for a beautiful modern tropically designed accommodation similar to the ones one sees at Apapa and the Palm Grove Estate. The building in this picture which would normally be occupied by a colonial senior Civil Servant prior to the Nigerisation of the Civil Service in the 1950s, is currently occupied by his Nigerian counterpart - a very senior Federal Civil Servant. It is one of many several buildings for which the Federal Ministry of Works provides regular structural maintenance - painting in the usual white or cream, roof and general repairs, ground maintenance and seeing to it that essential services (water, phone, electricity and refuse disposal) work.

Colour Plate 30, located at the Southwestern end of the district, represents one of the new type multi-occupied modern building built about 1956 by shrewd early Nigerian Civil Servants. As noted opposite the plate, the enterprise has paid off handsomely and keeps its Civil Servant quietly affluent. The building stands on a large plot in what used to be a standard four house to the acre district. The grounds are well kept and beautifully stocked with casarina trees, beanganville and tropical flowers. Accommodation is provided on three floors of two flats each. A flat contains a spacious sitting room, three bedrooms, a balcony, a rear corridor, two toilets and bathrooms and a kitchen. Boys' quarters, each providing a 100 sq.ft room accommodation for servants attached to each flat. A lock-up garage is provided for each flat. When this photograph was taken in March 1973, the building was occupied in individual flats on a minimum of 2 years lease through Knight, Frank and Rutley by an Italian diplomat, two Nigerian diplomats, two company directors and a senior State Government official. The flats are leased unfurnished; so lessees provide their own furnishing, including electrical appliances, air conditioning units, kitchen units and other essentials. Water and electricity are reliably supplied but telephone is rare, even impossible in some cases. Lessees settle their own bills.
Ikoyi is not of course the oldest of the class la residential districts. East Marina, as already noted by Mabogunje (1968) p.300, dates from 1850 when a British consulate was established there. The residents of this district have always been political leaders living there by virtue of their posts, except for the brief period when Mr. Okoite-Etoh, the late Federal Minister of Finance in the ousted civilian government set up a private residence at the most pleasant spot close to the boathouse.

Much of the district is mapped as Category 5 (5a or 5b) land use. (See Map 10).

Palm Grove estate contains the modern less officially inspired high buildings. The estate was, until recently, an enclave set at the edge of the notoriously squalid low grade residential district of Mushin and close to Shomolu - another low grade residential district - but separated from the estate by the busy Ikorodu Road. The development at Ilupeju has modified the situation a bit. In the notes appended to Plates 27(a) and (b) details of the buildings and amenities available at the Palm Grove Estate are adequately described. They conform to the high level amenities commonly found at all the Class la residential areas, especially the pleasant atmosphere, spacious grounds (four houses to the acre), gardens to the front and rear, insulation from noisy districts and assured supply of public utilities. Telephone service is more reliable here and at Apapa (Marine Road area) than at Ikoyi for instance.

While these high grade residential districts are rightly seen as providing accommodation for the elites and well-off members of Lagos society, it is worth noting also that the accommodation of lower operatives (servants, cooks, maids, drivers and gardeners and their families) and sometimes members of the extended family, constitutes an extra dimension in the housing peculiarities of Lagos population. There is no doubt a symbiotic feature in the residential relationship between the leading and the serving classes in Lagos. This has become increasingly so, as all the la residential districts become more Nigerianised. Earlier on (pre-1960) the close but segregated location of la and ld, e, f residential types had ensured regular supply of domestic help and manual labour to the la districts: Ikoyi had Palomo and Obalende, Apapa G.R.A. had Ajegunle across the Canal, Palm Grove Estate had Mushin and Shomolu close at hand; while Ikoja G.R.A. conveniently takes advantage of the surrounding population in the shanty
districts of Oshodi, Shogunle and Ikeja. Servants and drivers found suitable accommodation in those districts. In recent years the housing shortage in the rest of Lagos and the traffic jams have combined with the relaxation in rigidity of social barriers (original products of racial and colonial relationships) to bring about the modification one now records in the social distinctiveness of the LA type of residential areas. It is perhaps too early yet to evaluate any social or economic consequences of this feature; but it is unlikely to develop much further for two reasons:

(a) the present generation of elites, aided by modern domestic gadgets (washing machines, electric lawn mowers, etc.) are becoming increasingly independent of servants, they also aspire towards nuclear family life-style.

(b) The factories and educational facilities create scarcity in the domestic staff labour market.

1B - Middle Income (Private houses on Independent Plots):

A distinguishing feature of this class of residential land use is that the houses in the district are usually an owner occupied building (non-renting) but would also include some single houses (duplex and flats in low density district) rented out to middle income working people such as teachers, civil servants and white collar workers in industry who desire good quality residential accommodation but would not quite 'qualify' (often economically) or do not wish to reside in LA residential districts. The houses are modern in structure and in some cases attain the quality one may find even at Ikoyi or Apapa, except that the location is outside the "exclusive Zone". Moreover, the plots on which they are built (5000 sq.ft and less) are also much smaller than of LA land-use areas.

Another feature of 1B land use is that they have not yet constituted themselves into any clearly distinguishable district, except in those cases where the former L.E.D.B. and Ikeja Area planning Authority had planned building of class 1B type amidst their housing schemes and industrial or housing estates. In the final land use map (Map 8) and at the scale of mapping only Yaba, Surulere, Ebute-Metta, Ikorodu Road, Ilupeju and Ikeja have sufficient numbers of class 1B type of housing to be represented but

8.10 L.E.D.B. planned LA class housing for middle income groups at Ilupeju, Surulere and Ikeja.
always in association with other residential types. Quite a few lb housing types exist in Lagos island but they are scattered about at the Brazilian quarters, Lafiaji and Araromi. However, the presence of other housing types resulted in classing the districts into le (mixed) and mapping them as such. The fairly large unit of land required per building in type lb and the fairly high standard of modern amenities required are responsible for their comparative absence from Lagos island. Although conditions for class lb housing at Yaba has been deteriorating fast since 1960, Yaba remains an old typical example of that housing type.

This old class of lb housing type (at Yaba and Ebute Metta) consists of a one or two storey building set in an oblong plot of 3,750 to 5,000 sq.ft. Piped water is provided in the courtyard or partly concreted back-garden. The bucket system was the main toilet facility provided; but many have converted to water system. A kitchen, guest house and boys’ quarters are also provided at the rear of the main house. Prior to 1960 houses at Clifford Street, Wakeman Street, Olodun Street and the now commercialised (3a) McCaulay Street properly belonged to this class. Within the author’s experience (1960-1972) the district has degenerated to a point where in 1972 class ld, e, proved more appropriate notation symbols for that district. Part of that degeneration is represented by the following facts: Many of the single family houses have become multi-occupied property rented out in rooms and flats; others have been converted into "flats-over-shops", "Bed and Breakfast" or "Rest" Houses (which has taken over about 80% of Clifford Street from Yaba Bus stop to Denton Post office). The houses are outmoded, many are badly in disrepair and, the provision of modern amenities in newly 'opened' residential districts of the metropolis attract the new middle class families away from this older district.

The new group of lb type of residential districts falls into two parts. First there is the private residential house built in "newly opened" districts (usually financed by the Nigerian Building Society or entirely from private funds). This type is found all over Lagos and at Ikorodu urban sector. They are of the 2 to 3 floor variety set in the standard plot of 50ft x 100ft, often in newly opened districts of Lagos. The streets are well laid out as in colour photo 15, right to the edge of the newly reclaimed forest or swamp, by the local planning authority before the plots are allocated, later to be surveyed, registered and built upon by the buyer.

Electricity and piped water to each plot are laid on. A water closet with a cesspit for each plot make up the toilet facility. In modern areas where units are standard fixtures to houses of this class. In districts such as
Itire, Aguda and Kirikiri Road where water supply is unreliable a well is built in the premises by the owner. Drainage is in the open "gutter" form. There is no standard architecture or design for the houses of each street. Each owner builds according to his means and taste. Only those houses built on two floors and not more than three floors, occupied by a single family and not more than two families and standing alone in the plot. Gardens with ornamental trees and tropical flowers are provided to the rear and front of the house. Boys' quarters are provided at the rear of the house while a lock-up garage may be provided either separately within the plot or attached to the main building. The main building, consists of a wide (almost lavish) sitting room with dining room, kitchen, store and an extra room which could be used for any purpose (as bedroom, children's playroom or, in times of hardship, rented accommodation). On the first floor there are usually about three bedrooms and a guest room. A wide balcony, sometimes elegantly designed, is provided to the front or rear. This is a highly favoured type of housing for successful middle class people in home districts.

The Custom built Middle Income Freehold Houses:

In the second group of class lb type of houses the L.E.D.B. and now L.S.P.D.C. provide their highest standard of public housing in the manner shown on Plate 6(a). Each house in a street is almost identical with the rest. The layout was previously zoned by the local planning authority, who also built the houses to standard specifications, keeping the cost of the houses down to within £6,000 at 1960 prices. The houses were then sold.

8.11 Since 1971 many plot owners have been erecting two houses where only one was intended. Space in the plot becomes very crowded, the houses are let in rooms and flats to several families and amenities become really run down within two years. Some flats or rooms are completely cut off from natural sunlight. There is no garden whatever, only a concreted courtyard with the entire plot walled up about seven feet high and topped with chipped glass or barbed wire as protection against robber (a frequent menace in these districts). Houses of this type were clearly excluded during the 1972 survey from Class lb housing types.

8.12 Outside the central residential districts of Lagos and Ikeja division, housing style of the class lb type is the favoured form a successful middle class Nigerian builds as his personal permanent residence in his home base (village or town). Within Lagos study area these houses are springing up at Ikorodu, Agege, Ikeja, Agbado, Ojo, Isolo, Bariga, Gworonshoki, Iwaya and their neighbouring districts often amidst poorer housing.
freehold to middle income house buyers on cash terms. Often the land
on which such housing was developed had been reclaimed and laid out by the
local planning authority (L.E.D.B. or I.A.P.A.) as part of a wider planning
scheme embracing other land-use planning. Building materials here are
similar to those for private development. In each case cement blocks are
used but the custom built types are of more reliable quality.

In Maps 19, 20, 22, 23 and 32, showing details of land-use planning at
Western Lagos Mainland, Mushin district, Oshodi/Mатори, Gbagada and Ilupeju
schemes respectively, the areas zoned for middle income residence or
class 1b type of residential development are clearly shown. In Map 19
this type of housing covers a wide zone west of Western Avenue between
Ipomiri village and the U.A.C. stadium. It adjoins a large part of the
Surulere housing scheme to its west and south. The houses shown in Plate
6(a) are typical of those provided to the upper segment of this class of
residential accommodation. Plate 6(c) shows the real middle income
bungalow type housing also included in this group. The lowest end of the
middle income housing type provided in the same freehold custom built
L.E.D.B. housing project is depicted in Plate 6(b).

At Mushin district shown in Map 20, the Middle income housing types
are shown amidst the types and are privately developed. We see them along
Ikorodu Road, Palm Avenue, part of Ibi-oro and Isolo Road towards the Itire
end of Mushin district but distinctively outside Mushin town proper.

Latter day zoning system is shown in Maps 22, 23 and 32, all within
the former Ikeja Area Planning Authority. In Map 22 a vast area stretching
from Ilupeju by the railway line at the north-east to Ilasamaja and beyond
in the southwest - either side of a proposed dual carriageway which would
eventually connect Oworonshoki on the western lagoon coast to Apapa port.
The zoning system applied here allocates land for industrial, commercial,
pUBLIC building, open space, private development, government, public acquisi-
tions and low cost residential schemes. As the development becomes
fully established the class 1b housing types would occupy the areas marked
as "Blocks" (A, B, C, D, E, F, G, H, etc.). By March 1972 all the plots have
been assigned or sold; but although a building standard is stipulated it is
an open secret that the regulations will as usual not be strictly applied
and consequently it cannot be guaranteed that purely class 1b residential
district will finally emerge in any substantial form in the area.
The Gbagada scheme 2 shown in Map 23 promises to accommodate a large proportion of class 1b residential type set amidst existing private housing developments, schools and industrial firms. West of Ikorodu Road, however, the Ilupeju scheme which appears in Map 32 is already well established as the current form of 1b private housing set up in local planning authority laid out plots. The Gbagada scheme is still being developed (now under L.S.P.D.C. auspices) and quite a few swamps still have to be reclaimed, but all available space in plots had by May 1972 been either sold or fully allocated. L.S.P.D.C. officials are making a special effort to publicise the fact that in this project the provision of medium class home ownership is the favoured official policy.

Ilupeju development scheme, shown in Map 32, is probably the nearest I.A.P.A.'s answer to L.E.D. E's successful middle income freehold housing at Surulere. A major difference, however, is the fact that at Ilupeju prospective home owners bought the "developed" plot (as laid out by Western Nigeria Development Corporation for Ikeja Area Planning Authority) and built the house by his own initiative.

The custom built system used by L.E.D. B. was not applied at Ilupeju, but a standard of housing which conforms generally with our class 1b housing type was encouraged by the planning authorities. Secondly the Ilupeju scheme is close by and sometimes next to industrial premises. However, a new more lucrative use of 1b type houses are emerging in the districts one would map under 1b. This new phenomenon is the ubiquitous "Rest Houses", Restaurants" and "Hotels" to which we shall return under category 3a land-use. See Plates 31 and 32.

We see on the whole that developments in class 1b housing type is still in a fluid situation. Three types has so far been identified, i.e. an old type at Yaba and Ebute Metta, a private new class 1b type being developed all over the study area by individual plot owners and a third type pioneered by the L.E.D. B. in the form of Custom built houses to fit the pockets of almost the entire spectrum of the new Lagos "Middle Class"

8.13 At Surulere, it is noted that a part of the 1b housing provided on Custom built freehold system (southern borders), come quite close to Iganmu Industrial estate, linked to it by the Eric More Road but separated from the estate by the vast Iponri swamp. Nearer to Western Avenue this class of residential area is "walled" off from noisy thoroughfare or unsightly swamps.
families or householders. As new lands are opened up and new amenities become available to improve housing development, the area occupied by lb houses tend to widen outwards into the frontiers of Lagos residential districts. Class lb housing types represent the most comfortable and relatively high grade residential accommodation available in Lagos outside the districts treated as under class 1A residential areas.

1c - Housing Schemes 14: Within this class we group all the housing estates developed by the former L.E.D.B. and now administered by the L.S.F.D.C. It also includes any other housing scheme either for staff housing (as at the Oke Ira Railway compound, Ebute Metta) or a Federal Government emergency housing scheme (as at the Legico flats of Victoria Island). The new town at Amuwo still under construction, the later L.E.D.B. extension at Itire and Obele, the Moba housing estate and the Isolo low rent housing scheme are all part of class 1c residential type.

The accommodation provided and even architecture of the houses in this class of housing vary from one estate to another. The prote-type at Surulere is typified by the houses one observes at Senu at Olumejibon Roads. In Plate 3(c) they are the first two southerly roads to the west (or left side) of Western Avenue; while in Plates 7(a) and 7(b) the houses and street scene of the district are shown. See also C.P. 25(a) for Senu Road. The streets are wide and neatly laid out (each of Senu and Olumejibon roads is now one way route system for buses and local traffic flowing off and into Western Avenue.) Drainage is of the open "gutter" system but this part of Surulere has so far been free from the frequent floods and waterlogging now common throughout the new areas of Surulere. These early housing units were all bungalows of very simple construction looking more like British type aluminium bungalows but constructed in more durable form. The New Lagos homes were constructed of very thin concrete blocks for the walls and asbestos sheets for the roof. Windows and doors were of simple plywood.

8.14 Although the history of government sponsored housing development scheme dates back to the Glover layout at Ebute Metta in 1865 and the first slum clearance (at Isolo Eko) and was followed by the development of Yaba Estate in 1933, it is with the rehousing scheme of New Lagos at Surulere that our modern rehousing scheme begins. The Surulere scheme, which is clearly shown in Map 19 and Plate 3(c) was a much more dramatic and far reaching project than the previous two schemes. They served the purpose of rehousing Lagosians who lost their homes in the slum clearance scheme for developing Lagos C.B.D. in 1956 and later became the nucleus of larger development schemes and low cost housing projects.
Gardens are provided to the front and rear. The houses are terraced in groups of four and five. The accommodation provided are of three types: a two bedroom with sitting room and kitchen (with chimney) and toilet (water closet with adjoining shower but no bath) are all available in the unit. A veranda is provided in the form of a frontage to the sitting room. Sixteen homes of this type are provided to the acre.

The rent is comparatively very low about ₦7.00 per month for this type of family accommodation. Similar accommodation elsewhere in Lagos would cost ₦60.00 per month where the rent edict set out in Appendix 31 or considerably more where the usual practice of ignoring the law results in charging exorbitant rents. The social change and initial hardship experienced by these pioneer occupants of government sponsored housing scheme have already been recorded in the study by Peter Harris.

Other home units provided within the same estate are: (a) The same unit as described above but shared by two families who were not at the time of allocating these homes did not qualify for a whole unit to themselves. Often the two families are life long enemies but once they have been paired by the authorities they really could do nothing about it. Others become the best of friends. Each of the two families has a room in the unit but they share every other facility (Kitchen, bathroom, sitting room and gardens). The rent of ₦7.00 is paid 50-50 by each head of the family. (b) There is the single room accommodation with a little sitting room such as one finds at Onitolo Road. Smaller lucky families occupy such accommodation - usually a man, his wife and not more than two children. The rent varies between ₦4.50k to ₦5.50k. In spite of the low rent some Lagosians are known to have found it expensive and have consequently rented out the accommodation originally allocated to them on leaving Lagos island and have gone to live at former low rent districts such as Shomolu and Bariga. They rent out their New Lagos home units at higher rent to the non-Lagosians who were not entitled to the homes in the normal way. Apparently there is no official policy against such practices.

8.15 Harris, P. (1962), Family and Social change in an African City. Evanston.
8.16 Close to the author's childhood home in this district two families in this situation continue to occupy the same home unit since 1956 and it seems only death would part them! Their quarrels naturally arise from arguments over the use of the sitting room and kitchen facilities; yet none is in a position to move. They are of fairly humble means. One uses his share of his accommodation also as a workshop for his tailoring trade; while his co-tenant's wife prepares and sells food in the same premises.
Outside the original New Lagos area, a modified version of the home units were built at Obele, Obele Odan, Itire and Abebe. These were later sold to middle income families at the time between ₦5,000 and ₦7,000 (1961 prices). The Obele Odan units were more individual home units - three to four room bungalows or two storey buildings offering up to 5 room accommodation inclusive of sitting room. Some even had boys' quarters and garage space. However they were not quite of the standard mapped in 1972 under the class 1b residential type. Many of the houses originally provided in the Scheme at Itire were found during the 1972 survey to have become crowded rented accommodation by immigrants and junior office workers at fairly high rents. Their original assignees who now act as landlords for the property (even though they are not the present de-facto tenants, continue paying the low rent charged by the housing authority - now L.S.P.D.C.); have with attendant prosperity migrated elsewhere. Often they have built their own house in class 1b type areas or now occupy official accommodation provided by their employers. Rehousing schemes similar to the Surulere type were also set up at Maroko.

The new type of housing scheme differs from that of the 1950s in that the latter type is concerned with providing accommodation to everyone who needs it in Lagos. It is a case of relieving a severe housing shortage for the many low income families who can neither afford their own buildings nor the exorbitant rent charged by private landlords. It is not associated with a direct slum clearance but the overspill population from Lagos make it necessary to set up new towns, the first of which will soon become fully operational at Amuwo Odofin in Eastern Badagri division close to the Iganmu (Lagos) - Badagri expressway. The rate of population increase (mainly from immigration) and the continued housing shortage will make it necessary for more of such housing schemes to be provided. In 1972 several low cost individual two to three bedroom bungalows constructed by the L.S.P.D.C. were sold on freehold basis to the public. A low rent housing project in the form of flats was also inaugurated at Isolo as shown in Plate 26 and located in Map 22. Although they look a great improvement on the "New Lagos" originals and are meant to serve a more permanent purpose (possibly similar to British Council flats) they are less likely to receive as much care from the occupants as the New Lagos home units were. It appears most likely that the apathetic treatment of the multiple occupation blocks at Western Avenue shown in Colour Plate 25(b) Legico flats and at the several Police Barracks in Lagos will be repeated at Isolo within a few years unless the authorities are
more determined to prevent it. However the Isolo flats have certain advantages: They are ideally built on two floors. The drains are covered. The expected occupants or tenants will include some middle income people who may take more interest in the appearance and upkeep of the flats. They are the result of experience from previous public housing schemes. The length of time they are likely to last will depend upon how well they are cared for by the new occupants and how much effort the authorities make in that direction.

Other varieties of L.E.D.B. housing scheme provided at Surulere in custom-built fashion but not quite in the class Ib quality are shown in Plates 6(b), (c) and (d).

1d - Low Income: Of the people living and working in the Lagos Urban Sector a slightly larger number are known to reside in this class of residential district than is the case in the three preceding classes discussed above. Accommodation in this class is multi-occupational and can be rented in very small units - one room to a flat of three rooms. The bulk of this form of accommodation is in the control of private landlords. At the lowest end of the scale we found whole families living in a crowded room in a thirty room building (possibly occupied by 30 families) similar to the ones shown in Plates 8 and 30. Amenities are hopelessly lacking. For instance many of the houses sampled during the 1972 field work lack such basic amenities as piped water in the premises, kitchen (cooking in the corridor is the common practice), toilet facility is most appalling ranging from non-existent to a single bucket for ten families. Many single storey buildings are also found in this class at Mushin, Shomolu and Agege.

At the top end of class 1d housing type one finds why may have the outer appearance of a medium grade housing type. Many are found at Apapa Road (Ebute Metta west), Eastern Yaba, Ebute Metta (east of Herbert Macauley Street, Surulere (at the private development section either side of Ojuelegba as far west as Karimu Street) and in parts of Lagos Island, such as those depicted in C.P.26. Distinguishing features are the overcrowding (arising from multiple occupation) and the absence of many essential amenities. There is therefore a very high density of population per acre in districts with such class of housing.

8.17 In most cases water was supplied at a tap about 200 yards away in a central 'pump' from where women and children in the neighbourhood draw water by the bucket. At Agege where many low income houses are found the water may be bought from the central pump by the bucket-full.
At the middle of the spectrum of low income housing in Lagos we have two groups identifiable as old native residential clusters at Lagos island (Map 10 e.g. houses between Igbosere Road and Lewis Street/Bangbose Road) and predominantly immigrant low grade residential districts at Ajegunle, Shomolu, Mushin, Agege and Obalende. The high density, relative lack of amenities and undesirable appearance of streets and houses in these districts confirm their identity in class 1d residential types.

Of the several pathetic cases studied in 1972 the three representative field samples presented here under illustrate the situation adequately: (a) A single storey building identified as No.1, Eniola Lane at Odi-Olowo Mushin, West of Ikorodu Road and close to Igbobi represents the lowest level in the spectrum of low income or low grade housing, (b) A two storey building with a row of mud walled single storey buildings at the rear (probably intended for boys' quarters) identified as No.23, Apapa Road, Bute Metta West, representing the upper spectrum; and, (c) An old 'near-slum' single storey 1890 style of housing in a low income residential district of Lagos Island, identified as No.46, Bangbose Street, Lagos. (See Colour Plate 28a), representing the middle level of the class 1d residential type, although actually included in the class 1e district shown in Map 10 between Lewis Street and Igbosere Road.

The Eniola Lane houses at Mushin is one of the most pathetic cases any researcher would encounter in the appalling conditions under which people of low income are housed in urban Lagos today. The house occupies a mere 2,520 sq. ft. estimated as 36ft x 70ft in a predominantly low income residential district east of the railway line at Mushin, not far from the market. The walls are built of mud and have been plastered over with cement. The floor is thinly cemented and has worn back to the mud base in places. The roof is of corrugated iron sheets now rusting through. The plan is a simple single through corridor with a row of rooms on either side. The 12 rooms or more vary in width from 8ft x 10ft to 10ft x 12ft. There is a small window to each room looking out to the walls of the next house and hardly admitting natural light. The rooms are let singly to tenants who reside there with their families or dependants. These tenants are a mixed bag of shop assistants, junior clerks, jobless applicants (secondary school leavers) and petty traders. Monthly rent in 1972 was £8.00 per room. The landlord was said to be living elsewhere and calls at month ends to collect his rent.
The premises lacked all basic amenities until recently when electric light was connected. Hurricane lanterns were used. There is no running water; so women and children fetch water from a central pump further up the street - near the market. Toilet facilities are poor as a bucket serves all residents (about 50 people in the house). For urinating in the backyard, the open gutters at the lane or gutters along the adjoining street are readily used. There is no bathroom on the premises but a partial enclosure, which can be effectively screened with a wrapping cloth is available. Kitchen facility is limited to a small space in an appendage to the back of this coffin shaped bungalow. Most tenants cook at the common corridor which they also use as store, pantry and sitting room. Some cook in their rooms where they also entertain visitors, eat, sleep and bring up their families. Furniture is very simple: a vondo bed for those who can afford it or a mat on the floor, a small table and chairs for visitors and some cooking utensils. Firewood is the fuel for cooking (this has become increasingly expensive in recent years), while paraffin is used for lighting. Electricity is frequently cut for non-payment of accounts.

The two fuel sources (firewood and paraffin) produce the black smoke which discolours the walls and ceiling. There is no chimney for the smoke to escape. The walls of each room are occasionally painted by the occupying tenant but these soon revert to eyesores as blood is splattered on the wall each time a mosquito is killed and the smoke from burning wood or paraffin lamps constantly coat the walls in disagreeable dark grey. The house is dark, noisy, smells obnoxiously and presents a sickening sight internally. There is no fire precaution and life is obviously insecure; but the residents are incredibly happy to have a roof over their heads in Lagos." The author marvels to think that humans are allowed to live in such appalling conditions. The Sanitary Inspectors, tax men and other government officials have not acted to remove such incredibly disgraceful housing conditions.

The two storey building at Apapa Road, Ebute Metta West, looked presentable from the main road. It was built in a standard Ebute Metta plot (squarish) west of the railway level crossing and might have been an elegant house for a prosperous family fifty years ago. The busy Apapa

8.18 Houses of all grades in Lagos are let unfurnished. Tenants provide their own furniture and fixtures.
Road is only a yard from the frontage of this house. The house plan is again a corridor with a row of 4 rooms on either side. The same is applied to the first floor. The first floor is well ventilated with elegant glass windows (one to a room, two windows facing the street and two at the rear). The timber floorboard is covered with 'linoleum'. Time worn yellowish paint adorns the outer walls.

All rooms on the ground floor were let to tenants, traders, office workers and workers in local factory and shops. An outside staircase leads to the first floor where the two front rooms are occupied by the landlady and her family. Behind the house several mudwalled huts are provided at comparatively low rent to newly arrived immigrants from the provinces. Conditions in these huts are nearly as appalling as described for Eniola Lane at Mushin. All the tenants questioned seem to accept the conditions as it is because they are staying only as long as it takes them to get a job and a better accommodation. The case however is that it could taken them 5 years to realise such ambition.

Accommodation for tenants in this house is better only by a little degree from the type described at Mushin. First there is the central location enjoyed by No. 23, Apapa Road, then there is the better image (at least externally) presented by the bigger apparently airy two storey building. Conditions, however, are still appalling.

Toilet facilities are still below standard, although two 'buckets' were available in the premises. An enclosure is reserved for taking a bath in the local fashion. There is no water closet and no kitchens for the majority of tenants. As already noted the small mud huts originally meant for servants' quarters and kitchens, have been let. They have the appearance of dark prison cells. Cooking and food preparation is done almost anywhere in the building - beneath the external staircase, at the corridors (ground and first floors) in the rooms and outside in the open concrete courtyard. Electricity is provided to the main building but the condition in the back houses is similar to those at Mushin. Piped water the supply of which is frequently interrupted, is provided centrally in the premises but people upstairs have to go down for water. Refuse is fairly regularly collected. Sanitary inspectors occasionally visit the premises.

8.19 According to the 1973 Rent Decree the house comes under Zone B, category A/B. See Appendix 31 of this thesis.
Life is generally better in this higher level low income housing than in (a) or (e). For the tenants, the house has advantage of location close to Cyingbo Market, in a central part of Lagos, close to transport routes and on a business street affording them opportunity for brisk petty trading.

In Map 10 most of the residential districts of Lagos island are shown as under class ld, e and f, in close association with one another. See Colour Plates 26, 27, 28a and 28b for the residential homes of these districts.

The house photographed in C.P. 28a represents a middle level type of class lb housing in Lagos island. It is a single storey building originally built about 1890 with a combination of mud, bricks and timber for the walls, corrugated iron sheets for the roof and wood for enclosing the verandah into a "business premises". The floor is a cemented raised mound. An open drain (gutter) gapes between the lady at the doorway and the motor car from which this photograph was taken.

Inside, the premises is arranged in the form of a traditional Lagos courtyard - a style which was also current in England until as late as 1900. The part of the house facing the street formed the male householder's sitting room, sleeping room and a guest room or general room for grown up children. An inner arrangements of 'houses' within the enclosure face the courtyard which has become cemented to give a hard durable surface. In the houses (huts and rooms) behind the master's street facing house, accommodation is provided for a large extended family which in this case comprises three wives and their children, the man's aged mother, a less fortunate brother and two other distant relations. The man had inherited the house from his late father. No rent is paid by any of the residents. The man is able to feed himself and his family from his work as Contractor and handler of general merchandise (a fairly unreliable occupation, requiring relatively no initial skill.) The wives engage in petty trading, while the children hawk cooked food, food condiments and kolanuts.

The open concrete courtyard serves as "common room" for the wives and other grownups in the household and as a playground for the children. Food preparation is also carried out in that space. There is no formal kitchen. Water supply is not provided in the premises but a public pump for similar homes in the district is available nearby - centrally located at an average distance of 250 yards. Night-soil and refuse are regularly collected from the premises and a Sanitary Inspector sees the premises occasionally; but the open drain is not frequently attended to. It overflows with filthy water and with the urine of both local residents and passers by, the odour is obnoxious, to say the least.
Life in this form of low income housing is fairly tolerable compared with the sort of conditions depicted in Plates 28 and 29. The residents are happy and would resist any attempt to move them out to a government housing scheme. The man enjoys the sense of ownership and feels he would lose his roots by moving out to a mainland home. The wives are happy to be so close to sand grouse market and in a business street where the perpetual traffic jam provides them with opportunity for active petty trading. Residents can get almost all their wants within one mile radius.

Many homes of this type are found at Offin; Obalende; Ali Street area; Jankara; Epotedo; Jebba Street, E.B; Shomolu, Ojuelegba at Surulere, Agege and Olorunshogo. They provide cheap private accommodation to humble families where government assistance has not yet been considered.

le - Mixed Residential type - In many districts, it is difficult to map (at our scale of 62 acre blocks) exclusively lb, ld or lf class of housing. It is possible, however, to map Ia and Ic housing types because they exist in estates or clearly zoned districts. To a limited extent lb housing types are becoming identifiable in specific districts where despite the absence of an effective zoning system, tends to conform to a uniform standard in amenities and modern facilities.

It is to cater for those districts where all classes of housing tend to co-exist in a street or mapping block that this class of residential land use notation was devised. Ideally all income groups - except the very rich or high officials - may be found within a mapping unit in the district. At north-west Agege (north of Ipaja Road; Ikeja (Anifowose and related districts); Oshodi, Anthony and Pedro Villages; Mushin (West of Agege Motor Road but south of Palm Avenue); Surulere (the western and private development sector north of Ojuelegba); Yaba Southeast; Akoka-Bariga; Iwaya; Ebute Metta (north of the Saw Mills district; Apapa Road (Ebute Metta West); Lagos Inland (east of a line from Carter Bridge via Nnamdi Azikiwe Street, Bamgbose, Lew Streets to Moloney Bridge - see Map 10); part of Ajeromi and Kirikiri Road; and, a part of Apapa Port district lying between the G.R.A. and the industrial estate as shown in Map 21. The majority of housing development at the urban sector of Ikorodu division comes under this class.

Of the field samples examined, a small district at Eastern Surulere, lying between the police barracks at Western Avenue and the railway level crossing but north of Tejuosho Street. See Map 19 - the area situates north-east of the police barracks and to the west of the railway line. A
small street - Akerele Street - links the police barracks (at south western end of Tejuosho Street) with Ojuelegba Street. The land use for the area is shown in Map 19 as "Mixed Grade/Shanti/Slum"; while Plate 3(c) presents an areal view of the district. A complete spectrum of housing types in Lagos can be seen. One large individual first class home comparable to houses at Palm Grove Estate, Ikoyi or Apapa G.R.A. and surrounded by ornamental palms and beautiful Cassarina trees was built at Akerele Street in 1959 and remains a beautiful edifice amidst the assorted housing types in this district. A number of two to three storey houses on individual plots let out in flats are found almost every street of this small district. About eight very old bungalows of the type described for class 1d at Mushin stubbornly remain in the area, two sharing a street with the elegant high grade house at Akerele Street. A number of shanty huts and dilapidated homes similar to those described in Plate 29 (q.v.) are easy to find within the area. The area is literally a stone-throw from the earliest New Lagos Surulere housing scheme and Surulere Police barracks is virtually within the area.

It is obvious therefore that there is no uniform architecture, plan, accommodation standard, amenities or scenery. Each housing unit differs from the other to the extent of the socio-economic status of its occupants or owner. All amenities are available for the big luxury house at Akerele Street (complete with telephone and fire fighting equipment). The flats rented in class 1b houses are neat, have baths or shower and a water closet for the toilets. Rooming houses in all grades of class 1d housing bear all characteristics of their counterpart elsewhere in Lagos: high density, filthy conditions, poor amenities - often no electricity, water supply if any is irregular, cooking is by firewood and lighting ranges from hurricane lamps to palm oil and kerosene lamps. All the classes co-exist in the district by each class keeping to his place and even taking no interest whatever in how the other half lives. The individuality of neighbours (bordering on apathy and selfishness) comes out clearly in the poorly maintained streets, rubbish heaps built up on road sides and overflowing into streets without any local resident bothering to do anything about it.

A major problem in these mixed classes of residential districts concerns the maintenance of environmental health, aesthetic qualities and public utilities where nobody would co-operate voluntarily on any project designed for the good of other residents rather than a single selfish resident.
It is in the mixed class of residential land use that one clearly observes the housing problem which had earlier been remarked upon by Mabogunje (1968)\textsuperscript{20}. He wrote:

"One final problem connected with housing is the weakness in the application of zoning regulations. The problem here is not simply one of density control. It is particularly that of ensuring that housing of the same quality and catering for people of comparable socio-economic characteristics is grouped together. In many Nigerian cities, outside the residential estates developed by governments or their agencies, it is not uncommon to find a mud house being built next to a high quality house, with the owner unable to do anything about the imminent threat to the value of his property by the development."

\textbf{Shanty huts} - This represents the lowest form of accommodation or shelter for the very poor of Lagos urban population. The best shelter in this class would be well established ones like the one shown in Plate 29 at Mushin, which is part of a street of very low grade residential district shown in Plate 28. There are several less permanent or durable ones to be found at Agegule, Shomolu, Falomo, Apapa Elemu, Iponri, Ebute-Ero (close to the market) and coastal dunes east of the Bar Beach. Fishing settlements such as those depicted in Plates 4a and 4b, are also included in this class, since the quality of accommodation and chances of enjoying modern amenities tend to be similar in both cases.

The shelter is of the simplest materials the 'builder' could lay his hands on. In most cases the walls are made of bamboo, tins, cardboard paper, discarded plywood and bits of timber. The roof is often a jumbled collection of thatch (from reeds, palm leaves and other grass), pieces of metal sheets, old roof materials from old houses and other bits and pieces likely to keep the roof from blowing away in strong winds.

The site on which these shelters are constructed (or pitched) is usually one of swampy, derelict, beach dune or temporarily neglected building land and road works. In most cases the owners are squatters and trespassers on the land they are occupying and as a result have been subject to evictions. One group of shanty settlements traced from Falomo

was expecting their eighth eviction since 1959. They have been moved from various previous settlements - Moba, Maroko, Ilado, Victoria Island, Ije and Ilubirin Marina. They have been served with eviction notices by the L.E.D.B. since 1965 but somehow they have managed to hang on at this last stop. Now that the religious squatters at Victoria Island's bar beach have been forcibly moved, attention is being directed on the Falomo Community. The Community's leader (formerly Bale of the people before their first eviction) now feels that they have no choice but to break up and accept whatever housing the authorities (L.S.P.D.C) might offer them at Amuwo or other housing schemes. They were victims of earlier government compulsory land acquisitions.

The shanty settlements at Ajeguale are more related to immigration by other Nigerian immigrants (mostly Ibo, Ijaw and Isoko) into Lagos in hoping to secure employment in any aspect of Lagos economic activity (mostly industry and commerce). A fairly permanent settlement in this class is to be found extensively at the old residential parts of Lagos Island; especially in a zone from Offin, through Ereko and Ebute Ero as far east as Ajelogo.

The inhabitants of these shelters attempt to live a complete family life in their miserable conditions. They trade at all hours of the day. Quite often they sleep out of doors and use the shacks or huts only for entertaining visitors and keeping their few belongings. Some of the huts are very hot inside during the day, others are most unsafe in strong winds and the rainy season.

Life in some of these pathetic very low class of housing (covering classes ld, e and f) as observed at Isale Eko was recently captured in vivid literary form in a novel by Rasheed Gbadamosi, current Lagos State Commissioner for Economic Development.

On the whole analysis and appreciation of each of the classes of residential accommodation shed light on the housing problems and requirements in Lagos land use planning.

2a - Food Production - This category represents what may be described as Urban agriculture in the form of horticultural activity, market gardening or truck farming and large scale food or cash crop production.

A unique feature of Contemporary Lagos Urban sector concerns the several acres of farms and agricultural establishments which suddenly became part of urban Lagos. This is a direct result of the recent incursion of Urban Lagos into the rural districts of Ikeja. The feature is responsible for the wide distribution of Category 2a land use all around the built up district of Lagos and Ikeja divisions. An eastern wing has developed in an oblong mesh over the urban sector of Ikorodu division and in a narrow band along Ikorodu-Lagos Road across Ogun River to join up with Onigbongbo. East of Kuramo Waters, Ilado and Moba districts, this category of land use predominantly shares the urban sector with category 10c (unreclaimed swamps and forests), is indeed the case with the western and southern districts of the Lagos urban sector and of the eastern parts of Ikeja division. Until this urban expansion agricultural activity could quite conveniently be mapped under each of categories $A_1$, $A_2$ or $A_3$ as described in chapter 7.

It should be noted that some form of agricultural or horticultural activity takes place in tracts of land mapped under category 2a, properly organised farming enterprises are few. The enterprise take four forms: (a) Government plantations and farm settlements; (b) Large-scale private commercial business farmers who grow mainly vegetables and soft fruits for immediate sale in Lagos markets; (c) Private small-scale farming activities by town folk on land awaiting development; (d) the few real market gardens found in few special locations within the built up fully established urban districts.

The Lagos state Ministry of Agriculture and Natural Resources are clearly marked on the land use Map 8 at Agege (the pioneer government farm and a number of plantations established in the 1950s along Agege-Abeokuta motor road, just north-west of Agege); at Ikorodu centred at the Farm settlement on the Shagamu Road within two miles north of Ikorodu Town. They produce a wide range of food crops and undertake some amount of poultry keeping and experimental work on crop production as well as extension work to help local farmers and gardeners, particularly at Ikeja and Ikorodu divisions. Dairying is undertaken at the Agege farm off Iju Road.

Large scale private commercial business farmers were actually withdrawing their activities from the Lagos Urban Sector during the 1972 study as the land they farmed became more valuable for building and other
development. Enthusiastic, capable urban farmers have moved farther to more rural districts, sometimes as far away as the Eastern and Northern States. In some cases, as noted earlier, they have even abandoned farming in favour of acting as contractors whose lorries go into the agricultural rich districts of Nigeria to buy up cultivated crops, harvest them and ferry them down to Lagos markets for sale. The vestiges of more intensively cultivated Ogun river delta were in the process of becoming obscured from neglect during the 1972 field work. The narrow band of 2a land use shown south of Ikorodu Road and west of Ogun river was once a favoured ground for this form of urban food production (stumps of the Okro, maize, vegetables and tomatoes it produced were clearly visible during the 1972 field work. A more significant local large-scale commercial farming at the time of this study is the Oke Afa farms (Mr. Ashamu's) at Isolo, although the proprietor's interest in poultry farming tends to obscure in public minds his food crop farming interests.

Private small-scale farming activities was found to be accounting for much larger proportion in total acreage and variety of farm produce during the 1972 study than was thought to be the case earlier. There is an impressive breed of educated young people (civil servants and professional men) who whether for fun, recreation or personal satisfaction disappear from their comfortable official residences or luxury flats in the City to cultivate small plots of land for food crops at several parts of Ikeja. The favoured crops are assorted vegetables, cassava, maize, okro. An unconfirmed explanation of this trend is that the gentlemen weekend farmers are in fact using the ease of acquiring farming land at Ikeja division as a calculated step towards securing plots of land for future residential or speculative development.

Finally there are the few but widely scattered "market gardens" as mentioned earlier in pp.55-56. Excluding the Government sponsored market garden at Agege, the bulk of market gardens in the study area are spontaneous features arising from private initiative taking advantage of several temporarily idle land in the built up metropolis. Two of these market gardens were prospering during the period of our survey (1972). These are the Idi Araba gardens shown in Map 19 and the Yaba Roundabout, the photographs of which are presented in colour plates 20(a) and 20(b). (See C.P.s and read notes opposite each). Both 'gardens' were set up by trespassers on private property. The Idi Araba gardens are clearly using land which legally belongs to the Lagos University Teaching Hospital. **L.U.T.H.s 1973 development phase includes this large fertile strip of their land which in 1972 was flourishing with cabbages, lettuce, tomatoes, turnips, peas, runner beans, potatoes and maize illegally planted there by trespassers.**
The Yaba Roundabout 'garden' uses another government land, the development of which is expected by 1974. It is not as fertile as its counterpart at Idi Araba; for the former is often waterlogged and the soil is poor. Nevertheless it yields good crops of maize, pepper, tomatoes, various Nigerian vegetables (ewedu, tete and shoko) and (as the photographs show) a luxuriant, though poorly cultivated, sugar cane.

It is most difficult to trace any of the illegal gardeners; but somehow there is no reported case of crop theft. The rightful planters usually manage to harvest or reap their crops themselves. The gardens have become introductory nursery beds for exotic vegetables and the potato crop which find markets among foreigners and many oversea-bred Nigerians.

Kitchen gardens, however large (as shown in Plate 13) were not included in this category of mapping in the field.

2b - Manufacturing Industry (Production of Goods):

Map 11 on the Industrial estates of Metropolitan Lagos, shows the location and physical extent of each of the industrial estates and centres of activity. Some basic details of the industrial estates are set out in Table 4. Industrial establishments at the estates are currently experiencing common circumstances made necessary by the present stage (or novelty) of industrialization in Lagos. Lagos Industries in 1972 exist in estates which are themselves zoned districts specifically designed and equipped to handle the special needs of industry; the industries, as already noted, have not yet become spatially differentiated according to products or any other basis.

8.22 As registered in the Federal Lands Division Register on 10.1.63 and 4.6.64, this is the last bit of just under 36 acres of land acquired by the Federal government in two lots (25.21 and 12.67 acres respectively) for the erection of the University of Lagos Hospital Quarters.

8.23 All types of manufacturing industry exist within the same industrial estate and may be producing unrelated products. However, a small degree of specialization based on the dominance of other type of industrial activity in some of the estates is becoming identifiable. For instance it is now possible to identify brewing with Iganmu; local food and confectionery manufacture (sweets, Luisabi mills products, pop corn and crisps) are becoming dominant at Yaba; many manufacturing firms with parent bodies abroad (mostly European and American) are concentrated at Apapa; furniture manufacturers are concentrated at Malori while at Ikeja the situation is more fluid as all establishments are fairly large and more time may be needed to see which of the really big ones like Guinness, Plastics and Asbestos really dominates that estate. So far only such non-estate industrial centres at the Ebute Metta sawmills district and the Railway Compound (the entire complex of workshops wadings and depot, from Ebute Metta to Yaba, centred at Oke Ira) are exclusively occupied by single industries engaged in one industrial type.
All manufacturing industries, excepting the Iganmu Brewery Works, faces some kind of space problem - confinement to rented space and difficulty of acquiring land as new sites, at the present inflationary land prices. The Apapa Estate: See Maps 11 and 21 and Plates 2(viii) and 20(b).

This estate adjoins Apapa Sea Port and occupies about 230 acres of the southern extremity of a continuous mainland strip ending at Porto-Novo Creek. Much of that site was reclaimed from swamp and developed to the present standard. A modern expressway and service roads as well as a railway extension serving the port connect the estate with sources of raw materials, labour and markets for finished products. The "estate" as such is supposed to be a separate entity from the Port industry district farther east and north east which was an earlier development consequent upon the growth of Apapa Port as a port. Both sections have become so merged physically on the landscape that a casual observer would easily identify the physical area of the estate as extending from Niger Food Supply Cold Storage premises at the north-east foreland overlooking Lagos Harbour down to the N.P.A. dockyard and the entire stretch of Apapa Quays, westwards to the drainage channel separating industrial Apapa from the G.R.A. Scheme one High grade residential district. In Map 21 every effort has been made to present the situation as it exists on the ground as well as establish some of the definite boundaries involved in the actual zone. In land use terms, categories 2b and 4b and sometimes 4a are closely associated, on with the other.

In the present field sample our attention is focussed on "the East" rather than the "port" or a coalescence of both as suggested physically on the landscape. The estate is bounded to the south by Porto-Novo Creek; to the west by Warehouse Road and Commercial Road; to the north and east by Wharf Road; and, to the east by Wharf and the port area.

The coastal sites south of Creek Road are occupied by well established branches of European parent firms from west to east: Glaxo & Allenburys, Nigeria Steel Construction, Trabor, Metal Box Company, COSAC, G.L.Gaizer, R.T. Briscoe, Federated Motors, Niger Motors and S.C.O.A. all of which are large importers of goods or raw materials of parent companies in Europe. The Cocoa Transit Limited which semi-processes and exports cocoa, is at the eastern end of the estate. North of Creek Road many smaller and more locally based actual manufacturers of textiles, food and drinks, paper products, furniture, pharmaceuticals, glass, engineering and general consumer goods (e.g. West African Thread Co. and Astaldi Limited) have established themselves; while at the eastern (Wharf Road Section) Flour Milling, Shoe making and drugs/pharmaceuticals are prominent.
Industrial development at this estate grew enormously within the first ten years of its being established. The status of this estate as the most important industrial concentration in Lagos so far is confirmed by the following evidences in this study:

(a) The industrial impact score for the district is above 90% and is fully within Impact Force notation F5 (See Map 18 and Appendix 44).

(b) As demonstrated in Table 16, available, though dated, statistics (1959) show that within Lagos Municipality Apapa (which includes the port area) uses the highest proportion of total employed industrial labour force, i.e. 35.6% of 42,927 workers distributed to eight industrial centres of Lagos Municipality. Apapa also used over 30% of the labour force engaged in each of four major industrial types, viz. Food and Drinks (50.9%), Building and Construction (49.3%), Transport (47.1%) and Metal (31.2%).

The estate has become so fully developed that space is crammed - no room for new industries as at 1972, unlike the relatively new vast but relatively distant estates of Ikeja and Ilupeju. In recognition of this the L.E.D.B. plan L.T.P. No. 1397 of June 1971 on which Map 21 of this thesis was based, was designed "to rearrange things properly on the ground" and so amply provided for warehouses, produce sites, shops, flats, industrial area, building line, school site, petrol stations, public open space, classes of commercial and residential accommodation and roads (local and through routes). The original plan was comprehensive enough to cover the port, the estate, the G.R.A., existing mixed residential and commercial districts and the adjoining lands south of Iganmu (which includes the Marine quarters at Malu Road).

At the time of this study the proposed reorganisation for better and more efficient land use remain at discussion stage. The entire district under the influence of Apapa Industrial estate has well passed the Phase III described in our Fig. 1 of this thesis, Judging from the congestion, unpleasant environment and overloading of public utilities in that area (compared with conditions at say, Ilupeju) Phase IV has already set in.

Much therefore depends on the success or otherwise of the aforementioned 1971 plan, to determine what trend we may expect at this pioneer district of industrialization in the Lagos region. There is no doubt that the other new industrial estates farther inland represent our "External Dynamic Region" to which some Apapa industries are already contemplating a move. However, the
general problem of transportation and poor public utilities, plus the high cost of moving represent constraining factors which prospective 'deserters' of the Apapa location will have to consider seriously. It is likely that the same planning body, in an effort to direct industrial growth in Lagos most beneficially, would evolve a plan which would have rejuvenating effect on the Apapa estate while at the same time attracting appropriate industries away from congested locations to less fully allocated space. This author feels that compared with what obtains in mature industrial countries, the Apapa estate is congested only as a result of poor land use planning or space management and to the extent that poor public utilities creates imperfection in the infra-structure required to support the present volume of industrial activity at Apapa or cater for further growth. Besides, the space held by each industry was not based on any consideration of need or industrial types. A reallocation of space under government direction may be necessary to reduce present imbalance in landholding between firms, providing of course that the long neglected research into the space requirements of industrial activity generally and firms specifically (and for that matter all land users) is pioneered somewhere.

So far, the Apapa estate has played an active part as a cradle of Lagos industrialization. Whatever happens it is quite likely that the next phase of industrial development of Apapa can be as exciting to observe (academically and otherwise) as the earlier phase.

3a - Business and Commerce\textsuperscript{24} Offices and Business Premises.

The Central business district at Lagos Island is by far the largest single unit committed to this category of land use. Other, but smaller,

\textsuperscript{24}In the urban sector, the field practice adopted in mapping this class of land use is based on the need to group together all premises used for tertiary purposes and organised in offices or office blocks. For instance the town offices of airlines, e.g. Air Booking centre, are categorised as 3a not 4c; so are those of manufacturing firms, Travel Agencies, civil service or government offices and banks. Markets or sites trade fairs are separately mapped as 3b and wherever possible (for cartographic convenience) 3b was represented by letter "M". Markets are considered very important land use features in the study area on account of their centralising influence and long historic importance as a forum of commodity exchanges.
centres are of three types:-

(a) those associated with industrial estates and consequently were often mapped along with category 2(b);

(b) those which developed as nucleus centres of formerly independent towns in the present metropolitan mesh, such as Agege (along the Lagos-Abeokuta Motor Road from the market to the junction with Iju Road); Ikorodu Town within 600 yards radius of the routes junction; Ikeja (identifiable in three small nodes outside the industrial estate but easily included among categories such as 4a, 5a and 6); Mushin (confined to the Agege Motor Road.

(c) business streets extensive enough to be separately identified from 4a land use such as at Surulere (Ojuelegba Road), Yaba and Ebute Metta (Clifford Street, Herbert Macaulay, Commercial Avenue and southern end of Ebute Metta).

All hotels and similar commercial accommodation are also included in 3a rather than in any class of residential types.

Lagos C.B.D.: The central business district at Lagos Island. The district is one of three broad divisions into which that island easily falls: business, residential and government. At the scale of 1:50,000 used for Map 8, the district is slightly obscured but in Map 10, at a scale of approximately 1:15,000, the distribution of the C.B.D. and other business/commercial districts of Lagos island stands out more clearly.

To the south of the district runs the Marina as far as the Old Secretariat (mapped as 5b in Map 10 and shown in Colour Plate 39); while the northern limit at the time of this study (1972) follows roughly the alignment of Nnamdi Azikiwe St. via Tinubu Square\textsuperscript{25} (Map 36 and Plate 19) and along Bamigboye Street com Campus Street/Igbosere Road, roughly terminating at the new City Hall (Colour Plates 28b, 36 and 37). To the west and including the approach road of the two bridges the business district

8.25 Tinubu Square for which a Major traffic reorganisation Scheme is under contract to Alistair McGowan and Associates of Pontefract, Yorks, is also regarded as "the centrepoint" of Lagos. It is in effect a major intra-urban traffic inter-change.
has overflowed into a mixed and low grade residential district ripe for slum clearance. This is the area wedged between the two bridges (located between Eroko Street and Apongbon Street). Politically the district is largely within Ward A, which has become highly commercialised since 1955.

The C.B.D. is made up of sub-sectors specialising in various branches of business and commercial activity: Warehouses, supermarkets or chain stores, banking and insurance, business offices, hotels, miscellaneous non-residential uses, light industries and, to a minimum extent some government offices.

The north-western Sector with its decaying appearance and set about 500 yards inland from the waterfront was found to contain over 90% of all warehouses and wholesale stores in the C.B.D. Across Eroko Street and enclosed within Martin Street/Azikiwe Street derelict idle space which represents the slum cleared area we referred to earlier presents an ugly sight from the windows of such expensive 3a land use buildings as Bristol Hotel on Martin Street.

The largest concentration of business and commercial land use in terms of committed square feet of floor area is the centrally located Yakubu Gowan Street. An estimated 94% of that street's 1½ mile stretch is taken up by category 3a land use. Some of the very important business houses located in this famous street (known as Broad Street until 1967) are (from northwest south-eastwards): Head office of the former West African Airways, with Club Bagatelle opposite; U.T.C. and other large retail establishments, American Life Assurance; I.T.T.; Central Police Station; Kingsway Stores; The Nigerian Industrial Development Bank 'under construction in Plate 36); Bethel Cathedral of the African Church Organisation; Bata Shoe Co. Ltd. shop; National Bank of Nigeria; an assortment of Insurance Companies (e.g. Unity Life & Fire Insurance Co. Ltd at the Tinubu Square side facing Nnamdi Azikiwe Street); the Central Bank of Nigeria at Tinubu Square (West side); Tinubu Methodist Church; Miscellaneous small retail traders; C.S.S. Bookshop; J. Allen Motors; Standard Bank and Chase Manhattan Bank; Air Booking Centre of the Nigeria Airways; Lagos State Sub-Treasury; Government Printer; Mobil; and the

8.26 The political wards into which Lagos island is divided for census and election purposes are: Wards A, B, C and H. In Ward A all except the small 'inliers' of Oloogogo and Offin residential land use has long been displaced by business and commercial land use especially since the 1955 slum clearance which affected earlier native residents in the district and resulted in their being resettled at New Lagos, Surulere.
multi-storey government offices shown in C.P. 32(a); and the multi-storey ultra-modern Western House accommodating several firms and embassies. C.P. 32b shows a fairly representative section of Yakubu Gowon Street at any week day afternoon. Outside Yakubu Gowon Street, a substantial part of commercial and business activities are contained in a narrow tract of land one mile long and just under 200 yds at its widest point (Custom St. linking Marina with Tinubu Square). Within that space of about 36 acres, lying between Yakubu Gowon Street and the Marina, the whole range of Central Business activity is represented—banking and finance retail trading, light manufacturing, newspaper and other printing, insurance, warehousing, institutional headquarters and government offices. Prominent among the land users here (from northwest southeastwards) are Gottschalk, Greek Embassy, Lagos State Offices, Kingsway Stores, Nigerian Travel Agency, Elder Dempster Lines, Indian High Commission, Leventis Stores, Barclays Bank, C. B. Ollivant, Cinemas, K. Chellaram, Republic House, the C.P.O., Daily Times Newspapers, Anglican Mission Headquarters, N.E.P.A. and N.P.A. head offices and the Canadian High Commission. One finds, sandwiched amidst these intensive space users, some of the most shocking shanty huts whose poverty stricken residents engage in petty trading and on the spot retailing of cooked foods, fruits or cooling drinks, notably at Market Street, Tinubu Street and William Street. In the past six years night clubs and restaurants e.g. Tam Tam Restaurant have become established at the back streets of the main shopping streets of this district.

A notable sub-section of Lagos C.B.D. is that almost entirely dominated by retail trade. The section lies between Custom Warf on the northwestern Marina and Breadfruit Street/the slum cleared Taiwo Street. Kingsway Stores, with a floor area of 100,000 and planning further development on the high rise principle, is typical of the department stores in this area which draws thousands of shoppers daily from all over the Lagos study area and the country at large to Lagos island. Gottschalk is a smaller version of this but in recent years Leventis has acquired and developed an area larger than Kingsway presently holds. Until expected developments by Kingsway Stores materialise, the Leventis complex is now the largest of the chain stores (in this sub-district), complete with customers' car park and other facilities for shoppers. The shoppers visit this retail sub-section of the business district for their daily, periodic or annual purchase of women's clothing, men's wear, children's wear, household goods, furniture, electrical and other consumer goods, soft furnishing and almost anything one would expect to buy in a British supermarket. In addition it has become fashionable for the City's workers and visitors to dine in these supermarkets. All the supermarkets are air-
conditioned and pleasantly attractive to shoppers, but there is no opportunity for the traditional haggling on price of goods. That is of course available in nearby markets and smaller local shops.

The intensive use of land resulting from competition for the central location of this district has resulted in high land prices and the rapid changes in the skyline of the district one observes against the rest of Lagos Island. The high cost of land is demonstrated in Maps 16a, 16b, 17a and 17b. In 1972 the plot of land shown in Plate 36 on which the Nigerian Industrial Development Bank is erecting a 20 storey building at Yakubu Gowon Street (adjacent to Bethel Cathedral) is said to have sold for nearly £10,000 (plus another thousand pounds for the existing building later demolished).\(^8\)\(^{29}\) Excepting the southeastern high class residential and government districts, the C.B.D. is undoubtedly the most expensive part per unit space (square foot, plot or acre) in the whole of Lagos island. The grid area (J12) in which the district is located scored a land price index of 22 out of a maximum of 23.

The high-rise building, many vertiable sky-scrappers of 25 storeys (See Plate 37) which, in recent years, have been changing the skyline of Lagos generally and the C.B.D. in particular are clearly presented in Colour plates 32b, 37 and 38 (q.v.) For a comparison between this feature and building structure in districts of Lagos island outside or adjacent to the C.B.D. see colour plates 26, 27 and 26b.

8.27 In this thesis government land use is treated under category 5 and as there is a clear separation between the commercial and administrative districts of what would otherwise be a continuous C.B.D., the area from the Old Secretariat on the Marina southeastwards and bounded to the north by Moloney Street (See Map 10) is treated later in this chapter. In this way we bring out clearly the dual function of Lagos Island as a political national capital and as a commercial-cum-business centre.

8.28 Breakfast and lunch (set or a la carte) are available, particularly at Kingsway and Leventis, at cheaper rates (in 1972) than at hotels and restaurants. The menu is mostly European; but rice with stew and dodo (fried plantain) also feature on the menu.

8.29 Source: Field Enquiry during 1972 field work. Officials of N.I.D.B. later interviewed by the author's assistant in 1973 claimed they were "not in a position to confirm or deny the figures". However, the price is within the range prevailing in Lagos Island in 1972 and unofficially confirmed by practicing local estate agents.
At the ground level land use in the C.B.D. itself still reflects the
general chaos and poor planning which feature throughout our Study of Lagos.
Reference has already been made above to the 'shocking shanty huts'
sandwiched as it were amidst the outer shells of the C.B.D. and to the
idle slum cleared land left idle since 1955 now constituting an eye-sore
in the heart of Lagos.

In this author's opinion a comprehensive development plan for the
entire C.B.D. not just a traffic reorganisation scheme or such unco-ordinated ad
hoc planning schemes, is now necessary to control undesirable development
and bring about better land use organisation, such a properly organised land
use deriving from full recognition of urban land use principles (particularly
as applicable to the Lagos environment) would provide strong basis for solving
what Charles Abram\(^{30}\) once described as one of the main problems of any
city..."how to control these uses (of land for specialised purposes in cities)
to enable the city to function and evolve."

3b - Market Places:\(^{31}\)

The nature of the present study necessitated paying particular attention
to the land using peculiarities of market places. In all 30 markets of the
study area were visited (See Appendix 12a) during the 1972 field work; while
for Lagos Island, detailed information on space, location, origin, sessions
and structure of seven of the markets were arduously compiled and presented
in Table 7. Items of trade noted in all markets of the study area were listed
and are presented here as Appendix 12(b). It should be noted however that all
the items are not often found in any one market and that the list is not
exhaustive - only "the usual items of trade". Finally, two representative
markets, Agege and Sand grous, were studied in detail for presentation in this
section of the thesis.

Agege market represents the northern extremity of the Urban Sector of
Lagos which is just being recently merged into the budding Metropolis of
Lagos. Agege market has also served as a central place and market town for
surrounding rural districts of the northern half of Ikeja division. Sand
Grous market on the other hand, is an important Urban market at the eastern

\(^{30}\)Implied in an article on "The Uses of Land in Cities", by Charles Abram

\(^{31}\)An excellent account of markets in Central Lagos has already been given
by Nibogunje (1968). See "Urbanization in Nigeria" by A.L. Nibogunje,
Published by University of London Press, Chapter 11, pp.278-280, on
"the traditional centre and spatial organization". He described the
market system in detail and stressed their traditional origin in Lagos
as in other Yoruba towns, pointing out the economic and social
significance of the local market system.
section of Lagos Island and is strategically located at a part of the island where residents from various classes of residential districts (Ikoyi, Obalende, Okesuna, Moloney, Igbosere, Brazilian quarters, Okepopo and Epetedo) and workers from the administrative district of Lagos (race course, Onikan, Moloney and Laafiaji). Together the two markets mirror circumstances and conditions underlying the present state of land use and problems in at least 26 of the 30 markets listed in Appendix 12a. The 26 markets are also the ones contained within the Lagos Urban Sector.

Agege Market: The market originated as a 4 acre government acquisition at the present site specifically for a market in 1920 at a cost of £60 (by way of compensation). The market is laid out at the southwestern part of the town just off the Age-Lagos Motor Road opposite the Motor Park close to the Railway Station. Stalls are arranged in rows and a kind of mini-zoning is applied by the local authorities (Ikeja District Council) enabling traders of like commodities to be grouped together. Thus a shopper knows in which part of the market his/her wants are stocked, clothing, vegetables, cooked foods, uncooked food, canned foods (provisions such as peak milk, corned beef and sardines), nails and building materials, kolanut and personal services (such as hairdressing, dress making etc.) are sold in specific parts of the market. Fees collected from stall holders by the local administering authority are applied toward the upkeep, repairs and refuse clearance necessary at the market.

Agege is an important periodic market, (four days) drawing shoppers and traders from all over the study area. The surrounding rural people of Ikeja division and as far afield as Otta and Alagbado Station in the Western State bring their agricultural produce (food and cash crops), fuel wood and crafts to sell, and in turn purchase household goods, manufactured articles from Lagos factories and imported goods, shop for children's school books, clothing and food brought in from other regions e.g. dried fish, fresh meat, stockfish, rice, black eye peas, yam products and onions.

The market is completely full on market days and overflows to twice the designated space. On one such market day in April 1972 when this author visited the market from Lagos, traders and their wares were encountered close to the border with Ikeja town on the Lagos-Agege Motor Road. Six hundred yards from the southern edge of the market both sides of the road were

8.32 Certificate of registration dated 4.7.21 and recorded in the Federal Land Registry on 24th April 1920.
packed full with traders who had brought fresh fruits, snails, peppers, vegetables, kolanuts, garri plantains, bananas, livestock (chicken and goats) and palm oil for sale but are not stall holders. Motorists from Lagos find it convenient to buy all the fruits and vegetables they want here as the price is obviously cheaper here. The adjacent Motor Park and across the railway line into the nearest residential street was filled with shoppers. Goats and sheep were penned for sale at the east side of the motor road. Cooked food (cooked on the spot) were being sold close by the railway line.

From the northern end of the market (by the motor road) the entire road had become an active business street, with tailoring, various types of commodity traders, (mainly using the frontage of houses, or, in some cases, flats over shops features). That "business street" stretched as far north as the junction with Iju Road, past the Post Office with branches into Ipaja Road (midway on the west side of the road).

West of the market the sprawl or over flow of the market is less pronounced as that part lacks the advantage of a Main road and tends to be too concealed to attract traders. Almost any article can be purchased at this market as the absence of supermarket of any sort in the district, until recently when developments at Ileaja Industrial Estate is attracting some, had made Agege market very important to visiting shoppers from rural and urban sectors of Lagos who meet here. The Kolanut trade is centred here at Agege on retail and wholesale forms.

The Railway Stration and the Motor Park here gave much impetus to the growth and importance of Agege, plus the fact that it is the closest to an agriculturally rich part of the study area. Grains, dried fish, cattle and onions brought down from the northern states and yams, etc brought down from Ibadan and Abeokuta are easily offloaded here before the final trip to Iddo, so food stuffs can be bought here at wholesale prices as at the Iddo market.

The general appearance of Agege Market is off-putting and after or during the rains conditions become worse, with mud everywhere. The market, which has not been paved (cemented or tarred outside the main road) can become very untidy. Apart from the heavy periodic market days, daily trading continues but at reduced volume. The market is in important respects basic to the survival of Agege as a central place.

Sand Crouse Market:

In Maps 8 and 10 the site of the market can be identified on Lewis Street (east side). Some basic details are set out in Appendix 12a (no.28) and Table 7.
Located in Ward C, this daily market established in 1948 and covering 14 acres, is classed by the local authority (Lagos City Council) as a Grade A planned market. The floors are paved with cement. It is an all purpose market but two commodities are regarded as particularly stocked in this market. These are: Medicinal herbs, normally required by all herbalists in Lagos - ranging from leaves and roots to dried animals and birds; and, fish - wet and dry.

Unlike the Agege Market, there is a regular size, almost always contained within the 4 acres. Each trader holds a stall. Occasionally "illegal trading" (i.e. traders or hawkers without stall permits who simply place their wares - often foodstuffs such as garri and yams). All the goods listed in Appendix 12(b) were found at the Sand Grouse market. Almost every article sold here were not produced by their sellers. The traders have their regular suppliers. Those engaged in food stuff and vegetable trade buy wholesale from Iddo or as far afield as Agege. Traders in manufactured goods buy wholesale from the big stores - particularly at the wholesale districts in the northwestern part of the island and sometimes as far afield as Apapa and Ebute Metta. The meat and fish dealers are regularly supplied from slaughter houses and Fishing Firms (such as Ibru) respectively.

Many of the traders (particularly foodstuff dealers) have regular customers and have credit arrangements with them. Prices are imperfect generally as haggling is a common feature here in contrast with what obtains in the supermarkets. The market serves the local residential districts described earlier in this section. Apart from buying daily requirements, essential commodities and luxury goods, customers go regularly to the market for services such as pepper grinding, hair dressing, shoe repairs and dress making.

Sand Grouse Market is more orderly arranged and neater than the Agege market; but it serves a limited district and so meets local demands, except in the herbal medicines for which it is widely known throughout Central Lagos. Agege on the other hand serves a more regional purpose and brings rural and urban people together. The space occupied by Sand Grouse Market is adequate but Agege clearly needs more space than was adequate in 1920 as the general growth of Lagos and the recent establishment of industries nearby (at Ikeja Industrial Estate) has greatly increased the volume of trade at Agege. It is high time the authorities replanned the market and ensured more hygienic conditions there, at least to the standard of Sand Grouse Market.
4a - Land Transport (road and rail):

The importance of road transport in the study area has already been discussed earlier in this study (chapters 2 and 7). It has been a significant factor in the evolution of Lagos Urban Sector - in the urbanisation of former rural districts and in reorganisation of the central Lagos. Attention is further drawn in this part of the study to the following documents (maps, Appendices, Figures and plates) which jointly place the selected samples in clear perspective as representative of the nature, influence and land-use problems encountered in the development of the Urban Sector of Lagos: Map 30, already used in illustrating Audifferen's (1965) concept of Metropolitan Lagos shows the road network (trunk roads, skeletal feeder roads and footpaths) and rail-line in a substantial part (62%) of the present Lagos Study Area and the whole of the Lagos Urban Sector. A comparison with Map 8 (the land use map) and the second right hand map of Map 1 brings out the changes in road network within the present Lagos Urban Sector. Western Avenue, selected for the case study, is a later introduction into the intra-urban road system of Lagos (only since 1955 and still under construction).

8.33 The Use of land to effect movement of people, raw materials, finished goods or commodities from place to place (inter-urban or intra-urban) is divided into three separate sub-categories - movement by land, water and air - as each has specific land use requirements and problems not necessarily shared by other sub-categories. Land transport is further divided into two - road and rail - also in recognition of their respective peculiarities and land use effects in the study area.

In water transport, ports, beaches, harbours and all forms of waterborne traffic by whatever form of vessel (from sea sailing ships to canoes), the amount of land consumed in each case is calculated only on acreage actually occupied by the port, beach or harbour (for port installations and beaching space).

For a list and concise information on actual roads, railway bridges, ports, harbours and beaches and airport within Lagos study area see Fig.2.

8.34 The field work for this study was conducted at a time (1972) when poor intra-urban transportation in central and entire urban Lagos is threatening to stifle the rapid development or growth which industrialization has brought upon Lagos. Iganmu (Lagos)-Badagri Road had not been completed; Apapa expressway was at the early stages of construction and the Eko Bridge extension works (which resumed later in 1973) had been suspended at Iganmu pending the clearance of squatters at Iponri village and certain illegal occupants at Idi-oro and Mushin.
Map 28 (the L.E.D.B. and I.A.P.A. Metropolitan Lagos (1967) shows the Major intra and inter-urban road network of the Lagos Urban Sector. Map 35 (Audifferen's (1965) proposal for road network development for "Metropolitan Lagos") represents one bold plan concentrating on the inter-urban road system for Lagos likely to involve greater commitment of land in Metropolitan Lagos to 4a land use in anticipation of the developmental needs of Lagos and available land resources; but rejected as over ambitious and impracticable for the moment. 35 See also Appendix 36.

For the central zone of Lagos (Lagos island), the road system as at 1972 is clearly shown in Map 10, while Fig.6 shows the proportional volume (per cent) per approach route (bridges,) of movement of persons into Central Lagos. Map 36 focusses attention on actual recent traffic flows at the most central spot (probably the most intensively used road space) in Urban Lagos. Maps 22 and 23 illustrate the new intra-urban road plans forming part of (and well integrated with) planned land use development in newly urbanised fringes of comparatively recent rural zones. They are mostly dual carriage, east-west expressways, linking up parallel routes; are straight aligned and are developed comparatively faster (with less obstructions resulting from land acquisition problems).

In plate 3(c) three transport land-use features stand out for analysis in the present context. The railway property at the right represents the oldest and largest land holder in the district covered by that air photograph. The east west road, Ojuelegba Street (See Plates 9a, b and c), is the only road leading into Surulere at the time Map 30 was made.

It is typical of the roads developed long before Surulere, and beyond became developed into crowded residential districts and institutional land use such as the Lagos University Teaching Hospital at Idi-Araba increased traffic load on the road. The several streets crossing Ojuelegba road create serious traffic hold ups along Ojuelegba street, indicating that this old road is overloaded and ought to be redeveloped (possibly as an elevated way) to cope with the present areal extent it serves.

8.35 The plan had ignored the practical problems of land acquisition for roads the vast unavailable funds necessary for such a project and the balancing of this one category of land use against the requirements of competing or other land users (homes, work places, recreational lands, security, institutional and agricultural developments. However, the present (1973) state of road development in Lagos (See Fig.2) together with the proposed third bridge and Lagos-Ibadan motorway closely approximate Audifferen's "unheeded" 1965 proposals.

His schematic process in urban transportation planning represented here in Appendix 36 was found to have been adopted by the Federal Ministry of Works and appears, in the opinion of this writer, to have highly commendable features – including the ease of computerised treatment at critical decision stages, given basic data.
The prominent north-south road in the air photograph is the Western Avenue which was a later and very ambitious introduction into the road system of the district. It forms the selected sample for 4a land use in the urban sector of Lagos. It is obviously the largest and serves the double purpose of an intra-urban and inter-urban highway, cutting through the post 1954 development of Western Lagos mainland. Map 19 presents Western Avenue in a more central position and relates it to other land use forms throughout its length from the Apapa Road junction at Iganmu, via New Lagos and the National Stadium, and across Ojuelegba to join the Southern section of Abeokuta Motor Road at Idi-Oro.

In Colour Plates 25a and 25b, the present state of developing Western Avenue is depicted at its New Lagos Section (midway of its length). A brief history of this avenue gives some insight into the problems of public roads development in Urban Lagos generally and in particular for roads under Federal government responsibility in the Lagos Study Area. Western Avenue was conceived as a four lane fast transit road linking Iddo and Apapa with both Ikeja airport through two alternative north bound trunk roads - Agege Motor Road and Ikorodu Road - but contained wholly within the "Federal Capital Territory of Lagos"36, and using land already fully acquired by the Federal government when the New Lagos rehousing Scheme was inaugurated. Previous acquisitions for Police barracks and Abalayi (Army) barracks were also to provide part of the roadway. The road was considered essential to relieve congestion from the existing already congested parallel eastern route running to or from Carter Bridge via Iddo, Ebute Meta and Yaba. To keep down costs it was also considered necessary that as far as possible the road was to avoid crossing swamps. These factors and considerations gave the Western Avenue the near snake-like appearance it adopted.

The actual building of the road was affected by local political circumstances more than by technological, financial or civil engineering problems. As C.P.25a and b clearly depict this road of a mere 2½ miles with no land acquisition problem and relatively free from physical obstacle, is still under construction these twenty years! It is generally agreed that the first Federal Nigerian Civilian Government shortly before and after Independence handled the project incompetently and it was often suggested (not without foundation) that the corrupt practices in the award of contracts was probably a major cause in the ridiculously protracted development of that road. By 1965 when the airphotograph on which Plate 3(c) is based was taken, two of 8.36 See Chapter 1 and Map 1.
the commissioned four lanes had been built and the contractor had considered
the job finished. It was believed that the funds made available to him
justified the results. Neither an official inquiry nor comment from the
Federal Ministry of Works was made available in August 1965 when the present
author attempted studying the impact of this road on the development of
Lagos Federal Territory. Further development of Western Avenue remained
dormant and drivers got accustomed to using the two lanes constructed until
1970 when under the Military government initiative work resumed to realise
the original scheme. The northern end of the road opposite Abalti army
barracks was actually built by soldier (Military engineers) at one stage.

By late 1972 development scheme of the Eko bridge extension and a
projected Lagos-Ibadan motorway has per chance caught up with the much
messed about Western Avenue project. The new Contractors (Julius Berger, who
have already proved their efficiency in previous major contracts) have by
1973 commenced work involving an integration of Western Avenue development into
the more comprehensive inter-urban motor way development. It seems therefore
that this new dimension is about to absorb Western Avenue into a more complex
but less retarded development, updating its role in the road transportation
land use of Lagos.

By any standards Western Avenue has suffered most from the local
human circumstances facing any public works development in the Lagos area,
especially when various government organisations (at various levels) are
responsible for various road developments. (See Fig. 2). Compared with the
Igando-Badagri Road, Western Avenue epitomises the problem of intra-urban
road development of Lagos - the political and human consideration - and
provides a basis for understanding decisions which in earlier days of Lagos
industrialization conditioned the alignment, land appropriation, rate of road
completions and related physical land-use features or planning in the urban
sector of Lagos.

The Railway: As clearly indicated in Map 8 the railway is aligned only in
one direction but traverses the whole length of the older string of settlements
(whcih happened also to be the "dorsal strip" of Mainland Lagos - away from
the swamps and similar difficult topography being developed only in recent years
The development of Apapa Port and the industrial estates also strengthened the
role of rail transport in the Lagos Urban Sector. Even the small branch to
Iju Water works, the strip at Tarqua bay to the west Mole and its counterpart
at the east mole is connected with development in the Lagos Urban Sector.

8.37 The study formed part of a B.A. disertation at the Department of
Geography, University College London.
Land under railway use within the small district stretching from Yaba (west of Clifford Street) through Ebute Metta to Iddo (the western railway terminal from north-eastern Nigeria) is probably the highest per unit area in Nigeria. The vast land holding by the Nigerian Railways at Oke-Ira and Iddo was definitely the oldest of its kind by any Nigerian Corporation and it was all paid at a time when neither compulsory land acquisition had not been adopted nor was western concept of land tenure yet adopted in the study area.

Railway land use in Urban Lagos is made up of the huge terminal at Iddo, the tracks and sidings at Apapa port terminal, the railway industrial (loco yard) centre at Ebute Metta/Yaba; the vast residential quarters at Oke-Ira; the several stations (as listed in Fig. 2 Section A(ii)); the ten feet minimum requirement of space along the middle located track and a few tracts of land sometimes located away from the railway line but held for related railway purposes or pending further development. However, there are no plans for building more railway lines in the Lagos Urban Sector yet. This transport land user is therefore in the unique position of holding more than adequate land for its immediate needs. Money saved in the high cost of acquiring new lands for staff, rolling stock or minor expansions, is said to be ploughed back into improving tracks as well as innovating this form of transport in keeping with technological changes. In the competition for passengers, the Lagos railway has been losing to motor or road transport but its importance or efficiency in evacuation of finished goods and delivery of raw materials (especially of the more bulky materials) to the industrial estates ensures that this form of transport land use will remain a force to be reckoned with in the Urban Sector of Lagos. (Note the location of all the presently active industrial estates at or close to a railway line or station).

8.38 The Badagari expressway was constructed by a foreign firm (Julius Berger) from Iganmu, across some of the worst marshes, swamps and lagoon of what was the western wastelands which for centuries had hindered direct overland communication between Lagos and Badagari without the annoyingly long detour via Otta and Ado Odo. The 26 mile project sponsored by the Lagos State Government was completed within a year (construction) and now represents the equivalent of an English A1 in Lagos State. The Ikorodu-Epe Road is similarly constructed despite physical obstacles. An indication worth further investigation here is that State Governments are more efficient at meeting local road requirements.

8.39 Such is the land used by horticultural trespassers for their illegal market garden at Yaba Roundabout.
Besides, the capital commitment and physical modification of land actually committed to railway use becomes effectively withdrawn from other uses, rendering the land relatively immobile for other uses. Railway property cuts more rigid barriers between identical uses for a contiguous tract of land than would be the case for roads, where the degree of permanency is more flexible. Even if the railways in Lagos gave up their committed lands at Ebute Metta and Iddo for other developments, the established capital equipments there would severely restrict the use of that tract for non-railway purposes.

4b - Water Transport: So much has been written on Apapa Port by previous works on Apapa Port that it suffices here to refer the exact extent of land area mapped as category 4b at Apapa, using the mapping criteria described earlier in this study. It is clearly distinguished from the industrial estate with which earlier writers have often grouped it and it is hoped that this may clarify certain confusions and possibly unintentioned duplication of errors in maps meant often in contemporary high quality text books, to illustrate land use patterns in Lagos and Ikeja divisions. It is interesting to note that space for the port area has become so restricted by the presence of other land users (industrial estate, road, rail, Nigerian Navy and residential requirement) that the so-called bull-nose has had to be extended farther and farther into the harbour, which is itself becoming very crowded for ships. On the opposite side lies 2a and 10c land use areas (the Creek islands) which in late 1972 have partly become a grave yard for dead ships (an unsafe derelict zone). The 2a part which until January 1971 was an unreclaimed mangrove swamp is currently being reclaimed by a wealthy local developer as a private golf course.

Enquiries from officials of the Nigerian Ports Authority whose enthusiastic assistance is hereby acknowledged, failed to reveal any plans for looking beyond the "bull-nose" for future development of this sea port which is obviously growing with the increased tempo of industrialization both in Lagos and the vast hinterland beyond Lagos region. The reported congestion and expensive "turn round" (in time lost) is likely to increase in the near future unless new development projects for the Port take account of the need for more "land" for the port.


For a case study in this section (4b land use) it was originally intended to present the other often neglected port of Lagos (as distinct from Apapa). The larger size of ships berthing in Lagos Port and the specialised installations (including the N.P.A. dry dock) at Apapa has led in recent years to Apapa becoming a better known port than Lagos. However, Lagos Island retains a long tradition at its western coast (Lagos Harbour) as a port. The Custom Wharf is the only large port installation there now; but a glance at any old map of Lagos (say 1900-1910) before Apapa Port was built, one finds an impressive arrangement of individual merchant piers all along the coast from Clowogbowo (close to the present site of Eko Bridge) to the Wharf exclusively preserved for the Governor's use. By 1972 many of these private piers for individual merchants have disappeared, although the equivalent of governors wharf remains. Many of the merchants have either left or transferred their business across to Apapa. Calzzer's for example has moved over to a new Apapa site on Porto-Novu Creek where other (though new) merchants now congregate. Despite the changes, Lagos harbour remains fairly active.

Big merchants may have gone across to Apapa; but the canoe, motorised canoe, or smaller vessels are seen from a pier opposite Yakubu-Gowon Street all along the coast as far as the crude pier used by Commuters to and from Ogogoro Settlement across the harbour. Sightseeing cruises operated on Dr. Maja's initiative in Amsterdam type boats leave from one of these piers. The boats are hired out at ₦160 per day. The Inland Waterways Board operates the only passenger ferry in Lagos at regular intervals to and from Apapa (See Fig.6).

The landward extent of Lagos harbour area is restricted by the alignment of the Marina. (See Map 10). Throughout the western length of Lagos island only at the Custom Wharf Area and the pier used by the Apapa Ferry is the land wide enough to set up small port installations. A substantial part of the middle part has recently been converted into Public Car Parks.

There is no prospect for developing forward into the harbour, say by reclamation as that would further restrict the width of available channel for both ports. (Apapa and Lagos). In all probability Lagos harbour (on Lagos Island) looks like losing all further chances of development into anything larger. The chances of a lagoon port developing is currently ruined by the style of both bridges which would not allow the progress of sea-going vessels beyond Iddo or Eko Bridge.

8.43 The best old map of Lagos the author stumbled across during the 1972 field work is a beautiful specimen perfectly preserved as a mural at the reception hall of Bristol Hotel, Martin Street, Lagos.
It appears from the land use situation that new comprehensive port and water borne transport development is required for the continued prosperity of Lagos as a modern seaport and for the overall benefit of the study area, which must for long thrive on advantages of the geographical position of Lagos.

4c - Air Transport: The airport at Ikeja is the largest in Nigeria and dates back to 14.10.1941 when the original 102.09 acre site was acquired by the government as "land for ground". In 1944 (23.6.1944) a further government land acquisition of 1705 acres was added to make up the present site. The extent of development of that 1807 acre site shows up clearly in Plate 2(iii) of this thesis; while Map 8 shows the area actually mapped under effective use for 4c purposes during the 1972 survey is represented with as much cartographic accuracy as possible.

In order to place the Ikeja airport sample in a proper perspective based on land-use planning principles, let us consider a few geographically pertinent facts about air transport.

Airport Location: According to Sealey, an authority on the geography of Air transport, there are groups of factors influence location of airport, viz. technical, physical and economic requirements of the site for the airport. The technical requirements, which include landing aids, favour a large, unobstructed and nearly flat piece of ground with good load-bearing properties, drainage, clear approaches and good meteorological conditions. Ikeja has the advantage of lying above the swamps of the study area (at 110ft above sea level) at a mini-plateau feature north of Lagos island and west of the lagoon. (see Map 4). It satisfied the load bearing requirement and was located 12 miles away from Lagos in 1944.

The physical requirements include ensuring that the airport is so placed that a minimum of traffic has to pass directly over the built-up city; thus avoiding possibilities of accidents occurring over densely populated areas. In this respect the urban growth of Lagos, as illustrated in Map 34 (Urban and Industrial growth of Lagos 1942-1972), has altered the balance considerably. The Airport is now well within the Urban Sector, flanked as it is by built-up

8.42 According to recent reports Apapa Wharf is to be extended to provide for 1,000 extra metres of berthing space. The extension included in the 2nd National development Plan will provide for four berths and four transit sheds. The Port Authority's standing tender board has, in Federal government gazette, called for application to tender; 10m cubic metres of sand and clay will bedredged and removed. An area of 400,000 square metres will be reclaimed. A control tower, other ancillary buildings and railways and crane tracks are to be constructed.

See WEST AFRICA, 19.3.73. p.388
space to its east, north and south (See Map 8). The following colour photographs taken by the author during various flights in 1972 over and approaching Ikeja airport illustrate the present situation. In C.P. 1 the aircraft is approaching Ikeja airport from a south-easterly direction and was over the crowded residential district of Shomolu within 4½ miles of the runway. In C.P. 4 the aircraft (On another flight) is over Agege Town within 2 miles of the runway. See notes attached to the photograph. In C.P. 5, the aircraft (in another flight) was over south-eastern part of Agege within one mile of the northern approach of the runway. The houses are almost all of the single storey type. In C.P. 7, the runway is within a mere 500 yards away. In C.P.6 the aircraft swoops over part of Ikeja Industrial Estate and the parallel running railway and Trunk road as it approaches touch down on the runway less than 100 yards away. For details see notes attached to the photograph. The new industrial landscape close to the eastern half of this airport is further revealed in C.P.8.

The built up districts developed to the eastern neighbourhood of the airport has been spreading farther eastwards into the thick natural vegetation which originally formed the uninhabited zones between residential districts and the "distant" airfield, as late as 1960. In a few more years the airport looks like having only the lagoon surface to the east and possibly the western thick forests as the only uninhabited parts within six miles of the runway. For the moment the natural landscape of the rural zones close to the airport (i.e. within 7 miles) are illustrated in C.P. 9, 11 and 12. These forests themselves constitute a minor hazard which has not featured yet in the low accident record of Ikeja airport. Low clouds and other tropical meteorological hazards are more important hazards here but even these are serious only at short seasons in the year.

It is against the physical background illustrated in the above paragraph that the whole plan of the controlled airspace surrounding the airport will be effected as traffic at the airport grows with the increasing importance of Lagos as an internation airport. On economic requirements of the site, development of Ikeja airport may be considered against the land values prevailing in the district in 1972. The site occupies at present what is virtually a low price zone sloping down westwards from price index 12 to 7 (See Maps 17 (a) and 17(b)) averaging price index 8 which puts the site at ₦16,000 per acre were it not developed. When everything has been considered (access to city centre, topography, established flight paths, expansion possibilities (western sector only) and cost of movement to alternative sites, it is reasonable to suggest that the airport is currently at a most economical site.
In considering how far the present airport rates has displayed or may be expected to produce special effect on the use of land in Lagos it is helpful to bear in mind the opinion of a leading geographer on air transport. On the location of airports Sealey\textsuperscript{44} once wrote:--

"Apart from the airport itself, a wider penumbra of land is affected by its presence. Restrictions on building, road and rail development, and noise, are some of the more obvious influences, quite apart from the general question of land-use in the district."

At a more specific level Ikeja airport land requirements will reflect the need to provide space for two basic elements in operational terms:--

(a) A runway or runways together with tracks linking the take-off and landing paths with service buildings.

(b) The provision for the control and loading of the machines, maintenance and custom facilities in the form of a group of service buildings which have to be built.

As noted earlier Ikeja Airport held a total of 4,307 acres by December, 1972, (i.e. the original 102 acres in 1941, plus the 1,705 acres in 1944, plus the 2,500 acres more acquired in 1972 by the Federal Government to extend the airport. The siting of a subsidiary airport (mainly in the form of landing facilities) at Odogbolu in Ijebu division of the Western State within 30 flight miles north-east of the main Ikeja airport, was being suggested in official circles, but it is not always realised that such proposals should be based on a proper assessment of fundamental patterns such as whether the suggested place would be in a different 'visibility region' from Ikeja, whether subsoil load-bearing requirements, costs of runway construction\textsuperscript{45} and better ground transit arrangements (e.g. the road network suggested in Map 30 or its equivalent would first be developed). It would be advisable in matter of air transport to concentrate resources on one well-equipped (well placed and extensive) airport, thus focussing activity to a single point - as more than one airport would be expensive in cash and land.

\textsuperscript{44} Sealey, K. R. (1962): The Geography of Air Transport, Published by Hutchinson U.L. Chapter 8, p.184.

\textsuperscript{45} Such cost was once estimated for world airports by Ramsden at the equivalent of 400 U.S. dollars per foot of runway based on 1955 costing. "Impact of the Heavy Jets", \textit{Flight}, May 1956 cited by Sealey in 1962.
At present all domestic and international operations are concentrated at the Ikeja airport. However ground facilities (e.g. technical landing aides in bad weather) are grossly inadequate. Connecting link with the City Centre is poor and painfully expensive. Room for future expansion is severely limited despite the advantages of air transport as a government monopoly currently enjoys and through which it would normally be guaranteed space through compulsory acquisition if only available space is not so limited nor already used in the form it now is. In any case it is obvious from the present growth rate of air traffic in Lagos and the need for Lagos airport to prepare for both its future role and technological developments in air transport. The jumbo jets and the supersonics are literally approaching Lagos; but Lagos does not seem to be expecting them. Space for further development is available even within the Study Area e.g. the Atlantic foreland east of Kuramo; but developments must be firmly based on a proper overall and co-ordinated land-use plan for the study area. It is hoped that the present study would serve as one of the preparatory groundwork.

We have seen in earlier discussions and analysis - in chapters 5 and 7 in Appendices 7, 27 and 39, and in Tables 9 to 15 inclusive - that government generally acquire or hold more land than they actually "use" for themselves. For example as indicated in Table 14 of the 286 transactions entered into by the National Government for the period 1906-1972 only 22.4% were actually used directly by the government and even when health and P. and T. are included the proportion does not exceed one third of the total government initiated land acquisitions in Lagos - equal in proportion to land of the same purchase used for category 4 purposes.

It should be noted that some government acquisitions originally registered under PURPOSE' as 'Government Use' disintegrate over time and may even be developed and sold to the public, such is the case with the purchase of 292 acres at Victoria island by the government on 17.6.1907, (from Five Cowrie Bridge to Bar beach).

6.46 If and when Lagos ceases to be the Federal Capital, as seems likely within the next twenty years, the pressure on Ikeja airport would be reduced. In this author's work elsewhere on relocating the Federal Capital at a 400 square mile territory centred at Abuja or involving the whole of Abuja emirate, it was pointed out that Kano and Lagos Airport would share international air traffic entering or leaving Nigeria, while sites were also suggested for two airfields - located to the south and north respectively towards the borders of the Capital territory. These latter airfields would handle much internal (Nigerian) traffic with provisions for helicopters, the airforce and limited international operations.
Within the Urban Sector of Lagos the three government land uses not included in other categories are: Administrative (such as government departments, offices, depots) and Public Purposes/Miscellaneous government uses such as Posts and telecommunications. Other related government 'occupied' space but logged under other more appropriate categories are the G.R.A. - Government Reserve or Residential Areas for Civil Servants, diplomatic Corps and top officials (included in Category 1a, c or e as appropriate); Service quarters for armed forces and Police (included under 6a, b, c, d or e); Education and Health (included among Institutional - Category 9a, b, c, d); Judiciary and Civil Peace such as Courts, Police Stations and related purposes (included among Category 6 and 9 as appropriate); while government purposes associated with Defence and Security are distributed among appropriate branches of land use Category 6.

The role of Lagos as an administrative Capital for National and local governments; as headquarters of foreign embassies accredited to Nigeria and on account of her recent past as a Colonial territory, combine with other local factors to produce a district predominantly occupied by government offices and activities associated with governments. Thus two "Central districts" have emerged in Lagos Island: the Commercial C.B.D. to the north-west and the Administrative C.B.D. to the south-east centred around the Race Course. Both districts stand out in Map 8 but in Map 10 the larger scale of mapping has allowed more detailed representation of both districts.

5a - Local Government: This refers to land used for Lagos State government purposes as distinct from the Federal Government purposes in 5b. This category of land is more widely dispersed within the entire urban sector of the Lagos Study Area than those of the Federal government. Table 15 and Appendix 39 make abundantly clear the present situation of Lagos State Government land holdings and use. Unlike 5b land use, most of the 5a land use areas were under various administrative organisations (Local Planning bodies, sections National Government/responsible for Lagos newly acquired private buildings and building set up only since the political inception of Lagos State in 1967.

Three disproportionate blocks amounting to over 22 acres in the Administrative C.B.D. of Lagos Island. The youthfulness of Lagos State Government is responsible for lack of a centralised office block yet. Many new buildings are going up all over Central Lagos to provide much needed office space for the I.S.G. The Oba's Palace was also mapped as 5a as it represents one aspect of Local Government here.
5b - Federal Government presence in the Capital City is felt most strongly at
the Administrative C.B.D. of Lagos located east of the Commercial C.B.D.
and centred at Tafawo Balewa Square which surrounds the Race Course.

Independence building presented here in Plate 37 represents the new
form of accommodating Federal Government offices and stands as a symbol of
government influence in the district.

Federal government offices and institutions occupy mostly the eastern
part of the Square. Thus within the block of land bounded to the east by
King George V Road; to the south by Awolowo Road; west by Tafawa Balewa
Square and north by Moloney Street (amounting to about 25 acres) is occupied
by the Houses of Parliament (House of Representatives and House of Senate).
It contains the headquarters of the Posts and Telegraphs, a few miscellaneous
government offices and a small Unit of 5c land use in the form of Ghana High
Commission premises. Federal Government occupies property (offices, flats
and emergency buildings) to the north-west of King George V Road and across
Moloney Street but helmed between Igbosere Road and Tafawa Balewa Square the
six acres of Federal Government land (excluding the King's College) contains,
among other important government offices, the Federal Surveys Office, Federal
Ministry of Works, Cabinet Office and the Federal Supreme Court with the
Law Library. The Land Registry Office and Lands Court (not Federal Lands
Office) shown in C.P.35 is contained here at the border with King's College
property. Other Federal government offices in the district not grouped else-
where are the Nigerian External Telecommunication (N.E.T.) at the corner be-
 tween Cable Street and the Marina. Further north-west of that after the
General Hospital grounds is the Old Secretariat shown in Colour Plate 39.
It represents the old administration and the relatively small space
requirement for National Government purposes in those days.

5c - There is no clear concentration of foreign embassies or substantial
lands belonging to foreign governments. At the scale of cartographic
representation in Map 8, a concentration covering less than 62 acres could not
be fully represented. The embassies are spread all over Central Lagos,

8.47 Such buildings have been used in the recent past to house the following
Federal Government Institutions until they were ready to move into their
permanent premises elsewhere. Queen's College (now at Onike, Yaba);
The Nigerian Law School and the Federal Science School now at their
Victoria Island permanent site are typical instances.
although the majority of them have residential accommodation for the head of Mission or Senior Staff at la residential districts such as Ikoyi and Victoria Island. Data accumulated in the field are available only as preserved on Appendix 3(a) forms for other analysis. The fact that land use area in Lagos was found to be large enough for representation on Map 8 does not invalidate the value of retaining this category. Its significance would vary according to local conditions and laws against land ownership. 49

6a - Army: The largest concentration of Nigeria's huge army estimated at 200,000 men is located within the Urban Sector of Lagos as expected in a Military regime and at the National Capital two years after a ravaging civil war. The sudden growth of the Nigerian army (reputed to have grown twenty times its size in 1965) has created accommodation and related space problems for the entire military organisation in Lagos. The barracks proved so inadequate during and shortly after the Civil War, that all sorts of buildings had to be 'commandeered' as clearly illustrated in our Colour Plate 21. Indeed the housing problems peculiar to military personnel in war and peace times has not, even now, been accorded any special attention. During the field work, in 1972 it was observed for every soldier in barrack accommodation three had to find rooms in Civilian poor class residential districts all over Lagos. Where large enough houses or former hotels have been commandeered for accommodating some officers and men, the houses or a whole block becomes "Zone Off" as "Military Zone - keep off". A few nasty incidents between civilians and the soldiers were frequently observed.

Studying any one Military district occupied by the army proved a fairly hazardous exercise in the 1972 atmosphere. The dust of Civil War had not settled and excessive sensitivity among the Military authorities (often junior cadre of the army who happen to be the only available interviewees during field surveys) did not help academic inquiry.

8.48. - The Units are: The Lagos State Governor's Office 1.4 acres. City Hall 5.6 acres. Lagos House and associated offices 15.2 "

However, a substantial space at Yakubu Gowon Street opposite the General Hospital occupied by Lagos State Sub-Treasury and Ministry of Health was mapped along with 3a as that area represents marked by the presence of U.F.M. bank and Western House a transition zone between the two parts of Lagos C.B.D., the Commercial/Business and the Administrative. Other Lagos State Government Land use (mainly for her Ministry of Education) are dotted amidst the commercial C.B.D. at the northwestern part of Yakubu Gowon St and the Marina.

8.49 A Lagos State decree in 1972 forbids the sale of land to non-Nigerians or their organisations as a matter of policy. Much earlier in the history of Lagos the British Government operated a policy of non-expropriation of native land to Europeans as emphasised in the rejection of Lord Ieverholmme's proposals to establish plantations in Nigeria.
In the end it became clear that it was inopportune to undertake any detailed study of this nature which might focus intensive light on land holdings, strategic locations and inaccessible documents. Besides, it is very difficult to pin down willing respondents as officers and men in keeping with military psychology would "never volunteer for anything". For example the right official at the Army headquarters at Victoria Island was never found and information sometimes had to be extricated unofficially.

One fact is clear from all information accumulated during the field work: the army is really very short of land for all purposes, but most of all for accommodating personnel at all levels. Having said that, only a minimum of detail would be presented here about the exact land holding and use under this category in Lagos Urban Sector. For example only well known and strategically uncomplicated locations are marked as 6a in Map 8. These are: the Dodan barracks area, a section of Victoria Island, Mabu Road district at Apapa, Igbobi and Saingdin Military Hospital/Barracks and the complex category 6 land use district at Oshodi. The most clearly marked on account of its uncomplicated nature is the Abalti barracks at Surulere in Map 19. Another is the 1951 acquisition made up of four parcels of land (about 17 acres on 27.10.51) for the Saingdin and Igbobi Military Hospital/Barracks "for H.M. Forces", as shown on Plates 15(a) and (b). Where they occurred, Training grounds, firing ranges and certain army installations had to be ignored or at least not represented on the map. However, the land holding for army purposes is probably the smallest per soldier in any comparable city (a national capital of a Military government, shortly after a civil war). It is significant that the authorities have neither applied nor contemplated applying the powers of Compulsory Acquisition normally available to the government of the day to solve any land shortage in this direction. A suggested reason is that land is such a sensitive commodity in Lagos that any careless move to take-over land compulsorily by the Army at a time when uneasy peace openly exists between civilian ex-politicians and Military Authorities could spark off a confrontation likely to plunge the nation into another chaos. To meet the land requirements of the Army therefore the authorities continue to rely on the open land market or accept what Federal Government land accumulated between 1906 and 1972 remains available. Even the war time system of commandeering has ceased. The Army pays for any space it wants if such land is available and no other potential user outbid for it.

6b - Navy: The same conditions apply to this category as for 5a - inadequate space, restricted access and poor information. There is a grave shortage in meeting their residential needs. Early in 1972 the accommodation
problems for personnel of the Nigerian Navy had become so serious that the authority actually made an effort to evade a rising among the junior officers whose families (wives and children) were suffering – staying with friends or relations all over Lagos. They found an old rubbish dump on the north-east edge of Agegúnle canal close to an older government acquisition for the Army barracks at Mala Road, Apapa. That vacant land was considered ideal to meet the purpose because (a) it is not far from Apapa where most of the Navy personnel go to work; (b) it adjoins an existing acquisition for the armed forces (the 18.81 acres for Military Barracks at Mala Road bought on 28.8.1956); (c) it is part of the Oluwa family land who has been a valuable landlord to the Federal Government in previous purchases, therefore no tenure problem was expected to arise. The deal was concluded without the usual delay in land matters of this type. Several Service blocks, based on the Army and Police barracks design were erected and over seventy families of the naval personnel were moved in. Development is continuing on that estate and more accommodation was being erected when this author last visited the place in 1973.

The Navy is still short of land for residential purposes but considering their present small strength (personnel and equipment) their office and Port requirements appear adequate for 1973. The non-strategic base at the north-west end of Lagos harbour close to Ijora and just over a mile west of Eko Bridge across the harbour, is the only Unit large enough to be represented at the operative scale in Map 8.50

66 – **Air Force**: Most of what has been said for the Army and the Navy are also applicable to this arm of the armed forces; except that it tends to use more land than is readily apparent. The usual security measures were encountered. Residential quarters for airforce personnel are yet to be built at a 6.125 acre tract of land acquired by the Federal Government for that and related Airforce purpose on 13.5.1971. The situation at the moment is that Airforce personnel reside in civilian districts at their own expense, i.e. they compete for accommodation in the rooming houses and flats or stay with families and friends, but a few of the high ranking officers are assigned accommodation in flats at the G.R.A. at Ikeja or Apapa, wherever they could be fixed up. Some were quartered in hotels while in Lagos. One gets the

8.50 Marine quarters at Apapa for Low Grade Staff in various marine services - Navy, the Customs Preventive Service, etc – was in a process of transformation to be demolished and more land made available for service blocks. That small enclave was mapped under 6d (general defence).
impression that until recently the Nigerian authorities failed to realise
that Airforce officers have similar "land requirements" as their Army
Naval or Police counterparts. They and their families need a home to live
in. It is expected that when the substantial piece of land (about 100 acres)
 provisionally zoned for them out of Lagos State acquired land on the Ikorodu
Epe Road finally materialises the Airforce would have a comprehensive base
close to Lagos.

Facilities and installations for operational purposes of the Air
Force are currently located within territory more conveniently mapped as 4c
and 6d, while the Airforce strip between Kirikiri and Olute on the old Ajegunle-
Oje Road is the largest field unit encountered in the 1972 survey and
represented on Map 6. It is a 155.07 acres and currently used for flying
training. Records show that it was acquired for this purpose on 15.9.1960.

The Air Force which is more mobile than the rest is smaller as far as
personnel is concerned in comparison to the rest of the armed forces and many
Airforce officers are young with fairly uncomplicated needs about housing.
As the Force grows and develops more sophisticated equipment and more space
will be required for operational and residential space.

6d - Police Force: This is probably the best organised land user among
all members within category 6; apparently because it is the oldest organised
unit and its operations in peace or war time is "more tied to the ground" than
the rest. It has long been a principle of the Police Force in Lagos to be
quartered in barracks, hence most of the government land acquired for purposes
of category 6 or its equivalent was (until 1966) for the Police Force. In
addition to barracks for housing the majority of their personnel, the Police
Force also require space in most districts, traffic areas, security points and
wherever else there is need to maintain law and order, for "Stations". In
Lagos these barracks, Police Stations, Police Posts (smaller and subsidiary to
Stations), vehicle depots, Traffic offices and Police courts constitute the
visible ways the Police Force uses land. Two large districts have become
fully identified with the Police Force in the way Akoka may be associated
with University education in Lagos. These areas are: Ikeja where, after
the Airport, the Police Force constitute the second oldest land user at Ikeja.51
(The hospital, C.R.A.; Industrial estate and the government offices came later).
The Ikeja southern Nigerian Police College which has continued to acquire more
land along Airport Road (for dog handling training and other new additional
Police sections) dominated land use here throughout the 1950s. Ikeja Police
College grounds now adjoin the northern and north-western flank of Ikeja C.R.A.
a class 1a land use type. Now the novel industrial estate and the Airport
tend to make more impact on Ikeja land use, but the Police Force still enjoys the benefits of early presence. Outside Obalende, Ikeja was found to be the largest single contiguous unit occupied or used by the Police Force in the Study Area. While new flats are being built there it is regretted that the old chalet type space wasting trainee accommodation units remain standing. Elsewhere in Urban Lagos land for Police uses are scattered more in the form one observes on Map 19; and, on the ground, their barracks are easily recognised by their old style London Council flat architecture.

The Obalende complex extends from the Women's Police quarters east of St. Gregory's Road and adjacent to St. Gregory's College grounds, across St. Gregory's Road and Macgregor canal to the Police Headquarters east of Moloney Street and Araromi Street. Obalende Barracks is the largest space of its kind used exclusively by the Police Force and strategically located close to the Administrative C.P.D. of Lagos. The site was established on reclaimed swamp land after Macgregor Canal had been built to drain the huge Okoko-Naiko and Obalende swamps (See Map 4 items 8 and 9). However, information on details of acquisition, etc. have become greatly obscured purely on account of poor recording at the Federal Land Registry, confusion arises as to what part of this barracks if any is referred to in either the 44.712 acres purchased on 7.5.1907, especially as the certificate of title said to be dated 3.1.1906 could not be produced. No other entry in the records produced to this author identified Obalende barracks, specifically or in any other name.

8.51 Ikeja has also served as a seat of government at various times in Nigerian Political history. Its earliest political significance was as headquarters of the Administrators of "The Colony" (on land acquired in February 1926 and extended by 8.8 acres in Sept. 1929) as distinct from government of the Protectorate of Nigeria. It continued to serve as the provincial headquarters of colony province despite various political changes in Nigeria. Between 1954 and 1967, the town played the part of a "Political buffer" between "Iagos-based" and "Ibadan-based" politics. By the time of this study (1972) it has become a well established administrative centre, playing the role of a divisional headquarters as well as providing office accommodation for a substantial section of Lagos State Government Civil Service. Several Ministries are located here - notably Works and Planning - in modern office blocks. The hospital at Ikeja is one of the best within the Lagos Study Area. The C.R.A. has become successfully established. More people are building houses at Ikeja, thus accelerating the cost of building plots. The isolated and tranquil atmosphere enjoyed by earlier land users such as The Police has been broken by the new intensive competition for building plots all around the district. The Ikeja Police College originated on a 76.37 acre site described simply as "3/4 mile south-east of Ikeja Railway Station.." and bought on 7.12.1945 "For Police Training School"—See Certificate of Title dated 23.9.46.
as government acquisition. The Police Headquarters, Moloney Street (west of Macgregor Canal and shown clearly in Map 10 and Plate 14) stands on the other section of the reclaimed swamp.

Obalende Barracks contains service quarters in the form of blocks averaging 3 storeys high, designed to house Policemen and their families rent free but often according to their ranks. The ordinary police constable or recruit gets a single room or shares a two room accommodation with another constable. Women policemen are housed in (somehow neater) flats similar to the conditions in Male barracks opposite; except that women police officers do not enjoy their male counterparts' privilege of having their families live with them in the barracks. The few two room bungalows are reserved for inspectors and higher officers.

A large exercise field or playground (also used by official helicopters) is provided within the premises for the daily exercise of officers, men and women constables (including N.C.O.s). The occupants are responsible for keeping the barracks and a senior Police Officer conducts weekly inspections to ensure that it is done once a week. Inspectors' quarters are also provided at the south-eastern part of the barracks. Unfortunately the housing shortage is now so serious that as much as 30% of Police Officers and men who should be in that barracks have to find accommodation elsewhere. This is regarded as time consuming and wasteful as shift duties and the need to be close to one's barracks make living in barracks necessary. Fairly Senior Police Officers (from the rank of Superintendents upwards) may be housed in more comfortable surroundings outside the barracks; but generally they never live very far away from their offices. On the same available space at Obalende, there is the Detectives' School which is a course for Police personnel coming from all over Nigeria to train there. Their accommodation conditions during training is worse than a camp situation. Apparently adequate arrangements are not often made to cover the attendants' accommodation who may have come a long way from, say, Maiduguri, or Eket and know nobody to stay with in Lagos.

The accommodation problem facing the Police Force is shared by almost every rank. Very high ranking officers arriving from posting or to take up posts at the headquarters may have to hang around with friends or cousins, or sleep rough for as many months as it takes to fix them up with suitable accommodation.

Obalende barracks illustrates one feature in the pattern of changes in land acquisitions involving neighbouring users. By staying put at one location long enough it is possible to buy out one's neighbours and spread one's wings eventually over the lands of former fellow competitors. Slowly
but diligently, the Police Force takes every opportunity to acquire
neighbouring land close to any of their property any time such neighbours
either feel like parting with it or could be successfully persuaded to do so.
In Map 10 we see the spread of 6d land use so far - the latest being the Ije
acquisition. A similar feature in changes of landownership and use over time,
was observed in the case of the West African Examination Council at Yaba
who successfully purchased the Chellaram estate at Yaba (See Colour Plates
23 and 24) as new additions to their land holdings close by. Shortly after
acquiring the house for #150,000 W.E.A.C. moved in some of their departments
from across the road. This form of expansion is an often ignored aspect in the
academic analysis of relocation of economic activity. As it happens the
Obalende Police Authorities cannot rely on such chances as they are located
in a district where few wish to sell their holdings yet. The general space
shortage plus the high prices of land indicate that the Police Force (who by
necessity prefer to operate within the Urban Sector) will have to fight more
to fulfil their evergrowing land requirements, particularly as everyone tends
to be subject in Lagos land matters to market forces rather than compulsory
acquisition.

6e - General Security and Defence: These were more difficult to map or
investigate to a satisfactory extent. The original idea behind creating such
a sub category is as a pigeon hole for filing away any observed uses of
land connected with defence or security provided such a land use feature is large
enough to be mapped at the 1:50,000 - our operative scale. Ideally it would
cover such features as walls, castles, mine fields, early warning systems,
radio stations and all features of strategic importance which must be controlled
by whosoever is in effect control of this capital region. Facilities for
Coast protection or flood control, fire services and all natural hazards are all
included here. For obvious reasons the category was not used very often.
Indeed only twelve entries in all were made. Of these the other could not
investigate more than four satisfactorily. As in Military, naval and Airforce
information, many questions had to be left out. However the usefulness of
this sub-category cannot be ignored. Wherever data is available for it, the
user would have less "unknowns" and so be able to manipulate data more
intelligibly. A major problem in accumulating, using and presenting data
derived on this category rests on the need to tread delicately without
reactivating over sensitive officials or become irresponsible enough to jeop-
dardise national security. For the Lagos Study Area, the importance of 6e
lies on the fact that we are dealing with a Political capital and expect to
account for every land-use feature peculiar both to its environment and the
government of the day and consequently likely to lead to a fuller understanding
of the peculiarity or significances or interpretation of the land use pattern.

With all the conditions fully considered it was possible to represent only one part where it forms a part of related land uses. It is the Federal government owned Transmitting/Radio Station at Oshodi, east of the railway line. Further investigation revealed in this case that the area is in fact the 186.2 acre acquisition by the national government of 1947 (title registered on 6.11.1947) purposely as a wireless station and training centre. With Nigerian Independence in 1960 and the increased sophistication administering a country the size of Nigeria more tracts were acquired by the government for various defence purposes with strong emphasis on efficient telecommunication and radio links to all essential nerves of the country and outside.

At the time of the 1972 study, development there was still less sophisticated than it could be. A substantial part of the area is now used for training and rehabilitating wounded soldiers from the last civil war. The land requirements of this sub-category of land use in Lagos has proved most difficult to assess; but it is safe to assume that any independent nation would provide herself with all the equipment it needs to protect the people and country (conventionally and otherwise.) In the process of doing so, certain interferences on the use of land invariably becomes involved. Facilities for combating flood, fire and other natural hazards are very poorly developed in Lagos.

Any complete land-use planning should take account of even this seemingly trivial feature which is capable, nevertheless, of upsetting the best plans in one stroke. Human activities, without guaranteed security (personal or corporate) is not considered worth the effect and the more industrialized a region becomes the more security becomes necessary and more complex to organise. Society is often ready to devote a good proportion of its land resources towards guaranteeing themselves some degree of safety from external and internal aggression, likely to upset their pattern of life adversely or impede progress in any way. It is in this respect that land for defence or security (strategically used land) is often priced above land for the production of food and goods, providing shelter, leisure or any other human routine pursuits. The study of land use therefore should not ignore this aspect, despite obvious difficulties in obtaining and managing field data.
7a - We have considered the inadequacies of recreational land use in Lagos. Organised recreation is just catching on among the people mainly on account of the regulated workday life industrialization brought. Prior to the advent of wage earning becoming available to a majority of the local people, few could think of relaxing when all their time was involved in scraping a living. Recreation at that stage took the form of going to church or the mosque or attending festivities and social merriments (the ever present "rites de passage" in the local form of Ikomo, Iyawo and Oku.)

Like any imported innovation, industrialization in Lagos has involved copying the western way of life which allows a worker reporting at specific times for work and allocating time for rest in the form of working weekdays, resting weekends and periodic holidays. In turn more people are able to enjoy leisure without worries. This has resulted directly into an interest in providing more space for more forms of recreation. In particular it has become necessary to develop facilities for more "selfish" recreation which involves individuals or small nuclei family units with or without a car to spend a day or weekend away from his normal environment of home and work places. Thus, for those who wish to get away to beaches, picnics, cruises and solitary leisure pursuits, new and safe 'spaces' have to be found within the study area. Hotels for holiday makers, swimming pools, ball game fields, tennis, polo, riding, boat clubs, fishing, golf, cricket and entertainment places such as boxing, wrestling, cinema, bingo and night clubs are among the flood of imported recreational forms for which space has to be made available to enthusiasts.

Prior to this form of impact on industrialization only the schools provided opportunity for some of these recreation forms but as part of physical education of the pupils. Thus only the educated members of the society were privileged to enjoy organised recreation. Even now only people who attended certain types of schools are able to appreciate or take part in certain forms of recreation, notably cricket where only those privileged enough to enjoy a public school type education (e.g. at King's College, Lagos) learn to play

8.52 Industrialization involves providing the worker with an assured wage (steady source of income). As in developed countries factory life involves routine. Among the life styles introduced into Modern Lagos directly from life styles of the innovation source (Britain) we have the five day week, with free weekends, paid annual holidays, 42 hour week, sick leave, trade union organisation with wage bargaining and organised public recreation with games and entertainments unconnected with social obligations such as was the case in the traditional festivities and social merriments.
and even enjoy this typically imported English game. At an earlier stage therefore the schools were unique in providing space for games and sport.

The recreation grounds recorded within Lagos Urban Sector during the 1972 fieldwork are presented in Appendix 19. They cover a wide range of activities. Of the nine types listed, numbers 7 and 8 are private; but are also in effect the better organised (in terms of developed facilities for the individual member).

In Table 25 detailed attention is concentrated on Lagos island - the oldest developed part of Lagos Urban Sector. The exact land areas involved in original and present active recreational space in Lagos island are presented for analytic and comparative purposes. The active open spaces listed are those actually in use during the 1972 field work. They are all mapped as 7a (public recreation grounds) and are shown in Map 10. It is obvious that for Lagos Island recreational space for public purposes has actually diminished by 12.09 acres.

The oldest concentration of public recreational land use is at the Race Course and Onikan districts of south-eastern Lagos Island, see C.P. 41. It is purely of colonial origin and was originally meant for European residents whose home and office were located close by. Later the new local civil servants have taken over. This local concentration of recreational land use represents our field sample for category 7a. The 39.6 acre Race course is used as a public play ground, sports field for local schools, rallying ground for national events e.g. Independence celebration on the 1st October and occasionally as a race track. There is provision for Tennis, cricket, football and athletic events. The Torch of National Unity burns perpetually here. Civil servants, Parliamentarians and tourists may indulge in carefree afternoon or lunch time strolls here. In recent years the emergence of the 57 acre National Stadium at Surulere and Mobolaji Johnson Recreation Ground at Yaba has tended to draw many recreational activities (athletics, sport and large scale public entertainments) away from this area. This has not however, reduced absolute numbers of people using the Lagos island facilities.

Adjoining the Race Course one finds the beautiful King George V Park and Stadium. Here are the swimming pool which for many decades remained the only training facility in swimming for Lagos schools and colleges and the Love Garden which for as many decades provided local youths and tourists with much treasured pleasant solitude within one of the most beautiful spots in all Lagos. The Love Garden, designed in the form of an English Country house garden, has one of the very few neat lawns in Lagos, is decorated with tropical flowers and exotic palms, and has garden benches providing a restful
environment. In general very few people use it partly because relatively few people (too busy in search of jobs or shut away in crowded poor residential districts) know of its existence or that it is open to everyone, and partly because a tradition of solitary recreation, away from the din and crowd to which many local people are accustomed, has not yet caught on in the Lagos Urban Sector. For the moment most people irrespective of educational background prefer "action centres" to this sort of environment.

In the same 'block of land' behind the Marina and the 12.26 acre King George V Park, we have the 6.20 acre Lagos City Stadium which attracts proportionally more people attending exciting football matches. The stadium adjoins the Island Club, which is of a more socio-political significance and caters strictly for members (usually rich social elites). The presence of this club and Randle Hall resulted in mapping the 'block' as 7a, b.

The present trend indicates a movement of recreational land-use away from Lagos Island to the mainland where more people live and relatively less expensive as well as larger land units are available. They are closer to the new recreation conscious population to whose tastes activities in those mainland recreation grounds are designed. Thus the National Stadium at Surulere (see Map 19) on Western Avenue and adjacent to the New Lagos rehousing scheme is a popular sports ground - international soccer, athletics and active entertainments e.g. traditional dance competitions.

In view of the increasing population of wage earners for whom industrial way of life has meant more leisure opportunities and the new attitude to organised recreation (from traditional ceremonies to imported individual styles of recreation and leisure), the present amount of land committed to 7a use is inadequate. The Lagos State Government proposal to establish a holiday resort at Oworonshoki, the N.P.A.'s plans to develop Victoria Beach into a better organised public recreation ground and several private attempts (e.g. Dr. Maja's proposed Golf course on the Porto-Novo Creek island opposite Apapa Port he is currently reclaiming from Mangrove swamp) are all commendable efforts to cash in on the expected boom in recreational activity attendant upon progress in the industrialization of Lagos. This form of land use (for recreational or leisure needs of man) can no longer be ignored in the development of Lagos as an industrial region.

8.53 To poets, painters, lovers and admirers of nature's splendour, this author highly recommends the south-eastern end of the Marina overlooking Lagos harbour from the tree-lined, palm fringed Lagos Marina and across the airy water front to the harbour entrance. This view at any time with the cooling breeze and scenic landscape more than compensate for all the disorder, nuisance and chaotic conditions one experiences in the rest of Lagos northwards.
7b - Private Recreational Land Use:

This form of recreational land use preceded public organised recreational space in Lagos. It may be dated back to the exclusive European Clubs and Parks of the colonial period. The King George V Park and recreation grounds which are now classed as 7a was in fact an exclusive recreation ground for Europeans which later included favoured civil servants (Africans included). Private recreational activities were organised in exclusive clubs (often Europeans only) such as Island Club, Ikoyi Club, Apapa Club which in turn incited the natives into setting up the Yoruba Tennis Club and subsequent tribal organisations. Although such unofficial apartheid in recreation may be considered gone with the advent of Nigerian Independence, surprisingly several private clubs organised exclusively for ethnic, socio-economic or political groups are still to be found. The Apapa boat club, the Yoruba Tennis Club and Island Club are among such space using groups under Category 7b.

One highly commendable private pioneer recreation ground which deserves special mention in this study is the U.A.C. Sports Ground at Surulere (q.v. Map 19) opposite the National Stadium and now occupying a corner location between Western Avenue and Ogulana Drive. Employees of U.A.C. (without discrimination) trained here and local boys at school received valuable encouragement by way of training facilities. Compared with the sportsground of the author's childhood memories, this pioneer form of land use in what was virtually a jungle in the 1950s has become surrounded by urban development as is clearly shown in Map 19. An unconfirmed information from an L.E.D.B. source state that the idea of locating the National Stadium where it is was originally inspired by the success attributed to the private U.A.C. Sports ground.

In more recent years, following the opening up of Surulere middle income residential districts, another successful commercial firms has emulated the U.A.C. example. Thus, Shell Club became established close to the Eric Moor dual carriageway linking the district with Iganmu Industrial estate. It is organised slightly differently from the U.A.C. Sportsground in that Shell Club is more a social meeting ground for Shell employees and merely provides games and sport facilities as sidelines for interested employees.

6.54 The author gratefully pays tribute to the excellent training training facilities made available to him here by the caretakers in the 1950s when, as a youth, his sporting interests in long distance races and triple jump received encouraging practice in what was virtually the best equipped and quiet sports ground in Lagos at that time. The additional privilege of retaining an exclusive quiet study room in those days away from the usual noisy uncomfortable environment is also gratefully remembered.
Other private recreation grounds featuring in category 7b are as listed in Appendix 19 items 7 and 8. In the field those associated with educational establishments or other main land use categories were included as part of the main use to which they relate, for quite often they are too small to be represented separately at our school of mapping in Maps 8 or 10. Thus the important or substantial Obalende Police Barracks Playing Fields, University Sports ground at Akoka and Ifako College Sports grounds along Iju Road at Agege have 'disappeared' among the main categories (6d and 9b) to which they relate. The amount of space under 7b is still inadequate, especially as there is not yet enough 7a facilities to satisfy part of the demand. There is every evidence that substantial increase in 7a land use can be expected, but comparative response in 7b is threatened by the high cost of land which may even force some organisations to sell their holdings for other more competitive developments. Again only a proper comprehensive land use plan can ensure a balance.

8a - The water supply situation in Lagos has already been commented upon earlier in this thesis. The fact of inadequacy is established beyond all reasonable doubt and the consequences of the present situation in all the Public Utilities of Lagos upon the industrial development prospects have already been outlined.

In the present section concerned essentially with case studies of each class of public utilities we examine the water supply situation of Urban Lagos based upon field information collected in 1972/73. The information formed the bases of Map 27 and the data provided in Tables 26 and 27.

The area covered by the Lagos Water Supply Service as shown in Map 27 corresponds with the Urban Sector of Lagos excluding Ikorodu division. In the latter only the divisional headquarters (with its immediate environs) is served with pipe borne water, and that by a separate body using a borehole system. The L.W.S.S. area is divided into 17 distribution districts, each posing a peculiar supply problem, among which are included the contrasting problems of low demand in say district 16 and 8; and, excessive demand in district 3.

The single source of supply based at a 1910 site at Iju and which constitutes the largest category 8a form of land use in the study area, has recently (1973) become supplemented by a new source for the Amuwo-Odofin proposed New Town district. It is hoped that this would greatly ease the load from Shaga Reservoir and provide better system to the western part of the Urban Sector (e... Surulere outside New Lagos).

The present imperfection in the water supply situation for the entire Lagos Urban Sector arises from historical circumstances whereby the supply
plan provided for taking water from a source 18 miles and more in a
northerly location and leading that water by means of an underground pipe
through what was at the time "empty" territory without demand prospects to
the urban area as at 1910 (Lagos island). Later the supply was extended to
Ikoiyi and Apapa and provision was made "to tap" supplies for Iddo, Ebute Metta
and Yaba. It was later in 1929, for instance, that supply district 13
(Agege) was considered for the supply of pipe borne water, although it was
only a stone throw from the source. The supply took the form of selling the
water from a single station at one penny per ten buckets.\(^55\)

Distribution channels are closely associated with category 4a land
use, the pipes running beneath or parallel with trunk roads, streets or rail-
way tracks.

Table 26 sets out the water supply situation for Lagos from 1860 and
projects demand to 1985. By the time Governor Lugard inaugurated the water
supply at Iduama, Lagos island in 1915 Iju water works had a capacity for
producing 2.5 million gallons per day for an estimated daily demand of 650,000
g.p.d. to a population of 115,000 within an area of 18 square miles. In
1964 shortly after Nigerian Independence production capacity had grown to
24 million gallons per day with an excess demand over supply at 30 million
g.p.d. for a population of 670,000, concentrated within an area of 27.26 sq.
miles. By 1972 when this study was conducted, production capacity was said
to have reached 30 million g.p.d., but the daily demand was running at
54 million g.p.d. for a population of 1.5 million within a budding Metropolis
of 70 sq. miles — and, one might add, over 6,000 industrial establishments
using water for industrial or non-domestic purposes. Until the water supply
authorities revise their unrealistic method of estimating water supply,
shortages are likely to exceed estimates for the rest of this century.

Estimates should include (as is now the case with the electrical power supply)
such non-domestic consumers as industries and should further allow for such
related public utilities as fire services and a sewerage system. An example

\(^8.56\) The current practise of estimating water demand for Lagos by the
authorities is, in the opinion of this author, most misleading and
unrealistic. They base their estimates only on population trends and
could not provide any established or researched demand ratios to justify
their ignoring such factors as the increasing number of industries and
their attendant water requirements. The author estimates that if one standard paper mill alone were introduced into Lagos now, half again
as much daily demand estimate would result without bearing as much
expected relationship to the demographic trend.
of some empirically derived basic calculation is included lower down in Table 26. Other allowances such as irrigation could be made where appropriate.

That the government has shown much concern for the unsatisfactory situation of water supply in Lagos, is confirmed in the impressive table of financial allocations to eleven major projects associated with their Lagos Water Supply Crash Programme launched for 1972/73 and involving a total outlay of 1,406,000. However, the present author views the success of the programme with great reservation considering that such basis of government estimates as were made available during this study contain evidence of under-estimates and misplaced emphasis on the water supply situation - supply problems, consumer types and essential developments involving interrelated public utilities e.g. the recently proposed sewage system for Lagos mainland.

Water supply in the crowded residential districts of Surulere, Mushin, Shomolu and Ajegunle are still in most appalling states. Modern expensive houses erected in places like Lawanson (Surulere) complete with baths, water system toilets, wash basins, etc. are often without water for months or get flooded when the taps run. Shallow wells in those areas are the most reliable source of water supply. The health hazards involved are real and Cholera for example strikes often. Many modern aids such as washing machines cannot be used in most districts.

The water supply organisation will remain poor and unsatisfactory until a more radical approach which would allow for even supply to all the demand districts to begin with and later to be integrated with a rural water supply programme developing and using present untapped sources at Ikorodu and western Ikeja divisions. Such a radical approach would save the budding Lagos Metropolis from the ironic situation, even with its known underground water possibilities and lagoon location, of being "a marine state" without enough to drink!

8b - Electricity: For a region lacking in any power source (no coal, water fall, oil or gas within the Study Area yet) industrialization clearly depends a great deal on a reliable supply of electricity as a power source - to drive machinery and harness all the wonders of modern technology. We had noted earlier in this thesis that Lagos played a leading role as cultural hearth of industrialization in Nigeria generally. It can be further stated that the pattern of developing the power requirements of industry in Nigeria follows closely on the Lagos experience; for the majority of power consuming industries are located within the industrial estates of Lagos. Therefore
when difficulties were encountered in the field in attempts to obtain comparative data on trends in electricity demand, production, sales, distribution problems and effects on land use and when separate data on Lagos was not available for the years before 1969, figures for Nigeria as a whole for earlier periods had to be used. The information presented here in Tables 8a, b and c on electricity consumption, production and sales relate to the whole of Nigeria but the trends they display from 1951 to 1972 are generally assumed to roughly approximate the situation at Lagos as the largest single concentration of electric power. In the very early days of industrialization very little power was required mainly for residential and commercial uses. By 1966, the first year industrial and commercial consumption were recorded separately, the number of consumers have increased enormously over 1952 figures to the effect that for every one consumer in 1952 there were now 5½ consumers in 1966. By 1972, the number of consumers per year in the ten years 1952-72 had increased by over 800% in Lagos. In sales it could be said that for every Kwh sold in 1953, eleven Kwh was sold in 1966 and 19 Kwh was sold in 1972.

The frequent power cuts experienced in Lagos is a clear indication of the inadequate supply of electricity in the area; while the author's interview with N.E.P.A. officials recently established that the expansion needs, which is generally felt, is frustrated by two main problems. First, "the lack of materials such as cables, transformers, special vehicles such as cranes and compressors create delay". Secondly, "short notices for electricity supply by prospective consumers with the result that materials meant for other jobs are on some occasions diverted to other jobs which are more urgent". Despite these setbacks 486.7m Kwh of electricity was sold in Lagos to various consumers as shown in Table 29a.

The exact land surface required for 8b uses is difficult to measure; but as a Corporation N.E.P.A. has acquired and is empowered to acquire land for its business - power stations, transmission lines (the wayleave system of which has been described earlier - see C.P.16) and offices. The hundreds of small transformer stations dotted all over the supply area take the form of the small almost inconspicuous unit shown in C.P.34 (see caption and description).

An attempt to relate some form of available comparative data to the Lagos situation on 8b land use was based on power supply in the City of Leicester where data was comparatively easy to collect. Details are presented in Appendix 42 Section D. While the exercise provided most valuable background
knowledge for understanding the various problems involved in relating power supply to surface land unit, differences in organisation of power supply in both environment and the poor data availability for Lagos make the comparison most difficult. It is noted that reorganisation in the Lagos side promises to improve the Lagos disadvantages. It is safe to assume that more land is currently being committed to 8b land use as direct results of three operations under N.E.P.A.: (a) Reorganisation of the old site at Ijorah Power Station both to adjust to land use changes associated with the Eko Bridge works and extension; (b) erection of more pylons and transmission cables covering new fields or power farms; (c) technical improvement of existing installation (33 kva) by installing bigger transformers in 9 districts of the Lagos Urban Sector. Power generation in the study area occurs only at the Ijorah power house (visible in C.P. 36) and was conveniently located there earlier in the development of Lagos, electricity having been introduced into Lagos in 1913 in connection with the railway, domestic uses at Iddo and Lagos islands and limited street lighting. The Ijorah Power station was, until the construction of the Eko Bridge and its extensions, a substantial land holder at Iddo and Ijorah districts. It had a port for coal from Enugu via Port Harcourt and when coal became a less significant raw material for power generation here, these have been converted to handle oil carrying ships. Water from the lagoon serves for cooling purposes. The market was close by but in the outskirts but it is now right in the middle of the city. Space is becoming crammed; but no relocation proposals is contemplated, especially as more effort is concentrated on bringing in power fed into the national grid from production sources outside the Lagos urban sector.

Much of the space still held by N.E.P.A. at Ijorah is used for storing such raw materials as Oil and coal, offices for N.E.P.A.'s Lagos Region, and, a few acres totally cluttered up by complex arrangement of transformers, pylons and cables into what this author refers to as "utility farms". The N.E.P.A.'s office space e.g., their ultra-modern headquarters at Marina (see C.P. 31) and the various N.E.P.A. cash offices have been mapped along with the dominant land use category in the mapping unit. N.E.P.A. headquarters was mapped as 3a while most of the cash offices in residential districts were mapped along with the residential class. In new development districts of the Urban Sector more allowance has been made for 8b land use as indicated in Map 24.

3c - Sewage and Refuse Disposal

As noted earlier, facilities for this form of essential land use are appallingly poor except at the IA residential districts and sometimes at the
twin C.B.D. of Lagos. Refuse remains one of the significant items often left in the wrong places. Solid rubbish (household unwanted goods, paper, discarded food and clothes) litter the streets or are heaped up on roadsides, and liquid effluents (from kitchens, thrown over windows in low grade residential districts and poured out from factories) flow in open drains (gutters) or left standing in pool form or street pot holes. Only five incinerators were seen throughout the urban sector of Lagos and these were located at random, are rarely used and were in overflowing conditions. The carelessness of the Health Authorities and falling sanitary standards possibly related to the flood (or rural people directly into urban Lagos have led to Lagos becoming a really unpleasant city, particularly in poor residential districts. Moreover the shocking method of disposing of human refuse by the I.C.C. and the continued existence of the "pale system" involving head porterage of night soil is degrading, insanitary and obnoxious. Local streams, the lagoon, soil and atmosphere are highly polluted because of the poorly organised sewage system and refuse disposal.

With the exception of Victoria Island the rest of Lagos has no underground drains. Where surface drainage is allowed for as part of the plan for housing developments - e.g. at Surulere (see Map 19) the open channels (such as the 1,322 acres acquired at Surulere in 1957 for the anti-Malaria drain) shown in Map 19 west side follow as much as possible the natural course of existing streams as a means of reducing costs. The gutters are probably the best known local drainage system in the older or poorer districts of Lagos. Plans exist for building Sewerage treatment plants at various parts of the Urban Sector and more revolutionary plans by the Lagos State Government are said to be on the drawing board; but the current situation is so hopeless that nothing seems credible until the plan is implemented. Meanwhile the rubbish heaps, the overflowing open drains and the littered streets remain as unsightly reminders of premature urbanization.

An excellent example of good sewage development has been set by the planning authorities at Victoria island. The high cost of such development and the apparent estimation of priorities among officials in the local planning authority diminish the chances of embarking on expensive projects of sewage development in poorer residential districts but unless a comprehensive development in lines similar to the Victoria island type, land use planning for Urban Lagos will remain imperfect.

8d - Fuel - Hydro-Carbons and Firewood:

This sub-category covers all the petrol dumping grounds, charcoal and firewood depots and the several petrol stations which are springing up
all over Lagos urban sector. The petrol stations were often so closely associated with 4a land use that they were often included in that category. The petrol stations are 'small parcel' land users but they appear to be ubiquitous. The average area occupied by twenty of the petrol stations sampled from Agege to Ikoyi was 6,500 square feet, many being as small as half a standard building plot. At these stations (not garages in the usual sense) motorists may buy petrol and petrol products, paraffin and in some of them bottled gas. None of these stations occupied large enough area for representation at the school of map for Maps 6, 10 or 19.

Wood fuel (for cooking) are found mainly on sale in the lower middle poor grade slums and shanty residential districts, close to the beaches and some markets (e.g. Ojuelegba and Iddo markets). Charcoal is brought to Lagos island, Obalende and Ebute Metta by water. Only at the west bank of Ajegunle canal was the concentration of firewood high enough (in terms of land occupied) to be mapped. Most of the wood is brought there by water (in canoes) but quite a substantial proportion get there by Mammy wagons (the kia kia buses). There is a vast market for firewood in all the poor grade residential districts such as Ajegunle, Mushin and Shonoluyi.

The largest concentration of 5d land use category is at Apapa where the huge oil companies have established their depots. It is based on a government land acquired on 17.12.1928 for oil wharves at Apapa and includes the former site of Balogun village. It was considered a safe site from built-up area in case of fire hazards. Today intensive developments in roads and reclamation of surrounding swamps has brought the built-up area within feet of the oil dumps.

Institutional Land Use

9a - Health: Hospitals, asylums, health centres, maternity homes, quarantine centres and associated space users are grouped under this category. We noted earlier that in most cases the land occupied by this category was obtained through government acquisition. The decision to group them into a separate category from government land use (category 5a, b or c) is based on the recognition of hospitals as public institutions often autonomous though dependent, as non-profit making organisations, on government aid. Not even hospitals attached to the Military or State Government was exempted from this group.

Health amenities rank very high in any modern West African Society. The high concentration of these amenities in Lagos was for the rural immigrant as much a luring factor as the work opportunity or hope offered there. Three
classes of hospitals exist in Lagos: government (general public), Military, firm/Corporation hospital e.g. Pilot or Railway Hospital at Oke Ira, specialist hospitals, such as the orthopaedic at Igbobi, private and University teaching hospital. One of the oldest hospitals run by the government for the general public is presented as the field sample for this section. 

Lagos General Hospital: The Hospital is most centrally located at the south eastern end of Yakubu Gowon Street on a three acre ground adjacent to the Old Secretariat. It is clearly shown in Map 10 wedged between the Marina overlooking the harbour and Yakubu Gowon Street.

Although one of the usually criticised hospitals (mostly about poor serve to patients) the Lagos General Hospital is one of the best equipped in the study area outside Lagos University Hospital. Part of it serves as a Nurses Training School, while the Lagos School of Dentistry is also attached to it. The Public Mortuary is located by the Main Street. As an old hospital, condition of the buildings and the grounds situated on one of the most expensive sites in Lagos, are not as attractive as one may find in the newer hospitals.

On the mainland, a large medical research complex at Yaba, which now contains the Mental Assylum, M.H.O. offices, a hospital, research institute and medical staff quarters.

9b - Education: Schools of all grades and the University come under this category irrespective of whether they are run by private, missionary or government organisations.

In Chapter 7 under Category 9 land use for the rural sector the nature of educational land use and the changes they experience consequent upon the growth of Lagos. The land requirements of educational establishments usually include provision for playing fields, residential accommodation for teaching staff and boarding students or pupils, administrative offices, library and laboratory accommodation. One of the very few schools holding large land area in very expensive central district and still remaining in the same location is the King's College at Tefawa Balewa Square. Its financial endowment under the Federal Government, is such that rather than moving, an additional 1,529 acres was further purchased on 13.7.1972 at Onikan by the Federal Military Government for the School's expansion. Residential districts especially in the case of housing schemes (e.g. Surulere) have local primary and secondary schools dotted about. See Map 19 for location of local schools at colleges in Surulere.
The largest single land user in this category is the University of Lagos, which represents the sample in this case study. The University of Lagos is said to control about 1,000 acres. Map 8 shows clearly the location of both campuses at Akoka Main campus and at Idi-Araba for the Medical School. The acquisition and development of Lagos University lands provide good example of how the compulsory purchase order works in practice and how land requirements can be planned in advance to avoid stress in future development. Provision was made for adequate water supply and waste disposal. Although having only an estimated 510 acres of "good building land", there is much room for expansion. One observes in this case a properly thought-out scheme, bearing in mind the particular land user's needs.

Within the campus several associated land users are catered for, viz. residential accommodation for staff; administrative offices, laboratories, libraries and internal transportation or circulation (roads, etc.) The building programme followed closely on the principle of least effort: first the least problematic land was developed - the earliest buildings (Senate House, Students Hostel, Staff quarters, Library, Sportsgrounds, Canteen, Administrative buildings - some at very temporary sites - and service roads were established on dry land which did not need extensive or expensive reclamation projects. The first expansion into more difficult areas requiring reclamation - as at the Akoka Road adjacent to St. Finbars and laying of foundations for more comprehensive building projects - started only in 1972 (ten years after the site was purchased.)

There is ample land for expansion. The evicted occupants (before the compulsory acquisition) have left. The last of the most reluctant land holders (a pioneer textile industrialist) left only in 1973. The site occupies one of the few most beautiful spots (aesthetically) on the west coast of Lagos Lagoon. Set in a quiet atmosphere and well endowed with public funds, the University's land requirement for future development is assured.

8.58 The Federal Lands Registry records show only the following entries:

<table>
<thead>
<tr>
<th>Entry</th>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.3.56</td>
<td>General Hospital at Idi Araba</td>
<td>96.29</td>
</tr>
<tr>
<td>10.6.61</td>
<td>Advanced Teacher Training College, Yaba</td>
<td>56.53</td>
</tr>
<tr>
<td>29.3.62</td>
<td>University of Lagos, Yaba East.</td>
<td>770.5</td>
</tr>
<tr>
<td>4.10.62</td>
<td>Adv. T.T.C., Yaba</td>
<td>56.10</td>
</tr>
<tr>
<td>10.1.63</td>
<td>Univ. of Lagos, Idi-Araba</td>
<td>25.21</td>
</tr>
<tr>
<td>4.6.64</td>
<td>Lagos Univ. Teaching Hospital, Idi Araba</td>
<td>12.67</td>
</tr>
</tbody>
</table>

These amount to 1,019.3 acres at both campuses. Further investigation through interviews with the Physical Planning Assistant to the V.C. still failed to explain the missing acres in documentary form. A robbery at that planning office in 1972 disorganised and ruined some of the documents and caused indefinite postponement. The yet unexplained confusion in figures concerns accounting for 1,000 acres at Akoka and 200 acres at Idi-Araba.
9c - Prisons and Detention Centres:

This category includes Borstal Schools and all classes of prisons. It was considered more appropriate to treat these under Institutional Land use rather than Category 6 (Security/Defence) as it relates more to places of temporary occupation (for training, corrections, worship or recuperation) of citizens who voluntarily or otherwise need to be isolated from the rest, to be returned to society later.

The largest single unit of this form of land use is represented by the Kirikiri Maximum Security prison far west of Apapa on the north coast Porto-Novo Creek. It takes up a substantial part of the 576.5 acres of land acquired by the Federal Government in 1955 at Ijere-Mosabo area of Badagri division. For youths, a borstal school was established at Isheri-Oke on 20 acres acquired in 1944 for that purpose.

The land requirements of a prison are conditioned by the security measures required. The isolation of inmates from society often involves physical distance or barrier against escape. The isolated society has to live, work, eat and possibly learn useful skills. To provide for all these and to maintain law and order ample space is required for cells, exercise grounds, service quarters, exercise grounds and workshops have to be provided as associated land users within the area. Prisons within the central area (e.g. Lagos island and Ikoyi Prison) are small and in some cases plans exist to move prisons farther out of built-up central areas where space cost is rising dramatically.

This is one category where land shortage has not yet touched the district. The State Government are currently allocating much of recently acquired land not for prisons but for building more Approved Schools where shortage is said to exist.

9d - Religious Space:

This category includes all land occupied, held or allocated to churches, Mosques, praying grounds and traditional holy groves catering for all shades of religious belief in the society. They are scattered throughout the Urban Sector, ranging from richly furnished cathedrals and Mosques to

8.59 The Medical Research Centre west of Herbert Macaulay Road and Yaba Polytechnic to the east of that road, gives an exaggerated impression of the true extent of the University lands. It just so happens that one institutional land use in this case seems to flow into the other.

8.60 A glance at the Obituary Column of The Nigerian Daily Times leaves one in no doubt of the local significance of deceased members of the society.
humble praying huts and shrines to local gods. Owing to the scattered
distribution and the multiplicity of faiths none of the several churches,
mosques or 'grounds' was large enough to be represented on the 1:50,000
map (Map 8) but in Map 10, two of the cathedrals (Anglican at the Marina
and Roman Catholic at Catholic Mission Street) were just big enough to be
represented. The central Mosque at Nnamdi Azikiwe Street did not hold
enough space.

C.P.37 shows the local setting and elegant architecture of the
Roman Catholic Cathedral. Like the central Mosque and the other two
cathedrals (Bethel and Church of Christ) the Catholic cathedral occupies a
central position from which mere economic forces have so far failed to move
it to larger or less expensive space. The Cathedral Church of Christ belongs
to the Anglican Church Mission who treasure their long historic association
with Lagos and the present site; but their Arch Bishop's residence next door
is on leased property. The Church officials complain of the high cost of
hanging on to the leased property and the fact that they cannot afford to
acquire or compete in the open market for that desirable adjacent site. They
have a 21 acre site at Iwaya to which we referred earlier in chapter 5 but it is
in the wrong location. Even then they are determined to hang on to their
Marina site for reasons of prestige and convenience.

10a - Cemeteries: This represents a new imported form of land use into Lagos
under Governor Glover's influence rather than religion's influence. It ranks
close to the modern factory idea introduced into Lagos. Prior to Glover's
initiative and influence people were normally buried in their houses, except
in the case of criminals or those who "died a bad death" and had to be buried
"in the bush". Ikoyi Cemetery has become the most extensive space user of
its kind in Lagos. The Cemetery at Ebute Metta has suffered a slight
alteration for planning purposes. Atan cemetery at Yaba which was considered
a poor man's burial ground has recently become popular for all classes. Space
in all existing cemeteries is getting very crowded but owing to local
prejudice alternatives such as cremations have not received serious consideration.
It would soon be necessary to force a reconsideration upon the people as the
present overall space requirement of 72 cubic feet per death is clearly less
economical than cremations and gardens of rest would involve. However, here
is one form of land use which cannot be explained in economic terms; it must
await the dictates of social and cultural attitudes. Religious beliefs also
influence the situation. For instance the provision of different cemeteries
for Christians and Moslems in Lagos cause duplications which, considered along

6.61 See C.P. 11 and C.P. 12 with notes. Surprisingly, drainage as a form of
reclaiming the marshes is not favoured by local developers as they short-
sightedly insist on raising measurable land surface for quick cash.
Drainage, they wrongly claim, reduces amount of land they would measure
out for sale in plots.
with local inclinations for ancestor worship and social attitudes to the
dead, involve more pressure on scarce land.

Pressure on cemetery space is kept down at the moment by the
practice among many immigrant communities to take their dead "home for
burial". The situation would become unbearable if as a result of Lagos
being the national Capital it became fashionable to die or be buried in Lagos!
As already noted in Chapter 7, with reference to Washington D.C., it is
necessary for the authorities to plan land use in Lagos more seriously, than
is now the case, with this imminent development in mind. The social,
religious and political importance of cemeteries can often outweigh mere
economic forces in land use competition.

10b - Derelict Land: Within the Urban Sector of Lagos these are few because
of the current wave of modern urban growth but where slum clearance land has
remained for 20 years as is the case with the district between Martin St.
and Nnandi Azikive Street referred to earlier in our consideration of Lagos
C.B.D., a true derelict landscape is encountered in an otherwise high value
location. See Map 10. Outside the city, the type of dereliction found takes
the form of abandoned villages and run-down property in low income residential
districts. Uncontrolled development in some of the older residential
districts such as Ebute Metta contribute to untimely dereliction, while the
apparent neglect of some houses in that district (Ebute Metta) by their
occupants and the general low standard of environmental cleanliness as
exemplified at Abeokuta Street in Ebute Metta East create premature dereliction.
Plate 34 illustrates an early stage of urban decay at Ebute Metta, which, if
neglected soon leads to local dereliction. Old sand quarries and excavations
at Chigbongbo on Ikorodu Road constitute the largest derelict landscape in the
Urbanised Sector but all were concentrated within 12 acres. See C.P.11.

The field work for this survey was conducted at a time when land
value in Lagos was at a premium and the mad rush to grab any vacant land made
it difficult to find a truly derelict land in Lagos Urban Sector. Even the
brick clay pits of Yaba and Abele Village (Ebute-Metta east) which would be
expected to merit such classification are being enthusiastically developed for
private residential purposes.

10c - Unreclaimed: Within the Sector mapped as Urban, tracts of land under
this category are disappearing very fast. Five large concentrations remain.
The Ogun River delta as far south as the northern borders of Cworonshoki, the
Ikasa swamp north of Amuwo (the proposed new town), the Creek islands extending
from the western end of Lagos harbour to the large island (Igbalogun district)
south of Kiri Kiri; extensive swamps and thick forest penetrating the southern
coast of Ikorodu between Oreta and Ibesa and involving the undeveloped river
basins, south of Igbogbo; and, the undeveloped Atlantic fore-land east of Ilado. With the exception of the last named (see Plates 2(x) and (xi) all are marshes and swamps. Several pockets of swamps are also found throughout the new urban district of Surulere, Akoka, Bariga, Gbagada, Isolo and Itire. Each is being actively developed - using lagoon sand for the mangrove swamps and household rubbish or 'imported earth' for non-mangrove swamps and marshes.

A close-up aerial view of the swamps is provided in Plate 3(c) (wet swamp between railway property and former L.E.D.B. development at New Lagos) and Plate 10b (Shomolu Swamps in 1962 compared with C.P.I taken in 1972).

Plate 14 and Map 10 show one of the few remaining substantial 10c areas in the oldest developed parts of Lagos. That marsh at the entrance to Lagos lagoon from Macgregor canal is about to be completely altered by proposed development connected with the expected Third Lagos bridge. At the time of this study the entire marsh was being placed under Lagos State Government Acquisition order. One of the oldest local florists owned the central part of the marsh on the left side (west) of the canal and north of Moloney bridge. He cultivated all tropical flowers for sale and distribution to customers on contract. The Florist's family held 26 acres of the marsh but concentrated their activity on the 3 acres of the relatively dry land which shrinks to 1 acre or less during the rainy season. He fished occasionally in the rest of the swamp or rented it out to professional fishermen. The reeds and wild arum which thrive naturally in this marsh are sold by him to mat weavers (using the reeds) and market women (using the wild arum leaves as preservative for kolanuts or as wrappers for raw foodstuff). He could not develop it much for two reasons:

(a) lack of funds, and
(b) he had anticipated some form of compulsory acquisition order against his property since the Police built their barracks at Ije village and evicted the residents.

Now that the order has come, he was seeing to it that he obtained the highest possible compensation for his "land and the ruined florist business" which had served the Ikoyi and similar local residents well for several decades. The compensation was being negotiated at 5k per square foot, i.e. £2,178 per acre.

It is expected that the reclamation which has already started farther to the northwest (Ilubirin to Okesuna) will reach this last vestige of Lagos Island swamps early in 1975.
10d - Land for this class was rather insignificant within the Urban Sector. Some of those encountered in the field were subsequently transferred onto 6d (general Security or Military) or 9d (religious grounds) where they were found appropriate upon further investigation. The category remains useful for the several places a field worker may still find inaccessible for some religious, military or other excuses. Information recorded here in field conditions should be checked thoroughly later before the final map is drawn. Where the exact circumstances cannot be sufficiently ascertained for a justified mapping as 10d, the tract is best mapped under X (unknown).

No land area encountered during the 1972 study was large enough to be mapped on 10d at our scale.

X - Unknown: Later investigation by visits, enquiries and library work, after the initial field survey, resulted in eliminating by re-categorisation or rejection (where area involved is too small for the scale of mapping) of original data. The study was comprehensive enough to account for almost every acre of land in the Lagos Urban Sector.
Chapter Nine
Theoretical Background to Land Use and Related Studies reviewed

Several theories, models and concepts already exist for aiding attempts at understanding the spatial problems commonly encountered in researches involving the use of land in rural and urban situations. For the most part the bulk of existing research concerns either pre-industrial Europe or the early 20th. century mature industrial environments of Europe and America. ¹ Many of the theories, concepts and models have some degree of relevance to the Lagos study area; many need extensive modification to be useful for our purpose. Evidences arising from the Lagos situation may in some material way contribute to wider application or restatement of the existing concepts. However, no dramatic discoveries emerged from the review, which might support a total rejection of any of the major concepts, despite some of the unique aspects of Lagos brought out in the main body of this thesis.

The need for Models and Theories: The highly empirical nature of the Lagos study is not intended to ignore the theoretical aspects of geography. Indeed a thorough grounding in all the relevant theories, particularly in the main themes of economic geography and an appreciation of the rudiments of socio-economic models, are the mainsprings of inspiration and guidance without which the study could have foundered. For the present writer identifies strongly with Wilfred Smith (1955) on the need for theoretical analysis in economic geography as necessary tools for "mind clarification, problem definition, and the weeding of irrelevances"². Throughout the study, every effort has been directed towards bringing theory and empirical research closer together.

The reviews which follow survey, without pretending to be comprehensive, many available models of spatial organisation. At the same time attempt is made to place each of the models and concepts in the context of my work in the Lagos Study Area. The essential character of each model included in this review is that it sets out some geographical proposition and represents in itself a simplification of reality. The latter qualification is particularly useful in that it frees the 'real world' situation from confusing details, allowing us to understand those things that are fundamentally important for our problem.

9.1 Early studies of non-European Societies (with particular reference to tropic Africa) attention was paid more to the people - their languages and peculiarities of political and social organisations - but hardly touching on the use of their land, until the 1930s onwards when studies (beginning with C.D. Forde) began to focus attention on land and people. As far as Nigeria is concerned, the following pioneer studies, though more empirical than theoretical, did much to arouse interest on the use of land:
C.D. Forde (1934): Habitat, Economy and Society of London.
My study, which is primarily empirical in nature, refers to these models only in so far as the former (my study) serves as evidence for critically examining and evaluating the models' relevance to the study area. My study represents complexities of a real geographical entity as I know it. The main approach has been that of a human geographer analysing spatial aspects of economic and social phenomena in Lagos as observed through the use of land in a situation of rapid industrialization.

The models, their authors and the concepts they represented:

Four types of models seem to the present writer to form the foundations of all concepts and models relevant to our field of research. The first of these is of course von Thunen's model of the 'isolated state', which has as its main theme the concept of "economic rent". The model explains the relationship between farmers' use of the land and the urban market. It is appreciated as a rural land-use model, with some implications for rural-urban intersection.

Alfred Weber's model, which has served as the industrial geographers' classic model in much the same way as agricultural geographers have used von Thunen's model, is considered for the second type. Weber's model attempts a rationalization between factors of production and markets. It is considered a useful model for industrial location.

Urban land-use models by Burgess, Hoyt, Harris & Ullman constitute a third type of model in our survey. They explain how land is used in urban areas and have stimulated by far the most prolific work on the part of geographers and related researchers. Moreover, this class of models has provided a rich meeting ground for interdisciplinary breeding of ideas towards a better understanding of the spatial organisation of human society and activities.

Walter Christaller's model (central places) constitutes a fourth type. It relates central places to their regions or rural hinterland and has attempted to place service centres in distance and qualitative relationship. This model has inspired and provoked much research in urban geography and in quantitative analysis.

Now follows a detailed examination of each of the above four types of models, in an attempt to comprehend the developments within them and the areas of relevance or inapplicability of each to our particular problem of land use and industrialization in Lagos:

9.1 continued. (See also opinion on Forde by D. Harvey in his "Explanations in Geography" p.442).

Von Thunen & the context of Rural Land Use: As Blundel (1966)\textsuperscript{5} has emphasised, "modern agriculture is mainly orientated towards market demands, therefore .... it is necessary to comprehend economic principles in order to explain agricultural land use patterns as well as to appreciate objectively other non-economic influences at work in producing other patterns. In von Thunen's work the concept of "economic rent" attempts to fulfil that condition.

The economic rent of a particular piece of land represents the net returns yielded additional to that from land at the economic margin of farming. This "rent" is of course not synonymous with land "rent" paid by a farmer for using a piece of land. For the Lagos study area, where farming is traditionally poor because of soil infertility and location within an unconsolidated communal territory which had earlier orientated economic activities in Lagos more towards trade (now commerce and industry) than agriculture, land has recently become even more closely allied with administration, industry, trade, transportation and institutional uses. The history of agricultural land use here is relatively very short and is restricted to the period of export crop production (kolanut, some cocoa, coconuts and palm produce). Market gardening and commercial scale agriculture are recent introductions into the study area. (See chapter 7, p. 261).

Economic rent as conceived by Ricardo (1817)\textsuperscript{6}, an economist, varied slightly from von Thunen in that the former pointed out that variations in soil fertility would lead to variations in land use and that such variation would result in differences in "economic rent". Von Thunen on the other hand demonstrated that, assuming a constant quality in soil fertility, types of land use and intensity of cultivation varied directly with distance from the market. For Lagos, the spatial relationship which von Thunen emphasized and the soil fertility which Ricardo upheld as significant, would more appropriately be replaced by "differences in locational ease and quality of a site for building purposes." Thus, when a new land is "opened up", either by the construction of a new road (as in the new Lagos - Badagri road) bids for such lands (for acquisition or use) came from people within the central area. The new land is redefined in terms of distance away from potential users and developers. In this respect the situation approximates to the DISTANCE - COST relationship of von Thunen. In general it is possible to relate this concept


9.3 Refers specifically to the land surface, which in Lagos has become (under impact of industrialization) a scarce resource but which has not been accorded the attention it deserves as a factor of production in discussing the geography or economics of Lagos development. As presented in chapters 7 and 8, the observation took the rigorous form of complete field mapping of every unit of land in categories of 56 possible uses.
to the observed situation in Lagos where intensity of space use (for all purposes) declines away from the Metropolitan centre and from the main arterial routes.

The von Thunen model\(^7\) as postulated in 1826 states that given suitable soil and climatic conditions, concentric zones of agricultural production determined by distance and transport facilities would surround a market. For this, he assumed an isolated state, a single market centre, uniform transport network and a plain of uniform soil fertility. Two acknowledged values of the model by most workers on land use studies are that (a) von Thunen's model can explain contemporary land use patterns among villages and farms in many parts of the world, and (b) the model represents an attempt at obtaining a theoretical explanation of land-use patterns.

Fundamentally his point on Distance-Cost relationships remains largely valid. Finally there is the important benefit of farm consolidation which originates from location principles. Consolidation, von Thunen rightly points out, removes the inefficiencies and diseconomies which fragmentation brings. Von Thunen's concept also introduces the idea of zoning which in turn affects the pattern of land-use organisation. It becomes apparent that theoretically a reorganisation of fragmented holdings or a zoning of tracts for specific uses are effective means of achieving or bringing about a desired pattern of land-use organisation. On marketing principles, von Thunen draws attention to the movement of produce from farm to the market and recognises the role of transport cost on price as a function of distance between market and farm, which tends to produce the regional variations observable in the price of produce. As for his assumed 'isolation', it is now generally agreed that the several urban centres interplaying in the real world situation, as for Lagos, vitiate such an assumption.

Contributions of earlier and later workers to development of the Von Thunen model:

Rev. Henry Hunter (London 1811) provided a historical example of land-use zoning by describing the land around London in terms of concentric belts each displaying a measure of unity in terms of farming practice, which, as C.B. Bull (1956)\(^8\) has pointed out, is confirmed in comparison with Milne's map of London, 1795. The map at 2 inches to 1 mile identifies four zones corresponding in detail to Hunter's description:

- (a) Von Thunen's Agricultural land-use model
- (b) Alfred Weber's Industrial location model
- (c) W. Burgess's Concentric zone model of urban land use.
- (d) Homer Hoyt's Sectoral Model of land use structure and growth in American cities. (Residential Neighbourhoods.)
- (e) Harris & Ullman - Multi-Nuclei Model of Urban land use
- (d) Walter Christaller's - Central Place Model.

(See also Fig. 10 - "Models of Spatial Structure" in this thesis).
(1) Zone of clay pits;
(2) Zone of cattle pastures: a sort of green belt described as "the green and open tract giving a pleasing rural character to the town."
(3) Zone of market gardens: the core of the market garden belt lay in the parishes of Isleworth and Brentford. Hunter found 3 sub-divisions of the market garden belt as a matter of detail.
(4) Zone of Hay: this formed the outermost zone.

The combined area of the four agricultural zones surrounding London was computed by Hunter as 240 square miles, almost the size of Milne's map. From Hunter's work therefore we are aware that the London of early 19th century presented a central place around which were developed distinctive patterns of land use, because such a centre represented a sizeable market for agricultural produce. The affect of poor transportation was also reflected in the pattern.

The London case, when related to the Lagos situation, points to the fact that land use is fundamentally related closely to the livelihood of the people in a given environment. It reflects their means of providing food, shelter, security and movement among other things according to the demands and resources of their locality. However, in contemporary examples of land use zoning around cities account has to be taken of modifications made possible by culture contact and the features which produce zoning tend to vary according to the scale one is considering. For example, we may now look for zoning around urban clusters at a national or supra-national level.

The persistent nature of agricultural land use in contemporary metropolitan areas is thrown into relief by later workers whose researches are heavily anchored to von Thunen's concept of agricultural land use. In particular the work of H.H.Stamer (1952) on agricultural activities around Hamburg deserves mention. Stamer considers the city a chief consumer of locally grown foodstuffs. On that conviction he analyses Hamburg into six concentrically arranged land-use zones from the city centre to the outer limits of the city. Thus, beyond the city centre lie five agricultural zones in the following order: allotments, market gardens, fruit growing, will trees and tree nurseries. Beyond these and the city limits we enter the zones of arable farming and cattle rearing. Stamer believes the fundamental pattern causing the irregular concentric zoning of land identifiable around the city was DISTANCE from the central city, with some modifications to the physical environment..." in particular soil conditions". For the Lagos area, however, apart from the obvious underdevelopment of agricultural land use
(compared with similar metropolises in mature industrial countries), it is dry land surface as distinct from land needing reclamation from swamp, forest or dune, that has so far played this important role in the recent past.

Natal case study: In his study of agriculture in Natal, N. Hurwitz (1957) has commented: "A striking feature of this study has been the development of the major zones in conformity with land use theory. Land use can be explained by the principle of comparative advantage which, put simply means that each area tends to produce those commodities for which its conditions are most favourable. Economic, social, physical and biological factors all help to determine the comparative advantage of any area in the production of crops and livestock." Through these comments Hurwitz modifies and enriches the bases of the von Thunen type of models while at the same time, stressing the importance of economic considerations in the original von Thunen model. The principle of comparative advantage which Hurwitz stresses is applicable to total land use in Lagos at the present period but not in terms of agricultural production as such. For example 'comparative advantage' may be useful for our study area in explaining why one type of land use rather than another category of use, (say, industry rather than residential land use) occupies a particular tract. One may therefore view this useful addition to the model as beneficial towards a wider application of the concept beyond the limited field of agricultural land use.

Considering that our study of Lagos covers a diversity of area; both rural and urban, care has been taken not to omit from this review those other studies within the von Thunen type which have been conducted at below the level of large urban centres. We refer in particular to those studies providing examples of land-use zones around small towns and villages. In almost every case, these studies report that the concentric areas develop around the central village or small town primarily as a response to the distance travelled by farm workers from their homes and the needs, in terms of intensity of cultivation, of the crops grown. Poverty of use increases with distance from the village and the amount of fallow increases as well.

The landscape tends to deteriorate because of the distance factor rather than poorer natural conditions. The rise in amount of fallow as distance increases, indicates falling intensity of cultivation and use. These observations are typified in the work of people like M. Le Lannou (1941)\(^1\) in Sardinia and M. Frothero (1957) in his "Land Use at Soba",\(^2\) nearer our field area in Nigeria. In either case the needs of the population and market demands (economic conditions that is) tend to dictate when the frontier area shall be used, for bush cultivation at one time or for grain at other times. This again re-echoes the idea of comparative advantage, and may be useful in explaining the nature of land use in the predominantly rural frontier zone of the Lagos study area.

One important work which properly belongs to the von Thunen type of model and which has enriched that model in those environments where dairying or animal products would apply, deserves mention in this review particularly for the way it deviates from the 'real world' situation in Lagos. This concerns the study by Jonasson (1925)\(^3\). Using animal products as standard input, he visualised land-use zoning around urban agglomerations in Europe and at that scale produced a very interesting map of land-use intensity. He regarded market gardening as an intensive land-using activity.

Jonasson's "dairy associated" industrial regions would run the risk of invalidation in the Lagos study area because of the low order at which livestock agriculture would rate in Lagos as a form of land use. At the time of the 1972 field work there was no cattle rearing or milking in the Lagos study area except in government experimental farms at Agege and Ikorodu. Milk is imported in all forms. However poultry farming activity is gaining ground in the private sector. Jonasson's work, remarkable realistic though it has been in other environments, marks a point of departure in the Lagos situation from European land use theorists. This crucial point of departure is also a function of the Lagos tropical environment and cultural difference in mode of livelihood (the native people of the study area do not keep cattle and have no experience in dairying).

The von Thunen model in relation to Industrial Location: It is often assumed, unjustly perhaps, that von Thunen's model serves only agricultural geographers\(^4\).

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but the work of Isard and a few others has shown that the value of von Thunen's analysis as providing a tool for determining the optimum location for any given type of agricultural enterprise when all appropriate information was available, recommends the model to other realms of economic activity.

Isard observed that agglomeration tendency brings Weber's location theory (our next type of model to be reviewed) close to von Thunen's agricultural land-use model. In Isard's work however, he was dealing with a situation where individual industrialists decide where best to locate; but in Lagos the "Estates" tend to interrupt that decision pattern.

In Lagos decision of what to grow or produce, changes with external and market demands; but the same location or land space is used. As we have noted in an earlier chapter of this thesis, the lands on which the industrial estates now thrive (particularly so in the case of Ijupeju and Ikeja) have been used for cash or export crop and commercial agriculture in previous decades.

A further observation in the Lagos situation is that in the special context of Lagos, optimum location (best possible location) as seen by both von Thunen and Isard, would lack currency in present day Lagos. In an ideal situation decisions as to the location of economic activity on land centres around the need to find a location at a point where the profits could be maximized or the entrepreneur's outgoings minimised.

The Lagos industrialist merely has to decide where - among the available industrial estates - he would most conveniently locate his enterprise. For many local reasons, his choice is limited to these estates. Which of the estates he chooses would depend on his own appraisal of how well he knows the following factors:

(a) where the market is
(b) import sources for his product, and
(c) the scale of operation necessary or likely for his particular enterprise.

9.12 Frothero, op. cit. See Note 9.1.
9.14 In quite a few traditional University departments of Geography where Economic Geography is taught in two, often unco-ordinated parts as Section I - Agriculture, & Section II - Industry specialization of interests can easily lead to seeing Von Thunen's theory as the central theme in Section I while Weber represents the central theme in Section II.

Although in recent geographical literature some commendable effort is made to place each in a proper context and relate one to the other; yet there is always that rural strapping to Thunen's theory. See also the following contributions in I.B.G. Special Publication November, 1968, chapt. 6 page 1: Brick, J. W. "Rural Land Use: A central Theme in Geography" and Prof. R.H. Best - chapter 6 "Competition for land between Rural and Urban Uses, p.89.
The means of acquiring that information is, despite recent efforts by the Federal Ministry of Industries, poorly organised and hazardous to obtain. Consequently, many industrialists - particularly the late comers and smaller scale enterprises - dispense with this important aspect of decision making and merely locate wherever in the industrial estates space or room happens to be available.

The foregoing comments bring this review to the essential similarities between von Thunen's and Weber's models (a convergence zone for key concepts in agricultural and industrial forms of land use). The similarity (centred on the idea of 'optimum location') derives from the fact that they assume a certain amount of information is known. The present writer's opinion, based on the 1972 Field work, is that for Lagos, the amount of information known to the industrialists (or any other potential user of land for that matter) is indeed very little if any at all. In the circumstances it is not yet safe to explain away a tract of land occupied by or used for a given economic activity in Lagos purely in terms of "optimum location" principles - at least not in the rational sense contemplated by von Thunen, Weber or Isard.

The "optimum location" concept has a long philosophical tradition well rooted in the thoughts of 18th, and early 19th, century economists and philosophers. Adam Smith (1776),17 Ricardo (1817) and John Stuart Mill (1848)18 deserve honourable mention in this respect. In each case the early exponents of the concept assumed that conditions of perfect competition could exist. The central idea (of optimum location) appears to underly all the four types of theories (from von Thunen's to Christaller's) dealt with in the present review, irrespective of what specific aspect of spatial organisation of human activities each sets out to emphasize.

9.15 e.g. Land tenure problems, uneven distribution of amenities and utilities e.g. water, electricity and telecommunications, government regulations and poor transport facilities. Industries are provided at the estates, with ready space, all modern amenities and relatively efficient telecommunications.

9.16 The University also runs the Federal Institute of Industrial Research located at Osodi. No efficient market research organisation exists in Lagos so far, but the Nigerian Research Centre in Lagos expects to fill this gap soon.


9.18 John Stuart Mill (1848): Principles of Political Economy; also cited in Chisolm, M. (1968) op. cit. chapter 2 pp.5-6 on concept of perfect competition (refining Ricardo's concept.)
Admittedly, optimum location as such is impossible in a real world situation because intervals of change are too short to allow adjustment of, say, commodity prices (a function of supply and demand) to produce the desired balances. However, Optimum or Best Location, with the existence of a related concept of "spatial equilibrium", has been accepted among geographers and related scholars as providing a useful yardstick against which to measure existing patterns.

We now consider the second type of models in this review. They differ from the von Thunen type of model in that they emphasize or are concerned essentially with land use associated with industrial activity.

Alfred Weber: The idea of least-cost location which originated from Launhardt's work (1882)\(^{19}\) in the last century provided a valuable springboard for Weber's work early in the 20th century. Launhardt had developed a location triangle applicable for a given factory where two points represented the sources of materials it uses and the third point was the market where it sold its products. In Launhardt's triangle, optimum location was determined as the point within the triangle at which the shortest lines (representing distance) met from the three points. Weber adopted the idea, extended, modified and propagated it. Weber's important modification on that apparently rigid geometric expression, was in introducing "isodapenes" which cartographically joins points of equal costs and so became a more favoured technique among later workers. The new technique introduced by Weber, as Ian Hamilton has pointed out, permitted greater diagrammatic flexibility and greater approximation to reality.

Commenting on the Weber model, Hamilton (1967) has written:\(^{20}\)

"Weber frames his model in an isolated state where natural resources for processing conform to a Thunen-ring system around a number of given market centres. These assumptions imply the existence of spatial variations in economic advantage with respect to both supply and demand... Weber stresses that, within this heterogeneous environment, entrepreneurs will locate industries at the points of least cost in response to three general location factors - transport, labour and agglomeration or deglomeration."

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9.19 Launhardt, W. (1882) - "developed the location triangle for a given factory in which two points represented the sources of the materials it used and the third point was the market where it sold its products. He determined the optimum location as the point within the triangle at which the shortest line (representing distance) met from the three points." In 1885 he presented the "pole principle". See Chorley & Haggett (1970): Socio-Economic Models in Geography, chapter 10, p. 362, pub. by Univ. paperbacks.

On the basis of Weber's later work (1929) Hamilton has provided in Table 10.1 of Chorley & Haggett (1967) the essential ingredients of Weber's industrial location model. (See Appendix 4 to which we shall refer again briefly in discussing the distribution of category 2b land use in Lagos).

The main lesson offered in Weber's theory is that different industries will have different optimum locations because they will have different types of inputs and outputs and therefore cost structures.

In criticism of Weber, it is said that Weber lays too much emphasis on supply and that he believed that the market exists as a single point. However, it is reasonable to consider the importance of markets as areas of varying demand strength.

On the merits of Weber's work, many critics agree that this lies in Weber's acceptance of the existence of transport as a factor, plus such other factors as agglomeration, labour and "localised and ubiquitous materials. Ubiquitous materials are considered as having no location costs and so cannot influence locations."

Losch (1954). In his "Economics of Location", Losch tried incorporating "demand" as a factor into Weber's model by considering closely the size of the market available for an industrialist's products. Although Losch is considered to have thereby founded a separate model which some have christened "The Maximum Profit Model", it seems to the present writer that his work being mainly a modification of Weber's to include what seems to the former to be anessential but neglected factor, is better seen as a refined form of the main Weberian model.

The main criticisms of Losch's work arise, as in many other theorists', from points he neglected in the course of making necessary assumptions. Thus in his attempts "to find the maximum profit location by comparing the costs of production at and the market area which can be controlled from, alternative locations", Losch almost neglected supply as Weber (whom he had criticised) had neglected demand. He had postulated that "the best location should command the largest market area, thus bringing in highest sales revenue"; but in working out his model, he assumed a homogeneous surface, implying ubiquitous resources with negligible variations in production and procurement costs as alternatives.

Without completely endorsing his neglect, the history of industrialization in Lagos tends to support the emphasis Losch placed on market areas as the

principal factor in attracting industry. For the market potential offered at Lagos has held considerable advantage over and above other Nigerian urban centres when viewed at the national scale. However, it is obvious that to retain the industries at present locations over a long period other factors of production claim attention as well.

Isard and Greenhut (1956)\textsuperscript{22}: In an effort to rectify Losch's omissions Isard and Greenhut, each in his own way, considered costs more closely in their work. They suggested a model in which the optimum location is ...

"... the point which combines the lowest possible costs with the greatest possible revenue."

In subsequent criticisms many authorities consider the greatest weakness in Isard's work to be his failure to incorporate spatial variations in demand and supply for his plant location model. It is however acknowledged that the working out of the model if the spatial variation aspects had been included would become seriously complicated, as such working out depended on very advanced mathematical techniques which were not at Isard's disposal at the time.

Greenhut (1952 and 1957) provided a further modification to the Locilian idea. The object was ..."to embrace cost considerations more thoroughly within an oligopolistic system." In such a framework of oligopolistic competition,\textsuperscript{23} the chosen location may not be the "least-cost" one since profits depend more upon sales revenue within an area than upon production and distribution costs. Greenhut sees firms as seeking what he termed the "minmax" location, at which point minimum cost is combined with maximum profit. In striving to achieve such a location, the number of variables increases and the "doubtful market area" expands. He believes that this should be expected because ..."uncertainty is an inherent part of the capitalist system."

The game theory which Greenhut introduced into the concept to deal with the uncertainties expected from actions, motives and competitive tactics of rivals, have been considered of less use by geographers on account of their


\textsuperscript{9.23} See Chorley & Hagget (1967) op. cit. p.378 on the "maximum profit model". Under a kind of spatial oligopoly, as defined by Morrill (1970) p.243, a fairly stable shared regional market, usually with a common price zone".
unpredictable nature and on the grounds that the data involved are difficult to measure, compare or apply objectively.

For our purpose, Greenhut's contribution\(^{24}\) is best seen in terms of the efforts he made personally towards narrowing our range of doubtful data arising from less predictable human whims in decision making and the way his work has provoked later workers into probing these quantitatively more difficult but increasingly important factors in location decisions. Finally, he is likely to become more popular than previously, as continued refinements render "game theory" increasingly within the scope of applicability to geographical problems, and in particular to competition affecting land use for industrial purposes.

\(^{25}\) E. M. Smith (1966): In his theoretical device for undertaking geographical studies of industrial location, Smith used the Weber model. The device presents a simplified form of cost-price situation in an industry and is an immensely helpful aid for understanding how a location decision is made.

Lagos industries, on account of their forced localisation (in estates) have not advanced to the point where Smith's theoretical device (nor indeed related devices like those so well presented in chapter 9 of Abler, Adams and Gould)\(^{26}\) could be effectively used by the manufacturer seeking maximum profits to choose the least cost location. Empiricism and location theory are not easily related in the Lagos Study Area on account of the youthful stage of industrialization there and the estate system. Indeed among the aspects that must await further advancement of industrialization in the study area is the normal practice by industrial geographers in mature industrial countries to carry out empirical research on established industries. In Britain and America for instance empirical studies are carried out on quite specific industrial concerns in order to gain knowledge of the kind and strength of factors influencing location and location patterns.

\(^{24}\) See Chorley & Haggett (1967) op. cit. pp.379-380 (modification of the Loschian model, the principles of "minimax location" and refinements of the "game theory").


\(^{26}\) Abler, Adams & Gould (1972): Spatial Organization: The Geographer's View of the World. Pub. by Prentice-Hall, pp.298-336 and in particular Fig. 9.25 on subjective elements in location decision, p.325.
There is therefore a point of departure between practical relationship of empiricism and location theory possible in mature industrial countries and the need to defer such procedure in a young developing region whose industrialization efforts have not quite left their "nursery beds". (See Chapter 4 of this thesis).

When that stage is reached, it is hoped that existing work in developed countries on such aspects as plant location theory and practice will form useful guidelines. The work of Alfred Weber emphasising the supply factor, Loach emphasising the demand (market) factor, Isard and Greenhalph emphasising cost considerations, D. H. Smith emphasising the cost-price situation, and C. D. Harris on market orientated locations should form useful guides in that direction, in so far as the new studies will relate to location decisions taken within individual industries who are free to locate outside industrial estates in developing regions.

It was noted in Chapter 4 of this thesis that market orientation represents a strong factor in Lagos industrialization and service locations; thus C. D. Harris's model may be said to apply even now in the Lagos Study Area where (as in the U.S. but in a different historical background) the location of secondary and tertiary activities "exhibit a correspondence to the disposition of regions and national markets". However, it is easily noted from Harris's illustration (Steel industry) that the basis of comparison exhibits a wide gap between an old industrial region like the U.S.A. and a young region like the Lagos Study area, basing her activities on light manufacturing only.

No review of this nature would be complete without a reference to McNeel's (1960) observations in "Towards a More Humanistic Economic Geography". He focussed attention on the current world situation where scale of industrial organisation and government interests necessarily involves a modification of earlier models like Weber's. As he saw it, the giant corporations were increasingly dominating the industrial scene; human behaviour in the decision making process was becoming important at all scales of


production and government intervention was increasing. The result is an inevitable detraction from the essentially price-orientated concept of industrial location. In the circumstances what emerges is more a fusion of Weber's type of models as modified by the geography of administration, often controlled by either corporation management or government policy.

It seems to me that for the Lagos Study Area, and probably for similar newly industrializing regions of the tropics, McNeel's observation is more appropriate than would be the case in attempts to justify or relate the industrial geography of Lagos through earlier theories of either the location of industrial activity or land-use specialisation for industrial purposes. It may be justifiably claimed therefore that those parts of the Lagos study area dominated by industrial activity owe their apparent success in the normal local land-use competition to a joint operation of government policy to encourage local manufacturing or decisions by parent companies (giant international corporations) to take advantage of the market potential principle.

**URBAN LAND USE MODELS**
(The third group of models)

Land use in built-up areas follow comprehensive formal patterns which reflect the following three features:

1. History of the city growth;
2. Planning attempts, i.e. attempts by authority to control land use for community's interest;
3. Factors such as land values (or rent) and accessibility (both of which are interrelated).

A model similar to von Thunen's has been employed to explain why the formal arrangement of cities follows a concentric pattern. A fundamental idea in the concentric pattern is that competing users of land will locate relative to their economic rent potential, thus giving us rent or land value surface for an urban land market - the central area representing peak value. As rent declines with distance, value falls and land uses change.

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9.29 Annual Report of the Dept. of Commerce and Industries, 1949-50, Lagos, Nigeria. The First and Second Four Year Development Programmes - Federal Government of Nigeria (current one is the 1970-74). See also Appendix 33 of this thesis on "Nigeria's Industrialization Policy".
Although this has not been true for Lagos, it is expected that value will adopt a conelike structure towards the centre. Only at highly generalised level, suppressing the problem of urban renewal which currently faces the central island of Lagos, would Lagos fit into such a pattern at the present time of study. Map 16(b) representing the land value surface based on the 1972 field work and on current (1973) prices, illustrate the situation.

E. W. Burgess (1925), pioneer of the concentric land use model: Our remarks so far for this section on urban land use, refers to an application of the concentric theory. Burgess had assumed, in his original postulates that land values, and by implication accessibility, decline with equal regularity in all directions. The distortions which would be caused by differential accessibility are disregarded, thus allowing the resultant land use pattern a form of concentric zones about a city centre. Through the same basic concept he also formulated the "zonal hypothesis of city growth" by suggesting that the main phases of the development of the urban community took place outwards from the central business and retail district, within this series of circular zones. It is necessary to bear these basic facts in mind as we proceed to take a closer look at the concentric model, its critics and further aspects of the models applicability or otherwise to our Lagos situation. For a model like Burgess's which has been subjected to almost half a century of criticism and reappraisals deserves a critical consideration in any new study of urban land use. It is therefore relevant to this study of Lagos to examine how far the model departs or fits in with the empirical situation in Lagos. We select for this purpose various work from Quinn, Yeates, Mann, Hoyt, Harris and Ullman, and an earlier work on Lagos by Mabogunje.

J. A. Quinn (1950), an ecologist, appears to have provided the most searching criticism on the assumptions in Burgess's model. Our attention may therefore fruitfully focus on the points made in his observations. According to him, Burgess has to assume a certain degree of heterogeneity in which the zonal pattern seems to require the presence of widely contrasting types of population within the city.


On this population aspect, three characteristic groups are discerned:

(a) a large foreign population with different degrees of assimilation;
(b) members of different races;
(c) men and women who pursue different occupations, enjoy different standards of living and control different amounts of purchasing power.

As Quinn might rightly observe, all these elements are not necessarily present in the case of Lagos. This is not to say that some degree of heterogeneity does not exist in Lagos. It does; but in a varied context from Burgess's Chicago of the 1920s. However, whether a concentric zonation such as Burgess's theory would imply has yet emerged in Lagos urban land use, is not clearly supported by our present land-use study (based on 1972 field survey).

The colonial and post-colonial history of Lagos make the "foreign population assumption" in Burgess's model irrelevant for Lagos. In the second assumption - members of different races - the only parallel one would have found in Lagos is the different ethnic groups (Nigerian tribal groups) but there is no tradition of restricting any ethnic group to any given part of the study area through legal or social means in a manner comparable to the negro getto of Burgess's Chicago. We know, however, from the work of Professor Nabogunje on Lagos (Urbanisation in Nigeria, pp.262-270) that different Nigerian ethnic groups (other than the indigenous Yoruba) constitute a significant proportion of immigrants into Lagos from 1911. Demographic figures for 1911 to 1950 (Nabogunje, 1968, pp.262-3) referring to Lagos city rather than to the entire study area, was adapted in the present study and is presented in Table 24 herewith to demonstrate this fact. Non-Yoruba ethnic groups went to live and work in Lagos in increasing proportions from a mere 20% in 1911 to 26% in 1950; yet the immigrant group did not develop a "ghetto" or similar residential land use feature. It is true however, that from time to time a high concentration of some ethnic groups may be found in certain parts of the Metropolis, e.g. Ibos and Isoko at Ajegunle, and that a predominantly European residential district existed at Ikoyi and Apapa.32 (the Lagos situation is exceptional to the colonial inspired strangers' quarters throughout British West Africa - e.g. Ione

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Acquah on Accra, Kano today, etc.) Nevertheless, the residential distinctions observed are more economic in character. Europeans were in a stronger economic position at the time and Ibos who flock to Ajegeunle find the area a cheap district to use as first stop (with relatives or ethnic associates) from a long haul in the immigration process. Economics, not ethnic affiliation or social status ultimately dictates the residential destination of each individual within the Metropolis - at least the continuously urbanised part of the metropolis.

In sum, there is no single ethnic group whose presence in a given part of the study area may be particularly associated with the development of a decayed or blighting zone. The poor of every ethnic group are found together, occupying the same poor or low grade residential district; while the rich of all ethnic groups (or even races for that matter), share equally in the high class or expensive residential districts. The point at issue here does not deny the existence of differentiated residential land-use zones; but stresses the economic base of what differentiation exists in the case of Lagos. To this end, we contend that Burgess's second assumption - existence of members of different races in the population as a factor in differentiating urban land use zones is not true for Lagos.

Burgess's third assumption - occupational differentiation as basis of differentiated zonation in urban land use - is valid for Lagos in a manner made obvious in the preceding discussion. Those who enjoy a better standard of living and control higher volume of purchasing power in the Lagos metropolis are currently occupying category 1a and 1b land use areas as shown on the land use map. The areas correspond with the well-planned and spacious districts of Apapa G.R.A., Ikeja G.R.A., Southwest Lagos island, Ikoyi island, the Jibowu area of Yaba, Akoka Lagos university campus, the Oke Ira railway company at Ebute Metta and the exclusive Palm Grove Estate in Mushin district. The very poor remain in such crowded residential districts as Ajegeunle, Shomolu, Offin and Isale Eko in Lagos island, Mushin, Bariga, Agege and parts of Surulere. In a decidedly capitalist society such as Lagos, an economic segregation of this nature does not appear out of place.

Other assumptions implied in Burgess's model have been critically examined as part of a "range of economic and cultural factors" assumed. Those that apply to Lagos area are:

(a) there is a mixed 'commercial - industrial' base to the economy of Lagos city, although this is still at a low level of development in comparison with the Chicago of the 1920s;
(b) existence of the private ownership of property; 33
(c) economic competition (albeit a very imperfect one, based on minimum awareness and gross inequality among competing land users);
and (d) the existence of specialised economic institutions occupying distinctive buildings and areas.

Burgess's economic assumptions about space - as more valuable at the central areas - appear valid for Lagos from our study of Lagos land prices (see Maps 16 and 17). Generally, a sorting out of land use units is taking place, with physical positions being mainly determined by economic ability to compete for space.

Burgess's other fundamental assumption that would not be valid for Lagos at the present time is "... an efficient system of transportation". The picture of transportation in the Lagos study area is that of absolute chaos in the centre and main arterial roads (with perpetual traffic jams, severe congestion and assorted road users); a further congestion at all the residential districts of low and middle income groups; and, a near complete isolation of outer-lying districts of the budding metropolis.

The inapplicability of Burgess's assumptions in this aspect (efficient transportation), is made more obvious by Quinn's (p.122) observation that: "Burgess took for granted the operation of an efficient system of transportation which enables the population of an urban agglomeration to utilise regularly and in person the specialised services of spatially separated utilities .... Burgess assumed, further, that transportation is equally easy, rapid and cheap in every direction within the city."

None of these conditions is yet possible in the Lagos study area and perhaps it explains the bases of inefficient use of land one observes in Lagos today.

Assumptions aside, it seems from our present study that the applicability of Burgess's model to explain land use in Lagos requires extensive qualification. Perhaps it is only safe to limit such application to the emergent C.B.D. of Lagos (in the form of Lagos island's central area). Although the geographical distribution of the industrial estates of Metropolitan Lagos (see Map 11) would appear in shape to approximate to Burgess's Factory zone, there is insufficient evidence to suggest that this pattern is not purely accidental. The industrial estates did not evolve in the manner Burgess's land use theory would suggest - from occupying cheaper land of intermediate value. They owe their exact location to direct

9.33 As illustrated in Figs. 4a and 4b of this thesis, private ownership of property is just beginning to catch on in Lagos. The traditional local land tenure did not allow such development as land was seen as belonging /continued
government policy.

Burgess's zone of working man's homes, residential zones and commuter zone (particularly the last one in the sense it would be used in Europe and America) do not find appropriate locational equivalents in the Lagos study area. However, this is not to deny the possibility that given time, perhaps as the Lagos Metropolis matures, Burgess's pattern may not establish itself as the ultimate in the socio-economic sorting out of land users. What is true for the present study of Lagos is that the Burgess model has not yet established itself for Lagos.

In addition to these limitations, the present writer feels inclined to agree with those critics of the Burgess model who pointed out faults in the concept of zonal homogeneity; for Lagos land use, like Lagos society, will for long contain "discrepant" features difficult to fit into a "zone". One also agrees with workers outside North America and Europe, such as the Dotsons in Guadalajara, Mexico (1954) that consequent upon rapid expansion and speculative fever ...."land values (in developing regions) tend to reflect distance from the commercial centre more closely than the nature of residential property"; even though residential property is highly rated in Lagos.

The Burgess Model Tested in Latin America: The limited applicability of Burgess's model to Lagos also finds support in work already done by Dotson and Caplow in Latin America as in Quinn's earlier criticism of Burgess's assumptions, e.g., on such points as property control and freedom of competition which might not be true outside Burgess's U.S. example. Dotson and Caplow, for instance, expressed views, shared by the present writer, that cultured differences represent the major factor for explaining differences in city pattern outside North America and Europe. As Schnore also pointed out in his Latin American studies, cultural background as an independent variable is central to any cross-cultural comparison.

More findings which could be truly applied to Lagos are summed up in Schnore's conclusion, based on more Latin American studies, that ...."increasing industrialization of many of these (Latin American) cities is playing an important role in reshaping their land use patterns." This is particularly so when the development of slums (the blighting of parts of Lagos metropolis);

9.33 continued, to the community which itself consist of the living, the dead and generations yet unborn. The Industrialization of Lagos has been speeding up the trend toward private and transferable property rights.

the growth or entrenchment of the industrial estate as major land using activities generating other land uses characteristic of industrial life (e.g. workers' residential homes, transport pattern and such non-productive uses of the peripheral districts or urban fringe); and, planning measures are afoot to rationalise competing land uses. Here we recall our earlier observations that the development process in Lagos may still advance the study area on a course toward standardisation in land use currently observed in mature industrial countries. Such events are for the future and should not complicate our conclusion— that for Lagos, on the basis of the 1972 land-use survey, the Burgess or similar models successfully applied in Europe and North America needs important qualifications and modifications usefully to explain the pattern of the recorded land use.

More Tests for the Burgess Model outside the U.S.A.: It has been proved misleading to regard Burgess's model as generally applicable even in western Europe, suggesting therefore that the model may well be true only of cities in the U.S.A. It is in this respect that Mann's work (1968) on Sheffield, Huddersfield and Nottingham in England, seems to the present writer to have arrived at the most reasonable consideration. Mann indicates that given cultural compatibility and a similar "commercial-industrial base", the model provides "A rough guide of a valuable sort"; but his support for Hoyt's sector land use theory would imply that he finds the sector model of greater use in explaining land use, particularly in that aspect dealing with the expansion of cities in wedge-like fashion. In the matter of residential and industrial land uses, Mann had observed that "Upper Class residential areas tend to lie on one side of the town rather than in a ring all around the centres. Similarly, industry tends to have its side of the town and to expand along transport routes." These are also true of Lagos.

It is therefore advisable to look into Hoyt's model for those aspects of Lagos land use best explained thereby; bearing in mind the fact that Hoyt's work was really a refinement rather than a rejection of Burgess's model. It is not impossible, however, for both to co-exist in Lagos, each useful for explaining the spatial distribution of one or other land use categories in the Lagos study area.

The physical layout of the Lagos Study Area and the unequal opening up of the land surfaces in the area make it ideal to try out the sector concept. For example, in terms of relationship between the traditional high class residential district of Ikoyi and the city centre of Lagos island, it is easy to discern a "wedge shape" comprising the whole of Ikoyi island and becoming juxtaposed with the young C.B.D. in Lagos island. (See Plate 2(ix) and Map 8). The development of commercial - industrial land use (particularly the few mm-estate industries) along the main arterial routes of Ikorodu Road, Agege Motor Road and Apapa Road, also conform to the Hot hypothesis. A further aspect tending to favour the Hoyt concept is seen in the distribution of medium and low income residential districts. Low class housing and medium class housing in Lagos are found, not in concentric form but in sectors of newly developed or reclaimed lands at Lagos mainland.

Further Examination of the Sector Theory: An idea articulated by later empirical workers, notably Davie and Robson, on the sector concept concerning the operation of "attraction to the C.B.D. and repulsion from industrial area", cannot yet be fully applied to Lagos. Industrial areas in Lagos in some strange ways have become attractive to middle and high income residential land uses. Partly as a result of the novelty of industrial presence, the nuisance effects of which very few land users yet appreciate the consequence; and, partly on account of the "safe land tenure" (private freehold ownership) made possible from the estate developers, this unexpected contradiction is observed in Lagos as against what might be expected in mature industrial regions of Europe and North America. Indeed as our land-use map reveals, high class residential land-use is found at three main industrial estates of Lagos, viz. Apapa, Ijupeju and Ijek. (See Map 21, plate 31 and C.P. 7 and 8).

The points made by the main serious critic of Hoyt's model (Firey, 1947) were carefully examined for any corroboration or otherwise from the Lagos Study. Based on his land-use study of central Boston, Firey had questioned the validity of comparing results of work in a number of cities where relief, location on a water front and other local factors markedly

affected the sector pattern of some cities. He is not satisfied with cartographic approach to land use theories since he believes that without carefully worked out abstract concepts maps at best only give clues. He is also of the opinion (previously recorded by Dotson and Caplow against Burgess's concentric model) that Hoyt had not given full consideration to roles of cultural and social systems in conditioning land use.

The present writer would subscribe to these harmless criticisms; but it is also considered that the impact of modernisation and culture contacts which tend to shape all cities (particularly the late developers) alike for modern economic functions. For these reasons, traditional, cultural and social systems are less effective conditioners of land use in Lagos today than the wave of borrowed socio-cultural innovations which continues to differentiate land use categories in the study area. New styles of life, new economic activities, better transportation (when it comes), new forms of land use for public purposes and the borrowed planning techniques increasingly influencing the pattern of land use in the study area are strong forces likely to replace or nullify the conditioning power of any operative social system, traditional values or Yoruba cultural background (Amos, 1968).

The MULTIPLE NUCLEI LAND USE Model: To take account of a final established model of urban land use, we examine Harris & Ullman's multi-nuclei theory. In doing so we see how far Lagos land use fits or departs from the model. First it was necessary to decide whether Lagos Metropolis or the study area has only one clearly defined central area or more than one such central area. The present writer could not find strong enough evidence to believe that more than one centre has yet emerged. There are a number of "growing cells" such as Ikorodu, Agege, Ikeja, Surulere and Apapa; but they are so limited in their centralising force that each remains under the strong pull of the only complete C.B.D. at Lagos island. What localising forces existed for separate nuclei development at Ikorodu and Ikeja for example, have become weakened since 1967 when almost the entire Study Area came under one political authority - the Lagos State Government, and later a single planning body in 1972.


It is of course true that within the study area (the budding Lagos metropolis) there are certain "growing points" around which distinctive land use categories, e.g. industrial land use at Ikeja, Apapa and Ilupeju, are developing. In this respect the industrial estates have proved most generative. Each one of them has acted as a nucleus for the development of allied, associated or complementary land-use types (mainly transportation, commercial and residential). There is also the role of history which has conditioned the development of the study area from a cultural landscape dotted with relatively isolated settlement centres amidst rural wastes, to a budding Metropolis inspired from and centred on Lagos Island.

It seems to the present writer that apart from the industrial estates and government located activities (e.g. institutions such as the university, military establishments and government offices) in Lagos, the idea of separate foci rivalling the C.B.D. sufficiently enough to merit identification for the multi-nuclei model, must await more advanced development of the young metropolis for it to serve as a meaningful explanation of the distribution of the complex land-use types that would arise. By that time, land use types would have sorted themselves out more rationally, based upon a full appreciation by the local land users and planners of four factors essential in bringing about a perfect competition in land use allocation. The four factors still to be appreciated throughout the study area are, that:

(a) certain activities require specialised facilities;
(b) certain activities group themselves together because such a close association can be profitable;
(c) certain activities are detrimental to each other's interest and should therefore be kept apart;

and (d) certain activities cannot afford the rents of the most desirable sites.

Once the metropolis has become fully established in full consideration of these factors, the land-use situation will have become sufficiently complex for the multi-nuclei model to offer more appropriate bases for understanding Lagos land-use arrangements than the concentric or the sectoral models would do. At such a level of development (i.e. emergence of a full-fledged Lagos metropolis) the present C.B.D. may lose its unique qualities and become just one of many centres of the city. It is perhaps such a situation that Ullman later observed for American cities in his 1962 reconsiderations of "the nature of cities" and it is most likely that the multi-nuclei model is generally best applied at that advanced level of metropolitan development which is hardly applicable to the present condition of our Lagos Study Area.
There is every reason to believe that Lagos Metropolis will attain that level when the nuclear function of Ikeja airport will increasingly draw out-of-town visitors; when outlying shopping centres spring up to handle retail trade; when the industrial estates and other employment centres now locating at the city outskirts on large tracts of formerly unused land (e.g. Isolo, Ilasammana, Itire, Ikeja, Chagada and Ojo) become fully established. When better transportation facilities should have been introduced for the whole study area and when the specialised entertainment education, cultural and recreational centres now concentrated at very few localities within Lagos city (e.g. Lagos island) will have become scattered all over the metropolis through efficient planning or economic forces, to serve the whole population, the multi-nuclei model would appropriately apply.

The Land Value Surfaces of M.H. Yeates (1965): Here is another Chicago study which deserves mention in this review in that its findings, based on a study of land values as a related factor of land use, tends to link all three classes of urban land-use models. Yeates work is regarded as by far the most comprehensive study of the general nature of the land value surface. His unique use of the concept of distance brings him again to our attention later in this thesis when considering that central issue in geographical concepts. (See p 385). Yeates model (which uses "distance" from various reference points, population density and presence of undesirable ethnic elements such as the negro) affirms the importance of radial routes in determining land values. Arising from that he identified broad areas of similar land values enabling him to suggest the drawing up of a number of sectors within the urban area.

From Yeates's research on Chicago and the original work by Hoyt we know that analysis of "Land Value Surfaces" can therefore also lead to an ordered expression of land use patterns within cities. Before Yeates it was a similar notion of search for patterns which led to the development of three models - the concentric, the sector and the multi-nuclei theories - each of which can also be said to reflect well-defined aspects of the land value surface concepts.

A previous researcher (Mabogunje, 1961) on a central part of the


present Lagos Study Areas (Lagos City) has already examined the relevance or otherwise of the three theories for Lagos and had concluded that all three applied in some measure but that neither completely explained the Lagos urban land use pattern. The differences noted are directly related to the cultural, technological and sociological background of Lagos (at the time of his study) which distinguished Lagos from western and fully industrialised cities.

Since Prof. Mabogunje's study, Lagos has developed tremendously and has acquired many western urban features which were less evident then. For example, the C.B.D. has emerged under joint impact of local planning policies, increased commercial activity in the centre, the operation of land value factors, the growth of new residential centres and the increase in industrial activity of the new metropolis. Evidently Lagos land use will, in its evolution, incorporate features from all three theories, including R.E. Park's "natural area", as economic forces continue to impose specialisation in land use and as the local planning authorities endeavour to direct growth along desired lines by incorporating "borrowed features" from earlier or advanced Metropolises of the world.

The present study of Lagos (1972) reveals the extent to which explanations based on these theories would apply to land use in the Lagos Study Area today. The general picture appears to support this writer's view that the land-use patterns observed in western urban metropolitan regions are advancing steadily upon Lagos as part of a normal process of contemporary urban transformation. This is to be expected in the current atmosphere of rapid diffusion of planning and land-use ideas, standardisation made possible by "borrowed technology" and the apparent nullification of such physical (non-human) induced problems as climatic differences, adverse terrain (swamps eroding beaches and thick forests), health hazards and "distance". Where differences persist, a few peculiarities are introduced or desirable characteristics are preserved against the tidal wave of westernisation, the explanations are better sought from such human factors as differences in cultural background, political circumstances of Lagos, human whims, and the nature of the local population who must adjust to the rapid changes. In


9.42 In Hodder (1968) op. cit. chapter 4 esp. p.52 second para. Some social and institutional issues are considered as guides to the qualitative assessment of the nature of local people and positive aspects are emphasised. However, until psychological and other social research aimed at understanding the selfish greed, carelessness over public property and low awareness of the local environment even among the present "educated elite" of
short the study area is in a process of evolving into a modern metropolis, with its layout approaching the pattern described long ago by Haig (1927) as tending... "to be determined by a principle which may be termed the minimising of costs". In that evolution, "distance" from Lagos island generally and the youthful C.B.D. in particular, emerges as a most important geographical factor conditioning land use competition and so the spatial arrangements of land use categories throughout the study area. The distance implied here is distance in all its ramifications. Because distance proves such a significant feature in Land Use Differentiation both in the study area generally and in geographical concepts in particular, our survey of theoretical concepts and models of Land Use is not considered complete without delving more into the factor through an appraisal of the use of that theme in earlier geographical research. This follows later in this chapter after the fourth and final type of model (central places) in this review has been treated.

As far as the models of urban land use are concerned, the present writer fully recognises the dangers of drawing any hard and fast conclusions about the relative merits of the three land-use models - Burgess's concentric model, Hoyt's sector or Harris & Ullman's multi-nuclei models (See Fig.10). What has been attempted is a general appraisal of the models, with particular reference to how they might each apply or deviate from the special case of land use in Lagos. There is no doubt that each model has some degree of applicability to Lagos, with necessary modifications and qualifications, either for the present land use situation or for the future imminently mature Lagos Metropolis. While the models have succeeded to some extent in describing urban land use generally, the differences between them also remind me of the dynamic situation characteristic of urban land use in which patterns evolve in response to the changing demands of the urban community. The pattern and processes of urban growth within the Lagos Study Area are therefore important indications of how the various land use categories become distributed throughout the study area at any given period of study.

CENTRAL PLACE THEORY

Walter Christaller (1933) - The relevance of this model to Lagos land use was considered in the present study. It is indeed generally agreed that

9.42 continued. Lagos society. These shortcomings among Lagos population combine with the general atmosphere of corrupt practices in private and official quarters, to wreck even the best land-use plans. These human problems continue to be swept under the carpet for obvious sentimental reasons.

the concept itself is far from a perfect explanation of the size and spacing of all settlements because it is only concerned with the evolution of urban units as "service centres". For our purpose, the model could have been usefully employed a few years ago for explaining or understanding the relation of the smaller urban centres found in the Lagos Study Area to the surrounding countryside and possibly to find valuable clues to the pattern of land use in all the rural sectors of our land-use map of Lagos.

The removal of political constraints (in the form of Federal Territory boundaries) against expansion of Lagos city has resulted in a drawing in of virtually all the surrounding land centripetally into the Lagos economic and socio-cultural cauldron. A central place model might therefore be adapted for describing the evolution of different district central areas of the growing metropolis into service centres for various requirements of the metropolis as a whole. At the time of the 1972 survey, these district central areas (made up of towns and market villages of varying sizes) were found to approximate to the growth of clusters of urban settlements found around large British metropolitan centres of the 20th. century. They are the components of what may be called the Lagos "city region". They comprise small country towns and market villages such as Ojo, Ikorodu, Agege, Alagbado, Agbowa, Isiwi, Ijede, Ibeju, Aja, Ogogoro, Ipara, Isiwa and Isolo. All these settlements were found to be in active process of becoming drawn into the ambit of Lagos city and have themselves been expanding as a result of their association with Lagos. The expansion has been under way partly on account of social policy from the centre (e.g. provision of homes for former slum dwellers at Surulere, Yaro and Isolo - See Plates 6, 7 and 26) and a new town is being built at Amuwo on the new Badagri road. The land uses in these surrounding settlements are becoming increasingly associated with the development of Lagos metropolis.

The part of this model which interests us as far as it indicates relationship in function, size and distance between the metropolis centre and these settlements, would appear to lie in the extent to which the land use in their vicinity reflects changes inspired from or connected with developments in central Lagos. Land use at those areas becomes invariably linked to central Lagos, providing food for the factory workers and the residents of Lagos, serving as factory sites, residential accommodation transport routes or centres, institutional sites, forest product collection zones, plantations, administrative centres, shopping centres, and recreation grounds. Some of these land uses are expected to establish themselves more firmly as the metropolis matures into a more complex structure than it is at the present time of study.
The fundamental importance of the "service function" stressed in a central place model is considered relevant for the Lagos study area to the extent that it explains some of the underlying factors influencing land use specialisation in the more remote parts of the study area. It also provides a useful base for appreciating, first the catchment range of central Lagos and next at least functionally, the connecting links between all units of the emergent metropolis. It is considered more useful in the study area at the present stage in time than say, the multi-nuclei model would yet be. This is particularly so when such modifying concepts as "range" and "threshold" as introduced by Berry and Garrison (1958)\(^{45}\) are present in the model.

There is no doubt that the central place hierarchy model can be reasonably applied to the Lagos study area. The idea should be useful as far as the model allows a clearer understanding of the social and economic relationships which exist between urban and rural areas and between urban cells at various levels in the hierarchy, outside the complications introduced by local uniquences or peculiarities. We know from the work of Mrs. Josephine Abiodun\(^{46}\), conducted just north of the Lagos Study Area, that with slight modifications to suit local conditions\(^{47}\), the central place model could be usefully applied to the functional analysis of settlements in these parts. Evaluation of further potential contributions of this model to a better understanding of Lagos land use must await future research which would be beyond the scope of the present study. One apparent indication in the present study is that the K=3 hierarchy for predominantly

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9.47 Amenities and central place items have to be reappraised to meet the lower standard for a developing region: e.g. pipe borne water, electric light, postal service, school and periodic markets are more significant than they would be in developed regions.
commercial land use; *K* = 4 for predominantly transport land use, and 
*K* = 7 for predominantly administrative, government or institutional land use
and soon for all categories of land use might be useful approximations in
describing degrees of specialisation in land use within the study area;
but the analogy is not pursued further.

The complex details of land use mapped for the C.B.D. reflect the
range and service functions expected of the top position in the central
place hierarchy. This explains the supremacy of Lagos C.B.D. above all
others in the entire study area. One such complexity is observed at the
principle thoroughfares of Yakubu Gowon Street and Nnamdi Azikive Street
where two related attributes co-exist in the form of serving as both business
street and a traffic artery (Lagos land use types 3 and 4a).

Finally, as Christaller's model is heavily concerned with the idea of
providing services at minimum distance, it can be anticipated that until
better transport facilities remove what Berry (1967) has termed "the
tyranny of distance" from the entire study area, the highly localised
nature of central goods and services and the land-use complexities it
creates at the top of the hierarchy (the Lagos C.B.D. in this case) will
remain true to the original Christaller model in that respect. Whereas
recent discussions of the model's validity regarding commercial land use
or shopping centres in cities (Edwin Thomas, 1967; J.H.Johnson, 1969;
Brian Berry, 1967) have drawn attention to modern trends favouring a
decentralisation of retailing and services away from a single central zone
or top rank in the hierarchy of central places (presumably the C.B.D.) in
western cities, for Lagos the poor transport facilities and the under-
developed level of land use organisation would still favour the 'original'
Christaller model as more appropriate for the present time. Berry, for
instance, could write:

..."modern transportation and rising real income have removed
the tyranny of distance and people's life space (the areas in
which they travel to work, shop, socialise or use for recreation)
have widened immensely. Shopping centres no longer dominate an
immediate exclusive market area, instead several centres serve the
same community-of-interest area and consumers at the same time
visit all of them."

9.48 (a) Thomas, E. (1967): "Sprawl and Central Place Theory" in Metropolis
(b) Berry, B. J. L. (1967): Geography of Market Centres and Retail
See also Berry, B.J.L. (1960) - 'The Impact of Expanding Metropolitan
Communities Upon Central Place Hierarchy', A.A.G. Vol.50.
(c) Johnson, J. H. (1969): Urban Geography. Published by Pergamon,
Oxford.
But for Lagos such a change has not quite occurred because transport facilities there remain inefficient and one particular shopping centre (high incidence of category 3 land use) continues to dominate the entire study area from the C.B.D. in Lagos island. Perhaps the observed imbalance is a normal feature for this early phase of metropolitan development in Lagos.

Brown, R.C. (1968), geographer: The important role of DISTANCE in geographical thoughts and problems, which formed a common feature in all the four models we have so far surveyed has recently received a thought provoking review by Robert Brown (1968): 49 He stresses the value of maintaining the right balance in the matter of using 'distance' variables in land use analysis. As the present study on Lagos is deeply involved with land-use analysis in a new field area, Brown's arguments seem to provide useful guidance on the application of this seemingly inevitable factor (distance) in our analysis of Lagos land use. Brown had pointed out that as far as actual work output is concerned, geographers are known to have registered their interest on "the friction of distance concept" later than economists, planners and human ecologists. He then proceeded to outline significant faults arising from the "friction of distance" concept as frequently postulated and applied in geographical writings. His points were made in a powerful argument in which he reasons that if current location theory is based upon general equilibrium theory or even dynamic equilibrium theory, and then considering the arguments of social scientists that equilibrium in fact does not exist, "belief in a friction of distance concept is misleading and labour lost. But if we defend the notion of equilibrium, our problem still hangs on". In effect he suggested that the geographer's dilemma is either to deny the existence of equilibrium as many social scientists now do and so consider all our efforts wasted on a function of distance concept, or defend equilibrium and still face our difficulty.

Brown pointed out that geographers tend to adopt the latter course because "traditionally we have used distance as proxy for other, more difficult to measure, variables." Examples are: as substitution for land values or land uses in relation to the C.B.D. Distance has also been used as a proxy for social and institutional variables." such as the influences of blight or non-white areas in land use, or the influence of extension

of urban services in rural hinterlands, and so forth". Brown contends that it is not enough just to know that a negative correlation based on friction of distance exists. He would like to see other questions arising from measurements of "friction of distance" accorded priority.

Brown does not condemn outright the use of distance variables as a means of operationalising land use hypotheses. Rather, he suggests an attempt to extricate geographers from their ties to classical economic theory, which he believes has "prejudiced geographical thinking for the last 150 years". Such liberation might instigate geographers into looking beyond easily measured phenomena and try getting at underlying phenomena which geographers "know to be more important but do not know how to measure".

We may now turn to one aspect of land use studies which gives insight into the links between basic economic theories (on principles of demand and competition) and empirical observations for explaining the pattern and structure of Lagos land use.

**LAND USE COMPETITION AND DIFFERENTIATION**

The competition between different categories of use for space has received extensive theoretical treatment in Europe and America, and much of the writings we have examined in our review of theoretical background, concepts and models in land use studies also provide material for this section of the study. One approach to understanding the operative features is by considering the nature of Cities as a factor in Urban Land-use patterns.

Therefore we take a closer look at how the Lagos study area conforms or deviates from the established concepts by considering the nature of land use competition in Lagos and the processes by which land use categories establish themselves where they are.

Granted that the nature of cities constitutes a strong factor in shaping the pattern of land use in urban areas, a few general points (setting out prevailing ideas about urban land use) were borne in mind while assembling and interpreting data on those case studies of the Lagos study area taken from inside the city. A summary of the points considered generally applicable to Lagos as an urban unit are set out below.

A city is normally designed to maximise transactions or interaction between specialised people and activities. It also provides surrounding areas with goods and services they require. Inside the city, location affects human activity and human activity modifies locational arrangements. Through normal process of land-use competition, the various space-using activities tend to find 'their place' in the city.

9.50 'Their place' becomes such location as their economic circumstances would command against competition from other users.
General Features of Land-Use Competition.

Theoretically this suggests that given an open land market, such as one expects in a free capitalist society, a tract of urban land ends up supporting the activity that will pay the highest rental at that tract. If no user comes along, the highest rental is zero and the tract remains vacant. If several potential users are interested in the tract, the one who is willing to pay the highest rental will get the tract and put it to the tract's "highest and best use".

As has already been described by Apler, Adams and Gould the rental is the price of a location, irrespective of whether it is owner-occupied or not. What the owner could collect if he rented to someone also represents an "opportunity cost" to the owner. With that the owner computes the cost of his occupying the place. For tenant-occupied land, a potential tenant can always come along and bid higher rental. The tenant who is able and willing to pay the highest should end up with the tract. If the highest and best use already occupies a tract, no rational, fully informed user will outbid it.

Normal competition for a given space is affected by variation in user requirements as already discussed in pp. 45 - 48. An advantage for one user might be an obstacle to other users. The value of a tract itself is a function of relative location and site attributes. Each category of land use appears to have a ceiling rent and within that the bidding process tends to ensure that the tract of land in an open (competitive) land market is put to the "highest and best use"; but it is a fact that the ceiling rents at each tract change through time. A user discovers a tract which offers his activity some exceptionally attractive "site and situational benefits" and tries to buy or rent the tract. How far up he bids for the tract depends on what sizeable benefits and attendant profits he anticipates, perhaps higher than any competing uses of a different kind. In Lagos, where

9.52 The point in Lagos is that land market information is so poor that few prospective buyers are ever "fully informed". Lagos land market is probably one of the most imperfect of its type anywhere in the world. That is possibly responsible for the exceptionally high apparent land values of Lagos as shown in Maps 16 and 17.
9.53 Upper price level, which can be raised or lowered according to market forces.
users often lack correct information errors and inefficiencies in land use frequently result.

Under normal competition activities are expected to sort themselves out according to the bidding power of competitors because different activities have different interaction requirements and because different tracts have varying access advantages. Some urban activities require access to all or part of the city. They will pay a premium for a good location on the intra-urban transport network. Examples of such activities are: city centre department stores, police headquarters and area general hospitals. They all need central location and thus easy access to all parts of the city. Better access commands higher rent for highest and best uses. For this reason business and commerce, which traditionally have the highest ceiling rents at accessible centres, occupy prominent parts in the C.B.D. and similar centres in the city.

Activities needing access to the surrounding regions and to other cities eagerly pay a premium for tracts along inter-urban transport lines, e.g. factory districts.

Manufacturing activities are known to try to be as close as possible to three types of places (if they were free to locate themselves):\textsuperscript{54}

(1) the city in which they operate
(2) a surrounding supply and market region
and (3) other cities.

This places them at the periphery of the city in which they operate; so, they pay or operate highest ceiling rent where inter-regional transport lines come close to intra-urban transport lines.

In areal and economic terms, it has been observed by most workers on urban land use\textsuperscript{55} that the three most important urban land use activities besides transportation are:

(a) Manufacturing and goods processing activities such as warehousing, wholesaling and transhipment of goods. They need access to workers, as well as to the regional transport hub.
(b) Local business, including retail trades, business services and personal services.
(c) Residential requirements, which is by far the largest areal class of urban land use.

Of these three land consuming types, residences adopt an apparently incongruous feature. They necessarily occupy a large area of the city; yet the majority of residential land use e.g. low income dwelling houses are weak competitors. It is generally agreed that for American and European cities residential land has usually been a residual use, "something left over after the potent purchasing power of business and industry has pre-empted what
it wants". Usually, residential ceiling rents are substantially less than those offered by even the lowest bidding non-residential users. Hence for cities in America and Europe (which set the trend for planners in cities of the developing world, such as Lagos), residential activity seeks the urban periphery while non-residential uses cluster at the core. These days residential development emphasizes aesthetic or site amenities, not access.

Cash value of superior access varies among the three use classes, viz. industry, commerce and residence. But it is important to note that transport innovation can revolutionise the pattern, altering requirements for each user according to his new appraisal of accessibility. As a city grows in size and expands the interaction needs of its enterprises, it strangles if activities are not properly located and if movements among interacting elements are too difficult. If however, through, say, efficient planning measures, frictions of movement accompanying the growth and expansion are eliminated in the city, land values and land uses begin to reflect intrinsic site qualities more than locational or situational attributes. On the other hand, tracts near the central business district are known to decline in value at a certain stage in city growth and expansion. They tend to command little locational value at the advanced stage because their relative accessibility has declined. Tracts near the centre often are distinctly undesirable because they offer bleak surroundings, the tracts are often too small and existing structures usually are too expensive to demolish.

On the whole, in the absence of stringent zoning controls, much of any city's land use pattern is the outcome of competition based on ceiling rent differences between industry and commerce.

Land use competition in Lagos may be described as "imperfect" in the sense that users have very poor knowledge of both the land market and the various uses to which a given piece of land may be put. The majority of land holders and users interviewed during the 1972 field work rated the value of their land in terms of the tract's potential for use as a building site for residential or commercial purposes (categories 1 and 3 land-use). With the exception of corporations and government respondents, in no instance did land users give the impression of careful appraisal or even awareness of factors normally related to land-use competition. People appear to be more interested in feverishly getting hold of any piece of land to erect a building in whatever form.

The present writer was left with the impression that much of the chaos and abuse currently observed in the land-use organisation of Lagos could be

9, 54 Each of the Industrial Estates of Lagos occupied such sites at the time they originated but the rapid urban growth of Lagos now leaves only the designated Ogun River estate at the periphery. All others still enjoy the expected advantages by their closeness to major roads or transport nodes.
removed if land users, their agents or the local planning authority decided on what use to commit a given unit of land after a careful consideration of the following basic factors:

1. For the intended use, what related interactions may be expected between the new use and existing uses? If such interaction is neither compatible nor complementary with neighbouring land use categories, there is less chance of success.

2. Ownership and tenure: The present study provided ample evidence to show that in Lagos the use to which a piece of land is put depends a good deal on who owns the land - the traditional society, the government, a business firm, or corporation, a family or a private individual. It has been demonstrated in Tables 17 and 18 and Figures 4a and b that the trend in land ownership and tenure of the study area is moving towards the modern freehold system, such as obtains in western industrialised countries. In efforts to effect desirable changes in local land tenure the government has played active part in liberating land from traditional systems by direct acquisition of land for public purposes and by initiating active land reclamation of several swamps in the area.

In the new ownership system, the land market is more "open" and space is made available for most categories of use than was possible or expedient in the traditional land tenure system. The transferability of title and the government's power to acquire land for public purposes (often less competitive categories of land use such as education, roads, recreation and health centres) are two very important principles made possible by the new system. Moreover, a market value (or land price) for each tract of land is seen to be evolving under the new system. Admittedly, the current prices appear to be highly inflated and for many essential uses it is difficult to find space they can afford. However, the present trend has good prospect for stabilising itself with a little government intervention. There is a real need to rationalise land prices in Lagos.

Lack of uniformity in the tenure system throughout the study area and poor documentation of ownership rights contribute significantly to the incessant litigations and expensive conveyancing which characterise Lagos land deals.

9.55 Charles Abrams in contribution to Scientific American, Sept. 1965
Brian Berry in his concept of City No System within System.
9.56 As stated in Alder, Adams and Gould (1972) Op.Cit. Chapter 10, p.356, but their observed consequential clustering of non-residential uses at the core of American cities (or location of residential activity at the periphery) do not apply to Lagos. We have already noted that for Lagos the industrial estates assumed peripheral location at the inception of each, although rapid urban growth have been overtaking these locations, increasingly drawing them into the city.
3. **Compatibility** and Complementarity with other land-use categories do not appear to bother present land buyers in Laos. This fact was borne out in response obtained during field work from owner-occupants of fairly high grade residential property at Ilupeju and Ikeja industrial estates. It was sufficient for them to know that they had security of tenure for the plot they have acquired to build on within the industrial estate. They have not thought about any consequences likely to result from their industrial environment such as industrial nuisance (atmospheric pollution, fumes, smell and dust; danger of explosion; litter from industrial waste; and, nasty effluent discharged into local gutters). Perhaps the novelty of the industrial experience in these parts and the blinding excitement new home owners here appear to experience, partly explain the circumstance. On the other hand failure on part of the local planning authority to devise efficient land-use planning policy must bear a substantial part of the blame.

Local planning authorities justified the existing condition on the grounds that their primary aim had been to draw land out of former traditional land tenure, prepare such land for modern ownership, i.e. cut it up into residential plots and factory sites and offer same to potential private owners. That way they were helping to meet the needs for private home ownership and for work-place accommodation out of the very limited land so acquired. Recent government efforts to acquire land (one-sixth of all land in Lagos state was so acquired by April 1st. 1973), is expected to result in more land becoming available for an effective zoning system to apply. Until such a general government directed policy is practicable neither the compatibility nor complementary factors really affect competition for space between the major land uses of Lagos.

This point brings into focus the significant observation that for the study area land-use competition has not yet developed to the generally known level in Europe and America, where manufacturing industries are often in a position to outbid residential use for a given piece of land. For as had already been noted in a discussion of the "industrial estates" (pp. 96 - 105 ) industries are still confined to specific pre-arranged estates. They have not actually started competing for space in the open land market - at least not as individual manufacturing industries.

4. **Accessibility**: How much competition a given tract of land attracts depends, within the study area, on the degree to which such land is made accessible to potential users. Remote lands are unattractive to users;

9.57 Such a phase was already becoming apparent in many parts of Lagos during the 1972 survey. To relieve the situation, many road projects, such as the Eko Bridge extension and various road widening undertakings were in progress. As illustrated in Fig. 1 of this thesis it signifies a transition between Phases III and IV.
but once a road is driven through such remote parts, the area gets suddenly drawn into a competitive land market. The new Lagos-Badagri road and the Ikorodu - Epe road are two clear examples which emerged during the period of this study. After what remained. After the Lagos State Government acquisitions, what remained of the newly opened up lands on either side of the new road between Lagos and Ojo Town has been attracting developers for industrial, residential, commercial and recreational land uses. Together, they have pushed up land prices in these parts about tenfold between 1970 and 1973. For instance, Ojo chiefs sold a plot of land (50' x 100') in 1970 for N100; by 1972 they were demanding N400 per plot and by March 1973, they had pushed the price up to N1,000 per plot on account of the new Lagos-Badagri road with appears to open a new world for Lagos motorists and land speculators.

It became obvious from a study of road development in the study area (Map 30 and 35 refer) that category 4 land use (particularly 4a) is a fore-runner for other land uses; but the physical scale and financial commitment involved means that projects of this nature have to await government initiative. It is a public, as distinct from private, land consuming project. Successive governments have long recognised this fact and have assigned much of their land acquisitions to this purpose. Only one road (Agege to Ipaja Road) originated by private initiative.

It is noteworthy that the earliest recorded land purchase by the colonial Administration - the Nigerian Railways headquarters - was for this purpose. That purchase also established the principle of negotiating and paying market price/value for land required for railway construction and ensured the tenure of railway property. The principle seems to be proving more reliable than present powers of compulsory acquisition (involving only nominal compensation) welded by the Lagos State government (e.g. The Ilado/Moba land case currently at issue). It is strongly argued however that not all public purposes for which land is required by the government are so economically viable as a railroad (see Table 14 for the major public uses for which government acquisitions were applied). For most purposes, a potential land user, particularly in the private sector, would opt for tracts of land in more accessible locations, ignoring remote locations.

9.58 See analysis of 276 Nigerian Federal Govt. Acquisitions in Table 14 of this thesis. Roadworks, Schools, hospitals, public recreation grounds, airport and defence are all considered under public purposes as distinct from private individual uses.

9.59 A suggestion on what form such intervention should take recently appeared in an issue of 'The Lagoon Echo' Vol. 1, No.3, 1974, pp.20-25. Article by Mr.P.O. Adeniyi of Lagos University's Dept. of Geography on "Who should own the Urban Land". Although the politically anti-socialist attitude of the Nigerian public would certainly frustrate his hopes, this author partly shares his suggestion for a nationalization of urban land as a /continued
until a road, a railway or water transport route alters the geographical disadvantage of the latter. For example, the apparent remoteness of south-western Ikorodu coastal littorals could be changed overnight by introducing an efficient water-borne transportation system into Lagos.

It was further noted during the present study that certain land uses, apart from the obvious effects of category 4 land use, are by their very presence, capable of creating accessibility which gradually attracts other users. Such is the "accessibility value" created by the setting up of quarries, commercial-scale farming, plantations, educational institutions and even military camps. They appear to have a pioneer effect in the opening up process of hitherto remote lands.

5. Centrality: This factor is the basis for intensive competition for space nearest the C.B.D. of the metropolis at the present time. The necessity to locate near the city centre or other major urban nucleus of the city area (viz. Ikorodu, Ikeja and Agege) brought about a "sorting out" process which enables the activities most able to compete through superior economic and political power to occupy lands nearest the centre of the metropolis and, to a minor extent, closest to the few urban nuclei (Ikorodu, Ikeja and Agege) of the study area.

For the study area, the most central district (equivalent to a metropolitan C.B.D.) is Lagos island together with the narrow band of main arterial roads made up of Ikorodu road (from Maryland to Carter Bridge), Agege Motor Road to Ebute Metta, Western Avenue to Eko Bridge and Apapa Road (from the wharf and Agegunde to Ebute Metta). The physical geography of Lagos island presently restricts the direction of approach to the "centre" to only one main sector (the Carter Bridge/Eko Bridge entrance to the north-west). A more localised south/south easterly approach forms the second sector, while the only existing public ferry (between Apapa and Lagos Marina) forms a third approach on a south-westerly sector. (See Fig.6). The significance of this physically conditioned alignment is that Lagos land values which would normally conform to a concentric model of economic distance from the centre, has in reality acquired a pattern brought out clearly in the land prices map (see Map 17) presented in this thesis. While it is true that competition for space as indicated by land prices, is conditioned by the physical presence of the lagoon "as a barrier"; the

9.59 continued. as a useful policy but believe that the present system of Government acquisitions is the most convenient and practicable under the existing political circumstances of Nigeria generally and of Lagos in particular. See Appendix 39 presenting the Lagos State Government stand on Land Acquisitions for public purposes; while Table 15 and Appendix 7 show acquisition so far by Lagos State and Federal Governments respectively.
sharp change in land prices west of Apapa results from the political boundary which left only the eastern lands in Federal territory. Ajegunle, Ajeromi and Itire remained in the former Western Region until the creation of Lagos state in May 1967.

The centrally located land area and consequently the higher priced lands become constituted into the islands of Lagos, Ikoyi and Victoria, Lagos Mainland (Yaba, Ebute Metta, Iganmu and Surulere) and the port are at Apapa. The most competitive land users occupy most of the space available in this central area. Unit of ownership at the core (viz. the C.B.D. and satellite nuclei at Yaba, Ebute Metta, Ikorodu Road and Apapa) becomes so valuable as to be measured in the smallest possible unit, viz. square feet of floor space, and high rise types of building predominately in the most central areas in effort to provide maximum possible space per 'plot' of land. (See Plates 19 and 37).

The convergence of transport routes (motor traffic) in the central island is a feature of the intensive use made of space in the central area, and emphasize the value of access to the C.B.D. as a factor in Lagos land use competition. With increased "specialisation" as a sorting out process, the location of each land use category tends to conform with the degree to which a category needs, does not need or cannot afford to locate nearer the centre.

6. **Time Factor (Duration and Frequency of Use);** In three significant ways, time tends to produce differences in ability between competing users of land. The three ways are represented in the questions users must resolve when rating the attributes of a tract relative to their requirements. They are questions concerning:

(a) Duration of use. Is there a minimum period or time limit which might affect the potential user's interest? Whereas many rural land users are adaptable to short-term operations, the majority of urban land uses (e.g. office blocks, manufacturing industries and transportation routes) operate on long term bases.

(b) Mobility of use (interchangeability): Once the tract has been put into one use, can the same tract be easily adapted to other uses or does one use imply complete withdrawal of the tract from all other uses for a long time.

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9.60 As for note 9.50 and details of Table 14 and Table 15.

9.61 A wealthy female local trader is said to have built the road to help her business and improve the remote western districts of Agege. She received much of the agricultural produce she traded in from Ipaja area. This information is based on a private discussion with Mr. A.A.Adefulalu of the Dept. of Geography, Lagos University during field work in 1972.
Frequency of use: How often will the tract be used: daily, periodic, or rare. Market places in the study area vary in this respect and the amount of space allocated to that use can vary according to the planner's or other land user's estimation of its importance. For example, most daily markets in the study area (see list in Table 7) occupy or even form central and highly desirable location against fierce competition from other categories of land use.

Activities that would rarely use space would, barring government intervention, make do with remotely located and less desirable land; or, share more competitive space with other activities that would make more regular use of the space. Such activities (the rare space users) would normally be in a weaker competing strength. Institutional land uses (category 9), especially religion, feature among such land use. On the other hand, commercial or business premises which are in use for a limited number of hours per day, conduct enough profitable business to offset losses at any periods of non-use. They are still in very competitive strength for central and more expensive space in the metropolis.

7. Size of Land: (Threshold unit): Each activity or land user tends to have a minimum unit or threshold necessary for its presence in the land use structure. The minimum unit varies according to activities or users. Even at the category level of, say, "Residential land use, land for a high class residential use (category la) comes in a unit of not less than a plot. At Palm Grove and Ikoyi where such land use predominates, a unit amounted to \( \frac{1}{4} \) of an acre or more for a detached house (see Plates 27a and b, and Colour Plates 29 and 30), whereas a high density of about 20 units per acre of land was commonplace at Shomolu, Agege and Oshin (similar housing conditions with those shown in Plates 28 and 29).

Some recreational activities also require a fairly large space as threshold units, e.g. a standard football field requires about one acre of land. Such a unit would be economically secured in a central area and would therefore result in locating recreational activities away from expensive central lands. The exception found in the Oniken district of Lagos Island (with its concentration of category 7 land use) is explained

9.62 See Fig. 6 of this thesis (on Direction of Daily Movement into Lagos Island).

9.63 See C.P. 37 and 38 left side of photograph and Plate 37.

9.64 See Chapter 8, pp. 354 - 355 of this thesis.

9.65 See Chapter 8 pp.275-279 of this thesis. Usually a large plot not less than 800 sq. yards and frequently as large as 1210 sq. yds. They are usually single family homes for the affluent classes.
by the fact that the area was a "remote swamp" reclaimed by the colonial
government for purposes at a very early phase of Lagos development.

It may safely be said that the larger a user's threshold unit is,
the more likely would the activity tend to find space away from the
higher competitive centrally desired parts of Lagos metropolis.

8. The Shape of land required or held by users tends to disturb normal
competition for space among all users. This fact can be observed from a
study of land ownership patterns in the study area. The 'obstacle' effect
on land-use competition is particularly true for the Lagos study area
(especially Lagos City) where the geometry of lands held by the government
at, say, Yaba Medical Quarters, has displaced or thwarted other uses,
such as transport orientation and residential development.

The shape of railway property also interferes with the pattern of land
use in that they automatically exclude certain categories of use that
cannot fit into the geometry of space they generate.

9. Land Value: By far the greatest single factor in land use competition
is the general land value operating or known to prevail in a place. The
successful competitor is the user best placed to pay, in cash rent or
otherwise, enough to put the tract to its "highest and best use". The
value itself is determined by demand from users, who are presumed (most
erroneously in the case of Lagos) to have full information about the site.

A major problem with Lagos is the absence of land value maps over a
long period. A pioneer attempt by the L.E.D.B. in 1966 to fill that gap
resulted only in an inaccurate, ambiguous and poor quality map (see
map 28) which unfortunately became a reference for the authorities there.
The map is outdated and unrealistic in all respects. A follow-up version
by a local geographer is understandably frustrated by the vagaries of poor
data field and unreliable primary sources (see map 29).

10. Political Boundaries: The effect of political boundaries on land values
is exemplified most clearly in the steep gradient, observable at the former
boundary at Agunle between pre-1967 Federal government territory and
Western Region of Nigeria, on the land value map of Lagos. That effect is
invariably reflected in land use competition. Parts of a territory may be
rated lower and even regarded as repulsive or attractive, unsafe or
secure for competing land users.
In some cases (e.g. the Western Nigeria Housing & Industrial Estates at Ikeja) land use may become deliberately incited at the borders of a territory for purely political motives or sound economic sense based on perceived political "realities" at that place.

In any case, evidences from the Lagos study area support the view that political boundaries, even when they are not related to differentiating physical features, often strongly disturb the general level of land-use competition. Patterns of use suffer abrupt changes at the border, in a manner directly attributable to political "breaks of slope" in the cultural landscape.
This final chapter brings together some concluding remarks and observations deriving from the data assembled in the course of this study and from the various methods of analysis/interpretation to land use theories in the context of Lagos as a developing region. We started off with identifying a study area (Lagos) in a tropical developing region recently experiencing industrialization as a new form of economic activity with consequent changes in man's use of the land in that changing environment. In the process, a former terminological tangle which for centuries had confused references to "Lagos" was sorted out into sixteen clearly defined concepts of Lagos which one hopes would facilitate better understanding of each of the locational units to which the study might refer from time to time.

Next, four items which seem inextricably tied up together throughout the study were clearly examined and placed in their right relationship to enhance the inquiry. Thus, Lagos State and the Study Area, which provide the arena for our studies; land use, which represents the final expression of man's interaction on the environment, the landscape expression of multiple human decision to use the land for meeting all human needs; industrialization, which is currently establishing new patterns, opening up new possibilities and creating several new problems likely to affect both the arena and the human actors upon it; and, theoretical considerations which provide basis for contextual treatment of our observations, were individually examined and then placed in perspective, each upon the others.

The creation of tools to facilitate the study, provided challenging opportunity for resourceful assembly of some of the most inaccessible data and laid the foundation upon which this study rests. The making of the first land use map of a geographical entity never before presented at this large scale in a single map; nor for any related purpose, represents one response to such challenge. The land use map became a reference document to which each of the 56 possible use categories could be related. Such relationship forms the basis for analysing and explaining the use of land for human needs in Lagos. Similarly the forces which govern the acquisition and use of land in Lagos are revealed at a time when there is active transition from traditional to industrial activities. Their peculiarities provide empirical material against which theoretical considerations are attempted. All these aim at producing a better basis for understanding land-man-relationship and the effect of changes in the economic activity (or transition from one type to another) upon human responses in the endeavour to satisfy his wants
from a limited environmental opportunity as expressed in the use of land.

What factors influence the use of land in a developing tropical region like Lagos and in what ways has industrialization (as one of the vehicles of change) helped to create the features of Lagos land use? These are the twin questions which constituted the problem for the orientation of this study. The geographical approach to the problem also involved disciplinary and environmental problems which had to be resolved as the study progressed. First the pioneer nature of this study in Lagos involved adapting and devising a few geographical techniques which would facilitate the collection and analysis of data. For this it was necessary to harness techniques in various branches of geography (regional, historical, economic, physical and applied) which have produced the combined effect of "preparing the field area" for the study. Secondly there is the need for a detailed understanding of the physical and human circumstances of the study area with a view to providing solid basis for the analytic and comparative treatment of data derived therefrom. In resolving both problems successfully as part of this study, problems were encountered and errors were committed but with the initiative forged and the success associated with the fieldwork in Nigeria, these may be said to represent the challenge and fulfilment which in themselves are adequate incentives for research in developing regions, particularly in West Africa.

Method of Investigation: The Study involved what may be conveniently described as library work, field work, computer and cartographic presentation work, and "research room" work. Library work both at Leicester and Lagos Universities meant finding and reading comprehensively as much relevant existing work as would provide all background information needed on both the subject of enquiry and on the Lagos field area. The bibliography attached herewith (See Vol. 2 pp. 438-50) represents work consulted or materials traced and read mainly during the period of this research (1971-1974) but also includes some materials the author had used a few years earlier, preparatory to the present study. The 360 items (books, articles, etc.) were, for convenience, grouped in six sections as follows:

10.1 This refers to the Geography Department at Leicester University where all the material collected from various sources in all methods were assembled, analysed, compiled, checked, pondered upon, discussed or consulted upon with the supervisor and other colleagues where necessary and eventually written up.
The 25 materials in Group A yielded valuable information on the history, geography, government, planning, port development sociological studies and law relating specifically to the study area and its regional setting. In Group B, 57 items (in the form of books, articles and random papers) provided material on Yorubaland, people and economy which in turn served as useful information on the cultural setting of the study area, its people and livelihood. In Group C, 141 materials made up the sources of information consulted on Lagos, Tropical Economic development, Urbanization and Industrialization. For a detailed examination of industries as land users, the 24 sources consulted are listed in Group D; while Group E contains 71 other materials covering more general aspects on geography, economics, philosophy, computers, anthropology and general knowledge and were found useful or relevant to the thesis problem or omitted in earlier readings. Finally various sources in the form of magazines, newspapers, government publications and miscellaneous documents used or consulted for the study are listed under Group F.

The main problem encountered in this part of the study relates to the difficulty of finding the books and articles. Some, like the Nigeria Hand Book 1953, have become rare documents and had to be found at great cost. Often the references were not available in the University Library and had to be purchased at great expense; but on the whole they were all very useful in shaping the researcher’s thoughts on the thesis problem, in narrowing the field of uncertain knowledge and in throwing up important aspects for field investigation.

Field work became an essential part of the study in view of the necessity to obtain firsthand information and check out both information from books and theoretical concepts. It provided the empirical basis which constitutes the substance of this study and from which the simple theoretical model (Fig. 1) presented in this thesis is derived. Above all the Land Use Map (Map 8) which resulted from the field work represents both a pioneer effort refined by all secondary information collected from the previous method (above) and a primary source material on which analytic treatment and comparative theoretical considerations are based. In view of the substantial part this aspect of the study plays in the thesis and the localised nature of the field area, a brief review of the field circumstances and methodological approach under which the field work and the resultant map evolved, is considered appropriate in this chapter.
Actual field work in a developing country like Nigeria soon betrays all facts of underdevelopment. For what could be regarded as an elementary exercise in a developed country like Britain becomes a mammoth task. Equipment such as maps and basic instruments are not available where and when one expects to find them. A tradition of local field work or land-use record is often completely lacking. Field assistants are difficult to recruit and local responses and conditions are difficult to predict. In general, these special field conditions are often responsible for the unusually high cost and time loss which apparently discourage possible efforts by developing countries in carrying out basic land-use surveys. The result is a serious lack of land-use maps and perpetual dependence of developing countries on ad hoc or intermittent and more expensive unrelated feasibility studies on given land-use and other development projects — studies that could be largely unnecessary if reliable land-use maps were available.

10.2 The field area is far from the base from which this study originated and may not be readily accessible to all who may wish to read this thesis. Besides it is located within an environment from which only very little research had ever entered geographical literature in any reasonable detail. The area as a field study ground is relatively unknown compared with such well documented geographical regions as London Basin, or the Apalachians. This is no way denies the few existing but highly restricted work on Lagos as a City or a Port e.g. Professor Mabogunje (1961) and Hodder (1959) op. cit; but it is considered that the time has come for formalising Lagos region into the geographical "open laboratory" for which it has great potential, possibly ranking in usefulness with its British, European or American counterparts as the metropolis matures.

10.3 The author's contribution to the I.B.G. Conference, Norwich, January, 1974 at the Young Researchers' Forum, Session S3, on "Land-Use Survey in Lagos Region, Nigeria: Problems, Procedure and Computerised Data", drew attention to these points and presented material for discussion among other workers on underdevelopment problems.

10.4 For the study area, several of the Colonial, Federal and State Govt. (even U.N.) commissioned studies or reports concern transport problems in the area., e.g. The Colonial Government consulted Messrs Coode & Partners in 1892 on solving Lagos Port entrance (See Mabogunje, 1968, p.248, Fig. 38 in this bibliographical ref. no. 299). The U.N. on technical assistance to Nigeria commissioned the study by Otto Koenigberger et al (1964) on Metropolitan Lagos. The L.E.D.B. commissioned the Postmortem Sociological Study of the rehousing scheme at Surulere by Peter Morris (Pub. 1962). The Lagos State Government has just commissioned McCowan & Associates (of Pontefract) for a reorganisation of Tinubu Square and related traffic land use, as well as commissioning other bodies for the so-called "Dolphin Scheme" plan (1973).
It was therefore necessary for the present writer to first prepare his own land use map[^5] before any meaningful investigation of the thesis problem, analysis of available data and comparative assessment of theoretical concepts on the empirical situation at Lagos, could be attempted.

**Background to the Lagos Field Problem:** As hinted earlier in Chapter 1 of this thesis, appropriate large-scale base maps (about 1:50,000) did not exist for 98% of the anticipated study area. Moreover the state is a newly created Political entity for which mapping and information field system for its component parts had not hitherto been organised by a single body or for any related purpose[^6]. Political boundaries, for example that of the Federal Territory of Lagos (27 sq. miles), inhibited large-scale mapping for the otherwise contiguous area of Lagos state. This rendered the study of places outside the politically designated Federal Capital[^7] more difficult than necessary. Available information and field organisation were designed to serve different purposes, as feasibility studies for local projects and random agricultural statistics (as in Note 10.4).

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10.5 In January 1972 the present writer had set out from the blissful environment of Leicester with an elaborate scheme for conducting a land-use survey of the entire Lagos State of Nigeria (all 1,381 sq. miles of it). The first three weeks in the field soon trimmed such wild ambition down to more realistic scale of operation. The result is the present Lagos Study Area shown in Map 3 in its topographical setting within Lagos State and in Map 4 in physiographic details with the divisional units involved.

The land-use map, enclosed herewith in folded form at the scale of 1:50,000 is therefore an essential source material on which this thesis is based.

10.6 Some large-scale maps - often outdated and inaccurate in detail - were available only for the Federal Territory or Central Lagos from the Federal Surveys (Lagos) to whose Director & Deputy Director (Messrs. Coker and Adebekun respectively) this author is most grateful for all assistance received over a long period from 1965 to 1973. In almost all cases the maps suffered from the constraints of political boundaries and from poor technical facilities. Even the airphotographs were subjected to inaccuracies when for instance print 'laydowns' are assembled in the office by poorly trained clerical staff and different "resolutions" of the same area photographed are sometimes 'matched'. In a significant case a non-existent road had been superimposed upon an elaborate print laydown (e.g. imaginary road between Ikosi and Agbowa across an obvious vast swamp).

10.7 See Chapter 1, p.12 (Vol. 1) of this thesis.
Data became more inaccessible (unavailable) to the researcher on account of the unco-operative attitude of field respondents conditioned by fairly recent colonial mentality to resist all forms of inquiry into their wealth and livelihood. They point out that similar enquiries in the past had preceded tax assessments. Besides, all data fields are remote as road alignment and physical obstacles - in the form of thick forests, mysterious creeks, unmapped marshes and quagmire, snake infested jungle and uninviting insects - combine with inaccurate maps (even airphotographs - q.v. note 10.6) to impede the progress of even the most enthusiastic field worker in these parts. Finally, more money is required to 'abstract' information out of people in the study area than would normally be available to the average research student, especially when local sponsors could not see the point in a Ph.D. candidate taking "so much unnecessary trouble outside" air conditioned libraries and government offices!

Pre-survey preparations involved preparing the worksheet which is presented here as Appendix I. It is designed to accommodate all necessary information to be recorded by a field worker through simple observation, elementary map reading and a little chat with land users or owners. A set of "data collection centres" had been selected for the entire Lagos State (about 400 centres) using schools, colleges, police stations, local administration offices, farms or plantation buildings, market squares or other convenient and easily identifiable points on the map. For the final Study Area the data centres are presented here in Maps 6 and 7 and listed in Appendix 2. Letters (see Appendix 5) were sent well in advance to fifty local schools and colleges requesting their co-operation with the researcher. They were to supply field assistants made up of geography teachers and senior pupils or students. A pre-paid reply system was used and from the replies received, the researcher could judge the degree of co-operation he could expect from that source. The arrangement served as a valuable means of knowing who was prepared to help, what facilities were available where, or what

10.8 It should be noted that at the time the field survey was conducted (January to April 1972) the present expressways linking Lagos with Badagri or Ikorodu with Epe had not existed. The author used these later in 1972 and 1973 when rechecking data. Journeys to Epe up to Map 1972 from Lagos involved travelling from Lagos via Ikorodu and Ijebu Ode before going south-eastwards to Epe - a whole day's journey. Likewise Lagos to Badagri involved travelling via Agege, Otta and Ado Odo before journyming southwestwards through unreliable and dangerous roads southwestwards into Badagri - also a whole day's journey. Today Lagos to Badagri is covered in less than 40 minutes via the expressway; Lagos to Epe via Ikorodu and Itoikin along the new expressway is possible in 75 minutes (the major delay being at Lagos Island to Maryland in the Central area).
handicaps might be expected in the various institutions from which field assistants were expected. Responses to the preliminary enquiry and requests for co-operation were in fact the earliest warning one had to the effect that field conditions in Lagos might be more difficult than could ever be anticipated from a British background.\(^{11}\)

Many schools who would not co-operate in the exercise, gave such excuses as lack of equipment, conflict with time-table, unwillingness of geography staff to leave the classroom and venture into the "bush", and parental objection obviously on account of the novelty of such exercise in geographical teaching.\(^{12}\)

From this experience, the author is able to conclude that nothing short of continuous introduction of the idea (practical land-use surveying) would break the indifference local people in authority hold against the novelty of such a scheme.

10.9 The actual worksheet is of three pages with twenty items. The rest are Guide Sheets A - G containing explanation of field notation symbols and providing for special survey occasions e.g. Sheet F for Land Users Questionnaire and land use by Industries and Corporations and 'D' for Rural and Urban Fringe Areas.

10.10 A list of these schools and colleges is presented in Appendix 40, with a set of key symbols remarking on the performance, usefulness, co-operation or otherwise of these educational establishments.

10.11 By arrangement with the local University (University of Lagos) where the researcher was simultaneously enrolled for the 1971/72 session, it was possible to base there and use such facilities as transport, maps, working accommodation and library all of which proved hopelessly inadequate, and sometimes unavailable. Nevertheless, the local University did all it could to reduce the frustrations, if only by friendly assurances that the frustrations one experiences daily at the field and in dealing with officials are "normal in Lagos". The author hereby records immense gratitude to Professor R. A. Akinola (Head of Geography Dept. and Dean of Humanities, University of Lagos) who provided field supervision, and his staff, all of whom were particularly helpful.
After all the above problems have either been solved or taken into account, the researcher was confronted with the absence of any standardised land use taxonomy. In a way that is a more universal problem, but not unrelated to the novelty of land-use survey in underdeveloped regions.

Features commonly met with in British land-use mapping are either different or may appear in such variation as would be more appropriately mapped in a separate fashion. Land-use categories had to be varied from the one adopted, for example by Miss Alice Coleman. Two separate field guides sheets were designed for land-use surveyors in

(a) Rural Areas and Urban Fringe (with crop rotations adapted to local types).

(b) Urban Survey and Industrial Classification.
The Rural Urban Fringe (sheet 'D') ranged from A1 to A9 and AO, covering market gardening, extensive commercial food crop farming, large scale commercial export crop farming (mostly plantations), subsistence farming (cassava/maize, vegetables, etc.), parchy clearings and forest culture, poultry, livestock rearing and the gathering zone.

For urban and industrial land use (guide sheet 'E' Appendix 1) a detailed classification in 12 categories was also devised representing necessary modification to existing categories in mature industrial countries, especially Britain's. The categories were: Residential, primary food productions (agricultural) manufacturing industry, allied industrial land-use, government, commercial and entertainment, cultural and institutional, health, recreation/leisure, transportation, open space/idle land, defence/security. Changes were later made in cases where observed field features did not quite fit in with anticipated categories. For instance as noted earlier in chapter 4, industrial land-use sub-groups did not exist as such: Differentiation in industrial types has not yet been established on the landscape because industrialization itself is less than twenty years old in

10.12 These excuses were offered despite the fact that the researcher had taken every care to arrange the field work between February and early April - during the dry season; field questionnaire and "work sheet" had been adapted (with 5 items deliberately inserted after consultation with experienced educationalists at Leicester, notably Mr. Bailey of the School of Education, and at Lagos) for pupils' benefit in syllabus and examination objectives.
the study area.\textsuperscript{15} The lack of differentiation in the localization of industrial types in Lagos resulted in dropping the British Industrial Classification Index 3-16 originally incorporated in the Survey Sheet 'E' of Appendix 1. In its place it was considered more appropriate to use a simpler notation for mapping all "Production" (industrial and agricultural) as Category 2, distinguishing agricultural land use in urban areas as 2a and industrial land use in the same environment as 2b. That simple notation was found to be more practical in the computerisation of data system adopted later in the study. (See Appendix 8a and 8b).

Deriving from the above field experience, future researchers in similar conditions may prepare themselves against frustrations and unnecessary labour. A few useful tips are: a readiness to adapt to difficult or unexpected conditions, resourcefulness in adjusting study room theories to unexpected field circumstances and the need for co-operation between scholars working in similar conditions. So far there is no organised means of exchanging experience among researchers in this kind of work. Government assistance and help from educational institutions may be difficult to get but persevering researchers and persistent practice of land-use survey by geographers in such regions are likely to change the present adverse conditions. However, the problems also highlight the urgency for standardising land-use terms or taxonomy in such a way as to permit unimpeded exchange of information on land-use survey practice between researchers in both developed and underdeveloped countries. Such cooperation should lead to a better two-way flow of land-use information, and possibly a pooling of resources for more efficient data management.

10.13 Coleman, Miss Alice: "Land Use Survey Handbook", The activities and produces of the Isle of Thanet Geographical Association and Miss Coleman's contributions to practical land use are much admired by this author.

10.14 A field crop rotation for Lagos was devised in six categories, viz. tree crops, root crops, grain crops, vegetable and spices, fruits and miscellaneous.

10.15 The present circumstances of Lagos industries are presented in Table 4 and Appendix 41. The farmer gives facts on the industrial estate and other industrial centres and the products involved. The latter is a summary of industrialization as experienced in Lagos. The industrial estates which constitute special zones for industry in the study area are presented more prominently in Map 11 and these can also be identified as category 2b land use in Map 8.
Land use terminologies: The work of early land-use students in England and Poland have laid the foundation for most of the land use terminologies used in developed countries. However, the local character of such studies and their rural emphasis limit the application of many terminologies developed so far to newly developing lands. The need is felt for a system of terminologies that would be flexible enough for use in rural and urban areas in developed and developing regions. Such a "new language" would encourage a quicker flow of information in land-use research, reduce the problem of adapting surveys to local conditions and facilitate the quantification aspects of land use data, especially in the application of computer techniques for data collection, storage, retrieval and output. Until such a universally applicable system is devised, hopes for achieving a world land-use survey as forcefully advocated by pioneers in the field like the late Professor Stamp, will remain impracticable, beyond a mere generalised level of data recording.

Practical Aspects of the Land Use Map of Lagos

The new system experimented upon in this study, recognises a rural and an urban grouping. In a rural or urban fringe district it was possible to use a set of notations arranged as in Appendix 8 where 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, X, A1, A2, A3, A4, A5, A6, A7, A8, A9, A0 represent various categories of land use found in such districts. It ranges from Residential land use to the outermost "collecting zone" in the 'bush' or wild countryside. For an urban district, a related variant is used. The notation 1 to zero, with more detailed subsections, represent all known urban land uses for such areas. They correspond in some degree with the 1 to zero column of the rural work-sheet and thereby allows for both easy translation (one to the other) and adaptation to changes in status of rural areas within a metropolis.

The two sets of field notation were adaptable to simple computer treatment using the Fortran system. Such procedure facilitated the management of land-use data in that data became more easily recorded, stored and retrieved in easily programmed procedure. The field form used in each case is designed to suit a normal Fortran coding form from which punch cards are easily made. The entire procedure would work with equal efficiency whether one is undertaking a sample land-use survey or a detailed coverage land-use survey. The tedious and possibly routine aspect of this procedure is in the frequent calculation (by percentages) which necessarily arises when deciding dominant category of use for each parcel of land being surveyed.

The Land Use Map:
The making of Map 8 is a complete cartographic recording of information derived from the 1972 land use survey of Lagos already referred to earlier in this study. A preliminary sampling exercise (see Map 2) preceded the actual choice of limits for the Study Area. The Lagos Study Area, within which the survey was confined, was delimited to include the whole of Lagos Metropolis and as much of the surrounding districts as would sufficiently reflect the variety in land use and regional coherence within the originally projected Lagos State Survey. Of the five political divisions in Lagos State, the study area took in the whole of Lagos division (the Municipality), the whole of Ikeja division, the whole of Ikorodu division, the nearer third of Epe division and the nearer third of Badagri division. It amounted to a total land surface of 1280 km² (about 316,160 acres or 494 sq. miles) and is considered just about the maximum that could be covered within the time and resources available.

As no single large-scale map existed for the study area, the researcher prepared a standard 1:50,000 map for what became captioned as the "Lagos Study Area" (see map 8 or 9), using a variety of unrelated sources (inaccurate air photographs, poor and incomplete topographical maps, military road maps of the colonial administration, outdated planning maps and

10.16 continued.
The lack of text books on the subject by indigenous pioneers and the chaining of academic curriculum to colonial base are responsible for the perpetration of European pioneer errors and outmoded procedure in a country like Nigeria.

10.17 The field form should not be confused with the land use surveyor's WORKSHEETTM actually used in the field and from which, along with the fieldwork map, information is coded onto the data sheet we have just described.

10.18 See Tables 1 and 5.
feasibility reports, and sketch-maps relating to historical documents). The sources were of various scales and much photographic and cartographic labour was involved to get a 1:50,000 scale map for the entire study area in a single sheet. From the final product basic organisation for the collection of data (the actual field survey) was found necessary and useful. The principle used for delineating data centres was based on an assumption that 2 sq. miles for the central urban area is the maximum area a land-use surveyor (or team of field assistants) might usefully cover in the particular exercise, given the complicated details in the Lagos urban environment, the difficulty of abstracting information and mobility problems in the usual traffic jammed and dangerous Lagos streets. For the urban fringe five square miles was considered a reasonable maximum; and, for the purely rural districts up to 10 sq. miles was considered a reasonable land use data field. Within the Study Area the 244 data centres (see Appendix 3), in varying shapes and sizes of the field area (Maps 6, 7a, 7b and 7c) were designated in clearly defined units. As noted earlier, the centres were schools, field stations (farms, plantation offices, forestry research stations and some army camps), churches, planning offices, or geography teaching blocks in colleges (e.g. Data Centre 50 was in fact set up in the Geography Department of Lagos University, while D.C. 55 – Ojo – was set up at the home of the Oba-elect with his kind permission). (See Map 6 for the Data Centres).

Every effort was made to complete at least one work sheet for each Data Centre. These worksheets and the relevant base maps attached to them served as valuable source materials when it came to coding information onto the computerised Data survey forms described earlier in this chapter.

The recording of information both on the 1:50,000 master map and on computer cards had to be organised slightly differently for ease of posting and abstraction of land-use information. Table 1 is a summary of the 47 distinct units into which the entire Lagos Study Area was divided for that purpose. The Master Map on a squared paper with grid references and sub-

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10.19 Some assisting schools and colleges (see Appendix 40) were conscientious enough to do a thorough job on their assigned Data Centres and completed anything up to ten worksheets for a D.C. This author records his gratitude particularly to the small diligent teams from King's College (for Ojo and West Atlantic district), Queen's College (for Ebute Metta and Yaba), and Anglican Girls' School, Surulere (for Westernmost Surulere to Ijeshatedo Swamps) among many others who were most willing to assist.
sections (see Map 33) show the actual divisions or organisation. Each sub-section is identified by a letter or figures which also indicate the type of land-use system dominant for the sub-section; thus, identifications A to S are in urban districts; T to Z and Al to El are in Peri-urban districts; while R1 to R16 are in rural districts - each type appropriate for given land-use systems.

It is within each subsection so identified that detailed mapping or coverage at approximately 62 acre blocks or 25 ha. in 100 mm squares is meticulously carried out in the study room or map laboratory. The procedure, tedious though it becomes, is as follows:

Using one of two pre-coding sheets Appendix 8a or 8b (for urban or for rural urban fringe land-use survey of Lagos) enter the map (grid-like) ref. of each land unit within a square or part of a square centimeter separately under column "A", estimate and enter its area in column "B", enter estimated dominant use in column "C" and share out in calculated % the amount of land devoted within that small land unit to each of the various categories of land use 1 to A0 and X. The notes and remarks columns (extreme left and extreme right respectively) are used where appropriate.

The information so recorded was then punched onto a Fortran data card, ready for future use. In this way data for each location in the land use survey has been recorded and stored, and can be conveniently retrieved for further computer analysis. It is hoped that this practice will serve as the rudiments of a data bank of land-use information readily available for future research or further investigation and that enough people will adopt and possibly improve on the method. Future land use planning and monitoring in Lagos will undoubtedly benefit from the data accumulated in this study.

After posting the land use symbols in their appropriate locations on the 1:50,000 map, it was found convenient to mark out the large land ownership and use units, e.g. the industrial estates, the university lands, the cemeteries, airport, Nigerian railways, government/institutional, recreation grounds and plantations. A "smoothing" out process was applied in determining dominant land use groupings where necessary. In all cases, any apparent contradiction of information introduced into the map had to be rechecked either directly in the field or by correspondence and re-reading of field reports to ascertain the facts and correct any errors.
Once the master map recording the land use information collected during the 1972 survey had been made, it became easy to abstract such analytic detail as the industrial estates of metropolitan Lagos (See Map 8 and 11) or the distribution pattern of each of the categories of land use examined closely in this study.

So far the land use map of Lagos Study Area prepared from the 1972 survey is the first of its kind in Nigeria. Its usefulness beyond serving the purpose of the author's academic interests will rely a great deal on how future researchers in Nigeria and similar environments use or improve on what has been done; how local people and the government in Lagos accept the "innovation" (land use mapping) introduced there as a result of that 1972 survey. Much will also depend on what efforts researchers and scholars in land use studies all over the world are prepared to make towards a more uniform, yet flexible - universally applicable- and efficiently quantifiable data system on land-use information useful to researchers as well as the developing regions of an inter-related world.

Land Use Studies & Development Planning: Land use studies serve as important background work in development planning of fast developing regions. The absence of detailed and rigorously prepared land use maps of these regions is sometimes responsible for the poor perception of their environment, resources and potentials. It also keeps them ignorant of some basic misuse of their land resources at the same time as they fail to perceive the inter-relatedness of spatial organisation of human activities in their limited environment. In the case of Lagos, the notorious traffic jams in the municipality, the poor alignment of roads, the chronic shortage of public utilities and the artificially incited land shortage, are all linked to the poor land use appreciation in the area. There is an urgent need there for a better land-use organisation in that fast developing tropical environment.

10.20 The author recently had the opportunity of experimenting on automated mapping machines, and during a short course on computer graphics at Edinburgh University it was demonstrated that on these and similar computer systems, a land-use mapping method of this nature is easily derived from the resultant data bank.
There is obviously a great need for well organised land use mapping in developing countries; but if such mapping is to serve a universal purpose (e.g. in scholarship and information exchanges) it is important to ensure uniformity of method in data collection, presentation and interpretation. Absence of such uniformity in the past has hampered efforts at world land use recording even at the very small scale of 1:1 million advocated by the late Professor Stamp.

Among its virtues, the land use categorisation system used in the Lagos Study can be said to have taken account of modern man's basic needs for food production, residential space, work places, movements, higher government, leisure and security. Consequently it covers all human use for the land to satisfy man's wants and activities from the cradle to the grave. The proposed modifications outlined in this paper would widen the scope for joint efforts in tackling one of developing areas' major retarding factors, viz. paucity of usable data for scientifically based planning of land use. Land use planning in those regions, as in mature industrial regions, is particularly significant for progress when one considers that man's many wants and activities have to be satisfied within a land area that is relatively inelastic in supply.

A substantial part of the study has involved a thorough appreciation of the effect of industrialization on the changing use of land in Lagos. In this the author's earlier undergraduate and postgraduate training in industrial geography proved valuable but the underdevelopment of that branch of geography in dealing with newly industrializing regions manifested itself in the scarcity of existing work or methodological guidance. Here one is confronted by two detrimental facts:

(a) The study of developing tropical regions often neglected industrial

10.21 It has become fashionable for foreign experts to be frequently invited by developing countries like Nigeria to prepare feasibility reports, often hastily. By the nature of such reports, only narrow light is focussed on the problem. They are narrow in outlook and are biased in an effort to keep within the consultant's terms of reference. Consequently quite a few projects based on such limited feasibility reports either fail to get off the ground or fail to attain their objectives after they had been commissioned. One wonders why the production of detailed accurate land use maps are never accorded the priority they deserve by either the developing countries themselves or foreign advisers. Perhaps it is because only very few geographers (as compared with economists, bankers, agriculturalists and technologists) qualify as 'experts' in the international forum. However, land use mapping efforts elsewhere in West Africa - Sierra Leone and Gambia - are showing a new trend.
activity dwelling always on agricultural practises that have become fairly irrelevant or secondary in some developing regions such as Lagos. (b) Industrial geography itself has methodologically relied on historical treatment industry as part of the cultural landscape e.g. Beaver (1961), and much of the established theoretical content is heavily chained to the location of individual firms seeking optimum location (e.g. as in the optimal spatial arrangement of an entire economy (national or supra-national) e.g. as in the foundation works of Losch and Isard. These situations are hardly satisfactory or realistic in the present context of rapid and revolutionary economic development which involves a high priority in industrial activity, particularly in the new metropolitan developments of West Africa. Until recently the apparent lack of interest in industrial geography for these parts could be justified with reference to what geographers should be studying or leave to other disciplines. For as Estall & Buchanan (R. O. 1961) had stated in their book:

"the geographer is concerned primarily with what exists on the ground now, and what now exists on the ground"

10.22 Geographical interest in industrial activity as important factors in developing parts of West Africa and related tropical regions, may be said to have started in little trickles of comments and observations by European and N. American geographers who happen to be working in the tropics at a time when these parts are undergoing the new form of industrialization which thrive on borrowed technology and has become essential parts of the development planning. Thus, (i) Hodder, B. W. (1968) in his Economic Development in the tropics, found it necessary to devote two of the fourteen pages to industrialization after disturbing in Chapter 9 the hitherto unquestioned role of agriculture in tropical development. See Chapters(Hodder (1968)) 9, 10 and 11. (ii) The U.N.E.C.A. 1960 Report on Lepoldville, (now Kinshasa) and Lagos. Pub. as Chapter 32 of The City in Newly Developing Countries, edited by G. Breese (1969 and 1972) drew attention to the new trend. (iii) Mountjoy, A. (1963): Industrialization and Underdeveloped Countries, esp. chapters 4, 5 and 8. provided one of the earliest interests in the role of industrialization outside mature industrial countries.

10.23 This seems to the author, one of the finest examples of the traditional method employed by older industrial geographers. Such a method concentrates on the evolution of particular industries and the changing balance of location frontiers - in this case in the changing location of iron and steel industries in response to technological change affecting 'fuel' requirements in the industry. Beaver, S. H.: "Technology & Geography" in Advancement of Science, Vol. 18, pp.315-327, 1961. See also Beaver's Contribution to I.B.G.'s Land Use and Resources: Studies In Applied Geography - Stamp Memorial Volumes 1968 - chapter 7.


in the kind, amount, layout and functioning of industry is
the result of innumerable past decisions on where to locate
particular works (Decisions now being taken will as the years
go by emphasize or modify the present distribution of industry
and are laying the foundations of the future economic geography
of industry)." They contend that the satisfactory analysis of
the present distribution of industrial activity can be made by
the geographer ...."only if he understands what guided the
industrialist in making those decisions".

The growing importance of industrialization as means of better liveli-
hood is stressed in the editorial foreward by Wooldridge & East who also
pointed out that ..."Only by studying industry as it is already located,
and by discovering the principles which lie behind successful industrial
location, can we hope to guide its spread and progress." (p.14).

The point here is that industrial geography can now look beyond the
traditional mature landscape to newly industrializing regions where it should
be possible to bring closer again the drifting parts of economic geography
(especially agriculture and industry) possibly in the rationalization of
competing uses for land as a common factor of production. It is no longer
realistic for industrial geographers to ignore all tropical African regions
as the domain of Agricultural geographers, and people of related interest.
Let it be acknowledged that this latter group of geographers have contributed
much to our knowledge of tropical life. They were important at the time when
agriculture formed an overwhelming means of livelihood and main user of the
land. They are still important in those parts of the developing world (e.g.
in the exclusively or predominantly agricultural regions of Nigeria). The
point to be realised now is that at the present stage of development at least
in Lagos and in all probability similar regions in the tropical world, there
is need for a pooling of resources from all branches of economic geography.
That way there is better hope of successfully guiding decisions on the
location of all economic activity towards optimum use of limited space —
"putting things where they belong". One way of achieving such co-operation
is for industrial geography to sharpen its tools for accumulating and
interpreting experiences of industry already located, projecting the course
of changes in location requirements based on technological innovations and
developing theoretical concepts which take account of environments outside
the traditionally accepted industrial regions of Europe and America.
Practitioners of agricultural geography on the other hand had accumulated
much useful experience on tropical conditions in the course of naturally
extending their interests. Thus it is possible and beneficial to cross-
breed ideas in both branches of the subject or even co-operate towards such
common goals as more reliable decision making processes on land use planning
location of economic activity, diversification of national economy, infra-
structural development, trade arrangements and bilateral co-operation.

There is no doubt that researchers in young developing areas have a lot to learn from work on mature industrial regions. The present study has benefitted from readings on industrial geography of mature industrial regions and metropolitan complexes such as London, Chicago, Paris, Turin and Tokyo. In particular, the work of J. E. Martin on Greater London provided valuable insight into the dimensions of the problems encountered in industrial geography at a regional level, above the micro-economic analysis of a single firm. In particular the method of analysis applied in chapter 4—using km² grids and cartographic techniques (such as in Fig. 5, p.74) is not unrelated to the present writer's industrial impact analysis map (see Map 18 and chapter 6). The major difference remains the enforced localisation of industries in industrial estates (in the case of Lagos) and the relative locational freedom of London's industrial establishments. The lack of locational differentiation or specialization among Lagos industries appear to constitute one aspect of contrast between a developing region like Lagos and a mature industrial region like London. Explanation for the differences are readily available from the different historical circumstances of industrial development in Lagos as demonstrated in chapter 3 and 4 of this study). This situation reduces the weight one would place (as is traditionally the case) on "location" of individual industries as a central issue in industrial geography of Lagos at the present stage.

In view of the special circumstances of Lagos industrialization, it was found more significant to examine the "impact of industrial activity or


10.27 It is acknowledged that the present writer's long association with London's geography, derived from studying and teaching there over a period of ten years, might in some measure introduce a bias in favour of relating patterns of industrial activity and industrial land use development to that region. However, it should be noted that the level of bias is not likely to be very high considering that opportunities to visit other industrial regions mentioned here were fully used between 1964 and 1973 and that the Lagos area which constitutes the present subject of study is the writer's own home area on which abundant first hand knowledge had been accumulated.

10.28 Refers to the ability of each of London's industries to locate wherever it considers profitable, determined either by market conditions, linkage requirements or industrial inertia, without the need for "hursey conditions" such as Lagos industrial estates provide.
innovation" as it affects the use of land in the developing region. A system of measuring such 'impact' (away from its hitherto abstract concept) was devised in chapter 6 and a cartographic approximation to reality of a spatial expression of the observed impacts is presented in Map 18 of this thesis. It is hoped that the method and its accompanying cartographic product would provide useful basis for understanding another dimension in man-environment interaction. In this case it is the influence on land use organisation consequent upon the adoption of new economic activity in a new, unprepared environment. In considering a model for explaining our Lagos observations, the impact forces emerged as useful components in that industrial activity provides a dynamic element in the changes between phases of land-use evolution, as indicated in chapter 6 and illustrated in both empirical and theoretical aspects of this study.

The harnessing of theoretical concepts and Lagos Empirical Observations:

The entire thesis is conveniently organised to provide general empirical background interlaced with established relevant theoretical considerations in the first five chapters of the study (Vol. 1)\textsuperscript{29}, specific case studies relating to each of the land use categories identified (in Vol. 2, chapters 7 and 8), theoretical and illustrative model derived from the Lagos study are attempted in chapter 6; while in chapter 9, a comprehensive range of existing theories and models on spatial structure are tested against the Lagos empirical evidences, confirming, rejecting or modifying the concepts as the case might be.

The detailed treatment of land ownership in chapter five is justified on the grounds that in this aspect - the ownership of land - lies a major empirical factor, which, uniquely in the study area (as distinct from practices outside Europe and America), influences decisions on the use of land. What changes are observed in that aspect (the practice of local land tenure) can become significant indices for assessing the effect of industrialization on land-use organisation of the study area, and possibly in other developing regions sharing similar cultural background and history. Moreover 'land' has traditionally meant much more to the local people in the cultural area of Lagos prior to the new type of ownership which the

\textsuperscript{10.29} Chapter 1 introduced the general framework of Lagos and set the study area in geographical perspective. A general description of the use of land based on the 1972 land use map of Lagos is provided in chapters 2 and 3. Chapter 4 considers the nature of Lagos industrialization - the major process which has transformed land use and ownership in the study area; while the basis of land ownership, use and price trends as pertain to Lagos circumstances formed the subject of chapter 5.
adoption of industrialization encourages. One's comprehension of land use in the study area, interpretation of spatial features connected with those users or prediction of trends in land use organization would be that much more superficial if such empirical peculiarities of the study area were ignored. We know from several reports of earlier commentators that 'land-man relationship' in the cultural area of which Lagos Study Area is a part is different from the type of simple, personal rights over land as a transferable or marketable commodity, which prevail in western industrialized countries from which Lagos industrial innovation emanated. For instance the Rev. Samuel Johnson had written 30 ...."There is no subject in which the Yoruba man is more sensitive than in that of land. This normally quite submissive people can be roused into violent action of desperation if once they perceive that it is intended to deprive them of their land .... the non-alienation of their land forms one of the main conditions of their admitting a European officer among them..." During the Colonial Period several changes were introduced through the need for modern agricultural practice and government public purposes but as late as 1953, the Colonial administration in Lagos had written:

...."It is not being suggested that the old order has everywhere disappeared even in the most cosmopolitan centres of closest European contact. Its concepts (traditional communal land tenure) are still everywhere alive, even for the greater part predominantly, though with adaptation towards European forms resulting from the activities of lawyers and English courts and modes of conveyancing, and from the spread of transfers for valuable consideration which as a rule tend to free the land from traditional controls and are therefore favoured by the individual with money."31 Land is in fact becoming what it never was, a marketable asset."31

In latter years geographers, notably Harrison-Church, have commented on the strong traditional attachment of West Africans to the soil (or land within the ethnic territory).32 Industrialization involves, among other alterations, some important, if not completely radical, changes to "free land" for more industrially suitable market conditions, i.e. individual freehold ownership, with transferability rights on the property. We have demonstrated in chapter 5 the present condition of land ownership in the study area, having traced the historical development of the trend and based on extensive inquiry conducted along with the 1972 land use survey.


By means of computer graphics, the present situation as observed in 80 sample districts is presented in Figures 4a and 4b; while Map 15 shows the present pattern of land ownership types and holdings throughout the Lagos study area as at 1973. Used along with the Land use Map (Map 8 or 9) the accumulated information on land ownership types proved valuable in explaining some land use patterns or features that would not be readily apparent from mere observation of "use". The study of land values and price trends similarly served useful purpose in understanding land use types, their distribution and prospects in competition between other uses. Even the information assembled on historical political and administrative events on Lagos together with personalities who have had the chance of making significant decisions in the affairs of Lagos and the study area, all proved valuable in reaching farther into an understanding of land use and the industrialization process in the development of Lagos. It was on the basis of such comprehensive understanding that it became possible to construct a simple model which one hopes illustrates and explains the circumstances of Lagos. At the same time it is hoped that it also offers prospects of wider application in explaining and illustrating logical patterns of changes in man's interaction with his environment based on the need for conducting economic activities in given limited environment. Where man's responses and decisions between alternatives in an open system become expressed in the spatial organisation of land use as evolving in identifiable phases.

General Observations and a Lagos Model of Land Use Organisation:

In a brief review we may reflect that three sets of empirical observations were made in the process of this study. First we had observed the exact use of land within the Lagos Study area as at 1972. These observations are then recorded cartographically (as shown in Maps 8 and 9) and data on land use, land ownership, land prices and industrial activity (as collected during the 1972 survey) are stored in several computerised forms available for present and future research. Next we considered the historical events that have so far constituted to the growth and development of Lagos. Finally, actual problems facing Lagos as industrial way of life and the specialized uses of land it brought about, exert influences on the functioning and evolution of the young metropolis were observed in the 1972 survey. As noted earlier in this chapter these observations formed the substance of discussions, analysis and postulations in chapters 1, 2, 3, 4, 5, 7 and 8 of this thesis.
For chapters 7 and 8, Map 8 (folded) represents a major cartographic document which has been prepared in the most methodologically rigorous conditions and technical facilities available to the author. It is hoped that the analysis presented in those chapters and observations recorded will serve valuable purposes to future research and that the map itself fills the long neglected gap in research facilities in the study area.

The comprehensive but by no means exhaustive review of theories concepts, theories and models presented in chapter 9 provided opportunity for placing each theory in the context of Lagos. Some proved valid while others need revisions or modifications. For instance, quite a few of the theories were found to be inappropriate for explaining land use phenomena in Lagos (e.g. in some individual plant location theories) on account of the present circumstances where industries have not yet left their nursery beds and poor provision of utilities enforce artificial concentration of industries in the "estates". There is no doubt however, that Lagos industrialization, which essentially depends on borrowed technology and was a form of innovation introduced from abroad, is also showing signs of infection from practices, tastes and standardisation emanating from the source of industrial innovation. This way many land use features and associated problems found in world industrial regions (except the very old regions suffering from technological change) are appearing and will continue to appear in Lagos. One discerns a tendency for some form of "acculturation" by which industrialization is giving Lagos landscape and land use arrangements a growing similarity with other earlier industrial regions. A major difference is that Lagos development has proceeded precociously with every appearance of unpreparedness for the changes. We have seen in this study how hopelessly inadequate the public utilities (Category 8 land use) in Lagos stand in relation to the accelerating demand they are expected to satisfy. This is a major feature of underdevelopment of the base for satisfactory industrialization.

In this respect one expects that planning ideas on land use and location of modern economic activity can exchange ideas. Moreover a developing region like Lagos stands a good chance of deriving useful lessons from errors committed by earlier industrially developed areas. The absence of an industrial tradition which used to be lamented as a disadvantage against late developers, can be turned to useful advantage here as this also means absence of established undesirable industrial developments. The borrowed technology
can be made to cut down on wasted resources. One hope of a change for the better would be for Lagos authorities, industrialists and foreign advisers, to encourage more interest in research and a willingness to contribute, adopt, or challenge available research for better location of "everything in its place."

**A Pattern of Relationships**: Findings of this study confirm the existence of a pattern of relationships between land use and industrialization in Lagos. The relationships take the form of spatial features which industrialization, as a new human activity based process, brought about in the study area. Along with several less tangible forms, seven of the features of relationship which may be identified, measured or even monitored are set out as follows:

(i) Accelerated Urbanization of the landscape - more land is drawn into the urban system. This involves an enlargement of the arena of concentrated human interaction on the local environment by increasing linkages, physically, economically and politically. A Metropolis emerges.

(ii) Specialisation in land use. The use for given units of land become highly specialized and increasingly immobile between uses e.g. the domination of Iddo island by category 4a land use virtually withdraws land there for the foreseeable future from all but the most compatible or related land use. Such specialisation leads to a prolonged duration of a land use category for a given unit over a longer time than was the case in traditional or pre-industrialization form of land use.

(iii) Induced land use competition, leading to higher land values and the opening up of virgin land or "bush" and the reclaiming of swamps or similar category 10c land use areas.

(iv) Greater intensity of space use towards the centre. This was fully illustrated in our study of Lagos C.B.D.

In theory it should be possible, with all the available research accruing from experiences in economic development of mature industrial regions (past and contemporary), for a young developing region like Lagos to avoid several costly mistakes on such matters as wrong location of economic activities or poor foresight in obsolescence consequent upon technological changes. They should also have easier access to information essential for efficient land use planning. In practice however, the Lagos case is disappointing. That foresight proves lacking and opportunities for avoiding a repetition of errors in planning or the decision making process have been frequently missed.
(v) Accelerated rate of resource (physical and human based), consumption and eventual depletion or 'habitat imbalance'. More land is consumed, local raw materials are soon exhausted and have to be brought into the study area from outside e.g. apart from food, the area is at present also a net importer of vegetable oil, rubber, wood, building materials and trained man power from other parts of Nigeria and outside Nigeria. Water and power supplies already have to come from outside the study area since industrialization brought about increased demand for these. The Study area, particularly the urban sector, can no longer exist as an independent economic unit without its external relations.

(vi) Land ownership, tenure or holdings become increasingly 'westernised'.

(vii) More complex land use resulting from standardisation and the extended human needs which also claim a share of the land. The standardisation of several aspects of life lead to the emergence of new land use types, modifying such spheres as housing, education, religion, government, commerce, communication, transportation (particularly traffic - e.g. right hand drive system, traffic controls and parking requirements), security and even planning ideas.

Superimposed upon all these features is the more spatially obvious expression whereby industrialization translates economic development efforts into physical realities. Factories, ports, road network, homes, public buildings, offices and other space using activities such as recreation which increase their demand relative to the increased prosperity and leisure brought about by industrialization.

Unless all these demands on land are controlled and provided for by an efficient foresighted land use planning system, conflict, counter productive land use competition and general chaos results. The more obvious signs of conflict in land use organisation (resulting from locating activities or uses in the wrong places) appear in the form of traffic chaos (inefficient intra-urban movement) and inadequate public utilities (unreliable water and

power supplies, disgraceful sewage and refuse disposal system and frustrating postal and telecommunication system). Discordant developments in housing types and arrangements, environmental design and a general proliferation of wrong activities in the wrong place.

**Wider Implication of the Findings:** The present writer sees implications in three but not totally exclusive aspects:

(a) **Geographical knowledge, with particular reference to Land Use Studies in newly developing regions.** The study has in all probability, wedged a long unnecessary gap between pure traditional rural land use and urban land use investigation. In doing so it has not only opened up a new communication route between these two but has also emphasised their inter-dependence for thorough understanding of land use wherever both systems are closely associated as in several regional and nearly all Metropolitan entities. Land use categories are themselves inter-dependent and represent man's attempts at meeting his complex needs from limited space. Furthermore, the harnessing in this study of information derived from various branches of geography seems to confirm the opinion that the nature of the field of land-use studies relates equally to either of the arbitrary division known as 'physical' and 'human' geography, and that this field of investigation typifies the nature of geography as bordering on (in common with most other subjects) and overlaps with cognate disciplines. As noted earlier it was on several occasions necessary and convenient to seek explanation on identified phenomena in Lagos land use peculiarities, using information or aids from such cognate subjects as anthropology, history, economics, sociology, philosophy, mathematics, geology, planning, engineering, agriculture, cybernetics, biological and physical sciences, without losing the geographical perspective. The study retained its essentially geographical nature in that the major task of assembling and treating data on the thesis problem was accomplished through field surveys and map presentation of phenomena as observed empirical evidence. From the land use map, a pattern(s) of distribution (of the categories of use) become visible and provoke, suggest or provide basis for investigation upon which explanations and possible predictive observations are made.

(b) **Implications of the study to Lagos as a developing tropical region:** While it is emphasised that the study at this stage relates specifically to Lagos, it is also suggested that this might represent a pattern of change in the economy and man-land relationship in similar tropical developing regions recently entering the new global type of industrial revolution, particularly so in tropical Africa where new Metropolitan
regions are emerging. The present study represents what we now know about Lagos as a geographical entity of about 500 square miles, located in the humid tropics and experiencing development through the adoption of industrialization as a new form of economic activity with consequent changes in the use of land and land use ideas. The special cultural background, historical circumstances and physiographic details (as in Map 4) have been taken into account; so were the special locational circumstances of the new industrial establishments there (in industrial estates) and their reliance on borrowed or imported technology against a background of national policies aimed at active diversification of the economy through industrial development.

It is suspected that the Lagos experience has parallels in other developing regions, at least those of similar circumstances; and that only through a thorough study of this kind (by means of rigorous research and investigation) can we understand the nature of the operative factors in such changes and, in that process, comprehend the problems posed by or facing such regions. Such a better informed position would narrow down the present scope of wrong assumptions either in interpreting events (economic, political and strategic) in such regions or in offering expert advice to governments grappling with the problem of planning their developments.

In all probability therefore, the Lagos experience represents contemporary conditions of economic development (at the ground level) in what may now be viewed as the developing tropical world, certainly more advanced, more complex organised and less different (in problems, economic activity and physical form e.g. in buildings or residential districts) from modern Metropolitan areas of temperate zones than Gouron or earlier writers could.

10.35 The author hopes during his teach career at Lagos University, to carry out the investigation further and cover other African developing regions, with a view to discovering any similarities or differences in the present pattern. In addition, more data will be accumulated in the study area for comparative purposes over a ten year period of change.

10.36 Gouron, P. : The Tropical World. London, 4th edition 1966. Gouron was writing at a time when agricultural production was regarded as the economic and land using activity in tropical communities. At that time 'land use' was synonymous with 'soil use'; industry prospect did not feature in development potential or considerations and obstacles to development could be seen more in the form of the physical environment (now considerably nullified by technological progress) than of the human impediments (now represented by cultural peculiarities, ethno-logical, political and psychological obstacles, which influence decision on the use or otherwise of resources, of human movements and extent of external contacts and markets).
Imagine. It is probably the shape of things to come in more of the tropical regions than now share the experience. It is also probable that the Lagos experience is only a natural, more global extension of the present stage of industrialization and urbanisation of the human race, whereby a degree of industrial activity becomes essential for the economy of every nation. This also implies a standardisation of uses for land in all communities adopting an industrial life style.

Whatever the case may be it is considered useful to record for posterity the Lagos experience of industrialization and its effects on the use of land in Lagos as observed in 1972 through geographical investigation.

(c) Inter-disciplinary implications: We have earlier acknowledged the fact that this study, despite (and probably because of) its geographical orientation, has benefitted also from information, techniques and methods accumulated in other academic disciplines. The facilities (computers, literature and practical demonstrations) which proved useful and the geographical training which made it possible to know when best to seek which information where without losing the geographical perspective prove that a basis for harnessing inter-disciplinary facilities for enquiry into regional analysis problems exist. More specifically such a base should be encouraged in the development of land use studies within geography. The Model presented in Fig. 1 is expected to provide a useful medium for developing and testing further findings towards explaining the elusive spatial equilibrium in organised human use of the land for meeting needs of varying complexity. The model derives from observations in this study (see chapter 6), refers specifically to Lagos, and should be critically assessed as such, until more data becomes available for testing its applicability to, first, other tropical developing industrial regions and, then, possibly, more global situations where human activity is a controlling influence on the evolution of the cultural landscape from wild countryside through highly humanised (planned or impacted) Metropolis to waning, decay and reversal to 'wild' landscape over time.

Finally, the present study confirms the role of Lagos City (as a nucleus of human activity) in the economic development of the entire Lagos Study Area. Land use arrangements (see Map 8) emerged in the study area as functions of distance from the centre of the 'Metropolis' with the modification introduced by the location of industrial centres and inefficient organisation of services which inhibit balanced development and threaten to strangulate further development.
General Suggestions: towards better Land Use in Lagos

There is clearly a need to arouse local interest in the use of such an important limited resource as "the land" in Lagos. The promotion of greater land use awareness among all sections of the Lagos community would eliminate some of the more obvious abuse of space, apathetic attitude to land for public purposes, disregard for planning controls and general disinterest in research findings for better land use techniques.

The poor recording and sometimes complete absence of official data or information on land transactions calls for urgent attention by the authorities. The F.G.N. land acquisition in Lagos presented variously in Tables 9 to 14 had so much missing information at the Registry that more advanced treatment of the data e.g. in mapping all land owned by the Federal government in Lagos, became impossible. Some uniform standard should be adopted in consultation with geographers, estate managers, land economists and lawyers who will have cause to use the information. Other government offices and agencies should also follow a standard procedure in keeping official records - particularly in land matters, development projects and research records in a manner suitable for consultation by researchers.

Much of the money being wasted on foreign "expert" for feasibility studies and ad hoc projects could be usefully invested in sponsoring the collection of basic data which are so hard to come by in the Lagos field. For instance the information presented as Map 36 of this thesis had cost over £5,000 to a firm of consultants for McCowan and Associates of Pontefract. It involved counting traffic flow at Tinubu Square. Such data should have been obtained and stored earlier by the Ministry of Transport or other such local body.

Federal Nigerian government in general and Lagos State Government in particular, needs to reorganise their physical planning offices and ideas. First, the bureaucratic machinery is bucked down by inefficient staff, poor training facilities and a notable absence of sense of direction. Most of the planning posts in Lagos State Government, for instance, are held by professional architects whose training and outlook (with due respect to their personal capability and sincerity of effort) do not fully equip them with that breadth of knowledge and versatility which are essential for planning the kind of complex young metropolis and region, the Lagos study area and similar parts of Nigeria requires. One obvious case is in the poor quality of planning maps, the poorly informed bases of planning decisions and sometimes apparent lack of co-ordination between planning ideas and environmental realities (the result of negligible field work). These were observed during 1972-73 at Lagos State government's Ministry of Works and Planning and at the L.S.P.D.C. (and its predecessors).
Almost all categories of land use identified and discussed in chapters 7 and 8 of this thesis suffer one kind of defect of neglect or other. Almost all cases the defects can be traced to the general absence of an official land use plan or a policy of planning which takes full account of the requirements of each land use type. In several cases, too, the general low awareness of land use principles or even the local geography are responsible. The categories affected have been pointed out in the text, during case studies or in the earlier chapters of this thesis. It suffices here to stress the following points:- A modern sewage system is long overdue for Lagos - at least for Lagos and Ikeja divisions. A well organised refuse disposal scheme is also required throughout the urban sector. Efforts made so far to increase power and water supplies are commendable but they are still inadequate and the data on which estimates are based are faulty on account of their neglecting vital users such as industries, public utilities themselves and cumulative effect of rising standards of living in the supply area.

The housing situation is highly unsatisfactory. Again planning data is poorly derived and not fully related to actual survey of present housing realities of both the urban and rural sectors of the study area. A vast gap still exists between classes of residential types. The local authority should intensify effort at housing the poor, zoning property development areas so that houses of like types are found in compatible districts. The size of building plots should be reduced to allow for 12 houses to the acre and back to back crowded multi-occupation houses should be discouraged. More people should be encouraged to own their own houses and take pride in the aesthetic upkeep of houses.

The present inefficiency in transport land use is well known and has received adequate attention in this study. Three points of emphasis are in order here: First the neglect of water-borne transport must be remedied at once. There is too much concentration on land approaches to Lagos Island. Various types of water-borne crafts can be used to increase the capacity for the present Apapa-Lagos ferry. The Central Lagoon should be used for transport even if this means dredging a number of channels to increase

10.37 It is generally believed that conditions are much worse in other parts of Nigeria, where staffing, problems, less well-endowed facilities, environment and bureaucratic machinery aggravate the situation.
navigability (at present many sandbanks constitute hazards for powered boats). The bus transport system is inefficient - slow, poorly maintained, carelessly run by non-dedicated staff and frequently constitute obstructions to traffic. Further suggestions are best reserved to allow the recent State take over of the bus services time to prove itself. Clearly the present daily average of 300 buses at the authority’s disposal and the poor state of roads (congested, often narrow and in the poorer residential districts unmotorable) will need a boost to attract and keep more passengers. If the public transportation system is good, multi - car park system adopted, traffic lights installed, private cars banned in some parts of the C.B.D. and the water-borne transport operated successfully, Lagos traffic land-use will become less congested. There remains however the very important problem of the apparently polarised location of homes and work places. The residential districts at Surulere and Mainland Lagos contain too high a concentration of workers in Central Lagos City and Apapa. Some form of dispersal should be contemplated. The dispersal of offices outside Lagos Island too was being muted in planning circles during 1972 but no concrete proposal is published yet.

The Road planners of Lagos should take another look at the tentative Road Plan by Audifferen in 1965 (see Map 35) with a view to reconsidering his proposed route from Kuramo or Maroko via Etiosa to Aja and across Palavar island to Ikorodu. Such a route will reduce the present over-concentration of traffic entering Lagos from other Nigerian States at Ikorodu Rd. It will also help in the opening up of the eastern sector of the study area.

Development of lands to the east of Kuramo and South of the above proposed route (on the Atlantic foreland) should also consider the siting of an airfield here to take lighter local air-traffic from Ikeja or shuttle government officials and businessmen quicker from Ikeja to Lagos.

More recreation ground is needed and should easily be provided from further reclamation of swamps or other idle land held by the Federal or State Government. Water sports (such as canoeing, skiing, boating, swimming, diving and surf riding) are underdeveloped in Lagos. Part of the development grants for recreational facilities should be directed there.

The cemeteries will soon become seriously inadequate for the Urban Sector of the study area as more people (the industrialized, urbanised and individualised Nigerians) would no longer mind where they are buried. So far the cemetery space has coped well because quite a few who died in Lagos finally got buried in their home towns or villages. The relaxation of home or rural ties is likely to reflect in this way on Lagos. It is also
time for the L.C.C. to give serious thought to the setting up of less space consuming facilities such as crematorium and memory gardens for the disposal of the dead whenever these are acceptable.

In the matter of land ownership, it is suggested that the total control or ownership of all land by the government is unnecessary and counter-productive, given the present local attitude of disregard and abuse of public owned property. Let those who can afford it own, develop and even cherish their personal estates, provided, of course, that they do not jeopardise the interest of the community at large, e.g. by occupying land which is proved essential for public purposes such as roads, airfields or hospitals. The government's role should be to encourage individual land owners to develop their land to fit in with more comprehensive master plans - swamps to be reclaimed, idle rural lands to be farmed and desirable vacant plots to be built upon. Where necessary it should be possible for individual land owners to receive financial support for developing their land, from the government. In short, private property ownership should be encouraged, while harmful property speculation or "land grabbing" should be actively discouraged. Landlords and estate owners should pay rates for amenities (post, water, electricity, refuse collection, etc.) to be provided by the local authority.

There is an urgent need to brush up geographical teaching in Lagos Schools and Colleges, with a view to banishing the present apathy for field work. Granted that a tradition of field work and local geographical teaching has not existed in the area, this is as good a time as any to "create the tradition" anew. It would help rouse interest in the local environment, get the teachers and students out into the bush - into the open laboratory where there is more geography relevant to their circumstances than long outdated books on "bays and capes geography". Such initiative from the local University, the Nigerian Geographical Association, the Lagos State Government Ministry of Education and Community Development and individual geographers (and all those interested in the local environment) should stimulate greater awareness of the environment in its local and potential users. Among the secondary benefits from such exercise, apart from the obvious physical health, are: a pool of ready field workers in any land use survey exercise; a readiness to contribute solutions to the planning problems of Lagos through personal knowledge and an appreciation of issues involved in development projects. Closely allied to this problem of stimulating local interest is a regrettable absence of facilities for field work in the area. There is a real need for a field study centre such as one finds in Britain.
Finally, the government (L.S.G. or F.N.G.) should recognise the need for a land-use map (revised at 5 or 10 yearly intervals) based on a rigorous survey or census as important as the population census. On the basis of such land use surveys, a comprehensive land use plan should be drawn up and a properly conceived planning control imposed with uncorrupted application. The present absence of information on the use, ownership and potentials of land in Lagos (and for that matter, most parts of Nigeria) is unsatisfactory and is a root cause of many half-baked feasibility studies, arm chair plans and misconceived development projects, particularly in public utilities, housing, industry and transportation.

If and when this suggestion is taken up either nationally or by the Lagos State Government, the present study and Map 8 will be available, among a vast store of experience from Stamp's original Land Use Survey of Britain, to inspire the task and show the way for a new Land Use Survey Map of Lagos State or for that matter a land use survey of Nigeria at a useful scale.

What is attempted in the present study is a comprehensive, but by no means exhaustive examination of the use of land in Lagos at the present time and the introduction of a critical factor in the form of industrial activity, which underly the observed changes in land use in the Study Area. On the whole it is concluded that Lagos land-use problems do not now arise from lack of space or from industrialization as such, but from a poor organisation and management, aggravated by low perception, of available space on the part of local planners, land owners and users. As a result, space using activities became crowded into only a small proportion of total land available for the budding Metropolis.

10.38 Within the Lagos study area it should be possible for F.G.N., L.S.G. or private organisations to set up a Field Study Centre to be staffed by well qualified teachers of biological, geological, geographical and rural sciences, possibly with residential and associated accommodation for sociologists, historians and archaeologists. The field centre should be designed in the form of British Field Study Centres. All one needs is a 20 acre tract of land, preferably by the Lagoon; some funds and pioneer staff. Subsequently the idea might catch on and spread to other parts of Nigeria, where a variety of environments could be represented.
GLOSSARY

1. Accessibility: The relative degree of ease with which a place may be reached from other places.

2. Ọgbẹ: The Yoruba word for a farmer.

3. Àpọn, (Bush Mango): Yoruba condiment for thickening soup. Although the fleshy part of the fruit is edible (like mangoes or peaches), it is the cotyledons that are extracted, dried, pounded or ground for the use in soup preparations. It is a product of the Collecting Zone.

4. Àtáré: Commonly known as alligator pepper. Collected from the wild or AO Zone. Essential in herbal medicine, local religion and entertaining visitors. It is chewed along with Kolanuts and is fairly hot to the palate.

5. Bagbọ: The Village headman in Yorubaland. Literally translated as father of the land. He represents the Oba or King at the village level. His duties include seeing to the welfare of his people, sharing out the land in communal land tenure and acting as justice of the peace in his domain.

6. Clientage: A relationship between a tenant farmer and his lord. In such a system the farmer or other land user is using the land of his overlord for the mutual benefit of both. The lord in turn feels obliged to protect him physically and otherwise from others who might threaten, evict or harm him.

7. Colonial - Pre and Post Colonial: Refers here strictly to the British rule over Nigeria and in particular, the British administration of Lagos from (1851) 1861 to 1960. The divisions into sub-periods used for Lagos are: pre-1851 (i.e. before the bombardment of Lagos) forms "the pre-colonial" era; 1851 to 1900 is the "Early Colonial" era; 1901 to 1960 is "the Late Colonial" era; October 1960 onwards constitutes the "Post Colonial" era.

8. Competition: (Land use and space organisation). In our context it refers to more than one type of use seeking the same land or space. The result is a division or differentiation in land use types occupying specific areas where they enjoyed greater advantage over others who would be users. In the process one type of use outbids another for the privilege of utilising a choice site, especially in an Urban land market.

9. Ebute: Yoruba word for haven, harbour or port, e.g. Ebute Metta: The Three Havens.

10. Eko: Local name for Lagos Island. Meaning obscure. It could have meant "farm" (oko) or it might be a Bini word. Opinions remain divided on the exact meaning.
11. Ethnic Group - e.g. Yoruba. Replaces the derogatory term "tribe". The author's definition at I.C.A.E.S., Chicago, 1973 - Paper on "Nigerian Ethnic Groups" (Note 1) is retained here. "The "ethnos" or people constitutes the ultimate (watershed) human group whose members acknowledge the same territorial, cultural and historical identity, among other things." The Yoruba of Lagos Study Area are further divisible into sub-groups viz. Awori, Egun and Ijebu, each occupying a distinct ethnic territory.

12. Federal Capital Territory: The 27.26 square miles of Lagos, set up in 1954 to serve, it was hoped temporarily, as Nigeria's seat of Central Government. The present Lagos City or Lagos Division within the study area is its surviving counterpart.

13. Ìdájo: These are the White Cap Chiefs of Lagos who have traditionally owned the lands of Lagos. They are said to be descendants of the Osifin who is believed to have been the original founder of Lagos.

14. Ìgbó: Yoruba word for bush, forest or jungle.

15. Ìlé: Yoruba for the land. It can also mean ground, estate or the earth. It differs from the next word, by means of tonal change.

16. Ìlé: "House" in Yoruba. It frequently refers to the home and the ethnic territory.

17. Industrial estate: An area so designed (planned and used) for the location of industrial activity. Factory space is available for sale or rent by firms. Amenities such as piped services and transport are laid on.

18. Industrial hearth: The source or cradle at which industry was originally introduced and from where it spread to other locations.


20. Industrialization: The system of production based on the steady development, study and use of scientific knowledge. It involves the divisions of labour and specialization, using mechanical, chemical and power driven, as well as organisational and intellectual aids in production. Introduction and adoption of industrial activity, based on the manufacture of goods or processing of raw materials. The growth of manufacturing.


22. Ìsìàlè: Yoruba word for lower ground, down as distinct from up. Generally meaning south when applied to place names.

23. Land begging: An old system of obtaining land outside one's native or natural territory mostly in a communal land tenure. The potential user asks for and is granted land for his use by the authority or owners - not sold to him - often for general livelihood probably to build a hut and farm the land.
24. **Land Resources:** Refers in this thesis to availability of land surfaces, often ready for use (building land, farm land, etc.) - as distinct from swamps or water surfaces.

25. **Land Use:** A specific use to which a given tract of land (in an urban or rural environment) is put. It refers to man's use of the land for all purposes - to meet various human needs, collectively or individually.

26. **Land use awareness:** A level of perception among users of land (villagers, townsfolk or city dwellers) of the proper use of given tracts of land and the inter-relatedness of space allocated to various uses. Low awareness means users may not even be aware of why and how different parts of their environment are allocated to various uses. They may take no interest in knowing their land or its potential.

27. **Market:** A place or location where goods and services are demanded and exchanged. In the study area such places are specifically so designated on land bought by the government for that purpose, e.g. Agege and Sandgrouse or declared as such by the local ruler e.g. Obun Eko.

28. **Metropolis:** A kind of "Mother City" that becomes increasingly dependent upon other areas for food and markets. It is the supra-urban structure emerging with a region from less differentiated groups of villages and rural towns. Lagos metropolis still emerging by coalescence of former separate settlements in the study area.

29. **Qba:** Yoruba King - not Chief or just any natural ruler; must have been crowned. Existence of one in a place confers status of a "town" as distinct from a village or minor settlement, even though some of the town may be physically very small today e.g. Iseri and Qjo.

30. **Ódí:** Yoruba hunter; also as a group, are regarded as guardians of the forest.

31. **Oke:** Yoruba word - opposite of Isale. Literally meaning up; but often means "North" or set on higher ground e.g. Iseri Oke and Iseri town.

32. **Opportunity Cost:** What one forfeits or gives up in a choice between alternatives.

33. **Órógbó:** Yoruba word for a local nut commonly known as "bitter Kola". It is chewed as a stimulant but it also features in ceremonial occasions or in local religious rights (e.g. divination). It is often stocked (for sale) in association with Kolanuts and alligator pepper.

34. **Peri-urban:** Land at the fringe location between a fully urbanised sector on one side and a purely rural sector on the other. It is a transition zone between both systems and quite often becomes urban as the neighbouring city expands.
35. **Plantation**: Area of land planted with trees or commercial crops. In the Lagos area refers specifically to agricultural establishments organised as a business or commercial enterprise for the growing or production of cash crops but local food crop at very large scale may also be grown. Produce may be semi-processed on site, e.g. Rubber in Epe division.

36. **Rural area**: District of village settlements where economy is primarily based on tilling the land or other primary activity for sustaining life there.

37. **Rural land use system**: Involves all forms of agricultural land use or activities based on exploiting the local land, forests, swamps and water areas e.g. fishing at the creeks. Distinct from urban system in absence of modern specialised non-agricultural activities.

38. **Sequent Occupance**: A succession of uses on a particular tract of land (often of regional dimensions) over a time. The term describes how one economy succeeds another over a period in the same land area. A whole culture may replace another.

39. **Shifting Cultivation and Bush Fallow**: An agricultural economy in which fields are periodically abandoned (or left to rest) due to soil exhaustion. Note that in Yornbaland the villages do not move, only their farming activity is transferred to other sectors with their circle of territory.

40. **Talaká**: Yoruba term for those "who have nothing" - the very poor; from Hausa "talakawa" (simple and poor). Suggested in this study as proper term describing the class of village farmers, instead of "peasant". For the Yoruba "peasant" is unlike his European counterpart. The former does not even own his land - only the crops.

41. **Urban Land Use System**: A system of land use appropriate for a City environment where economy is not based on agricultural activities. The system recognised various classes of the major categories of land use and reflects the complexities of demand on urban land, e.g. for residential purposes - six different classes are distinguished.

42. **Village**: A small rural settlement. Local ruler or head has the title of Bale. Abule in Yoruba. The root of many urban dwellers.
GROUP A: LAGOS AND THE LAGOS REGION


Group B: On Yoruba Land, People and Economy -


77. Verger, P. - 'Yoruba Influences in Brazil'. ODU, 1, 1955, pp.3-11.


82. Abai - Various contributions to The Nigerian Trade Journal on various Industrial undertakings in Nigeria from 1960 to 1968.


85. Adams, W. 1968 (Ed.) - The Brain Drain. The movement of top level manpower from underdeveloped nations to Western Europe and the United States. 256 pages.


123. Dickinson, R. E. : City and Region. Chapters 1, 2, 3, 5, 7, 8, 14 and 19. Published by Routledge & Kegan Paul, 1964.
130. Friedman and Alonso 1964 : Regional Development and Planning. M.I.T. 1969. (See particularly sections on Location Theory with transp.).


170. Minshull, R.: 1967: Regional Geography. HUL.


186. Penrose, E. T. The Large internal Firm in Developing Countries, 1968.


Group D : Industries As Land Users - A List of References used during fieldwork in Lagos, Jan-May, 1972.


Group E : Assorted References consulted (all aspects) on Geography, Computers, Economics, Philosophy, etc.


260. Braithwaite on "Theory" quoted by Berry & Marble P.18 of "Spatial Analysis".
265. Coleman, Alice M.: "Landscape Variety and other factors in the content and design of British Land Use Maps".
295. Morgan, W. B. and Pugh, J. C.: WEST AFRICA. Published by Methuen, 1969. Chapters 1, 2, 4, 9, 10, 11, and 12.


324. Robinson, Joan : Economic Philosophy : Pelican 1966. Chapters 5 and 6 on (a) Devt. & Underdevt., (b) 'What are the rules of the game?'.


**Group F : Other Sources - Magazines, Newspapers, Govt. Publications, Miscellaneous Documents.**

343. The Daily Times (Nigeria).
347. Land Registry, Lagos.
351.
352. Nigeria Year Book (An annual publication by the Daily Times of Nigeria since 19).
358. Annual Reports of Public Corporations e.g. L.S.P.D.C. Nigeria Airways Corporation.
      L.E.D.B.
      N.E.P.A.
      N.P.A.
      Nigerian Railways.
      Lagos Water Supply Area.
359. Scientific American, September, 1965 on "Urbanisation".
360. Town Planning Review 1956 to 1973