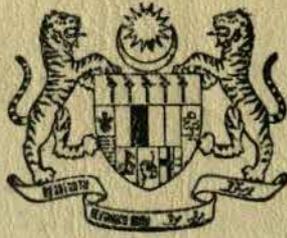


340

WOSSAC: 25200
631.474
(595)



MAPS HELD IN DRAWING OFFICE

HUNTING TECHNICAL SERVICES
LIBRARY

LAND CAPABILITY CLASSIFICATION REPORT SELANGOR

GOV. OF MALAYSIA

TECHNICAL SUB-COMMITTEE
ON
LAND CAPABILITY CLASSIFICATION

ECONOMIC PLANNING UNIT
PRIME MINISTER'S DEPARTMENT
MALAYSIA

FEBRUARY, 1970

LAND CAPABILITY CLASSIFICATION REPORT
SELANGOR STATE

| <u>CONTENTS</u> | <u>Page</u> |
|---|-------------|
| SUMMARY | 1 |
| INTRODUCTION | 2 |
| PRESENT LAND UTILISATION | 3 |
| NATURAL RESOURCES | 4 |
| Minerals | 4 |
| Soils | 7 |
| Forestry | 8 |
| Water | 11 |
| Land Capability | 11 |
| NATURAL RESOURCE DEVELOPMENT POTENTIALS | 13 |
| Mining | 13 |
| Agriculture | 14 |
| Forestry | 15 |
| CONCLUSIONS | 16 |
| APPENDIX I - Area Summation Method | 17 |

MAPS:

- (1) Minerals
- (2) Soils
- (3) Forests
- (4) Land Capability
- (5) Land Alienation and Gazettement

TABLES:

- (1) Land Alienation and Gazettement Categories
- (2) Present Land Use - 1966
- (3) Mineral Potentiality Categories
- (4) Soil Suitability Categories
- (5) Forest Productivity Categories
- (6) Land Capability Categories
- (7) Existing Irrigation and Drainage Schemes
- (8) Existing Water Catchment Categories
- (9) Rainfall Distribution
- (10) Areas of Land between Different Contours
- (11) Soil Suitability Categories according to Land Alienation and Gazettement Categories
- (12) Forest Productivity Categories according to Land Alienation and Gazettement Categories
- (13) Forest Productivity Categories according to Various Elevations

SUMMARY

The following report presents, in a generalised manner, the results of a land classification study for the State of Selangor. The study is based on a wide variety of data, including land alienation and present land use, topographic, rainfall, and mineral, soil, forest and water resource, which have been presented in map and statistical form. A comparison of these data enable useful insights to be made into the potentials of the major natural resources, and the extent to which these are presently being realised, and also the opportunities for future resources development and the conflicts which may be presented by the overlapping nature of the resource potentials.

The text emphasises the extent of the opportunities for further natural resources development and draws attention to the need for careful planning, based on sound land use policies, in order to realise to the full the latent potentialities represented by those untapped natural resources.

INTRODUCTION:

1. As part of the First Malaysia Plan programme of Land Classification for West Malaysia prepared by the Technical Sub-Committee for Land Capability Classification of the National Development Planning Committee, Land Capability Classification studies of the State of Selangor were carried out during 1968 and the early part of 1969. This report summarises the results of these studies include statistical summaries of the land use and natural resources and their development potentials, together with generalised maps showing the location of these resources.

2. The objective of this report is to provide an appreciation of the salient features of the present pattern of land use and the more important natural resources, from which a broad appraisal can also be made of the opportunities for future development according to a rational land use pattern, consistent with long-term conservation needs. The report is not a detailed study nor is it a plan for development. The objective is to provide guidelines on which sound land use policies and plans may be based, and to assist in the location of areas where further studies on the development of any particular resource or combination of resources might be carried out. It is emphasised that only with proper planning would it be possible to develop these resource opportunities in such a way as to obtain maximum benefit.

3. The data presented in this report reflect the resource evaluation or use situation at the time of compilation of the data. The compilation period extended from 1966 to 1968. The present report covers the whole of the State of Selangor, excluding the deltaic islands off the mouth of the Sungei Klang. The area of Selangor covered by this study, as estimated by the summation method explained in the appendix, is approximately 1,980,576 acres or 3,095 square miles. (If the deltaic islands are included, the calculated area is 2,016,594 acres, or 3,151 square miles) The Straits of Malacca form the western and south-western boundary of the State, while the eastern boundary coincides with the watershed of the Main Range. The northern (Perak) boundary follows the line of the Sungei Bernam, while the south-western (Negri Sembilan) boundary follows the course of the Sungei Sepang for a distance of about 10 miles from the coast, and then a straight line not related to natural features from this point to the foot of the Main Range.

4. The eastern side of the State is mountainous and largely forested with maximum elevations of four and five thousand feet. West of the Main Range the undulating land of lower elevation has been extensively developed for agricultural purposes and for mining or urban use. The extensive coastal plain has been partly developed for agriculture, including padi, but considerable areas, consisting mainly of deep peat swamp, remain undisturbed.

5. Compared with most other States of Malaysia, Selangor is highly developed, with a particularly heavy concentration of population and industry in the Klang valley. The economic prosperity of the State will depend increasingly in the future on further expansion of the industrial and servicing sectors as distinct from the largely exploitive mining and forestry sectors or the agricultural land base, which sustained much of the development in the past. Nevertheless, the present study reveals an extensive land resource reserve which will afford continuing opportunities for development in these primary sectors of the economy. The integration of these activities with other sectoral developments to provide maximum benefits constitutes a planning problem of some magnitude and it is hoped that the data presented in this report will assist in the preparation of such plans.

PRESENT LAND UTILISATION:

6. The pattern of present land use can be broadly inferred from the Land Alienation and Gazettement map attached to this report. This map, which is a reduction from a larger scale map prepared by the State Survey and Land Office, reflects the legal situation in respect of land and shows the location and extent of land covered by deeds of title and gazettement notices, including land alienated for agricultural, mining and urban development and also those areas which have been gazetted as forest, game, veterinary, Orang Asli, or Malay reserves or for other Government use purposes, together with uncommitted state land. This information is summarised in acreage terms in Table 1. Areas which have been given out under temporary licences (T.O.L.) are not included in this table.

7. In land classification studies it is important to differentiate between the legal use situation, as expressed by the land alienation data, and the actual use situation of the land at a particular time. Only part of the land alienated for agriculture, for example, may be actively utilised for this purpose, while other portions may never been developed or may have been cultivated at one time but were later abandoned; while some other portions might be utilised for purposes other than agricultural, in contravention of the conditions of the title. Conversely, state land or gazetted forest reserves may be subject to illegal cultivation. Such differences are of course not shown on the above map, and this pattern of actual land use can only be determined by a specific type of survey. Such a survey has recently been completed for the State, utilising a complete aerial photographic cover taken in 1966, and while no map on a suitably reduced scale is yet available showing these data, a recently prepared acreage statement summarises the results of this survey (Table 2).

8. Comparison of the land alienation and gazette ment data with the present land use data will permit the identification of areas of alienated land which are not presently utilised, as well as those areas of state land which have been illegally developed or are under T.O.L.s.

9. Table 1 illustrates the large extent of the areas alienated for agriculture (970,830 acres) and gazetted as forest reserves (476,721 acres)*, occupying 49% and 24% of the total area of the State respectively. State land comprises the next largest category, (286,695 acres), or 14.5%, suggesting that a considerable opportunity still exists for future land use allocation, while the existence of 115,920 acres of unalienated Malay Reserves, covering some 5.85% of the State, further highlights this possible opportunity.

10. The figure of 69,552 acres (3.51%) of land leased for mining purposes is hardly surprising, considering that Selangor is the second most important tin producing State in the country, but it is of interest to note that this is more than double the acreage of land utilised for "other purposes" - mainly urban and associated development (33,534 acres, or 1.69%). Game Reserves occupy a modest 21,942 acres (1.11%) while Orang Asli and Grazing Reserves cover negligible areas in comparison.

11. Table 2 shows the acreages of land utilised for various purposes in the year 1966, determined by point count from the recently completed present land use maps.

NATURAL RESOURCES:

Minerals:

12. The areas of mineral resource categories are estimated in Table 3 and shown on the attached mineral potentiality map. The classification is based on the potential of any area for mining according to the following criteria:-

- (1) Probable mining land as deduced from prospecting results and geological evidence.
- (2) Land under mining lease/certificate or in which active mining is taking place.
- (3) Possible mining land as deduced from geological evidence.

* Since the data was compiled about 40,000 acres of state land in Ulu Selangor has been constituted as forest reserve.

- (4) Land which on geological evidence might contain mineral deposits.
- (5) Land for which no geological or other information is available.
- (6) Land which on geological and other evidence is unlikely to contain economic mineral deposits.
- (7) Non-mining land.

13. Tin ore is the principal mineral, and has been for over 200 years, during which period tin mining has made a significant contribution to the economy of the State.

14. From Table 3 it can be seen that potential mining land, comprising classes 1 and 2, covers approximately 63,000 acres, of which the greater part, or 56,000 acres, is already under mining lease, particularly in the districts of Kuala Lumpur, Ulu Selangor, and Ulu Langat. (The limits for probable mining land in the above classification have been taken as land having a minimum of 0.2 kati or .266 lbs. of cassiterite per cubic yard of alluvium, as indicated by prospecting results).

15. The bulk of the tin ore is alluvial which occurs widely throughout the State, with the greatest concentrations being found along the major rivers draining the above districts, and reflecting the fact that the drainage system has been the factor controlling the dispersion of the ore. The depth of the alluvium is variable, and increase towards the coast, where thicknesses of more than 100 feet may be encountered, while the average tin ore values also vary, as the following data compiled from prospecting results clearly shows:-

Analysis of Tin Ore Prospecting Results by Districts

| District | Average Depth of Alluvium in Feet | Average Tin-ore Value in Katis Per Cubic Yard |
|----------------|---|---|
| Kuala Lumpur | 45 | 0.55 |
| Ulu Selangor | 25 | 0.50 |
| Ulu Langat | 25 | 0.45 |
| Klang | 45 | 0.35 |
| Kuala Langat | 85 | 0.35 |
| Kuala Selangor | 60 | 0.30 |

16. The greater depth of the alluvium does not necessarily mean an increase in the thickness of the mineable horizon, but it can usually be inferred that the mineable horizon is more deeply buried under a layer of barren alluvial material deposited at a later date.

17. Lode tin ore is restricted mainly to Ulu Selangor District in areas such as Ulu Kul, Gunong Bakau, Fraser's Hill, Kanching, Rawang, Serendah, Ulu Yam, Peretak Hill and Ulu Kerling. A considerable tonnage of ore has been produced from these areas, the years from 1910 to 1920 being the period of peak production.

18. Occurrences of small lodes and stringers containing cassiterite have also been recorded in granitic and sedimentary rocks in the Kepong, Ampang, Sungei Besi, Cheras, Sungei Way, Setapak, Pantai and Serdang areas of Kuala Lumpur District.

19. The best future prospects for discoveries of new deposits of lode tin-ore will most probably lie in the Districts of Ulu Selangor and Kuala Lumpur in the vicinity of those deposits which are already known.

20. Deposits of hematite and magnetite, the principal ores of iron, occur on Wardieburn Estate at Setapak, and at Bukit Badong and Tanjong Keramat in the Kuala Selangor area, and on Kapur Bharu Estate in the Sungei Choh area. All the known deposits in the State are small.

21. The occurrence of bauxite (aluminium ore) has been recorded in the central coastal area of the State at Bukit Robinson, Batang Berjuntai, and on Sungei Choh Estate. Similar low-lying areas, which are of considerable extent in the coastal region, may contain additional deposits of bauxite.

22. Wolframite, a source of tungsten, has been recorded and mined in the Kanching and Liam valleys, and scheelite has been produced from deposits in the Kanching, Ulu Klang, Ulu Langat, Ampang and Sungei Besi areas. Tungsten ores have also been recovered as by-products of tin-mining.

23. Small quantities of gold have been won in the past, but only as a by-product of alluvial and/or lode-tin mining. Such production has been obtained from the valley of the Sungei Selangor, including the Inki, Rasa, Kalumpang, Kuala Kali, Kuala Kubu, and Peretak areas, where it is likely that some potential still remains.

24. Ilmenite, zircon, and monazite, the ores of titanium, zirconium and thorium respectively, are ubiquitous in the tin-bearing alluvium of Selangor, and all are recovered as by-products during concentrating of tin-ore. The bulk of the ilmenite occurs in the Ulu Selangor area.

25. Torbernite, a copper uranium phosphate mineral, has been recorded at Gunong Bakau, Sanka Dua Property, and the Sungei Chiling Second Mile Tin-Mine.

26. Occurrences of sulphide mineralization containing chalcopyrite, galena and sphalerite are known at Sanka Dua, Yin Sai, Gunong Bakau, and Ulu Kul where lode tin and torbernite also occur, while stannite has been recorded at Kepong and Serdang.

27. A combined aeromagnetic and scintillation counter survey which was flown during 1956-57 over selected areas in West Malaysia, including parts of the coastal plains, showed minor radioactive anomalies, of about double background value, in the heavy alluvial cover in these areas, including the coastal region of southern Selangor in the vicinity of Sungei Selangor and Sungei Langat. It is believed that the anomalies may be due to concentrations of radioactive minerals such as allanite, monazite and xenotime in the riverine alluvium produced by the weathering of granitic rocks in the area.

Soils:

28. The estimated areas of soil suitability classes are shown in Table 4 and on the soil suitability map. The soil suitability classification has been derived as a generalised representation of soil suitability from more detailed soil maps prepared from reconnaissance soil surveys. These more detailed soil maps, which are available from the Department of Agriculture and which show boundaries according to soil series, may be used for a more detailed analysis of soil suitability applicable to a wider range of crops. The present classification has been drawn up mainly to assist in the definition of soil suitability for the main economic tree crops in West Malaysia, i.e. oil palm and rubber. The classification is as follows:-

- (1) Soils with no limitations to agricultural development.
- (2) Soils with few minor limitations to agricultural development.
- (3) Soils with at least one serious limitation to agricultural development.
- (4) Soils with more than one serious limitation to agricultural development.
- (5) Soils with at least one very serious limitation to agricultural development.

29. From past experience it is known that soils of suitability classes 1 and 2, and in some cases those of class 3, are suitable for a wide variety of crops, and it is in these areas that diversification cropping would most likely be successful. Soils of class 3 are generally more problematical and require fuller investigation before being committed to diversification cropping, but are in all cases suitable for rubber cultivation.

30. Areas covered by Classes 4 and 5 are not generally considered suitable for agricultural development, except under very special circumstances, and are otherwise best retained or developed under permanent forest cover.

31. In comparison with most other states, Selangor is fortunate in having a high proportion of Class 1 soils, amounting to approximately 518,000 acres or 26.2% of the total area of the State. Most of this good agricultural land occurs in the developed parts of the coastal plain, and in the undulating to rolling land of low elevation which lies between the coastal plain and the foot-hills of the main range.

32. Class 2 soils are much less widespread, (277,000 acres approximately, or 14.0% of the total area of State) and occur chiefly in the north-western part of the coastal plain and particularly in rolling and hilly land in the north and central part of the State. Class 3 soils (183,000 acres approximately, corresponding to 9.3% of the State) are similarly distributed.

33. Soils of Classes 4 (approximately 490,000 acres) and 5 (approximately 513,000 acres) occupy a little more than half the total area of the State (24.7% and 25.9% respectively). The Class 4 soils occur almost exclusively on the coastal plain and consist principally of deep peat or saline mangrove forest soils, while the Class 5 soils occur mainly on the very steeply sloping mountainous terrain which occupies the eastern side of the State.

Forestry:

34. The areas of forest productivity classes are shown in Table 5 and on the Forest Productivity Map. The classification is based on the potential capability of the land to support forests of different productivity as well as the varying potential to supply timber from the existing stands, according to present knowledge and standards of utilisation. A prime assumption is that forests with the highest volume of trees of all species, though not all of these species are presently marketable, would in the future be the forests which would be able to sustain the highest growing stock, and would consequently have the highest potential productivity.

In order that this classification should not conceal the actual productivity of the forests according to the present stands and standards of utilisation, a lower order classification is introduced, taking into account the actual stocking of present commercially desirable species. The classification is as follows:-

- 1 Treated or regenerated forest or a forest plantation.
- 1M Productive Mangrove Forests.
- 2A Forest of high potential productivity with a basal area of all species of at least 80 sq. ft. or an equivalent volume of 64 tons round timber, including at least 50 sq. ft. or an equivalent of 40 tons round timber of commercial species per acre.
- 2B Forest of high potential productivity with a basal area of all species of at least 80 sq. ft. or an equivalent volume of 64 tons round timber, but including less than 50 sq. ft. or an equivalent volume of 40 tons round timber of commercial species per acre.
- 3A Forest of average potential productivity with a basal area of all species of 60-80 sq. ft. or an equivalent volume of 48-64 tons round timber, including at least 35 sq. ft. or an equivalent volume of 28 tons round timber of commercial species per acre.
- 3B Forest of average potential productivity with a basal area of all species of 60-80 sq. ft. or an equivalent volume of 48-64 tons round timber, but including less than 35 sq. ft. or an equivalent volume of 28 tons round timber of commercial species per acre.
- 4A Forest of marginal productivity with a basal area of all species of 40-60 sq. ft. or an equivalent volume of 32-48 tons round timber, including at least 20 sq. ft. or an equivalent volume of 16 tons round timber of commercial species per acre.
- 4B Forest of marginal productivity with a basal area of all species of 40-60 sq. ft. or an equivalent volume of 32-48 tons round timber, but including less than 20 sq. ft. or an equivalent volume of 16 tons round timber of commercial species per acre.

5 Forest of limited potential productivity with a basal area of all species of less than 40 sq. ft. or an equivalent volume of 36 tons per acre.

5M Unproductive Mangrove Forests.

35. Within this classification, commercial species are those included in Classes A to C of the Forest Department Linear Sampling (L.S.) List of species, while volume figures are from estimates of round timber, expressed as cubic tons, equivalent to 50 cubic feet, without allowance for defects.

36. Forested land covers about 44% of the State, or about 864,000 acres, largely accounted for by swamp forest including mangrove in the coastal plains, and hill forest on the Main Range and in parts of the undulating lowlands not given over to other use purposes. Of this area, about 200,000 areas contain forests of only limited productive potential, better suited as protective forests, while another 205,000 acres have been logged or regenerated. A further 233,000 acres are of marginal productivity (Classes 4A and 4B), so that forests of average and above average productivity covers only about 229,000 acres.

37. Gazetted forest reserves cover only 24% of the total area of the state, or little more than half the area of forested land. From Table 12 it may be seen that these forest reserves contain about 382,000 acres of productive inland forest and 17,000 acres of productive mangrove forests. Another 54,000 acres are of only limited potential productivity and 24,000 acres are non-forested land.

38. The remaining forested land belongs mainly to the State land category, which includes 16,000 acres of productive inland forest and 70,000 acres of forests with only limited potential productivity, and to the Malay Reserve category, which contains about 61,000 acres of productive forest and about 29,000 acres of forests with only limited potential productivity. Smaller but by no means negligible forested areas occur within the land categories alienated for agriculture or leased for mining, and in gazetted game reserves.

39. The largest areas of productive forest occur in the three inland districts of Ulu Selangor, Kuala Lumpur, and Ulu Langat, mainly on the western slopes of the Main Range but partly in lowland areas, most of which comprise gazetted forest reserves. In the coastal districts of Sabak Bernam, Kuala Selangor, Klang, and Kuala Langat the forested land category includes a greater proportion of limited potential productivity forest, as well as large areas of highly productive mangrove forest particularly in Klang District.

Water:

40. Maps showing the boundaries of water catchments utilised by the Public Works Department, the National Electricity Board, and the Drainage and Irrigation Department have been prepared and are available for reference in the offices of the Natural Resources Section of the Economic Planning Unit. Table 7 shows the areas presently under and proposed for irrigation or drainage schemes. While Table 8 summarises the areas of water catchments presently utilised for irrigation, hydro-electric and potable/industrial purposes.

41. Table 7 illustrates the importance of drainage schemes to the development of the coastal districts, with more than 12% of the total area of the land in the State already subject to such improvements, and with plans for similar improvements to be effected over a further 3%. Proposals for further irrigation schemes is limited in comparison, reflecting the fact that most land suited to padi cultivation has already been subject to irrigation improvements.

Land Capability:

42. The Land Capability categories are presented in Table 6 and on the Land Capability Map and have been compiled from the mineral potentiality, soil suitability and forest productivity data. The Land Capability categories are as follows:-

- Class 1 Land possessing a high potential for possible mineral development. (The aggregate area comprises the total area of current and potential mining Classes 1 and 2 of the mineral potentiality classification).
- Class 2 Land possessing a high potential for possible agricultural development with a wide range of crops. (The aggregate area comprises Classes 1 and 2 of the soil suitability classification less those areas covered by Class 1 above).
- Class 3 Land possessing a moderate potential for agricultural development because of a restricted range of crops. (The area comprises Class 3 of the soil suitability classification less those areas covered by Class 1 above).

Class 4 Land possessing a high potential for possible productive forest development. (The aggregate area comprises Classes 1 to 4 of the forest productivity classification, less those areas covered by Classes 1, 2 and 3 above).

Class 5 Land possessing little or no mineral, agricultural or productive forest potential, but suitable for possible alternative development such as productive forest reserves, water catchment areas, game reserves, national parks etc. (The area comprises Class 5 of the forest productivity classification, including non-forested land, less those areas already covered by Classes 1, 2 and 3 above).

43. When applying the above classification to problems of development, it should be appreciated that the best development objectives need not necessarily coincide with the land capability potential.

44. The classification merely indicates the most appropriate areas where particular development activities might be located. Thus mineral development would best be located within Class 1 areas, but where there is conflict between different resources uses, further studies may be desirable to compare the benefit of these alternatives uses. Nevertheless, the present land capability classification reflects nationally accepted priorities for the development of any resource potential, according to economic factors applicable at the present and in the foreseeable future. This is commonly interpreted to mean that there will be economic priority for the development of mining in favour of agricultural crops which in turn have priority over productive forest development. However, these priorities may be locally or temporarily modified, in particular where there is conflict between marginal agricultural development and forestry, or where regenerated forest crops reaching maturity may conflict with a need for agricultural development over the same area. In the latter case, it may be economically beneficial to postpone agricultural development until the forest crop is harvested.

45. The conflicts in resource development opportunities may be seen by superimposing the land capability map over the respective resource potential maps. By placing the transparent land capability map over the forest productivity map, it may be seen where mineral or agricultural development opportunities conflict with productive forest development opportunities. Conflicts between mineral and agricultural development may be seen directly from the land capability map itself.

46. From Table 6 it can be seen that capability Class I land covers some 63,000 acres (3.2%) of the State land area. Class II occupies an encouragingly high figure of approximately 783,000 acres, or 39.5%, while Class III is restricted to about 177,000 acres, or 8.9%. Class IV land covers about 562,000 acres, or 28.4%, while Class V occupies approximately 395,000 acres, corresponding to 20.0% of the total.

NATURAL RESOURCES DEVELOPMENT POTENTIALS:

47. In assessing the development potentials of the natural resources an understanding is required not only of the resources available, but also of the extent to which these resources have been developed and the conflicts between the remaining resources available for development. Comparison between the land capability data and the land alienation data will show the extent of the available resources; while comparison of the land capability data with the respective resources data will indicate the areas of conflict.

Mining:

48. Not unexpectedly, very little land with a proven mining potential occurs outside areas currently under mining lease, but it is of interest to note that small pockets of probable mining ground, as deduced from prospecting results and geological evidence, occur in several other land alienation and gazetteement categories, and particularly in areas alienated to agriculture (approximately 2,000 acres), suggesting that a serious conflict of interest may occur in these areas, and a closer study of the relative economics of mining and agriculture (or other implied use) in such instances could be of value in determining the best land use purpose in such areas in the future.

49. Another significant feature of the mineral potentiality data is the extent of possible mining land as deduced from geological evidence (approximately 17,000 acres) and land which on geological evidence might contain mineral deposits (244,000 acres). Such land is generally peripheral to the current mining areas, and both these categories, which chiefly overlies the agriculturally alienated and state land categories, appear well worth serious consideration for more detailed prospecting. Any workable deposits subsequently located in these areas are likely to be small and/or of lower grade as compared with the rich and extensive deposits already being mined and now rapidly being depleted, and the more marginal grade of such deposits could require more efficient methods of mining and treatment for economic operation. Economies in scale, which may only be possible when a proven area is mined as a single entity, could be crucial in determining whether some of the more marginal land is worked or remains unexploited, and this will imply more extensive leases in some instances than has been the practice in the past.

50. The above remarks apply particularly to alluvial tin deposits, but it would seem that there may also be a considerable potential for lode tin and perhaps base metal mining as well, and the discovery and opening-up of such deposits in bedrock could be essential to the continuation of the mining industry in the State at its present level of production. The discovery, development and operation of such deposits is costly and is to a great extent dependant on modern exploration techniques, skills, and mining and beneficiation plant which are unfamiliar to the mining industry in the State at the present time, and which can only be successfully applied on a relatively large scale. The granting of prospection rights over appropriately large areas could be an important step towards realising the full extent of these latent opportunities.

51. Such mining opportunities as might occur are unlikely to conflict too severely with the present or potential use patterns of the other natural resources, owing to the concentrated nature and subsurface location of most likely deposits, except with regard to spoil disposal which may encroach on agricultural or other land, or with regard to erosional consequences in those areas where a mining opportunity may be located in the more strongly sloping areas of the State, as might be the case in the mountainous interior of Ulu Selangor District.

Agriculture:

52. Table 11 relates the five soil suitability categories to the land alienation and gazettelement data, from which it can be seen that the greater portion of the land best suited to agriculture has already been alienated for this purpose, including 443,000 acres, or 85% out of the total area of 518,000 acres of class 1 soils, and 216,000 acres, or 79% out of the total area of 277,000 acres of class 2 soils.

53. In addition 66% of the class 3 soils; 24% of the class 4 soils; and 15% of the class 5 soils have been alienated for agriculture. The lower percentage alienation figures for the poorer soils is to be expected but a figure of 15% for the alienated proportion of the poorest soils is nevertheless surprising and deserving of further investigation, as it would appear inappropriate to have developed large areas of the poorer agricultural land when extensive tracts of better suited land remain unexploited.

54. It is possible that large areas of land in the alienated for agriculture category overlying the poorer soils remain uncultivated, and the fact that only about 79% of the alienated land in the State is under agricultural use, assuming that no illegal cultivation occurs, (calculated from land alienation and present land use data) compared with

93% in Malacca and 83% in Negri Sembilan appears to support this contention. Undoubtedly, the relatively low percentage utilisation figure for alienated agricultural land is anomalous for a State where land hunger is recognised to be severe.

55. Small areas of land containing the more suitable soil categories for agriculture occur within State land (approximately 15,000 acres Class 1, 16,000 acres Class 2 and 7,000 acres Class 3 and in the unalienated parts of Malay reserves (5,000 acres Class 1, 12,000 acres Class 2 and 17,000 acres Class 3), while rather larger areas occur in forest reserves (approximately 38,000 acres Class 1, 24,000 acres Class 2, and 28,000 acres Class 3), and these areas present opportunities for agricultural expansion, particularly if the value added from such use should prove greater than that obtained through other use possibilities, including forestry.

Forestry:

56. A comparison between Table 6 showing areas of Land Capability Categories with Table 12 showing areas of forest productivity classes cross-tabulated against land alienation and gazettelement categories will show the extent of forest development potentials. Table 6 shows that about 562,000 acres of land is Class 4 and which are less suited for agriculture but contain potentially productive forests, while Table 12 shows that only 399,000 acres of productive forest areas are within forest reserves. Since most of the productive mangrove forests are already within reserved forests, it follows that the difference of about 163,000 acres consist of potentially productive inland forest. This represents a net increase in productive forests which may be brought under forest reservation.

57. However from Table 11, it may be seen that about 90,000 acres of forest reserves are on soils suitable for agriculture. Since the total area of productive forests within forest reserves is 399,000 acres, it follows that at least 309,000 acres of these are not on soils suitable for agriculture, that is they represent the area of Class 4 land within forest reserves. As a result, assuming a negligible area of probable mining land which may occur on Class 4 or 5 soils suitability class areas, since the total area of Class 4 land is 562,000 acres, the area of such land which could be further reserved is 253,000 acres. These are located mainly on state land and Malay reserves in the Sabak Bernam/Tanjong Karang peat swamp with marginally productive forests and on state land in peat swamp east of Kuala Langat South Forest Reserve which contains forest of average productivity. Another 40,000 acres in the Ulu Selangor area containing good hill forests have been constituted within the Ulu Selangor Forest Reserve since the data was compiled.

CONCLUSIONS:

58. In spite of the highly developed condition of the State, the recently collected land classification data on which this report is based indicate that opportunities for more extensive or intensive development of the natural resources still exist, and could be realised if a determined planning and development effort is made.

59. Prominent among these opportunities are the probable extension of mining activities in the areas of greatest potential, mostly peripheral to current mining ground; and an increase in the aggregate area of land under cultivation through the alienation for agricultural purposes of sizeable areas of state land, much of which is presently gazetted for other use purposes, particularly forestry. The possibility of increasing the percentage utilisation in land already alienated for agricultural purposes but not apparently under cultivation at the present time also warrants attention, although the evidence suggests that some of this land is of very questionable value for this purpose.

60. The opportunities for forestry appear more restricted in view of the apparent suitability of much of the forest reserve land category for agricultural development, particularly when viewed against the serious unemployment situation which is known to exist, and which could be relieved in some measure by such a transfer; but the fact that rather more than 50% of the State is of questionable or limited suitability for agricultural purposes suggests that no serious conflict in land use terms exists over large areas, and opportunities for intensified forest use, based on sound management, and compatible with other uses including water conservation and recreation, appear to hold much promise.

Regional Planning Division,
Economic Planning Unit,
Prime Minister's Department,
KUALA LUMPUR.

28th November, 1969.

APPENDIX I

Area Summation Method

The area estimates given in the preceding report and its accompanying tables were prepared by mechanical data processing methods, using I.C.T. punch cards. The land use, natural resource, and other land quality data on the contributed maps have been coded on a point basis using a systematic sampling method based on the pattern of intersection points made by the 1,000 yard grid squares which are shown on all 1:63,360 published topographic maps of West Malaysia.

The percentage standard error for any acreage estimate within the State can be determined from the following table which is accurate for three standard sampling areas equivalent to 10,000; 5,000 and 1,000 sample points respectively:-

Percentage Standard Error Table

| Total number of sample points in the area(N) | | | Percentage Standard Error (C.V. %) |
|--|-------|-------|------------------------------------|
| 10,000 | 5,000 | 1,000 | |
| Total number of sample points with particular quality "K" (MK) | | | |
| 1 | 1 | 1 | 100 |
| 11 | 11 | 11 | 30 |
| 16 | 16 | 16 | 25 |
| 25 | 25 | 24 | 20 |
| 44 | 44 | 43 | 15 |
| 99 | 98 | 91 | 10 |
| 380 | 370 | 286 | 5 |
| 590 | 560 | 385 | 4 |
| 1000 | 910 | 526 | 3 |
| 2000 | 1670 | 714 | 2 |
| 5000 | 3340 | 909 | 1 |
| 8000 | 4440 | 976 | 0.5 |

The exact plain acreage equivalent of a 1,000 yard square is 206.61116 acres, but in order to facilitate the calculations necessary for preparing the acreage tables presented in the proceeding report, the area equivalent of each sampling point has been taken as 207 acres, thus introducing a bias of +.2% into the quoted figure. In order to determine the number of sampling point related to a given acreage, the acreage figure should be divided by 207.

The above table can be used to determine standard errors for acreage estimates within different sized sample areas from the three standard sample areas shown in the table, e.g. the total estimated area of Kuala Lumpur District is 224,388 acres which is equivalent to 1,084 sampling points. The percentage standard error (C.V.) for area estimates within the boundary of this district can therefore be calculated by reference to column 3 in the table, as N for this column is closest to N for Kuala Lumpur District. As the total estimated area of land below the 500 foot contour is 162,909 acres (table 11), equivalent to 787 sample points, and as this figure is most closely approximate to the figure 714 in column 3 of the table, the percentage standard error (C.V.) for the estimated acreage of land below the 500 foot contour is 2%, as indicated in column 4.

This can be expressed in acreage terms by the following calculation:-

$$\text{Standard error} = \frac{2}{100} \times 787 \times 207 = 3,258 \text{ acres}$$

TABLE 1*
STATE OF SELANGOR
ESTIMATED AREAS OF ALIENATED AND GAZETTED LAND IN ACRES BY MUKIMS

| M.T. CARD COL. 17 CODE NOS: | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | TOTAL |
|-----------------------------|-----------------------|------------------|---------------------------|----------------------|------------------------------|------------------|---------------------|------------------|-----------------|---------------------------------------|------------------|
| DISTRICT | MUKIM | STATELAND | ALIENATED FOR AGRICULTURE | ALIENATED FOR MINING | MALAY RESERVES (UNALIENATED) | GRAZING RESERVES | ORANG ASLI RESERVES | FOREST RESERVES | GAME RESERVES | ALIENATED/RESERVED FOR OTHER PURPOSES | |
| KUALA LUMPUR | Ampang | 2,277 | 2,277 | 4,140 | 428 | -- | -- | 1,242 | -- | 207 | 10,143 |
| | Ulu Klang | 1,449 | 3,312 | 828 | -- | -- | -- | 22,149 | 207 | -- | 28,773 |
| | Setapak | 621 | 14,283 | 828 | 1,035 | -- | -- | 17,802 | 207 | 444 | 35,190 |
| | Batu (Kuala Lumpur) | 1,035 | 18,009 | 1,452 | 828 | -- | -- | 16,353 | -- | 1,035 | 44,712 |
| | Sungei Buloh | 1,449 | 19,458 | 414 | -- | -- | 1,242 | 6,831 | -- | 621 | 30,015 |
| | Petaling | 4,347 | 18,630 | 9,522 | -- | -- | -- | 8,901 | 207 | 2,898 | 44,298 |
| | Kuala Lumpur | 2,691 | 13,662 | 3,105 | -- | -- | -- | 414 | -- | 11,178 | 31,257 |
| | DISTRICT TOTAL: | 13,869 (6.18%) | 89,631 (39.94%) | 26,289 (11.72%) | 2,691 (1.20%) | -- | -- | 1,242 (0.55%) | 73,692 (32.84%) | 621 (0.28%) | 16,353 (7.29%) |
| SABAK BERNAM | Panchang Bedena | 1,035 | 26,082 | -- | 10,971 | -- | -- | 5,589 | -- | -- | 43,677 |
| | Sabak | 1,242 | 34,155 | -- | -- | -- | -- | 621 | -- | 207 | 36,225 |
| | Sungei Panjang | -- | 13,869 | -- | 58,374 | -- | -- | -- | -- | 621 | 72,864 |
| | Bagan Nakhoda Omar | -- | 14,190 | -- | -- | -- | -- | 4,761 | -- | 207 | 19,458 |
| DISTRICT TOTAL: | 2,277 (1.32%) | 88,296 (51.44%) | -- | 69,345 (40.27%) | -- | -- | -- | 10,971 (6.37%) | -- | 1,035 (0.60%) | 172,224 (100%) |
| KLANG | Kapar | 414 | 39,557 | -- | -- | -- | -- | 15,111 | -- | 414 | 55,476 |
| | Bukit Raja | 207 | 14,076 | -- | -- | -- | -- | 7,866 | -- | 1,242 | 23,391 |
| | Damansara | 414 | 31,050 | 2,691 | -- | -- | -- | 13,869 | -- | 1,035 | 35,190 |
| | Klang | 7,038 | 61,893 | -- | -- | -- | 1,035 (0.51%) | 36,846 (18.18%) | -- | 4,761 | 88,596 |
| DISTRICT TOTAL: | 8,073 (3.98%) | 146,556 (72.32%) | 2,691 (1.33%) | -- | -- | -- | 1,035 (0.51%) | 53,832 (27.18%) | -- | 7,452 (3.68%) | 202,653 (100%) |
| KUALA SELANGOR | Tanjong Karang | 116,334 | 48,645 | -- | 14,283 | -- | -- | 621 | 621 | 1,242 | 181,746 |
| | Ulu Tinggi | 17,595 | 1,863 | 4,140 | -- | -- | -- | 2,277 | -- | -- | 23,998 |
| | Ujong Permatang | -- | 14,450 | -- | -- | -- | -- | -- | -- | -- | 16,767 |
| | Pasangan | 1,035 | 25,876 | 414 | 1,035 | -- | -- | 828 | 207 | 207 | 28,399 |
| | Kuala Selangor | 414 | 3,519 | -- | -- | -- | -- | 621 | -- | -- | 5,175 |
| | Batang Berjuntai | 3,519 | 14,904 | 6,417 | -- | -- | -- | 2,898 | -- | 207 | 25,461 |
| | Api Api | -- | 14,041 | -- | -- | -- | -- | 12,834 | -- | -- | 16,146 |
| | Ijok | 621 | 21,114 | -- | -- | -- | -- | 6,210 | -- | -- | 34,569 |
| Jeram | 207 | 28,566 | -- | 621 | -- | -- | -- | -- | -- | 35,604 | |
| DISTRICT TOTAL: | 139,725 (38.03%) | 172,017 (46.82%) | 10,871 (2.98%) | 15,939 (4.34%) | -- | -- | -- | 26,289 (7.15%) | 828 (0.23%) | 1,656 (0.45%) | 367,425 (100%) |
| ULU SELANGOR | Ulu Bernam | 8,073 | 46,368 | 828 | 1,242 | 207 | -- | 45,333 | 11,799 | -- | 113,850 |
| | Kelumpang | 207 | 621 | -- | -- | -- | -- | 8,467 | -- | -- | 9,315 |
| | Sungei Gumut | -- | 6,417 | 1,242 | 1,035 | -- | -- | 1,449 | 207 | -- | 10,143 |
| | Kei Ling | 4,140 | 10,764 | 414 | -- | -- | -- | 27,945 | -- | 2,070 | 43,470 |
| | Ampang Pecha | 2,691 | 3,519 | 207 | 207 | -- | -- | 1,863 | -- | -- | 10,557 |
| | Peretak | 38,916 | -- | 414 | -- | -- | -- | 6,831 | 4,968 | -- | 51,129 |
| | Buloh Telor | 2,070 | 828 | 621 | -- | -- | -- | 1,863 | -- | -- | 5,382 |
| | Rasa | 207 | 7,038 | 1,035 | 1,863 | 207 | -- | 10,350 | -- | -- | 20,700 |
| | Batang Kali | 1,863 | 13,248 | 1,863 | 2,484 | 207 | -- | 19,665 | -- | -- | 39,330 |
| | Ulu Yam | 5,175 | 15,111 | 2,277 | 207 | -- | -- | 6,831 | -- | 207 | 29,808 |
| | Serendah | 8,694 | 23,805 | -- | -- | -- | -- | 14,904 | -- | 3,312 | 50,508 |
| | Rawang | 4,554 | 29,601 | 6,624 | -- | -- | -- | 17,802 | 3,519 | -- | 65,412 |
| | Sungei Tinggi | 621 | 16,974 | 1,035 | -- | -- | -- | 19,872 | -- | -- | 38,502 |
| | Kuala Kelumpang | 828 | 5,589 | 1,035 | 1,035 | -- | -- | 1,656 | -- | -- | 10,143 |
| DISTRICT TOTAL: | 78,039 (15.66%) | 20,493 (36.01%) | 20,493 (4.11%) | 8,073 (1.62%) | 414 (0.09%) | 414 (0.09%) | -- | 184,851 (57.10%) | 20,493 (4.11%) | 5,589 (1.12%) | 498,249 (100%) |
| ULU LANGAT | Ulu Langat | 1,656 | 18,423 | -- | 6,624 | 207 | -- | 48,024 | -- | -- | 74,727 |
| | Ulu Semenyih | 3,726 | 10,143 | 2,691 | -- | -- | -- | 30,636 | -- | 207 | 47,403 |
| | Cheras | -- | 12,200 | 207 | 621 | -- | -- | 207 | -- | -- | 13,662 |
| | Beranang | -- | 15,318 | -- | -- | -- | -- | 5,175 | -- | 621 | 15,318 |
| | Kajang | 12,006 | 68,724 | 3,519 | 5,175 | 414 | 621 | 2,277 | -- | 207 | 96,255 |
| | Semenyih | 1,449 | 19,872 | -- | -- | -- | 207 | -- | -- | -- | 24,012 |
| | DISTRICT TOTAL: | 18,837 (6.94%) | 144,900 (53.39%) | 6,417 (2.36%) | 12,420 (4.58%) | 621 (0.23%) | 828 (0.31%) | -- | 86,319 (31.81%) | -- | 1,035 (0.38%) |
| KUALA LANGAT | Telok Panglima Garang | -- | 16,253 | -- | 621 | -- | -- | 2,898 | -- | -- | 19,872 |
| | Kelanang | 207 | 13,869 | -- | -- | -- | -- | 3,105 | -- | -- | 17,181 |
| | Morib | -- | 6,210 | -- | -- | -- | -- | -- | -- | -- | 6,210 |
| | Batu (Kuala Langat) | 621 | 17,595 | -- | -- | -- | 207 | 12,627 | -- | 414 | 31,050 |
| | Sepang | 8,901 | 33,120 | -- | 621 | -- | 207 | 8,073 | -- | -- | 51,336 |
| | Tanjong Duablas | 1,242 | 4,202 | 2,691 | 4,554 | -- | 414 | 21,735 | -- | -- | 72,657 |
| | Bandar | 1,863 | 7,866 | -- | -- | -- | -- | -- | -- | -- | 9,729 |
| | Jugra | 1,035 | 1,863 | -- | -- | -- | -- | -- | -- | -- | 3,933 |
| | Labu | 12,006 | 10,350 | -- | 1,656 | -- | -- | 8,280 | -- | -- | 32,292 |
| DISTRICT TOTAL: | 25,875 (10.60%) | 149,247 (61.10%) | 2,691 (1.10%) | 7,452 (3.05%) | -- | 828 (0.34%) | -- | 57,753 (23.64%) | -- | 414 (0.17%) | 244,760 (100%) |
| STATE TOTAL: | 286,695 (14.46%) | 970,230 (49.02%) | 69,552 (3.51%) | 115,920 (5.85%) | 1,035 (0.05%) | 4,347 (0.22%) | -- | 476,721 (24.07%) | 21,942 (1.11%) | 35,534 (1.69%) | 1,980,616 (100%) |

* NOTE:
1. The estimates shown in this table include a bias of +0.2%
2. The accuracy of the estimates can be determined from the Standard Error Table included in the appendix.
3. -- = nil or negligible.
4. Since this data has compiled about 40,000 acres of stateland in Ulu Selangor has been constituted is forest reserve.

TABLE 2*
STATE OF SELANGOR
ESTIMATED AREAS OF LAND USE CATEGORIES IN ACRES BY DISTRICTS

| LAND USE CATEGORY | DISTRICT: | DISTRICTS | | | | | | | STATE TOTAL |
|----------------------------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| | | KUALA LUMPUR | SABAK BERNAM | KLANG | KUALA SELANGOR | ULU SELANGOR | ULU LANGAT | KUALA LANGAT | |
| Urban | | 27,524 (12.1%) | 640 (0.4%) | 4,702 (1.7%) | 1,406 (0.4%) | 2,300 (0.6%) | 2,240 (0.6%) | 764 (0.3%) | 40,076 (1.9%) |
| Estate Building | | 350 (0.2%) | 158 (0.1%) | 1,210 (0.4%) | 863 (0.2%) | 1,238 (0.2%) | 646 (0.2%) | 1,134 (0.4%) | 5,599 (0.3%) |
| Tin Mining | | 16,347 (7.2%) | 4 | 669 (0.2%) | 1,367 (0.4%) | 8,152 (1.6%) | 3 | 3 | 29,135 (1.4%) |
| Other Mining Quarrying | | 260 (0.1%) | - | 86 | 4 | 55 | 10 | 13 | 428 (0.2%) |
| Transmission Line | | 621 (0.3%) | - | 643 (0.2%) | 6 | 2,058 (0.4%) | 905 (0.3%) | 183 (0.1%) | 4,426 (0.2%) |
| Mixed Horticulture | | 3,475 (1.5%) | 685 (0.4%) | 3,394 (1.2%) | 2,191 (0.6%) | 2,190 (0.4%) | 4,596 (1.7%) | 3,879 (1.5%) | 20,410 (1.0%) |
| Market Gardening | | 635 (0.3%) | - | 81 | 5 | 126 | 109 | 397 (0.2%) | 1,353 (0.1%) |
| Agricultural Stations | | 851 (0.4%) | - | 197 (0.1%) | - | - | 67 | 10 | 1,125 (0.1%) |
| Rubber | | 52,005 (23.1%) | 1,041 (0.6%) | 79,702 (28.7%) | 56,649 (15.3%) | 109,244 (21.6%) | 106,600 (39.9%) | 61,237 (24.1%) | 469,558 (22.5%) |
| Oil Palm | | 2,530 (1.1%) | 989 (0.5%) | 18,977 (6.9%) | 15,221 (4.0%) | 14,457 (2.9%) | 1,069 (0.4%) | 25,877 (10.2%) | 79,109 (3.8%) |
| Coconuts | | 39 | 56,028 (31.1%) | 16,532 (6.0%) | 29,613 (7.7%) | 89 | 23 | 13,446 (5.3%) | 115,820 (5.5%) |
| Pineapple | | - | - | 1,038 (0.4%) | 66 | - | 46 | 1,342 (0.5%) | 2,446 (0.1%) |
| Coffee | | 26 | - | 1,185 (0.4%) | 2,074 (0.5%) | - | 1,346 (0.5%) | 783 (0.3%) | 4,405 (0.2%) |
| Tea | | - | - | 713 (0.3%) | - | - | - | 9 | 31 (0.1%) |
| Cocoa | | - | 31 | - | - | 17 | 118 | 31 | 196 (0.1%) |
| Sago | | - | - | 4 | 52 | - | - | - | 35 (0.1%) |
| Arena-nut Palm | | - | - | - | - | 31 | - | - | 31 (0.1%) |
| Fibre Crops | | - | - | - | - | 63 | 24 | - | 202 (0.1%) |
| Fish Ponds | | 15 | - | - | - | 99 | 267 (0.1%) | 273 (0.1%) | 1,092 (0.1%) |
| Orchards | | 273 (0.1%) | 23 | 116 | 41 | 485 (0.1%) | 2,238 (0.8%) | 45 | 55,529 (2.6%) |
| Padi | | 524 (0.2%) | 22,139 (12.3%) | - | 30,098 (7.9%) | 485 (0.1%) | 338 (0.1%) | 3,030 (1.2%) | 8,366 (0.4%) |
| Diversified Crops | | 1,012 (0.4%) | 123 (0.1%) | 1,370 (0.5%) | 2,198 (0.6%) | 97 | - | - | 100 (0.1%) |
| Shifting Cultivation | | - | - | 3 | - | - | - | - | 53 (0.1%) |
| Improved Permanent Pasture | | 53 | 5,611 (3.1%) | 10,255 (3.7%) | 10,528 (2.7%) | 21,869 (2.7%) | 12,688 (4.7%) | 6,981 (2.7%) | 87,511 (4.2%) |
| Grass Land | | 19,579 (8.7%) | 4,479 (2.5%) | 13,403 (4.9%) | 18,302 (4.8%) | 282,230 (56.5%) | 98,683 (36.3%) | 3,308 (1.3%) | 503,035 (24.1%) |
| Forest | | 82,630 (36.7%) | 1,124 (0.6%) | 3,129 (1.1%) | 1,127 (0.3%) | 22,050 (4.4%) | 8,427 (3.1%) | 2,269 (0.9%) | 46,372 (2.2%) |
| Scrub Forest | | 8,216 (3.6%) | 52 | 2,779 (1.0%) | 2,047 (0.5%) | 4,832 (1.0%) | 810 (0.3%) | 2,242 (0.9%) | 13,593 (0.6%) |
| Newly Cleared Land | | 831 (0.4%) | 75,077 (41.7%) | 83,799 (30.5%) | 187,563 (49.0%) | 24,757 (5.0%) | 24,392 (9.0%) | 109,195 (43.0%) | 508,646 (24.4%) |
| Swamp | | 3,863 (1.7%) | 7,030 (3.9%) | 20,519 (7.5%) | 15,912 (4.2%) | 14 | 19 | 3,570 (1.4%) | 47,367 (2.3%) |
| Unused Land | | 703 (0.1%) | 4,887 (2.7%) | 10,944 (4.0%) | 3,511 (0.9%) | 2,601 (0.5%) | 1,754 (0.6%) | 2,864 (1.1%) | 29,738 (1.4%) |
| Unclassified | | 3,177 (1.4%) | - | - | - | - | - | - | - |
| TOTAL: | | 225,249 (100%) | 180,191 (100%) | 274,489 (100%) | 382,844 (100%) | 499,841 (100%) | 272,086 (100%) | 253,967 (100%) | 2,088,629 (100%) |

I.C.T. CARD COLUMNS 27 AND 28, ALL CODE NUMBERS.

* This table has been compiled from the interpretation of 1966 aerial photographs on scale of 1:25,000, with data plotted on to new series edition base maps at the same scale, and is not strictly comparable with the other tables included in this report, which have been compiled from land quality data superimposed on 1:63,360 topographic maps, including some old series edition sheets. The deltaic islands are also included in the land use estimates, resulting in higher totals for the coastal districts.

TABLE 3*
STATE OF SELANGOR
ESTIMATED AREAS OF MINERAL POTENTIALITY CATEGORIES IN ACRES BY DISTRICTS

| I.C.T. CARD COL. 14 CODE NOS: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | TOTAL |
|---------------------------------|-----------------|----------------|-----------------|---------------------------|------------------|--------------------|----------------|------------------|
| DISTRICT / MINERAL POTENTIALITY | PROBABLE MINING | CURRENT MINING | POSSIBLE MINING | POSSIBLE MINERAL DEPOSITS | UNKNOWN | UNLIKELY MINING | NON-MINING | |
| Kuala Lumpur | - | 20,286 (9.04%) | 8,694 (3.87%) | 70,300 (31.37%) | 106,012 (47.60%) | 16,560 (7.38%) | 1,656 (0.74%) | 224,308 (100%) |
| Sabak Bernam | - | - | - | - | - | 172,224 (100%) | - | 172,224 (100%) |
| Klang | 414 (0.20%) | 1,063 (0.92%) | 414 (0.20%) | 10,557 (5.21%) | 16,767 (8.28%) | 169,533 (83.66%) | 3,105 (1.53%) | 202,653 (100%) |
| Kuala Selangor | 414 (0.11%) | 9,315 (2.54%) | - | 8,073 (2.20%) | 2,098 (0.79%) | 345,690 (94.08%) | 1,035 (0.28%) | 367,425 (100%) |
| Ulu Selangor | 2,691 (0.54%) | 16,974 (3.41%) | 4,554 (0.92%) | 106,390 (21.35%) | 140,760 (28.25%) | 209,484 (42.04%) | 17,388 (3.49%) | 498,249 (100%) |
| Ulu Langat | 1,242 (0.46%) | 7,659 (2.82%) | 1,035 (0.38%) | 44,712 (16.40%) | 157,527 (58.05%) | 55,683 (20.52%) | 3,519 (1.29%) | 271,379 (100%) |
| Kuala Langat | 1,863 (0.76%) | - | 1,863 (0.76%) | 3,933 (1.61%) | 828 (0.34%) | 230,805 (94.50%) | 4,968 (2.03%) | 244,260 (100%) |
| STATE TOTAL: | 6,624 (0.33%) | 56,097 (2.85%) | 16,560 (0.84%) | 244,053 (12.32%) | 425,592 (21.49%) | 1,199,979 (60.59%) | 31,671 (1.60%) | 1,980,576 (100%) |

TABLE 4*
STATE OF SELANGOR
ESTIMATED AREAS OF SOIL SUITABILITY CATEGORIES IN ACRES BY DISTRICTS

| I.C.T. CARD COL. 15 CODE NOS: | 1 | 2 | 3 | 4 | 5 | TOTAL |
|-------------------------------|------------------|-----------------------|------------------------|----------------------------------|----------------------------|------------------|
| DISTRICT / SOIL SUITABILITY | NO LIMITATIONS | FEW MINOR LIMITATIONS | ONE SERIOUS LIMITATION | MORE THAN ONE SERIOUS LIMITATION | VERY SERIOUS LIMITATION(S) | |
| Kuala Lumpur | 42,228 (18.82%) | 9,522 (4.24%) | 28,773 (12.82%) | 3,519 (1.57%) | 140,346 (62.55%) | 224,308 (100%) |
| Sabak Bernam | 48,024 (27.88%) | 34,569 (20.07%) | 18,216 (10.50%) | 71,415 (41.47%) | - | 172,224 (100%) |
| Klang | 100,602 (49.64%) | 16,353 (8.07%) | 16,146 (7.97%) | 56,304 (27.70%) | 13,240 (5.54%) | 202,653 (100%) |
| Kuala Selangor | 102,672 (27.94%) | 38,502 (10.40%) | 23,359 (7.72%) | 193,330 (52.62%) | 4,554 (1.24%) | 367,425 (100%) |
| Ulu Selangor | 51,543 (10.34%) | 135,999 (27.30%) | 54,855 (11.01%) | 7,659 (1.54%) | 248,193 (49.81%) | 498,249 (100%) |
| Ulu Langat | 75,555 (27.84%) | 42,220 (15.56%) | 24,840 (9.15%) | 24,219 (8.95%) | 104,535 (38.52%) | 271,377 (100%) |
| Kuala Langat | 97,497 (39.91%) | - | 12,006 (4.92%) | 133,101 (54.48%) | 1,656 (0.68%) | 244,260 (100%) |
| STATE TOTAL: | 518,121 (26.16%) | 277,173 (13.99%) | 183,195 (9.25%) | 489,555 (24.72%) | 512,532 (25.88%) | 1,980,576 (100%) |

TABLE 5*
STATE OF SELANGOR
ESTIMATED AREAS OF FOREST PRODUCTIVITY CATEGORIES IN ACRES BY DISTRICTS

| I.C.T. CARD COL. 16 CODE NOS: | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | TOTAL |
|--------------------------------|--------------------|------------------|-----------------|----------------|-----------------|----------------|-----------------|-----------------|----------------|------------------|------------------|
| DISTRICT / FOREST PRODUCTIVITY | NON-FOREST | CLASS 1 | CLASS 2A | CLASS 2B | CLASS 3A | CLASS 3B | CLASS 4A | CLASS 4B | CLASS 1M | CLASS 5+9M | |
| Kuala Lumpur | 144,693 (64.48%) | 44,298 (19.74%) | 6,003 (2.68%) | - | - | - | 18,630 (8.30%) | 1,449 (0.55%) | - | 9,315 (4.15%) | 224,308 (100%) |
| Sabak Bernam | 105,156 (61.06%) | - | - | - | - | - | 43,263 (25.12%) | 4,347 (2.52%) | - | 19,458 (11.30%) | 172,224 (100%) |
| Klang | 158,976 (78.45%) | 13,248 (6.54%) | - | - | - | - | 3,726 (1.84%) | - | 13,662 (6.74%) | 13,041 (6.43%) | 202,653 (100%) |
| Kuala Selangor | 181,746 (49.46%) | 4,960 (1.35%) | - | - | 3,312 (0.90%) | - | 84,070 (23.10%) | 42,642 (11.61%) | 4,761 (1.30%) | 45,126 (12.28%) | 367,425 (100%) |
| Ulu Selangor | 224,308 (45.03%) | 82,800 (16.62%) | 51,543 (10.35%) | 22,356 (4.49%) | 5,417 (1.29%) | 37,801 (7.60%) | 1,449 (0.29%) | 15,525 (3.12%) | - | 55,890 (11.22%) | 498,249 (100%) |
| Ulu Langat | 160,218 (59.04%) | 31,464 (11.59%) | 33,120 (12.20%) | 1,863 (0.69%) | 4,554 (1.68%) | 3,519 (1.29%) | 3,933 (1.45%) | 13,041 (4.81%) | - | 19,665 (7.25%) | 271,377 (100%) |
| Kuala Langat | 141,174 (57.80%) | 28,566 (11.70%) | - | - | 37,260 (15.25%) | - | - | - | - | 37,260 (15.25%) | 244,260 (100%) |
| STATE TOTAL: | 1,116,351 (56.36%) | 205,344 (10.37%) | 90,666 (4.58%) | 24,219 (1.22%) | 51,543 (2.60%) | 41,400 (2.09%) | 155,871 (7.87%) | 77,004 (3.89%) | 18,423 (0.93%) | 199,755 (10.09%) | 1,980,576 (100%) |

*NOTE:

1. The estimates shown in these tables include a bias of +.2%
2. The accuracy of the estimates can be determined from the standard error table included in the appendix.
3. - = nil or negligible.

TABLE 6*
STATE OF SELANGOR
ESTIMATED AREAS OF LAND CAPABILITY CATEGORIES IN ACRES BY DISTRICTS

| DISTRICT | COLUMN 14 NOS: 1 and 2 LAND CAPABILITY POTENTIAL MINING | | COLUMN 15 NOS: 1 and 2 POTENTIAL AGRICULTURE 1 | | COLUMN 15 NO. 3 POTENTIAL AGRICULTURE 2 | | COLUMN 16 NOS 1 - 0 POTENTIAL FORESTRY | | COLUMN 16 NOS: 9 and 0 POTENTIAL PROTECTIVE FORESTRY | | TOTAL |
|----------------|--|--|---|--|--|--|---|--|---|--|------------------|
| | | | | | | | | | | | |
| Kuala Lumpur | 20,286 (9.04%) | | 50,922 (22.69%) | | 28,399 (12.64%) | | 53,199 (23.71%) | | 71,622 (31.92%) | | 224,388 (100%) |
| Sabak Bernam | | | 82,593 (47.96%) | | 18,216 (10.50%) | | 39,537 (22.95%) | | 31,878 (18.51%) | | 172,224 (100%) |
| Klang | 2,277 (1.13%) | | 116,127 (57.30%) | | 15,525 (7.66%) | | 22,149 (10.93%) | | 46,575 (22.98%) | | 202,653 (100%) |
| Kuala Selangor | 9,729 (2.65%) | | 140,553 (38.25%) | | 28,152 (7.66%) | | 126,891 (34.54%) | | 62,100 (16.90%) | | 367,425 (100%) |
| Ulu Selangor | 19,665 (3.95%) | | 180,711 (36.27%) | | 51,543 (10.35%) | | 174,708 (35.06%) | | 71,622 (14.37%) | | 498,249 (100%) |
| Ulu Langat | 8,901 (3.28%) | | 115,092 (42.41%) | | 23,104 (8.54%) | | 80,316 (29.60%) | | 43,884 (16.17%) | | 271,377 (100%) |
| Kuala Langat | 1,863 (0.76%) | | 97,497 (39.92%) | | 12,006 (4.92%) | | 65,205 (26.69%) | | 67,689 (27.71%) | | 244,260 (100%) |
| STATE TOTAL: | 62,721 (3.17%) | | 783,495 (39.56%) | | 174,985 (8.94%) | | 562,005 (28.37%) | | 395,370 (19.96%) | | 1,980,576 (100%) |

TABLE 7*
STATE OF SELANGOR
ESTIMATED AREAS OF PRESENTLY UTILISED AND PROPOSED IRRIGATION OR DRAINAGE SCHEMES IN ACRES BY DISTRICTS

| DISTRICT | COLUMN 18 CODE NOS: 0 IRRIGATION OR DRAINAGE NIL | | COLUMN 3 IRRIGATION SCHEMES | | COLUMN 4 PROPOSED IRRIGATION SCHEMES | | COLUMN 5 DRAINAGE SCHEMES | | COLUMN 6 PROPOSED DRAINAGE SCHEMES | | TOTAL |
|----------------|---|--|--------------------------------|--|---|--|------------------------------|--|---------------------------------------|--|------------------|
| | | | | | | | | | | | |
| Kuala Lumpur | 223,146 (99.45%) | | 1,035 (0.46%) | | -- | | -- | | 207 (0.09%) | | 224,388 (100%) |
| Sabak Bernam | 94,185 (54.69%) | | 28,907 (12.14%) | | -- | | 40,365 (23.44%) | | 16,767 (9.75%) | | 172,224 (100%) |
| Klang | 127,512 (62.92%) | | -- | | -- | | 72,036 (35.55%) | | 3,105 (1.53%) | | 202,653 (100%) |
| Kuala Selangor | 217,350 (99.16%) | | 32,085 (0.73%) | | -- | | 94,185 (25.63%) | | 23,805 (6.48%) | | 367,425 (100%) |
| Ulu Selangor | 497,628 (99.88%) | | 621 (0.12%) | | -- | | -- | | 3,322 (1.22%) | | 498,249 (100%) |
| Ulu Langat | 264,753 (97.56%) | | 2,277 (0.84%) | | 1,035 (0.38%) | | -- | | 20,079 (8.22%) | | 271,377 (100%) |
| Kuala Langat | 184,230 (75.42%) | | -- | | -- | | 39,951 (16.36%) | | 67,275 (3.39%) | | 244,260 (100%) |
| STATE TOTAL: | 1,608,004 (81.22%) | | 56,925 (2.87%) | | 1,035 (0.05%) | | 246,537 (12.47%) | | 67,275 (3.39%) | | 1,980,576 (100%) |

TABLE 8*
STATE OF SELANGOR
ESTIMATED AREAS OF PRESENTLY UTILISED WATER CATCHMENTS IN ACRES BY DISTRICTS

| DISTRICT | COLUMN 24 CODE NOS: 0 WATER CATCHMENTS NOT UTILISED | | COLUMN 1 IRRIGATION HYDRO-ELECTRIC AND POTABLE INDUSTRIAL | | COLUMN 2 IRRIGATION AND HYDRO-ELECTRIC | | COLUMN 3 IRRIGATION AND POTABLE/INDUSTRIAL | | COLUMN 4 HYDRO-ELECTRIC AND POTABLE/INDUSTRIAL | | COLUMN 5 IRRIGATION ONLY | | COLUMN 6 HYDRO-ELECTRIC ONLY | | COLUMN 7 POTABLE/INDUSTRIAL ONLY | | TOTAL |
|----------------|--|--|--|--|---|--|---|--|---|--|-----------------------------|--|---------------------------------|--|-------------------------------------|--|------------------|
| | | | | | | | | | | | | | | | | | |
| Kuala Lumpur | 139,725 (62.27%) | | -- | | -- | | 15,318 (6.83%) | | -- | | 21,528 (9.59%) | | -- | | 47,817 (21.31%) | | 224,388 (100%) |
| Sabak Bernam | 139,518 (81.01%) | | -- | | -- | | -- | | -- | | -- | | -- | | 32,706 (18.99%) | | 172,224 (100%) |
| Klang | 185,265 (91.42%) | | -- | | -- | | -- | | -- | | 59,202 (16.11%) | | -- | | 17,388 (8.56%) | | 202,653 (100%) |
| Kuala Selangor | 308,223 (83.89%) | | -- | | -- | | 13,041 (2.62%) | | -- | | -- | | -- | | 189,405 (69.80%) | | 367,425 (100%) |
| Ulu Selangor | 63,257 (12.84%) | | -- | | -- | | 47,610 (17.54%) | | -- | | -- | | -- | | -- | | 498,249 (100%) |
| Ulu Langat | 31,257 (11.57%) | | 3,105 (1.14%) | | -- | | -- | | -- | | -- | | -- | | -- | | 271,377 (100%) |
| Kuala Langat | 244,260 (100%) | | -- | | -- | | -- | | -- | | 80,720 (4.08%) | | -- | | 708,561 (35.70%) | | 244,260 (100%) |
| STATE TOTAL: | 1,112,211 (56.15%) | | 3,105 (0.15%) | | -- | | 75,969 (3.84%) | | -- | | 80,720 (4.08%) | | -- | | 708,561 (35.70%) | | 1,980,576 (100%) |

TABLE 9*
STATE OF SELANGOR
ESTIMATED AREAS OF LAND SUBJECT TO DIFFERENT ANNUAL RAINFALL INTENSITIES IN ACRES BY DISTRICTS

| DISTRICT | COLUMN 26 CODE NOS: 0 RAINFALL LESS THAN 70 INCHES | | COLUMN 1 70-80 INCHES | | COLUMN 2 80-90 INCHES | | COLUMN 3 90-100 INCHES | | COLUMN 4 100-110 INCHES | | COLUMN 5 120-130 INCHES | | COLUMN 6 130-140 INCHES | | COLUMN 7 150-160 INCHES | | COLUMN 8 170-180 INCHES | | COLUMN 9 180-190 INCHES | | TOTAL |
|----------------|---|--|--------------------------|--|--------------------------|--|---------------------------|--|----------------------------|--|----------------------------|--|----------------------------|--|----------------------------|--|----------------------------|--|----------------------------|--|------------------|
| | | | | | | | | | | | | | | | | | | | | | |
| Kuala Lumpur | -- | | -- | | 43,677 (19.46%) | | 122,958 (54.80%) | | 57,753 (25.74%) | | -- | | -- | | -- | | -- | | -- | | 224,388 (100%) |
| Sabak Bernam | -- | | 90,873 (52.76%) | | 49,473 (28.73%) | | 25,254 (14.66%) | | 6,624 (3.85%) | | -- | | -- | | -- | | -- | | -- | | 172,224 (100%) |
| Klang | -- | | -- | | 94,806 (46.78%) | | 107,847 (53.22%) | | -- | | -- | | -- | | -- | | -- | | -- | | 202,653 (100%) |
| Kuala Selangor | -- | | 88,182 (24.00%) | | 118,197 (32.17%) | | 147,177 (40.06%) | | 13,869 (3.77%) | | 161,460 (32.40%) | | 30,015 (6.02%) | | -- | | -- | | -- | | 498,249 (100%) |
| Ulu Selangor | -- | | -- | | 52,992 (10.64%) | | 97,290 (19.53%) | | 156,492 (31.41%) | | -- | | -- | | -- | | -- | | -- | | 271,377 (100%) |
| Ulu Langat | -- | | -- | | 187,433 (39.59%) | | 163,944 (60.41%) | | -- | | -- | | -- | | -- | | -- | | -- | | 244,260 (100%) |
| Kuala Langat | -- | | -- | | 226,044 (92.54%) | | 18,216 (7.46%) | | -- | | -- | | 30,015 (1.52%) | | -- | | -- | | -- | | 1,980,576 (100%) |
| STATE TOTAL: | -- | | 179,055 (9.04%) | | 692,622 (34.97%) | | 682,606 (34.47%) | | 234,730 (11.85%) | | 161,460 (8.15%) | | 30,015 (1.52%) | | -- | | -- | | -- | | 1,980,576 (100%) |

* NOTE:
1. The estimates shown in the table include a bias of +.2%
2. The accuracy of the estimates can be determined from the standard error table included in the appendix.
3. -- nil or negligible.

TABLE 10*
STATE OF SELANGOR
ESTIMATED AREAS OF LAND BETWEEN DIFFERENT CONTOURS IN ACRES BY DISTRICTS

| I.C.T. CARD COL. 22 CODE NOS: DISTRICT | CONTOURS IN FEET | | | | | | TOTAL |
|---|--------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| | 0 0-499' | 1 500'-599' | 2 1000'-1999' | 3 2000'-2999' | 4 3000'-3999' | 5 4000'-4999' | |
| Kuala Lumpur | 162,909 (72.60%) | 28,566 (12.73%) | 23,998 (10.52%) | 7,452 (3.32%) | 1,656 (0.74%) | 207 (0.09%) | 224,308 (100%) |
| Sabak Bernam | 172,224 (100%) | - | - | - | - | - | 172,224 (100%) |
| Klang | 202,653 (100%) | - | - | - | - | - | 202,653 (100%) |
| Kuala Selangor | 367,425 (100%) | - | - | - | - | - | 367,425 (100%) |
| Ulu Selangor | 325,197 (65.27%) | 43,056 (8.64%) | 53,406 (10.72%) | 44,298 (8.89%) | 26,289 (5.28%) | 5,302 (1.06%) | 498,249 (100%) |
| Ulu Langat | 181,746 (66.97%) | 38,502 (14.19%) | 35,397 (13.04%) | 12,006 (4.43%) | 3,726 (1.37%) | - | 271,377 (100%) |
| Kuala Langat | 244,053 (99.92%) | 207 (0.08%) | - | - | - | - | 244,260 (100%) |
| STATE TOTAL: | 1,656,207 (83.62%) | 110,331 (5.57%) | 112,401 (5.68%) | 63,756 (3.22%) | 31,671 (1.60%) | 5,589 (0.28%) | 1,980,576 (100%) |

TABLE 11*
STATE OF SELANGOR
ESTIMATED AREAS OF SOIL SUITABILITY CATEGORIES ACCORDING TO LAND ALIENATION AND GAZETEMENT CATEGORIES IN ACRES

| I.C.T. CARD COL. 17 CODE NOS: SOIL SUITABILITY | LAND ALIENATION AND GAZETEMENT CATEGORIES | | | | | | | | TOTAL | |
|---|---|--------------------------------|---------------------------|-----------------------------------|-----------------------|--------------------------|----------------------|--------------------|----------------|--|
| | 0 STATELAND | 1 ALIENATED FOR AGRICULTURE | 2 ALIENATED FOR MINING | 3 MALAY RESERVES (UNALIENATED) | 4 GRAZING RESERVES | 5 ORANG ASLI RESERVES | 6 FOREST RESERVES | 7 GAME RESERVES | | 8 ALIENATED/RESERVED FOR OTHER PURPOSES |
| No Limitations | 14,904 | 442,773 | 3,933 | 4,968 | 414 | 1,656 | 37,674 | 4,554 | 7,245 | 618,121 |
| Few Minor Limitations | 15,732 | 216,315 | 6,624 | 11,799 | - | 414 | 24,012 | 414 | 1,063 | 277,173 |
| One Serious Limitation | 7,452 | 121,095 | 6,003 | 17,388 | - | - | 27,945 | 828 | 2,484 | 183,195 |
| More than one serious Limitation | 172,431 | 115,506 | 15,318 | 70,794 | 207 | 1,242 | 106,812 | 4,968 | 2,277 | 489,555 |
| Very serious Limitation(s) | 76,176 | 75,141 | 37,674 | 10,971 | 414 | 1,035 | 280,278 | 11,178 | 19,665 | 512,532 |
| STATE TOTAL: | 286,695 (14.48%) | 970,830 (49.02%) | 69,552 (3.51%) | 115,920 (5.85%) | 1,035 (0.05%) | 4,347 (0.22%) | 476,721 (24.07%) | 21,942 (1.11%) | 33,534 (1.69%) | 1,980,576 (100%) |

TABLE 12*
STATE OF SELANGOR
ESTIMATED AREAS OF FOREST PRODUCTIVITY CATEGORIES ACCORDING TO LAND ALIENATION AND GAZETEMENT CATEGORIES IN ACRES

| I.C.T. CARD COL. 17 CODE NOS: FOREST PRODUCTIVITY | LAND ALIENATION AND GAZETEMENT CATEGORIES | | | | | | | | TOTAL | |
|--|---|--------------------------------|---------------------------|-----------------------------------|-----------------------|--------------------------|----------------------|--------------------|----------------|--|
| | 0 STATELAND | 1 ALIENATED FOR AGRICULTURE | 2 ALIENATED FOR MINING | 3 MALAY RESERVES (UNALIENATED) | 4 GRAZING RESERVES | 5 ORANG ASLI RESERVES | 6 FOREST RESERVES | 7 GAME RESERVES | | 8 ALIENATED/RESERVED FOR OTHER PURPOSES |
| High Potential to Marginal | 166,428 | 14,697 | 9,108 | 61,272 | 207 | - | 382,329 | 12,006 | - | 646,047 |
| Productive Mangrove | 414 | 1,035 | - | - | - | - | 16,767 | 207 | - | 18,423 |
| Limited Productivity | 69,966 | 28,152 | 7,866 | 29,187 | 207 | 1,449 | 53,613 | 7,699 | 1,656 | 199,755 |
| Non-forest | 49,887 | 926,946 | 52,578 | 25,461 | 621 | 2,898 | 24,012 | 2,070 | 31,878 | 1,116,351 |
| STATE TOTAL: | 206,695 (14.48%) | 970,830 (49.02%) | 69,552 (3.51%) | 115,920 (5.85%) | 1,035 (0.05%) | 4,347 (0.22%) | 476,721 (24.67%) | 21,942 (1.11%) | 33,534 (1.69%) | 1,980,576 (100%) |

TABLE 13*
STATE OF SELANGOR
ESTIMATED AREAS OF PRODUCTIVE FOREST BETWEEN VARIOUS ELEVATIONS IN ACRES

| I.C.T. CARD COL. 22 CODE NOS: FOREST PRODUCTIVITY | CONTOUR LAYERS | | | | | | TOTAL | |
|--|--------------------|-----------------|------------------|------------------|------------------|------------------|-------------|------------------|
| | 0 0-499' | 1 500'-599' | 2 1000'-1999' | 3 2000'-2999' | 4 3000'-3999' | 5 4000'-4999' | | 6 5000'-5999' |
| High Potential to Marginal | 375,705 | 75,555 | 103,707 | 61,479 | 25,668 | 3,726 | 207 | 646,047 |
| Productive Mangrove | 18,423 | - | 6,031 | 2,070 | - | - | - | 18,423 |
| Limited Productivity | 165,186 | 17,388 | 1,863 | 207 | 6,003 | 1,863 | 414 | 199,755 |
| Non-forest | 1,096,893 | 17,388 | 1,863 | - | - | - | - | 1,116,351 |
| STATE TOTAL: | 1,656,207 (83.62%) | 110,331 (5.57%) | 112,401 (5.68%) | 63,756 (3.22%) | 31,671 (1.60%) | 5,589 (0.28%) | 621 (0.03%) | 1,980,576 (100%) |

*NOTE:
1. The estimates shown in these tables include a bias of +0.2%.
2. The accuracy of the estimates can be determined from the standard error table included in the appendix.
3. - = nil or negligible.

