Preliminary Outline Proposals For Development In Nigeria.

1944

PRELIMINARY OUTLINE PROPOSALS FOR DEVELOPMENT IN NIGERIA.

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PREFACE.

This memorandum has been prepared as an outline for preliminary discussion. It is essentially exploratory, and contains a set of round-figure estimates of the financial implications likely to be involved in a reasonable and workable development programme. It also contains suggestions as to the means by which any financial assistance might be administered with a minimum of delay.

Development programmes cannot be prepared in detail without adequate staff, careful consideration of final details, and a good deal of expenditure of time in preliminary investigation. As it will be a question, therefore, of cutting the development coat according to the financial cloth available, it is desired to avoid any waste of effort in preparing elaborate schemes on paper which might never be fulfilled in practice because of lack of funds. It is therefore desired to explore, with the assistance and advice of the Colonial Office, the extent to which this general outline can be financially implemented, and to consider the possibility of obtaining a sufficiency of staff to put it into operation.

When those general principles have been established the present memorandum will be amended and expanded in order to present a proper and considered programme of development up to the year 1960. By that time it is hoped that further developments will be made which can be dealt with out of Nigerian revenues.

The memorandum should, therefore, be read in the spirit in which it is presented. It is not offered at this stage for highly detailed criticism, but rather for the purpose of establishing certain general principles on which the ultimate development programmes may be formulated.

PRELIMINARY OUTLINE PROPOSALS FOR DEVELOPMENT IN NIGERIA.

The outstanding and immediate impressions of Nigeria are the vastness of the country, the large size of its population, and its general low stage of development. Very many basic needs are apparent which must be rectified before superimposing any spectacular developments. To force developments too rapidly on a population living under primitive conditions with a variety of traditional and religious prejudices is liable to produce a tendency to unbalanced and distorted evolution of certain groups. For this reason it is better to apply a general alleviation of those deficiencies which are fundamentally necessary to decent living, simultaneously doing what is possible to apply such teaching as will ensure a better understanding of health conditions and agricultural methods.

2. If a genuine and permanent job is to be made of development in Nigeria, it will not be effected by means of a few short-lived spectacular schemes, but by the provision or expansion of services at present lacking and which are fundamental to any accelerated progress in the country. This is well recognised locally and therefore it has not been difficult to collect general information.

3. To show any real progress, even within ten years, it will be necessary to provide generously in terms of money for these basic needs alone, but it is believed that then the improved health, economic and living conditions of the people will result in their spontaneously creating a demand for further improvements which they should be able to provide largely for themselves.

4. It is clear that the present financial situation of Nigeria, and for some time to come, cannot possibly provide for the necessary improvements in conditions of life which will be the basis of development. It will, therefore, mean substantial provision of funds by His Majesty's Government, coupled with such action as may be practicable to ensure that the basic economy of the country is stabilised to the greatest possible degree. This will mean co-ordinated and collective marketing of produce, accompanied by all possible action to stabilise prices to the producer and assure a sustained demand.

5. There is no reason why Nigeria should look too largely towards export for its future economy. The vastness of its population and the variation in its climate and productive capacity gives a wide field for the development of a sound and progressive internal economy. There are many localised nutritional deficiencies which can be met by the transference and interchange of foodstuffs produced within the boundaries of the country. A good deal of internal exchange of goods already takes place, but it is negligible in relation to the population involved, and to the potentialities, once extended transport facilities are available.

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6. Substantial increases in agricultural and livestock extension work, co-ordinated and canalised internal marketing, coupled with a proper development of the road system and other means of transport and communications will do a great deal to provide more balanced and adequate diets and a consequent improvement in productive capacity and the cash position of the people.

7. This outline has been prepared on these general premises and with the belief that the problem is far too big to be dealt with either within the compass of or during the remaining period of the life of the Colonial Development and Welfare Act. Staff shortages are acute and the men are suffering from the strain of extende tours and excessive work during the war-time emergency. New personnel will take some time to recruit and further time to acquire local knowledge. Even assuming, therefore, that the war may end soon, no very decisive move towards practical development work can take place before 1946. Even then it will be two or three years before any degree of speed will be attained.

8. This memorandum and its annexures have been prepared with a nominal 10-year programme in view which, after allowing for the recruitment of staff and the gradual development of the ultimate tempo, will probably extend to 14 years or more.

9. It is submitted, therefore, that if this subject is to be taken as seriously as recent pronouncements in London suggest, and in proper recognition of the urgency of the local problem, a reconsideration and amendment of the Colonial Development and Welfare Act will be necessary, probably providing it with an additional 10 years' life and increasing by a large factor the funds which are to be disbursed under the Act. It is manifest that Nigeria itself in its present stage of development is not in a position to provide for more than a modest fraction of the cost.

10. In a country of this size, covering an area of 372,198 square miles and a population that now probably approaches 25 millions, it would not appear to be practical politics to submit every small scheme of development in detail for consideration in London. Such a form of machinery would involve so many delays and explanations that developmental aims would be largely defeated by the intricate machinery involved. It is submitted that matters of detail, as distinct from outline policy, should be left entirely to local discretion, subject to the understanding that full information is submitted at frequent intervals to the Colonial Office; that outline policies should be prepared and agreed upon with the Colonial Office, and that the maximum funds to be provided for each category of schemes whould be pre-determined. The detailed application of these funds should be decided by a Development Board or Commission under the Chairmanship of a Development Commissioner or Secretary, who would be responsible to the Governor for following the approved proposals and disbursing the funds in accordance with the pre-determined policy set for each group of activities.

11. The activities which will involve the greatest disbursement of money are, in their relative order of priority - water supplies, improved medical facilities and preventive medicine in its widest aspects, agricultural and veterinary research and extension facilities, transport and communications,

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and the foundations for development of education. An improvement of the less conspicuous research, departmental and other activities will be necessary as these will aid in the general improvement of the people, but the money involved will be smaller in these cases. Superimposed on all this is the necessity for organised marketing and disposal of produce in order to give the maximum assurance to the farming community so that they may grow specified crops knowing that they will be taken off their hands at a fair and reasonable price, while rural and regional organisation and planning will be required to co-ordinate all developmental activities in country communities. The object of all this would be that, by degrees and as the general conditions and consequent taxable capacity of the people improve, development programmes would be extended more and more by resort to local funds. In the end, it should be possible, if His Majesty's Government provides sufficient funds at the outset, for all later developments to be undertaken at the expense of Nigeria, either out of current revenues or through loans raised by its own Government.

12. In order to assess the requirements of the territory for the proposed development over the nominal 10-year period, each of the principal "Developmental" Departments has been asked to prepare an outline plan for extension of its own services during that period: their general needs had already been largely worked out as the result of discussions in recent years with Provincial Development Committees and the formulated departmental policies. Excessive details have not been sought at this stage, largely because there has been insufficient time, and the staff is not available to work out highly detailed plans. In any case the main principles have first to be established and the detail will of necessity have to be filled in later and modified with experience and according to local circumstances. The application of these plans will frequently be a matter of inter-departmental collaboration and co-operation with the Administrative Service and the necessity is foreseen of special planning or development officers to assist in co-ordination of development in small rural areas, and in some cases on a regional basis.

13. The plans have been largely prepared on an arithmetical basis. This is particularly apparent in the case of water supplies, where the needs of the people have been estimated on certain minimum consumptions calculated in proportion to the population after allowing for existing water supplies. Hospital and medical facilities have also been prepared on a <u>per capita</u> basis, while the education programme shows a pyramiding of development in order to supply, after a ten year period, a sufficiency of teachers and educated people to allow of the establishment of the educational facilities estimated to be required at the end of that period, plus a sufficiency of the trained African staff to fill Government positions in steady replacement of Europeans.

14. The cost of doing all this will undoubtedly be very heavy, but the financial implications are dealt with at a later stage in the memorandum (page 49.).

15. In putting forward the outline proposals under the principal heads of development, it should be emphasised that these programmes are still in the rough but represent the planned policies of the departments concerned. They are supported by memoranda prepared by the departments concerned, but it should be recognised that as these plans are put into

effect some of the details will have to be modified according to experience. Similarly the estimates have been prepared on a general basis but, according to costs of materials and availability of staff, there is bound to be some modification in these from year to year. In some cases there may be greater delays than the average before a start is made, and in order to overtake such delays, accelerated progress may have to be effected during later years. It should not be taken for granted, therefore, that the annual expenditure will be in any way equal throughout the 10-year period, and for this reason it is most important that the proposals as a whole should be regarded as a progressive 10 - 14-year plan and not as a series of self-contained annual grants or amounts.

I. WATER SUPPLIES. (MAP I)

1. The foundation of any improvement in the situation of the people of Nigeria depends first upon adequate and suitable potable water supplies being provided throughout the country.

2. The existing situation reveals that in the Northern Provinces, where there is a relatively low total rainfall mostly concentrated in one part of the year, extreme shortages of water exist in almost all parts. Those water supplies that are available are frequently of a totally unsuitable type in that they are heavily contaminated by water-borne diseases and internal parasites, the most pronounced of which is the guinea worm. The latter in some cases affects as high as 75% of the population, which means that these persons are completely out of action for a number of months every year, and this period of inaction coincides to a large extent with the period when agricultural work is most important.

3. While the South has a higher rainfall than the North and therefore during part of the year abundant water is available, it is not always of suitable potable quality, and extreme shortages take place during the dry season.

4. The result in both cases is an excess of unnecessary effort in travelling long distances to obtain water supplies coupled with a sub-normal water consumption for all concerned. The total loss of energy and reduced vitality as a result of these two conditions produces a serious reduction in productive effort, and for these reasons the first consideration in any development of the country should be the provision of adequate and proper water supplies. This is endorsed by every Native Authority, Emir, and all those who have lived in and have visited the country. In fact it is painfully obvious.

5. The proposal now put forward is for the supply of reasonably adequate and properly protected water supplies for the whole country, divided between rural schemes and urban schemes. Rural schemes have been taken as those where the supply is for less than 5,000 inhabitants, while urban schemes are considered to be those in which a community of 5,000 or more population is involved. There will of necessity be a certain amount of overlapping between these two arbitrary divisions, but this method appears to be the most suitable and convenient one.

6. Briefly the scheme for rural supplies would provide a suitable and protected water supply for every 500 head of the rural population of some 18,000,000 affected. From such information as is available it is estimated that this will mean one new water point and the reconditioning of one water point for every 1,000 of the population. The provision of these water points will involve the adoption of various methods, open wells, tube wells, shallow bore holes 150 to 200 ft. deep and in some cases small impounding dams. The proportion of each type of supply cannot be determined without much intensive investigation. Of the 18,000 new wells and bore holes it may well be that 1/5th or 3,600 will be bore holes. It is intended, however, to start with 6 drilling rigs and increase the number as may be found necessary; a possible maximum number of drilling sets is 17 in all.

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7. The total estimated cost of such a programme is:-

Northern Provinces	£2,600,000
Western and Eastern Provinces	2,000,000
	4,600,000
10% for Contingencies	460,000
	£5,060,000
Say	£5,000,000

8. The staff required to carry out this work as a 10 year programme is shown in Annexure '1'. The general organisation will be in Provincial Teams each supervised by a Water Engineer and two to four Foremen or Drillers as may be required. Thus when the organisation is completed work will be able to proceed simultaneously in all Provinces. Senior Water Engineers will be required in the Northern and Southern Provinces for general expansion under the Assistant or Deputy Director of Public Works (Water).

9. It is intended that the Geological Department, under the experienced guidance of Dr. Dixey, who has a knowledge of small water supplies in many parts of Africa, will set up the necessary machinery and staff for dealing with these rural supplies. It will not, however, remain with that Department once the organisation has been formed as it is the policy of this Government that a separate water department shall be established as a sub-division of the Public Works Department, under the control of a Deputy Director of Public Works (Water). With that aim in view the staff will be recruited to the Public Works Department and for the time being seconded to the Rural Water Supply section being organised by Dr. Dixey. The urban systems will be handled as at present by the Public Works Department, and the organisation will be extended accordingly to cope with the new programme.

10. It is estimated that there are some 180 towns or thickly populated areas of over 5,000 population each, with a total population of nearly 2,000,000 which require new piped water supplies, and 32 existing supplies serving a population of about 1,000,000 which require extensions and improvements. The larger towns will require supplies providing full treatment but in other areas more simple methods should suffice. It is estimated that under present conditions the cost will be between £2 and £3 per head of population for new supplies. This estimate is based on the cost of the previous programmes and experience with the 32 existing water supplies now in operation. The total cost of the scheme is thus estimated at £5,000,000. The more important of the towns are shown on Map No.1..... It is not possible without more detailed investigations to give a complete list especially in the Eastern Provinces where, owing to the disturbed state of the country at the time, the last census was incomplete. The source of supply and type of plant required in each case can only be determined as a result of hydro-geological survey, and for this purpose it will be necessary to increase the establishment of the Geological Survey Department. Deep drilling will be required in places and there will be some overlap in this direction with the work of the rural water supply section. A small number of a heavier type of Drilling Rig will be required for major supplies, and this has been allowed for in the estimate of cost and staff required. It is proposed to order two such rigs at the outset.

11. The staff required for the carrying out of the scheme as a 10-year programme is shown at the end of this section, (page 5...).

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12. This expenditure is expected to provide initial relatively pure water supplies for everyone, but it is not by any means considered that these will be adequate for ultimate demands. They will provide a minimum of water requirements at suitable points so that undue exertion in travel is not required in order to obtain the daily domestic water needs. Experience generally has shown, however, that once a water supply is provided, the people rapidly become more water-minded and the demand increases. Therefore a continued expansion of water supplies in keeping with demand and increases in population will be required after the decennial period, presumably in perpetuity.

13. In order to meet this situation it is proposed that a Water Commission should be set up, starting however as a sub-committee of the Central Development Committee. This sub-committee would carry on for a year or two until sufficient experience has been obtained to indicate the form of legislation needed for the establishment of the permanent Commission.

14. The proposal is that this Commission should be supplied as trustees with a total of £10,000,000, of which half should be regarded as a free grant, for payment in various proportions according to circumstances in each community as initial assistance in establishing a suitable minimum water supply. The remaining half of the money should be regarded as a revolving loan fund, provided as a free grant to the Nigerian Government who would act through the Water Commission as the permanent trustees for this fund.

15. In its actual operations the Commission would receive submissions from the District Officers, Native Authorities, and village heads, through Residents and Chief Commissioners in regard to each community, whether rural or urban. These, after suitable technical "vetting" by the P.W.D. Water Department and geological experts, would be considered in their relative order of priority for installation and method of financing. The decision of the Board in providing the funds would range from an outright free grant, through various proportions of free grant and loan to the case where only a loan on a normal rate of interest was granted. Within the extremes would be various forms of capital grant plus loan with or without interest and repayable from 5 to 20 years according to the particular circumstances of each case. The policy would be that while assistance might be needed in poverty stricken areas up to the total cost of the scheme, less perhaps some free labour, other rural and small urban communities would be quite capable of contributing by repayment of a loan for part of the capital cost, while the larger urban schemes will be entirely on loan. It is not proposed that water rates should be imposed to repay the loans, except perhaps in special cases of big towns. If the loan is made to the Native Authority repayment can be effected by increase in direct taxation within the particular community and so the excessive overhead of water rate collection will be avoided.

16. It is assumed that once an initial water supply is installed the local authority will be able to provide the necessary maintenance costs subject to some free supervision, service and advice from the Water Department. Once the basic water needs of a community have been provided, the people should have that much more energy, time, and improved health conditions that their productive powers and thus their earning capacity will increase to an extent that any further extensions or development of the water supply can be provided by themselves through the medium of a loan from the Commission. Therefore all of the £5,000,000 which is lent out for the initial water supplies,

subject

subject perhaps to a few bad debts, will ultimately return to the Commission and its £5,000,000 revolving fund, and will be available for re-lending to communities for their subsequent development.

17. It is suggested that the whole of the £10,000,000 for water should be provided by His Majesty's Government. In the initial stages the water staff will mostly be included within this sum because of the installation work involved. Ultimately, however, this staff, in whatever form and size is needed at that time, will be carried by the Nigerian Government on its Public Works Department Estimates.

18. In conclusion it should be mentioned that it has been suggested that a staff of water experts might be brought to Nigeria in order to survey the position in regard to water requirements and methods of obtaining them. Further consideration of the matter has shown, however, that in the person of Dr. Dixey, the new Director of Geological Survey, we have available one of the best experienced scientists in rural supplies. The Public Works Department is fully competent to deal with all ordinary work of this nature, but should it be necessary at a later stage to call in experts in connection with large schemes this can be done and the total funds asked for will be adequate to cover the expense of such expert advice.

19. Extracts from a recent memorandum prepared by Dr. Dixey on the Geological and associated aspects of rural water supplies in Nigeria is attached at Annexure 7.......

European Staff for Water Supply Programme.

General.

Assistant or Deputy D.P.W. (Water) £1,200 or £1,400	1
Geologist (Geophysicists) (Rural Supplies 3) (Major Supplies 2)	5 (Staff of Geological Survey).
Senior Water Engineers £1,050 or £1,200 (Rural Supplies N.P.1; S.P.1) (Urban Supplies N.P.1, S.P.1)	4
Accountants and Storekeepers	4

Provincial.

	Rural Supplies	Urban Supp
(Water Engineers (temporary staff) (£600 - £1,000 (Mechanical Engineers and (Drilling Superintendents, (including reliefs	20	32
Foremen and Drillers Temporary staff £500 - £600 including reliefs	90	54

II. ROAD DEVELOPMENT. (MAP 2)

A memorandum prepared by the Director of Public Works and his staff on the subject of road development is included as Annexure 3 . The opening up of a proper road system throughout the whole of Nigeria is necessary in order to develop internal trade, provide adequate outlets for export crops, and to allow of the movement of people and goods in the general development of the country. In another place in this memorandum emphasis has been laid on the importance of the exchange of goods produced in different parts of the country, not only for the general betterment of the economic condition of the people and their cash earnings, but so that dietary deficiencies and shortage in one part may be remedied by foods produced in other districts.

2. The long-standing policy of this Government has been to provide two forms of trunk roads known as Trunk Roads A and Trunk Roads B, with local feeder or unclassified roads largely under the control of the Native Authorities.

3. The Trunk Roads A form the skeleton trunk road system of the country on which the remainder is built up. It is shown in red on Map No. 2 and a diagram inset on that map. It will be seen that the ultimate aim is to have a reticulate system of two roads running roughly east and west, and two running north and south.

4. The proposals now put forward provide for the completion of the Trunk Road A system by making an additional 945 miles of this type of highway, costing £675,000, and an improvement of the existing Roads A, including bituminous surfacing where necessary, at a cost of £1,170,000. Details will be found in the annexed memorandum. The new Trunk Roads A are shown on the map as broken red lines.

5. Trunk Roads B are secondary trunk roads defined as roads connecting provincial capitals and other large towns with the Trunk Road A system, or with one another or with a port or convenient station on the railway. These roads are shown in blue on Map No. 2 , and the necessary additional roads of this category are shown as broken blue lines. The proposals are for an additional 718 miles of Trunk Roads B costing £300,000, with improvements to existing roads of this category, including bituminous surfacing where necessary, costing a further £455,000. A total amount of £2,600,000 will thus be needed to meet the present trunk highway requirements of the country.

6. The trunk road system without the necessary feeder roads would not be fully useful, and therefore a considerable construction of lesser roads is needed to develop the country and allow of the necessary exchange and movement of produce. A fair mileage of these roads already exists, but it is anticipated that during the 10-year period at least another 16,000 miles of new road will be required and improvements will be necessary on 17,000 miles of existing roads.

7. Generally these subsidiary unclassified roads are built and maintained by the Local Authority, although there are odd cases where maintenance has been the business of the Central Government.

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This position should continue, but it will not be within the financial capacity of the Native Authorities to provide all the necessary capital within the time. It is proposed, therefore, that grants-in-aid should be made to the Native Authorities on an average of about 50% of the total cost, provided the proposals regarding the cutting of a new road or improvements to an old road are first approved by a central authority. For the 10-year period the cost of such grants is estimated to be £1,500,000.

8. In order to put this whole programme into effect an expenditure of £200,000 on various sorts of road-making plant will be required, but this is considered to be a reasonable charge to Nigerian funds. Similarly the additional technical staff shown in the D.P.W.'s memorandum and the cost of maintenance should be paid by Nigeria.

9. The estimated costs to the Nigerian Government and the Native Administrations will be approximately as follows:-

<u>First few years.</u>

(a)	Plant	£100,000 per annum (less in the second and third years).
(b)	Consolidated cost of staff	61,000 per annum
(c)	N.A. capital expenditure on unclassified roads 1/10th of £1,500,000	<u>150,000</u> per annum
		£311,000 per annum

<u>Last year of decennial period.</u>

(a)	Plant	nil
(b)	Consolidated cost of staff	£73,000 per annum
(c)	Capital expenditure	nil
(d)	Maintenance (P.W.D.) for new trunk roads	£85,000 per annum
(e)	Maintenance (N.A.) for unclassified roads	<u>320,000</u> per annum
		£478,000 per annum

10. The total sought for roads under the Colonial Development and Welfare Act is, therefore, £4,100,000 against Nigerian expenditure during the same period of about £4,400,000*, and it is suggested that this might be provided in a single grant to be expended over 10 to 14 years. It is proposed that a special authority should be set up to deal with the disbursement of this Fund on the general lines set out above and in Annexure and reporting periodically to the Secretary of State through the Governor. This Authority, which would consist of a special committee of the Central Development Committee, might also deal with disbursements in connection with other communications such as tele-communications and water transport.

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*Made up as follows:

(a)	Expenditure on plant	£200,000
(b)	Staff for 10 years	670,000
(c)	N.A. Capital for unclassified roads	1,500,000
(d) and (e)	Maintenance of new roads P.W.D. and N.As. (average of half final figure)	2,025,000
		£ 4,395,000

III. MEDICAL. (MAP 3)

The memorandum provided by the Acting Director of Medical Services on the anticipated requirements of the Medical Service for a 10 year development programme (Annexure3....) states the case so clearly and succinctly that it does not allow of any further summarising. It should be stated, however, that the programme is based on the general medical policy, but is subject to further discussion with the substantive holder of the office of Director of Medical Services, now in London.

2. The general estimate of the financial implications involved are shown as:-

	Capital	Annually Recurrent
Addition to Government Hospital Services	£2,600;000	£275;000
Mental Institutions	300;000	30;000
Sanatoria	110;000	21;000
Maternity Hospitals	72;000	19;000
Mobile Epidemic Units	110;000	67;000
Rural Health Centres	15;000	1,500
Medical School	350,000	-
Pharmacy School in Northern Provinces	7;000	1;300
Training of Nurses	35,000	6,000
Training of Midwives and Health Visitors	40,000	9,000
Training of Sanitary Inspectors	15,000	1,200
	£3,654,000	£431,000

The figure of £431,000 shown as the recurrent annual charge does not provide for passages, pensions, or increments, and an average annual figure of £500,000 for the 10 years would be a closer approximation of the actual cost. This would involve £5,000,000 over the 10 year period, which added to the capital expenditure, makes a total of £8,654,000 under this Head.

3. The financing of this large amount is clearly beyond the present capacity of Nigerian revenues, and if the proposals are accepted, which they clearly should be if the urgency of the situation is to be in any way met, it would appear that funds from the Colonial Development and Welfare Act will have to be made available for most of the period, although perhaps during the later years some assistance may be forthcoming from local funds. The general subject of the financing of these schemes, however, is dealt with at a later stage in this memorandum.

IV. AGRICULTURE, VETERINARY AND FORESTRY SERVICES

The subjects which are included under this head will require much closer consideration than has yet been possible. The detailed proposals of the Director of Agriculture and the Chief servator ~~Commiss~~ioner of Forests have not yet been received, and these will have to be carefully considered in conjunction with the veterinary proposals in order to ensure that there is proper co-ordination of all the services, inter-departmental collaboration, and the avoidance of the present overlapping and departmental isolationism.

2. In addition, the questions of internal trade and collective marketing for export, as well as industrial development, will have to be reviewed in relation to the departmental proposals, and further consideration of the co-ordination of research investigation and experimental effort will be necessary.

3. At this stage, therefore, it is only possible to provide a very rough round-figure estimate of what may be needed to provide the essential departmental expansions in order that the country may be adequately covered with extension services by these departments, and to provide necessary local investigations and similar routine services. The figure also will provide for some centralised investigations and education in the subjects concerned as well as irrigation. (Some further details will be available for discussion in London.)

4. The preparation and critical consideration of detailed proposals must take a considerably longer time than has yet been available, but it is hoped nevertheless that some final integrated proposals for these important developmental services will be ready not later than January, 1945, by which time questions of marketing, industrial development, and fundamental biological research will have been discussed not only locally but with the Development Adviser and with the Colonial Office.

5. At the moment it would appear that Agriculture would require for the purposes already mentioned about £7,000,000 for the ten year period, Veterinary Department £600,000, and Forestry £750,000, a total of say £8,300,000 all told, some of which expenditure might be of a category which could be dealt with under a loan. This total, of course, does not provide for centralised research or specialised research as it is impossible at this stage to give an adequate figure for this group of subjects. The question of capital expenditure and working capital for any industrial or commercial agricultural developments under Government control is also excluded. But in this case it is more than likely that any ultimate proposals will be of a nature that they could be financed by means of a loan. (Sections VIII and IX also have a bearing on the subject of this Section).

V. EDUCATION.

The difficulties faced at present in either quick educational development or the filling of any large number of Government posts, except in clerical grades, is the shortage of suitably educated Africans and the dearth of teachers.

2. A ten-year plan has been devised by the Director of Education (Annexure 4) to remedy this deficiency as quickly as possible and to provide the foundation of rapid expansion thereafter. It not only deals with general education and training of teachers, but includes provision for special extension work in arts, crafts and minor industries, details of which are being worked out in collaboration with the Acting Director of the West African Institute of Industries, Arts and Social Sciences.

3. Higher education is not provided for as this must await the report of the Elliot Commission.

4. The capital costs involved in the proposals for general education are £3,945,000 to provide four secondary schools, fifty training centres for elementary teachers, and seven hundred and fifty primary schools (Table A). In addition the capital for technical education will be £168,000 (Table G), making a total capital cost of £4,113,000 based upon current building costs.

5. The recurrent charges consist of maintenance and salaries. These are summarised in the tables attached to Annexure 4 and will cost for the ten years under the general education head, and based upon the full consolidated cost of staff including pensions and passages, £1,624,821. The difference between this cost and that for maintenance and merely salaries only (i.e. the consolidating charges) will be £535,981.

6. The recurrent charges for technical education can only be roughly estimated at this stage and are shown as £388,230 in Table G, but this figure will have to be increased to allow of passages and pensions, and may thus be expected to amount to about £358,000 after this adjustment is made.

7. The summary of costs are as follows for ten years:-

	General	Technical	Total
Capital	£3,945,000	£168,000	£4,113,000
Recurrent upkeep	253,200	150,000	403,200
Staff (including estimated full charges)	1,371,621	358,000	1,729,621
	£5,569,821	£676,000	£6,245,821

8. The question of financing this programme is discussed later in the memorandum.

VI. TELECOMMUNICATIONS. (MAPS 4A & 4B)

The proposals contained in Annexure 5 have been prepared by the Postmaster General with a view to extending telephone and telegraph facilities sufficiently to allow of the fullest and speediest communications between all parts of the Government field services. In other words, so that any Chief Commissioner or Resident may be able, at short notice, to have a conversation with the most remote of the Assistant District Officers, or Native Administrations or the head of a department talk to any of his field officers when necessary. At the present moment there are many districts in which it is not possible for information to be sought and the reply obtained in less than two or three weeks, and this naturally slows down administration and the effective performance of any work, whether it may be routine or emergency.

2. The proposed extension of the tele-communications service has not been based merely upon the requirements of the Administration. It has also been formulated with a view to assisting all immediately visible commercial developments, and is planned with a sufficient multiplication of the main trunk lines and suitable repeater stations so that communication will be rapid and of proper sound value. It is also proposed that the system should be of such a calibre that important areas may be connected, when the time comes, with international wireless telephone developments.

3. The estimated capital cost of providing these extensions and improvements will be about £857,000 spread over 10 years. But the additional revenue which will accrue from these improvements, quite exclusive of the services which will be rendered to the various Government departments, is expected ultimately to reach at least £36,000, against an annually recurrent expenditure for maintenance and similar services of £31,900.

4. The programme is considered to be a very full 10 years' work, and it is obvious, with the present shortages of equipment and the time involved in recruiting additional staff, that the revenues in the early stages of development will not be adequate to cover maintenance as well as capital repayment, interest and depreciation charges. The services will ultimately become self-supporting, and so, to meet the interim period, a loan should be provided free of interest and repayment charges for the first 10 years. After that the service might be put on a demi-commercial basis, repaying the capital involved and maintenance and replacement charges out of its own revenues.

5. The Development Adviser for West Africa has pointed out the desirability of tele-communications being considered on a West African basis, but it is assumed that this is intended to apply rather to the matter of policy and over-seas communications than to details of the internal organisation in each territory. The proposals contained in this memorandum, while prepared on the basis of Nigeria's own requirements, are of such a type that they should fit into any general West African scheme. In some instances the question of type of machinery to be used has not yet been decided, and an opening has been left for the use of any improved or new processes, such as short distance wireless telegraphy.

6. The Postmaster has included in his memorandum the cost of necessary developments in the postal services ([illegible]), but this is considered to be a proper charge to Nigerian revenues.

7. The extension of broadcasting and radio-diffusion has been excluded as this will have to be dealt with at a later date and when the subject has been considered in more detail. It is an appropriate subject for consideration on a West African basis.

VII. RURAL DEVELOPMENT.

The Adviser in Rural Development has contributed Annexure 6, which sets out the desirability of providing, during a transitional period of about 15 years, a staff of development or planning officers who would be used for the co-ordination of the various developmental activities in small rural areas. It is suggested that these officers should be on a non-permanent basis with the objective of ultimately replacing them with suitable Africans when the educational standards and facilities have reached a point where an adequate supply of suitable men becomes available.

2. The functions of the officers proposed would be contributory to those of the Administration. They would relieve the professional Administrative Officers of some of their routine duties and would carry out minor co-ordination work in those rural districts where it was proposed to put in modern planned development covering the extension of the various departmental facilities. Such men would also be the instruments through which village planning as determined by the experts and as applied by the Administrative Officers, should actually be put into effect. These men would not only carry out the duties which have been mentioned above, but in addition, where circumstances warranted it, might relieve the Administrative Officers of some of their more routine functions in order that they might have time to carry our planning and development duties on the larger regional basis.

3. It is contemplated also that some of the Development Officers who show special aptitudes should be detailed to help out the technical departments, which will be short of fully trained staff for a long time to come, by 'understudy' work similar to that undertaken for the Administrative Service.

4. The importance of co-ordination of activities within an area which is being improved is obvious, otherwise there will be a tendency to duplication of effort and conflict between individual departmental efforts. The whole of the proposals in the present development outline are really for a general up-lift of the people, and therefore it is of supreme importance that there should be someone responsible in each district to ensure that the people take full advantage of the added facilities which are opened to them, and taught to use them to the fullest advantage in order that they may be able to provide extended facilities of the same sort from their own efforts.

5. The cost of the services over a 15 year period is estimated at £1,200,000, and in view of the nature of the work proposed and its close association with development and welfare, it is suggested that this special service should be provided from the Colonial Development and Welfare Fund.

VIII. MARKETING, COMMERCIAL AND INDUSTRIAL DEVELOPMENT.

Under heading IV, the importance of co-ordination of agricultural, veterinary, and forestry services has been stressed, and also the need for their further co-ordination with a proper system of marketing. In another place in the memorandum it has been emphasized that Nigeria should not look only to the export trade for its economic future, because of the vast possibilities of its internal trade. The development proposals emanating from the agricultural, veterinary and forestry services have not yet been completed nor critically examined, and there has, therefore, been insufficient time to prepare final proposals about marketing. Yet it is obvious that an organization will have to be set up to assist in canalizing and developing internal trade as well as to deal with the collective marketing of export commodities.

2. The creation of local demands for produce of nutritional value, particularly those articles which would supply present dietetic deficiencies, will need careful fostering and help. This can be given in a number of different ways, such as direct dealings through an appropriate quasi-government organisation in placing such goods in new local markets even if, in the early stages, the results involve financial loss; the encouragement of demand by display and demonstration; the encouragement of trade by organizing the collection or distribution of supplies moved from one point to another by the ordinary trader; and finally the maintenance of a market and supply intelligence service.

3. In so far as export commodities are concerned, the war has shown the advantages that can be obtained from organized and collective marketing. The old ideas of highly speculative trade in agricultural produce have outlived their time, and under modern conditions the producer should be assured a fair return for his labours, while the consumer is safeguarded from exploitation. This does not necessarily involve the elimination of the merchant, but it does mean that he takes his proper place in the general organization and discontinues his speculative activities. The system of marketing which has been applied to cocoa is indicative of future possibilities. The essence of the system is that one central organization buys all the output of a commodity for export, having fixed beforehand the minimum price at which the merchant shall buy from the producer and the in-store price at which the goods are taken by the central authority or organisation from the merchant.

4. It is not suggested that such a system of collective marketing is entirely free from risk, neither is it suggested that it should be used as a means of exploiting the consumer by withholding supplies in order to produce inflated markets. It does mean, however, that supplies of any particular commodity grown within the territory can be sold as one general parcel at the proper and fair price, and incidentally help to contribute towards the general stabilisation of prices in markets of the world.

5. In the early stages of such a system there will be an element of risk which may necessitate temporary financial support. But on the long term it will become stronger because of its unity and when finally established will need no support other than temporary short term money and the necessary statutory backing. Over a period of years, such an organization will not only ensure a stabilising effect on the economy of the producer, but will also be able to build up adequate reserves to soften any future downward trend in prices.

6.

6. If such a system is operated under keen-brained business management it should ultimately become an extremely useful cash contributing factor to the development of the country. There is no apparent reason why the Nigerian producer of a commodity such as groundnuts should receive a lesser price for his produce than the producer of the same commodity under other conditions. The cost of production under present standards of living and wages costs may be less in Nigeria than in other places, but this is no logical reason why the consumer, enjoying much higher living standards, should have all the benefit of the cheaper production in a country that is crying out for development, and where the low level of production costs is due to the primitive conditions under which its people are living.

7. It must be admitted that the payment of suddenly increased prices to undeveloped peoples would result in many undesirable conditions which would not be in their best interests. Therefore it is proposed, under the suggested system of marketing, that prices should be fixed for commodities to the growers so as to give fair return for the current value of their labours, but that any surplus profits arising from the centralized sale of the commodity should be put into a reserve. This would serve two purposes: first as a "cushion" reserve fund to absorb any future losses sustained as the result of sudden severe downward trends in market values, and secondly as a development fund applicable for the benefit of the areas in which the particular commodity has been produced.

8. In other words the whole system would be one for stabilizing production, output and prices to the producer; setting up a reserve against possible market crises of the future, and then using the remainder for the general up-lift of the people who have earned the money by their agricultural efforts.

9. The idea is radical, but should be of very direct benefit to these undeveloped peoples and might be the foundation on which collective responsibility and co-ordinated effort by the whole community will later be developed when educational and other welfare plans have brought them to a higher stage of understanding and responsibility.

10. The question of industrial development will also require special consideration, but the basis of any industrial development in a territory such as Nigeria should be restricted to the manufacture of goods mainly from raw materials produced within the territory, particularly where the resulting product will meet a local demand. For instance, every possible support should be given to the manufacture of rubber-soled shoes from local rubber and local textiles. Such a development would create an increased demand for the raw materials with consequent benefit to a very large number of the agricultural population. This is only one example. There are many other industrial possibilities, and existing industries and crafts will need further development as time goes on. The products of the livestock and other animal industries, as well as many agricultural products offer considerable industrial scope, but careful guidance will be necessary, together with financial capital which in many cases will involve loans from Government sources.

11. There is no point, however, in setting up factories to manufacture goods made entirely from imported raw materials where the general efficiency is likely to be low, and therefore some form of protection will be needed to meet competition with the imported article produced under more efficient conditions abroad. Such industries, in any case, could only benefit an extremely small proportion of the population, and therefore would contribute little to the betterment of wealth of the country. In fact, they might deplete the exchequer by loss of import duties and cause some serious disappointments to those working in them.

12. The objective should be to industrialize only where the raw material is produced within the country and the result of the industrialization will be an increase in the demand for the raw material, and which in turn will benefit and increase the agricultural output.

13. These subjects cannot be disposed of in a short memorandum, and it is expected that very much fuller discussions will have to take place, not only during the immediate discussions in London, but over a period of several years. They are mentioned here, however, as they will play such an important part in improving the economic position of the people and put the country in a position to accept the responsibility of its later development.

14. The expenditure which will be necessary cannot be estimated at present. At least £1,000,000 will be needed as a loan to provide repayable capital given to start smaller industries. The development of an internal marketing service will probably cost £50,000 per annum to begin with, and it will take time before that can become self supporting. The collective marketing system for export crops will need some capital expenditure, and a 10 or 15 year loan to give a sufficient nucleus of working capital so that sufficient short term money to cover commercial transactions at the height of the production seasons may be borrowed from the commercial banks without difficulty.

15. The development of the three services, industrialization, internal and export marketing, might be helped with a £1,000,000 grant for the ten year development period to cover the establishment of services, capital expenditure and experimental and investigational work and any further assistance granted in the form of loans repayable in fairly easy terms. It is impossible now to say how much will be needed in loans, but it is unlikely to be less than £4,000,000 if any real extension is to take place in economic improvements.

IX. RESEARCH.

This is another heading under which concrete proposals cannot be submitted at this stage. Each subject will have to be considered separately in relation to West African as well as Nigerian needs, while biological research will have to be considered simultaneously with the co-ordination of agricultural veterinary, and forest services.

Apart from research which is of general benefit, there will still be schemes of special local interest to Nigeria alone; which over a period of 10 years may well cost £1,000,000 to £1,500,000. It is suggested that the larger figure should be accepted as a provisional allocation pending further consideration, and in the expectation that some of the cost of such work will be contributed from local sources or from commercial interests who are directly interested.

X. SOCIAL SERVICES.

The improvement and extension of social services of all kinds will be a very necessary corollary to the general development programme, but no definite programme has yet been prepared and much careful thought will have to be given to the subject before any final proposals are prepared. A crude guess is all that can be given as to the financial implications at this stage.

2. The Director of Prisons has prepared a plan for improvement and extension of prisons and industrial schools which is now under consideration and will call for £347,800 for capital costs and annually recurrent expenditure in addition to the present commitments of £85,000 per annum. Over the ten year period this will mean a total of £1,200,000 in round figures for prison and industrial school services alone. It is fairly safe to say, therefore, that the ten year period will call for at least £2,000,000 for all forms of social service and welfare.

XI. ELECTRICAL DEVELOPMENT. (MAP 1)

During the last twenty years the development of Electricity undertakings now in operation has demonstrated the advantages of electricity supplies and given rise to a growing desire for installation of supplies with all the attendant amenities, in a number of the larger towns. The advantages in the case of hospitals, schools and European houses are too obvious to need description; in fact electric light and power is becoming an essential rather than an amenity. For African housing of the better type found in large towns, the substitution of electric light for the existing methods of indoor lighting which consists of very inefficient paraffin lamps, poor quality candles and strips of cloth inserted in pots containing vegetable oils, offers considerable attractions and is bound to be condusive to the general well being of the household. In units of illumination electricity is generally cheaper than kerosene.

2. There are at present fifteen electricity supply undertakings operating in Nigeria, viz:-

(a) Government owned and operated (9).
Lagos, Port Harcourt, Kaduna, Enugu, Yola, Zaria, Calabar, Warri. At Jos current is taken in bulk from the Nigerian Electricity Supply Corporation, construction work is in hand to give a similar supply to Vom.

(b) Native Administration owned, operated by the Public Works Electricity branch (5).
Abeokuta, Kano, Ibadan, where full supplies are operated, and Katsina and Maiduguri, where only partial supplies are available.

(c) Nigerian Electricity Corporation. Hydro-Electric scheme supplying the minesfield area round Jos and Bukuru.

In addition to (a) and (b) above, the Electricity Branch at present operates a number of generating stations supplying lighting and power to the Cameroons Plantations, now in the hands of the Custodian of Enemy Property. The position of these electricity supplies is shown on the attached Map 1 "Electricity and Water Supply Programme, 1944".

3. A number of the Government and Native Administration undertakings mentioned above already require extension and most will require additional plant during the next ten years.

As regards development of new supplies, the attached map shows the larger towns, and it is estimated that some 40 of these are now or will be ready during the next 10 years for electrical development. The more important of these 40 towns are:- in the Northern Provinces, Sokoto, Minna, Bauchi, Makurdi, Gusau, Bida, N'guru and 5 others under consideration; in the Western Provinces it is estimated that there are 16 such towns, the more important being, Ijebu-Ode, Benin, Oshogbo, Ede, Iwo, Oyo, Akure Ondo, Ilesha, Ife. In the Eastern Provinces, the more important towns are Aba, Onitsha, Owerri, Ikot Ekpene, and 3 others under consideration. Five towns in the Colony area will require supplies, one of which can be supplied by extension from Lagos.

4.

4. The estimated capital cost of the extensions to existing undertakings and new undertakings mentioned above can only be roughly estimated at present, but based on the experience gained with existing undertakings, the cost is likely to be:-

Northern Provinces	£205;000
Western Provinces	335;000
Eastern Provinces	82,000
Colony	50,000
Extensions to existing undertakings	726,000
Cameroons	220,000
	£1,619,000
Supervision, Investigation and Contingencies	161,000
	£1,780,000
say	£1,800,000.

It is anticipated that work could proceed simultaneously on a number of schemes spread over the Northern, Western and Eastern Provinces, and when fully organised would be at a rate of £200,000 per annum. The time required to build up the organisation to this rate of expenditure is dependent on the recruitment of staff and delivery of plant and materials. The programme would thus take from 11 to 14 years to complete from the date of approval.

5. Staff. The general supervision of the work would be carried out by the Electrical Engineer-in-Chief and his headquarters officers, but it would be necessary to augment the numerical strength prior to the commencement of works as follows:-

1 Senior Electrical Engineer
1 Electrical Engineer, Grade I
1 Mechanical Engineer, Grade I
1 Electrical Engineer, Grade II.
1 Mechanical Engineer, Grade II
5
1 Assistant Accountant (seconded from
Accountant-General's branch).

Provision for this staff is made under the item for Supervision and Investigations. At the end of the programme it would be necessary to transfer the staff to the Permanent Establishment for maintenance. The additional European staff required for the construction of the work and whose cost will constitute a charge against the capital expenditure on each undertaking, is estimated as follows:-

3 Mechanical Engineers plus 1 relief	.. 4
2 Assistant Accountants	.. 2
3 Foremen Linesmen to be provided under the contract for distribution materials plus 1 relief	.. 4
1 Cable Jointer	.. 1
	11

7. For the operation of the undertakings additional European staff would be required as follows, and in the order given:-

1st year of construction	4 Electric/Mechanical Engineers 2 of whom would be engaged in training African power station staff (Engine drivers). 1 Assistant Electrical Engineer 2 Assistant Accountants for touring and inspection of accounts on works.
2nd year of construction	1 Electric/Mechanical Engineer. 4 Assistant Electrical Engineers.
3rd year of construction	2 Electric/Mechanical Engineers. 4 Assistant Electrical Engineers. 1 Assistant Accountant.
4th year of construction	N I L .
5th year of construction	2 Electric Engineers. 2 Assistant Electric Engineers
	23

These numbers will have to be added to the present establishment of Electricity Branch. The additional expenditure will eventually be covered by revenue from the undertakings, but until that time the amount allowed under the item for supervision will cover the cost. The sufficiency or otherwise of this operating staff will depend on the successful training of the African station engineers to take charge of the smaller undertakings. Under optimum conditions it might be possible to reduce considerably the number of Assistant Electrical Engineers.

8. The estimated number of African Station Engineers required is 24; of these approximately 12 will be required for the Northern Provinces and 12 for the South. As facilities for the necessary training are non-existent in West Africa, it is proposed that arrangements should be made for the recruitment of suitable youths in Nigeria and their entry as apprentices in selected Engineering Works in the United Kingdom, where they would receive practical training and be required to study at associated Technical Colleges. The period of training anticipated is 5 years, but if the best type of youth is selected it may be possible to reduce this to 4 years. It is estimated that the cost of training will be approximately £300 per annum for each apprentice, on the basis of Gold Coast experience where the trainee is paid £16 per month by the Engineering firm, and receives a consolidated allowance of £8 per month from the Gold Coast Government, plus £10 per month paid to his wife on the Gold Coast. Thus the cost to Government is £18 per month plus passages, etc. It will be necessary to recruit 12 apprentices in the first year, and a further 12 in the third year.

9. In addition to Station Engineers it will be necessary to arrange for training Engine Drivers, and it is estimated that 50 will be required in the Northern Provinces and 90 in the South, a total of 140. It is proposed to arrange for training in Nigeria under the two Mechanical Engineers as noted in the staff required for operation. It should be possible to provide sufficient training for an engine driver in twelve months or less. Training would be on the works during erection and subsequent operation. Recruitment would be at the rate of 5 a year for the North and 10 a year for the South.

10. As regards plant, arrangements are being made for investigation into the possibilities of small hydro-electric installation, but in the Northern Provinces and part of the South the prospects of such power being available are not hopeful, and it will be necessary to consider the source and nature of the fuel supply for projected schemes since on this depends to a great extent the economic success of the undertakings as a whole. The cost of Nigerian coal and imported fuel oil is such that it precludes generation at sufficiently low cost to encourage industrial and domestic sales development by the undertakings. For the larger number of undertakings in the Northern Provinces, however, it will be necessary to consider the comparative economic values of Nigerian coal, Fuel oil, Local Coal Tar oil, and Ground Nut oil. In the Southern Provinces and Cameroons where there is in parts more prospect of hydro-electric power, this will undoubtedly be used. The remainder will be dependent on Coal, Fuel oil, Wood, and Coal Tar oil. The capital expenditure estimate, therefore, provides for the establishment of Wood Fuel Plantations in the Western Provinces to serve the larger undertakings which would employ gas producer plant and it is hoped that from the by-products obtained a certain percentage of tar oil can be distilled off for use at the smaller undertakings employing oil engine prime movers. It is also proposed to instal a plant at Enugu generating coal gas to be fired under the power station boilers and providing coal tar oil for use at the smaller undertakings in the Eastern Provinces. It should also be possible to recover other by-products in the form of Ammonia, Phenol, Pitch, etc. Generating Plant would be standardised as far as possible for the smaller new undertakings using 25, 50, and 100 K.W. sets.

11. It is suggested that the capital involved in this development, some £1,800,000, should be granted as a loan from His Majesty's Government to Nigeria free of interest for ten years, after which date it would bezr interest at a rate dependent on the gross profit of the undertakings but not in excess of 3%.

Existing undertakings are required to make full contribution to a Renewals Fund, the contribution being calculated on the amount which, invested at 3½% compound interest, will accumulate the full value of the plant within the period of its useful life. The new undertakings to be developed would be required to make similar contributions, the first payment to be made 12 months after supply commenced.

If, as proposed, the capital is free of interest charges for 10 years all gross profits from the undertakings (including existing undertakings) could be paid into a reserve fund from which any deficit rising from one or other of the undertakings would be met by way of an "Advance"; to bear interest at 3% except where it is clear that the undertaking is unlikely to be able to redeem the "advance", at some future date the amount would appear in the "Joint Profit and Loss Account". The net annual payment into the Reserve Fund would be invested in development works to existing undertakings which were operating in a sound financial basis, any balance being invested as may be decided. At the end of the 10 year period the practicability of financing further electrical development from the Fund would be examined. It is desired to emphasise that ordinary lighting and domestic load from the average consumer at the price he is prepared to pay is, in the first two years of any undertaking, insufficient to pay more than running costs. In time these conditions improve as the population becomes more prosperous.

There

There is very little industrial day load in Nigeria, and that is situated for the most part at stations where there are already electricity supplies. The new undertakings will for some time, therefore, be dependent on revenue from ordinary lighting and domestic load.

Note. The extension of electrical services will allow of increases of street lighting and installations in Government offices and premises. These will be a charge against Nigerian revenues, and will ultimately reach £25,000 per annum for the supply of current and maintenance.

XII. MISCELLANEOUS SUBJECTS.

There will be a number of miscellaneous subjects connected with the general development of the territory, consideration of which will not arise until a later stage, and some of these subjects will be dealt with outside of the compass of this present memorandum. It is desirable, however, that mention should be made at this stage of some of the more important ones, although, with the exception of town planning, no specific proposals can be included.

(a) Surveys.

The Director of Surveys has not been requested to put forward any proposals at this stage as it is understood that the question of aerial surveys is being dealt with on a West African basis by the Development Adviser for West Africa. It should be stated, however, that at the time when war broke out there was at least another two years' work left to be done on the first triangulation, and that only one eighth of the territory had been mapped in any detail at all. The importance of having proper surveys and maps is so obvious that it does not need any discussion beyond stating that it is hoped that the Development Adviser will be able to complete his proposals and plans at a very early date in order that this important work may be started.

(b) Malaria control and land reclamation.

This is the subject of a separate memorandum which deals with the requirements of the Lagos area in some detail. The proposals will be discussed in London on the basis of the provision of a grant from the Colonial Development and Welfare Fund of L168,000 to cover the cost of drainage and special equipment. No plans have been formulated, up to the present, in regard to any reclamation and drainage schemes for anti-malaria measures in any other parts of the territory.

(c) Hydro-electric Development.

In other sections of this memorandum reference has been made to general development of supplies of electricity and industrialisation. The question of the use of hydro-electric power has not previously been considered in any great detail. Some small plants were installed by the Germans in the Cameroons, and one exists in the Plateau Province in connection with tin mining. The wide range between flood and dry weather levels in many of the rivers would probably preclude any all-the-year-round hydro-electric development in many parts of the country, but there are some places where it is thought that small hydro-electric plants might be installed to advantage. Steps are therefore being taken to obtain the advice of specialist engineers from Canada who are experienced in the installation of small hydro-electric plants which are largely used in the Dominion. No further proposals can be offered for a period of another twelve months until these engineers have made their investigation during the dry and the wet seasons.

(d) Statistics.

Steps are being taken to obtain specialist advice on the setting up of a Statistical Branch in order to get together the type of information which is necessary for the proper development of the territory. We have been fortunate in having the offer of the services of the Senior Assistant Statistician of the Dominion of Canada, and steps are being taken for him to make a survey of the territory and then prepare proposals for the establishment of a Statistical Branch. This will probably include preparations for a suitable type of census, which would not merely involve the counting of heads of the population, but would be the means for gathering together other valuable information concerning the country. It is impossible at this stage to anticipate the cost of this organisation, but it is hoped that the necessary money will be forthcoming so that the variety of information which should be compiled concerning this large territory and its very considerable population may be properly tabulated.

(e) Town Planning.

The Town Planning Adviser to the Resident Minister and Mrs. Maxwell Fry have submitted a report containing their ideas on the subject of town planning in Nigeria. This will be found as Annexure 7. The proposals call for expenditure of £130,000 in order to set up a model village of 300 dwellings complete with social buildings, and an amount of £5,000 spread over 10 years for research into the use of local building materials and suitable types of houses. In addition they propose that £3,500,000 should be provided partly as a loan and partly as an outright grant in connection with housing in Lagos and other centres. In the notes provided (Annexure 8) by the Deputy Director of Public Works it should be noted that, in the opinion of the Department of Public Works, it will not be possible to carry out such a large programme of housing development as the town planners' proposals call for. Further discussion should take place in London and the question of the terms of any loan which may be granted and the method of its administration in Nigeria should be similarly dealt with.

XIII. FINANCIAL IMPLICATIONS.

The following observations are submitted with a view to their further consideration and, if necessary, amendment after discussion with the Financial Secretary, who is now on leave in the United Kingdom, and who is expected to participate in the discussionsat the Colonial Office.

2. The present outline proposals contained in this memorandum call for the following sums from the Colonial Development and Welfare Fund during the nominal ten year programme:-

	£	
Water supplies	10,000,000	(G)
Roads	4,100,000	(G)
Medical Services	8,654,000	(G)
Agriculture, etc.	8,350,000	(part G part L)
Education	6,245,800	(G)
Telecommunications	887,000	(L)
Rural development and planning	1;200,000	(G)
Marketing etc.	1;000,000	(G)
	4;000,000	(L)
Research (nominal)	1;000,000	(G)
Social Services (nominal)	2;000,000	(G)
Electricity development	1;800,000	(L)
Town Planning	3,630,000	(part G part L)
	£52,836,800	

(G) = free grant
(L) = loan.

3. This will not be all as other miscellaneous subjects alone, including the additional cost of special Public Works Department staff to deal with the extra building programme, will bring the figure to at least £55,000,000. This only deals with the extension of existing services with very little of the more spectacular development proposals which undoubtedly will arise as time goes on. It should be mentioned, however, in passing, that the expenditure of £55,000,000 over some 14 years on a population which is probably at least 23,000,000 amounts only to 48/- per head over the whole period, and less than 3/6d. per head per annum.

4. The Acting Financial Secretary has been consulted as to the possibility of any portion of the development programme being financed out of local funds. Papers on this subject will be brought to London, but in brief the position is that the moderate surplus of revenue over expenditure which exists at present will rapidly be absorbed in dealing with pensions, housing, and other facilities for African staff, increases in the Police Force, Labour Department, and other developments to which the Nigerian Government is either already committed or intends to implement. Any margin that is then left will be fully absorbed by necessary increases in various departmental routine staffs, particularly in accounting and auditing, arising from the additional accounts and other paper work in connection with the development programme.

5. The expansion of the service, although largely provided for under the request which will be made for assistance from the Colonial Development and Welfare Fund, will also involve additional local expenditure. For example, over the stated period the cost of maintenance and capital expenditure on the three grades of roads will amount to at least £4,400,000 from local funds. All of the Departmental programmes will require additional African junior staff, particularly on the clerical and financial sides. The rural development plans will call for further expenditure from the Native Administration Development Estimates and from their development reserves. The water supplies will require extra maintenance expenditure, while a number of other routine developments such as that of the Marine Department will be financed locally.

6. The commitments against Nigeria itself will, therefore, be considerable, although it is not possible to estimate them with any degree of accuracy at this stage. It is clear that present revenues are unlikely to be adequate to cover such extra expenditure, and the whole question of incidence of taxation may have to be considered. This will be an increasingly important matter as internal trade expands as the result of the development programme, and might be the subject of special enquiry.

7. It is fortunate that the Financial Secretary will be in London and will be able to participate in the discussions as it is apparant that equally serious consideration will have to be given to the question of local provisions as to the grants and loans which are asked for from His Majesty's Government.

Annexure I

EXTRACTS FROM A REPORT ON RURAL WATER SUPPLIES IN NIGERIA BY DR. F. DIXEY, O.B.E., DIRECTOR OF GEOLOGICAL SURVEY.

AREA, RAINFALL, POPULATION

Nigeria, the largest of the West African Colonies, is approximately 372,670 square miles in extent. The country comprises mainly great areas of lowland and upland plains, with a central plateau of about 4,000 feet elevation in the Northern Provinces, and a high mountainour stretch along the south-eastern border.

The average annual rainfall ranges from 30 inches or less along the northern border to upwards of 100 inches along the extreme southern side of the country. In spite of this high rainfall, as compared with many African colonies, there is nonetheless, particularly in the Northern Provinces, a more or less serious shortage of water for domestic purposes and for stock during the latter part of the long dry season.

The population of Nigeria is very great, amounting to about 11,000,000 people in the Northern Provinces and about 9,000,000 in the Western and Eastern Provinces, giving a total of fully 20,000,000, with the high average density of about 53 per square mile.

TOPOGRAPHY AND GEOLOGY

Most of the water supply work is required on upland or lowland plains that extend across both the Basement Complex and the sedimentary formation; locally the sedimentary plateaux have been dissected by narrow valleys to a depth of 200 feet or more, and consequently on these plateaux deep drilling to 200-300 feet would be required.

The Basement Complex, covering about half the country, may be expected to yield useful supplies to shallow wells of an average depth of 50 feet, and stronger supplies to bore-holes to depths of 150-200 feet.

The older more consolidated sediments, often of coarse grain, should present no serious difficulty in drilling, and should yield useful supplies. The later sediments, such as those drilled into at Sokoto, Maiduguri, etc., are for the most part extremely fine-grained; in some cases they include good aquifers, but in these great difficulty has been experienced in separating the water from the fine silt. Nonetheless, some success has been achieved, and experimental work is going on.

EXISTING WATER SUPPLIES AND THE NECESSITY FOR IMPROVEMENT

Apart from the relatively few water points already constructed, the available rural and smaller township water supplies comprise the following:-

(1) Rivers and streams, some of which are perennial whereas others last only during and shortly after the rains. These streams traverse more or less densely populated areas, and their waters are all polluted.

(2) Pools, which tend to become increasingly foul and to dry out as the dry season advances.

(3) Unlined wells and water-holes carried down to shallow perched water bodies at depths of say 5 to 20 feet. These also tend to dry out in the latter part of the dry season.

(4) Unlined, uncovered, and unprotected deeper wells up to 50 feet in depth in the gneiss and granite areas, and up to 200 feet in the sedimentary areas. Since it is beyond the resources of the people to line these wells they have a limited life, and shafts have to be re-excavated at intervals of a few years. In many cases water for cattle has to be drawn from these deep wells.

All these sources of supply, but particularly (2) and (3), are more or less heavily polluted with human and animal organic matter and are dangerous carriers of various diseases, which tend to reduce the vitality of the people as a whole to a low level. In many areas the incidence of guinea-worm, for example, exceeds 90 per cent, and in such cases its effects are devastating. These diseases can be completely eradicated if these foul sources of supply are replaced by properly constructed wells and bore-holes.

An important point to be borne in mind is that the disappointing apathy sometimes shown by the people towards urgent production drives is often due not so much to mere laziness as to chronic ill-health, and that a large proportion of this ill-health is due to water-borne diseases.

Finally, the people themselves make urgent and repeated requests for additional new water supplies. In a relatively few localities they have already experienced the immense advantages of a clean water supply in relation to health, hygiene, education, and general well-being, and they clamour for more. Furthermore, this is a service that can often be extended even to remote villages, and it appeals to the natives as a direct and obvious advantage in return for the taxes they pay.

WATER SUPPLY MEASURES ALREADY UNDERTAKEN

Since 1927 the Geological Survey has constructed 1420 dug wells in Northern Nigeria and 153 wells in Southern Nigeria; this work has been carried out by the Departmental staff largely with the aid of Emirate funds. Each well comprises a concrete-lined shaft and a concrete head, apron, and drain; the head is fitted with rollers over which the villagers raise the water, and with basins into which the water is poured; from the basins the water flows, with minimum waste, into the buckets, etc., brought by the villagers. These wells have proved essentially effective in combating guinea-worm.

Moreover, seven deep bore-holes have been put down into sediments in the northern part of Northern Nigeria, and at Otta near Lagos. This work has been carried out with the aid of Loan Funds, and the original object of it was to serve the Emirates where the water table lay too deep to be reached by wells; this has been done to some extent, but local exigencies have made it necessary to drill also for railway and aerodrome purposes.

Dams for small township purposes have also been constructed in several parts of the country.

The total cost of the well-sinking and drilling operations to Government, the Emirates, and Loan Funds has been in excess of £200,000.

WATER SUPPLY MEASURES PROPOSED

The water supply measures proposed are based on the works already constructed and on the experience gained in the course of many years. They comprise mainly:-

(1) Wells
(2) Bore-holes
(3) Dams.

(1) Wells

A very satisfactory technique of well constructions has been developed by the Geological Survey, and it is proposed to construct new wells on the same lines, modified as necessary in the light of new experience and new requirements. The wells and well-heads are constructed entirely of concrete or of reinforced concrete, and in long usage they have proved highly successful. A drawing of a well is attached.

There are also large numbers of unlined and unprotected native dug wells, which could be improved, given longer life, and rendered more hygienic with the addition of top lining and concrete headwork.

(2) Bore-holes

Drilling to depths of several hundred feet into the deeper sediments will be continued as required, and in many cases this work will probably replace that of well-digging to great depths. This deep drilling demands the use of power pumps to raise the water, and is in general best suited to large native townships.

Drilling into the Basement Complex, comprising a range of gneisses, schists, granites, etc., and extending over more than half the total area of the country, has not yet been attempted, but there is great scope for this work. Abundant experience of drilling into this formation has been gained in all East African countries and in South Africa, under conditions of far less humidity than in Nigeria, and very satisfactory results have been achieved in the production of small water supplies in rural areas. The bore-holes require the use of hand pumps, of which there are available simple but very strong patterns that are easily maintained. Drilling into the Basement Complex is a far simpler and less expensive operation than drilling into deep sediments such as those so far encountered in Nigeria. The accepted average total cost of such a bore-hole, in Uganda for example, is £350, complete with hand-pump; a cost of £400 has been assumed for Nigeria, since salary costs, etc., are higher.

(3) Dams

There is room for a considerable number of small dams in the country for the use of cattle and for small townships, etc. The organisation proposed would carry out the original surveys and the construction of such dams, and a small proportion of the well-sinking units provided for could be deflected to dam construction as required.

MAINTENANCE

A water development scheme of the kind proposed should not be undertaken unless the necessity for adequate maintenance of the works is fully realised and the responsibility for it determined at the outset. Unless such maintenance is carried out the works will gradually deteriorate and fall into disuse until all or most of the capital expenditure has been wasted.

Annexure 2.

ROAD DEVELOPMENT SCHEME.
(Director of Public Works)

GENERAL.

Under the policy accepted by Government for the development of the road system of Nigeria as a co-ordinated whole the various routes have been classified as (i) Trunk Roads A, (ii) Trunk Roads B (iii) Local feeder roads (unclassified roads).

The general system and classification is described in detail in a memorandum dated 21st January, 1937, which elaborated a memorandum dated 24th November, 1926, the recommendations of which have been accepted as the basis for general Trunk Road policy. For present purposes the following brief description will suffice.

2. Trunk Roads A form the skeleton Trunk Road system on which the remainder of the road system of the country is built up. This framework or skeleton, which is shown in red on the attached map, consists of two main South to North Roads:-

(i) Lagos-Ibadan-Ilorin-Kano.

(ii) Port Harcourt-Enugu-Makurdi-Jos-Potiskum-N'Guru.
and four main lateral roads from West to East.

(iii) Shaki-Oyo-Akure-Benin-Enugu-Bamenda.

(iv) Kishi-Ilorin-Lokoja-Katsina Ala.

(v) Yelwa-Bida-Abuja-Wamba-Jos-Biu-Yola.

(vi) Sokoto-Funtua-Kano-Potiskum-Maiduguri.

3. Trunk Roads B are defined as "Roads connecting Provincial Capitals and other large towns with the skeleton Trunk Road system or with one another or with a port or convenient station on the Railway".

4. Local Feeder Roads or Unclassified roads form the network of roads serving the areas between the Trunk Road system.

5. It is important to note that the above classification refers only to the relative importance of a route in the general co-ordinated system and not to the standard of construction. Standards of construction are classified as 1st, 2nd, and 3rd class roads, all roads are constructed to 3rd class specification in the first instance and improved to 2nd and 1st class specification as the traffic develops and a higher standard is necessary to cope with the increased weight and volume. There are at present in Nigeria very few roads on which the volume of traffic justifies the expense of improvement up to 1st Class specification.

6. The classification into Trunk Roads A and B is also used in the allocation of financial responsibility as between Government and the Local Authorities. Expenditure on both construction and maintenance of Trunk Roads A, is borne wholly by Government.

In

In the case of Trunk Roads B, expenditure on maintenance is shared between Government and the Local Authorities, wherever possible the work is carried out by the Local Authorities and reimbursement is made by Government against a certified statement of expenditure at the end of the financial year.

For this purpose Trunk Roads B are subdivided into

B1: Trunk Roads B, not otherwise classified. Government grant to be 25% of annual cost of maintenance.

B2: Trunk Roads B, upon which through traffic i.e. motor traffic not originating or terminating within the boundaries of the local administration exceeds local traffic, Government grant to be 50% of annual cost of maintenance.

B3: Trunk Roads B passing through sparsely populated areas when cost of maintenance would be unduly burdensome. Government grant up to 75% of the annual cost of maintenance.

There are a few cases of roads of both B and unclassifie which were constructed and maintained by Government prior to 1937, where Government continues to pay the whole cost of maintenence. The cost of maintenance and construction of the local feeder roads is in principle borne wholly by the Local Authorities.

7. The present position as regards this road system is as follows:-

<u>Trunk Roads 'A'.</u> The mileage of the complete skeleton system is 4,175 miles, of which the greater part has been constructed but there are important gaps, i.e.

(i) Birnin-Kudu-Misau section of lateral road Sokoto-Maiduguri with a branch to Azare; New construction. (106 miles).

(ii) Bansara-Ikom-Mamfe section of lateral road Shaki-Benin-Enugu-Bamenda. New construction (90 miles).

Existing roads are shown by a firm red line on the attached map and gaps by a dotted red line.
Some 1,450 miles of existing road require improvement to meet the demands of traffic and some 760 miles will require a bituminous surface. These points are also dealt with later under proposals for extension and improvement.

Trunk Roads 'B'. A total of 3,382 miles have been constructed to varying standards. These are shown by a firm blue line on the accompanying map.
It is estimated that 820 miles require considerable improvement at an estimated cost of £218,000 and 240 miles require bituminous surfacing.

Local Feeder Roads. At present 17,100 miles have been constructed some as all season roads but mostly as dry season tracks; much of this mileage requires improvement.

8. The need for improvement to existing roads and for new roads was discussed at length in a memorandum dated 17th December, 1938. Briefly, the points then made and which still hold good were the need for improving existing roads to meet the increasing volume of traffic and weight and speed of vehicles and for additiona

roads

roads to promote the further development of the country by opening it up to motor transport. The question of an adequate allowance for mileage of roads in Nigeria was discussed, and it appeared that the following figures would be reasonable for various areas:-

Population density per sq. mile.		
" "	Over 200	0.5 miles of road per sq. mile.
" "	150-200	0.4
" "	100-150	0.3
" "	50-100	0.2
" "	10-50	0.1

A table was prepared showing the position for each Province separately. Allowances were made for areas in which water and animal transport were readily available and areas required for Forest Reserve were also taken into account. As a matter of interest this Table is attached. The figures quoted are for 1938, and some adjustment is necessary for roads opened up since that date but for the most part they still hold good. The total arrived at by this method is approximately 40,000 miles of road against an existing mileage at the present date of some 24,000 miles leaving a balance of 16,000 miles required for new roads.

9. To attain the objective of extending and improving the present road system to the extent now considered necessary, the following programme is proposed:-

I. Complete gaps in skeleton Trunk Roads 'A' System and provide the additions to the skeleton system which are now found to be necessary as a result of development during the last few years.

II. Improve and strengthen existing Trunk Roads 'A' to meet demands of increasing traffic, work to include bituminous surfacing where necessary.

III. Construct the additional Trunk Roads 'B' found to be necessary as a result of development during the last few years.

IV. Improve and strengthen existing Trunk Roads 'B' to meet demands of increasing traffic, providing bituminous surfacing where necessary.

V. Grants on a contributory basis to Local Authorities for the construction of additional local feeder roads and improvements to existing local roads.

10. Details of this programme are as follows:-

I. Gaps in Trunk Road 'A' system and additional 'A' roads.

(i) Birnin-Kudu-Misau section of main lateral Sokoto-Kano-Maiduguri with branch to Azare (106 miles).

(ii) Mokwa-Kontagora bye-pass on main South to North road Lagos-Kano to avoid the Kaduna River crossing between Jebba and Bida and also shorten the route to Sokoto from the South (89 miles).

(iii)

(iii) Bansara-Ikom-Mamfe section of lateral road Oyo-Benin-Bamenda (90 miles).

(iv) Calabar Mamfe to connect Mamfe Bamenda area with the port of Calabar (104 miles).

(v) Katsina Ala-Wukari-Jalingo-Yola extension to lateral road Ilorin-Lokoja-Katsina Ala (310 miles).

(vi) Lagos Benin new direct route; new construction of Lagos Ikorodu and Ijebu Ode-Benin sections (80 miles) excluding certain lengths of existing unclassified dry season road.

(vii) Shagamu-Ibadan link road to connect Ibadan with (vi) above and so provide a shorter route to Lagos.

(viii) Southern outlet from Kaduna. At present there is no direct connection between Kaduna and the South. A new road is proposed either to connect with Kwongoma on the main South to North road or a direct road to Minna.

(ix) It will also be desirable to reclassify the following routes as Trunk Roads 'A' in view of the altered importance:-

 (a) Otta-Idiroko section of the Lagos Accra road. Considerable improvement is necessary.

 (b) Kano Daura road as being the main route to Zinder and North Africa.

 (c) Maiduguri-Dikwa Ngala as a continuation of the Kano Maiduguri route to Fort Lamy and Khartoum.

II. <u>Improvements and strengthening existing Trunk Roads 'A'.</u>

The following routes require considerable improvement mostly to drainage, strengthening and replacing weak bridges. Unexpected development of traffic may necessitate adjustment of this list and some elasticity is desirable in the actual carrying out of the programme, but this will not materially affect the amount of work or cost as additions will in all probability be balanced by deletions.

(i) Jebba-Bida-Abuja-Keffi-Wamba-Fadan-Karshi. Most of this route has gradually been improved from a dry season track. There are many light timber bridges requiring replacement and drainage is in general inadequate for proper maintenance (363 miles).

(ii) Kontagora-Yelwa similar condition to (i) (70 miles).

(iii) Tegina-Kusheriki-Birnin Gwari section of main South to North Road Lagos-Kano; similar condition to (i) (64 miles).

(iv)

(iv) N'Guru-Gashuwa-Damaturu section of main South-North road Port Harcourt-N'Guru. This is a dry season road but the major bridges have been constructed. Minor bridges are very few. Culverts and very considerable improvements to carriageway are required. This road forms the shortest route from Maiduguri to the Railway (150 miles).

(v) Hinna-Biu section of Jebba-Jos-Yola lateral, it exists at present as a very light dry season track, new construction practically throughout is required. Apart from its importance in the Trunk Road system it has considerable local value in providing access to the River Port of Hinna (55 miles).

(vi) Bauchi-Gombe section of the Jebba-Jos-Yola lateral road. Improvements to the drainage and surfacing of the carriageway are required (97 miles).

(vii) Biu-Yola section of Yebba-Jos-Yola lateral. Conditions are similar to those described for (i) above (134 miles).

(viii) Makurdi-Akwanga section of South to North road Port Harcourt-N'Guru. Conditions similar to (i) above (100 miles).

(ix) Oturkpo-N'Sukka section of South to North road Port Harcourt-N'Guru. Conditions similar to (i) above (69 miles).

(x) Lokoja-Ankpa section of Ilorin-Lokoja-Katsina Ala lateral road. New construction is required over about half of the route which exists as a dry season track but requires realignment. On the remainder improvements to drainage are required (90 miles).

(xi) Ikole-Kabba section of Ilorin-Lokoja lateral road. A number of light timber bridges require replacement, and considerable improvement to drainage is necessary. (28 miles).

(xii) Bituminous surfacing of existing Trunk Roads 'A'.

It is estimated that 760 miles of Trunk Roads 'A' will require bituminous surfacing during the next ten years to cope with increases in traffic. The principal sections involved will be extension of tarred surface on the Ibadan-Enugu lateral, from Ife to Benin and Asaba, Owerri-Aba section of South to North road from Port Harcourt. Extension of bituminous surfacing on Lagos-Kano road from Oyo to Ilorin, Gusau-Sokoto and Jos-Bauchi roads.

III. Additional Trunk Roads 'B'. As a resoltuof developments during the last few years, the following routes are found to be necessary.

(i)

(i) Kontagora-Bukwium-Sokoto. To provide a shorter outlet to the South from Sokoto and the Zamfara valley. The route exists for the most part as a dry season track but an all season road is really necessary for proper development of the area (215 miles).

(ii) Kaduna-Kachia-Abuja. At present there is no all season road connection through Southern Zaria and the conversion of the dry season route to all season standards and its reclassification as a Trunk Road 'B' is the best way of attaining this objective (180 miles

(iii) Road connection with the Mambilla Plateau in the South of Adamawa Province is very necessary as at present it is practically in-ccessible. The exact route has not yet been determined, but a reconnaissance is in progress; the probable length of road required is (100 miles).

(iv) Maiduguri-Dumboa-Biu, the opening of this route is required to connect Maiduguri with the river port at Hinna via the Biu-Hinna road. An all season road is necessary as the river ports are only open during the rains. (130 miles).

(v) Kano-Zaria direct road. The present route from Kano to Zaria via Yashi and Funtua is very circuitous and in addition to providing direct road connection between the large population centres of Zaria and Kano road access to the numerous towns on the route is very necessary. The lack of this direct road has been felt very keenly during the last few years, and at one time the Army started construction. (93 miles).

IV. <u>Improvements to Trunk Roads 'B'.</u>

The following routes require improvement to bring them up to the standard for 3rd class roads:-

(i) Auchi-Agenebode improvements to drainage surfacing and bridging are necessary. (33 miles).

(ii) Kabba-Kokoja. Improvements to bridges and culverts are the most important requirement. (55 miles).

(iii) Keffi-Loko; this is only a dry season track and conversion to all season standards is desirable (71 miles).

(iv) Ropp-Wase general improvement to drainage and surfacing and some realignment is required. (90 miles).

(v) Kontagora-Rijaua dry season track which requires conversion to all season standards as part of the road for Sokoto to Jebba, via Bukwium (52 miles).

(vi) Bungudu-Jega. A dry season track along the Zamfara valley complete conversion to all season standards is most desirable. (166 miles).

(vii) Gusau-Jibia. Considerable work on bridging and culverts has already been completed on this route but much more remains to bring it up to 3rd Class specification. (101 miles).

(viii)

(viii) Damaturu-Biu. Similar conditions to (vii). (85 miles).

(ix) Zungeru-Minna-Abuja. Similar conditions to (vii) (130 miles).

(x) Bituminous surfacing Trunk Roads 'B'.

It is estimated that on some 240 miles the traffic developments during the next few years will necessitate the provision of a bituminous surface. The principal routes affected are Ede-Ife; Oshogbo-Ilesha; Ondo-Akure; Benin-Sapele; Onitsha-Owerri; Katsina-Yashi.

V. Local Feeder Roads. It is calculated that approximately 16,000 miles of additional feeder roads are required in addition to improvements to existing roads. The approximate mileage required in each Province has been calculated and is shown on the attached table.

It will be necessary for programmes for these roads to be drawn up by the Provincial Committees.

It is considered reasonable that grants should be made on a general basis of 50% of cost. In some cases it may be necessary for Government to contribute more and in others less, but 50% is considered a fair average. Costs per mile will vary enormously according to whether all season or dry season standards are required, and the type of country traversed. It is considered that the average cost will be about £100 per mile, so that £50 should be allowed for grants.

Improvements to existing feeder roads on which traffic is now developing can also be estimated at about £100 per mile with a similar allowance of £50 per mile for Government grants. These allowances for 16,000 miles of new road and 17,000 miles of improvements, all at £50 per mile, amount to £1,650,000. In view of the impossibility of making any complete programme for so far ahead, it would be reasonable to provide £1,500,000 for this purpose.

11. The estimated cost of the programme outlined above (apart from maintenance and staff) is:-

(i)	Completion and extension of Trunk Roads (A) System 945 miles	£675,000
(ii)	Improvement to existing Trunk Roads 'A' including bituminous surfacing where required	£1,170,000
(iii)	Additional Trunk Roads 'B' 718 miles	£300,000
(iv)	Improvements to existing Trunk Roads 'B', including bituminous surfacing where necessary	£455,000
(v)	Grants to Local Authorities for improvements to existing and construction of new feeder Roads	£1,500,000
	Allowance for purchase of plant	£200,000
		£4,300,000

(Schedules showing preliminary estimates for each item above can be furnished if required).

12. The additional European Staff required to cope with this programme is estimated as follows:-

	Civil Engineers	Inspectors
Trunk Roads 'A' Construction and improvement (£107,000 p.a.)	5	11
Trunk Roads 'B' Construction and improvement (£52,000 p.a.)	2	5
Bituminous surfacing. Trunk Roads 'A' and 'B' (£100,000 p.a.) 3 Units fully equipped with plant 1 Engineer, 1 Inspector of Works (Mechanic) each	3	3 (Mech.)
Feeder Roads. Work could be carried out for the greater part by existing Provincial Staff. Some additional staff is, however, desirable for surveys and design and occasional assistance	6	6
	16	25
Allow for reliefs	6	9
Totals	22	34 *
Mechanical Engineers for Maintenance of Plant	3	
Reliefs	1	
Total.	4	

(Intld.) H.E.W.

(Sgd.) S.J.W. Gooch.

Director of Public Works.

Date: 23rd August, 1944.

* The consolidated cost of the Civil and Mechanical Engineers would begin at £1,300 and finish at £1,500 per annum over the ten year period, and that for Inspectors would begin at £800 and finish at £1,000 per annum.

Appendix II to accompany Ag. D.P.W's Confidential memorandum No.10/C.487 of 17.12.38 to C.S.G. Lagos.

Province	Area Sq miles.	Population	Population Density per sq. mile.	Mileage existing Roads	Assumed Road Factor.	Mileage required
Abeokuta	4,266 deduct 12% for Forests 509 3,657	434,526	118	400	0.3	1,097
Benin	8,589 deduct 64% 5,497 3,092	459,906	148	1,200	0.35	1,082
Calabar	6,331 deduct 25% 1,580 4,751	900,285	189	710	dd.0.4 for water Transport 25% .1 0. 3	1,425
Cameroons	16,581 deduct 30% 4,974 11,607	382,501	33	310	0.1	1,160
Ijebu	2,456 deduct 25% 614 1,842	305,898	169	240	0.4	757
Ogoja	7,624 deduct 20% 1,524 6,100	726,233	119	210	0.3 dd. water 15% 0.05 0.25	1,520
Ondo	8,211 deduct 30% 2,463 5,748	462,560	80	630	0.2	1,149
Onitsha	4,937 deduct 9% 444 4,493	1,096,323	244	710	0.5	2,246
Owerri	9,970 deduct 9% 897 9,073	1,616,672	178	1,300	0.4 dd.for water Transport 25% 0.1 0.3	2,721
Oyo	14,216 deduct 20% 2,843 11,373	1,339,606	118	750	0.3	3,411
		Carried forward		6,380		16,548

/ Warri.

Province.	Area Sq. miles	Population.	Population Density per sq.mile.	Mileage existing Roads	Assumed Road Factor.	Mileage Re-quir
	Brought Forward.			6,380		16,5
Warri	6,334 deduct 5% 317 6,017	414,505	69	260	0.2 dd. for water 50% 0.1 0.1	6
			6,640			17,1

Province	Area Sq.miles.	Population	Population Density per sq. mile	Mileage existing roads.	Assumed Road Factor.	Mileage required
Adamawa	33,765 deduct for Forest 25% 8;220 25,545	657,976	27	820	0.1 dd for animals 20% .02 0.08	2,043
Bauchi	25,977 deduct 20% 5;195 20,782	984,757	47	1,300	dd 0.15 animals 33% 0.05 0.10	2,078
Benue	29,318 deduct 20% 5;863 23,455	989,525	42	990	0.01	2,345
Bornu	45,900 deduct 20% 9;180 36,720	1,044,632	28	1,390	0.10 dd animals 50% 0.05 0.05	1,836
Ilorin	17,719 deduct 20% 3;744 13,975	453,347	32	610	0.1 dd animals 20% .02 0.08	1,118
Kabba	10,953 deduct 25% 2;740 8,213	463,531	56	600	0.2	1,643
Kano	16,626 deduct 8% 1;320 15,306	2,374,253	154	1,500	0.3 dd animals 50% .15 0.15	2,285
Katsina	9,466 deduct 10% 946 8,520	1,039,109	122	900	0.3 dd animals 50% .15 0.15	1,278
Niger	25,178 deduct 30% 7;553 17,625	461,208	26	1,060	0.1 dd 20% 0.02 0.08	1,410
Plateau	10,423 deduct 8% 833 9,590	540,836	56	800	0.2 dd 20% .04 0.16	1,534
Carried forward				9,970		17,570

Province	Area Sq. miles	Population	Population Density per sq. mile	Mileage existing Roads	Assumed Road Factor	Mileage required
Brought forward				9,970		17,570
Sokoto	39,965 deduct 15% 5;995 33,970	1,869,160	55	2,750	0.2 dd for animals 50% 0.1 0.1	3,397
Zaria	16,488 deduct 20% 3;299 13,189	428,142	32	810	0.1 dd for animals 20% 0.02 0.08	1,055
Totals Northern Provinces				13,530		22,022
Totals Southern Provinces				6,640		17,150
				19,170		39,172

H.E. WALKER
Ag: Director of Public Works

Note.- As mentioned in para.8 of the Memorandum, this Table prepared in 1938 showed the mileages in 1937. Since that date a number of new dry season tracks have been opened and some old tracks re-opened, in connection with production drives Military operations etc.. The total mileage at the present date is about 24,000, the mileage required of course, remains at 39,172 or say 40,000

(Intd) H.E.W. (Walker).
6.9.44.

ANNEXURE 3......

MEDICAL DEVELOPMENT IN NIGERIA

The following notes on expansion of medical and health activities in Nigeria have been prepared on the assumption that the all-important question of the development of potable water supplies throughout the territory has already been fully dealt with and will be accorded priority. Both from the health and economic points of view it is considered that the provision of such supplies will do more towards raising the general standard of living than any other form of development.

2. In formulating a plan for medical development one has taken into account factors such as the reluctance of the population to adopt Western medicine in some of the more backward areas, the vast distances which have to be covered and the varying degrees of transport difficulties which obtain. On the other hand, mission medical activities have been discounted, although these will have to be taken into consideration when more detailed planning of the hospital system is undertaken. Such refinements as the provision of air ambulances have not been incorporated in the scheme, which, it must be stressed, is only designed to cover the period up to the year 1960.

3. It is generally held, and no one can deny, that preventive measures should hold a high degree of priority, but it has been the experience of health officers both here and elsewhere in the colonies that before the confidence of the public necessary for the successful pursuit of health measures can be secured efficient hospital and dispensary systems must be developed. The best policy in devising such a system would appear to involve the establishment of one or more first-class hospitals in all Provinces with full facilities for the scientific investigation and treatment of disease (Laboratories, X-ray and Electrical Departments). These would not only serve the medical needs of the local population in the towns where they are centred, but would afford means of investigating cases of more obscure illness sent in from daughter hospitals in outlying areas, while the latter in their turn would draw many of their patients from circuits of bush dispensaries, which would be subject to regular visitation by the Assistant Medical Officers in charge of sub-areas. Ambulances and kitcars will be necessary to complete the organisation and these have been allowed for.

4. Assuming the acceptance of the policy outlined, it remains to be decided where such hospitals can be most suitably sited and how many in-patients should be catered for. In the United Kingdom it is commonly accepted that one (General Hospital) bed per thousand of the population should be provided. Provision on this scale will not be necessary in Nigeria, however, for a good few years to come and the ratio must vary in different provinces according to geographical conditions, presence of industries and the progressiveness of the people, considerations which have been taken into account in the tentative scheme now presented.

5. The schedule attached (Appendix A) gives ideas as to the minimum requirements so far as general hospitals are concerned and it will be noted that it is estimated that an addition of 7,600 beds is required. Constructional costs will vary in different parts of the country and in different years, as will the price of equipment, but if it is assumed that £325 per bed can be taken to cover purchase of land and cost of building and equipment, then the capital expenditure will be in the neighbourhood of £2,600,000. As shown in Appendix B it is anticipated that recurrent charges will amount to £275,000 per annum. These costs include provision of travelling Medical Officers, housing of staff, expansion of ambulance services and other transport facilities, but the recurrent

charges do not include any allowance for passages, pensions, etc. An addition of 30% ought to cover these, but even then incremental increases remain to be provided for.

6. The provision of qualified staff will present a problem of the utmost difficulty and calls for an early decision as to the fate of the Nigerian Medical School, referred to in a later paragraph. The smaller secondary hospitals will be placed in charge of locally trained Assistant Medical Officers, but all the larger establishments should have Medical Officers with British qualifications, while some of the Provincial centres will need one or more Specialists. An increase in administrative staff will also be required and Senior Medical Officers in charge of medical divisions will have to be completely freed from clinical responsibilities. Appendix B shows additional staff requirements.

7. Improved Facilities for the care of lunatics

Conditions obtaining in Nigeria in regard to the care of lunatics are nothing short of disgraceful and have repeatedly been the subject of adverse comment by inspecting officers, among them Dr. Cunningham Brown. For the most part insane persons are incarcerated in the various prisons around the country, where there is neither suitable accommodation nor the opportunity of affording them appropriate treatment. As a first step an application has been submitted to Government for the provision of an Alienist, whose first task it will be to classify the various forms of mental disease met with and advise as to the magnitude of the problem. No accurate statistics are available as to the true incidence of mental derangement, but during his visit to Nigeria Dr. Cunningham Brown formed the opinion that it was at least 2 per 1000 of the population. It is clear that the need for special hospitals for this class of patient is an urgent one and although no estimate can be hazarded as to final requirements it is submitted that institutions should be provided immediately in three separate areas - Northern, Eastern and Western Provinces. Provided ample ground is set aside for future expansion the three hospitals envisaged need not be very large, but should provide for at least 250 patients in each. Capital costs are estimated at £300,000 and Annual Recurrent Charges at £30,000.

8. Tuberculosis is a malady which is the cause of great concern, but apart from a very small ward near the Isolation Hospital in Lagos it has not yet been found possible to create special accommodation for its victims. It is almost invariably rapidly fatal, and in Lagos, the only area where vital statistics of any accuracy are recorded, it is responsible for approximately nine per cent of all deaths. Spontaneous cure does occur in a proportion of cases as evidenced by post mortem findings, but a specialised enquiry into the problem, and in particular into the circumstances under which such natural recovery occurs, is clearly indicated if the most suitable line of preventive action is to be ascertained. An endeavour has been made to secure the services of an expert - so far without success - and it is hoped that it will be possible to provide him with a mass miniature radiography unit when these become available. Much more than this remains to be done, however, and, although it will be necessary to do a considerable amount of research before embarking upon any comprehensive sanatorium system, it is considered that small T.B. Pavilions should be attached to general hospitals in all main towns. This would afford useful information as to the variable course of the disease in differing local climatic conditions. It is also proposed, if funds are forthcoming, to establish four small sanatoria, situated respectively at Zaria, Jos, Enugu and Ibadan. With the exception of the last named town which should be provided with, say, 120 beds, it is proposed at the outset to limit the capacity of these to 60 beds. The estimated capital cost is £110,000 and annual recurrent charges £21,000.

9. Maternity Hospitals

The expansion of the maternity services offers one of the finest fields that exist for development. The African is extremely fond of children and in many cases regards them as a financial asset, with the result that whenever they are established, in the south at least, Child Welfare and Ante-natal Clinics become rapidly popular and, with the exception of the more Northerly Provinces which present a much more difficult problem, the demand for special maternity hospitals soon follows. In all the Provinces in the South, with the possible exception of Ogoja and the Cameroons, progress in this direction is quite liable to outpace any provision that may be made to meet the situation, and the same observation applies equally to Ilorin, but it is proposed for the present to limit the establishment or expansion of special hospitals to seven areas, namely Lagos, Aba, Calabar, Ibadan, Ilorin, Ondo and Warri. In all a total of 240 beds is budgetted for in these places, while elsewhere facilities for the reception of maternity cases will be made available in general hospitals. The estimated capital cost is £72,000 and the annually recurrent expenditure is assessed at £19,000.

10. Dental Services

The fact that there is only a mere handful of Dental Surgeons in private practice and only two Government Dentists to minister to the needs of this huge population speaks for itself; while the popular idea that the negro is blessed with sound teeth is quite rapidly dispersed by ordinary routine observation. There must be an immense amount of digestive disorder in the country due to dental defect, but in the main this is overlooked and doubtless is in most cases assigned to some other cause - nutritional deficiency, helminths and so forth. To remedy matters to some extent, the appointment of three additional European and two African, (a token!) Dentists has been applied for with the requisite number of skilled mechanics. It is obvious, however, that Nigeria will have to undertake the training of such staff if an adequate dentistry service is to be provided, and this desirable development has been taken into consideration in assessing the cost of extending and improving the local medical school.

11. Mass Treatment of Epidemic and Endemic Diseases

In his memorandum No. 3987/10 addressed to you on 2nd April, 1940, Sir Rupert Briercliffe stressed the need for mass treatment campaigns against serious endemic diseases such as Yaws and Venereal Diseases and proposed that a scheme for the reduction of Yaws on the lines of the Sleeping Sickness Campaign should be devised, choosing one Province as an experiment in the first instance. It is suggested that Yaws and other diseases such as Malaria, Schistosomiasis, Guinea Worm and Tuberculosis could well be tackled by Epidemic Units operating in each Province, or in some cases groups of Provinces. Extensive outbreaks of Smallpox and Cerebro-Spinal Fever still ravage the country every year and it is essential that more should be done to combat these scourges than is at present possible. A series of Mobile Epidemic Units could do much very rapidly to remedy the defects in our organisation in this respect and in non-epidemic periods could be engaged in mass treatment of endemic diseases, vaccination and other general health activities, including nutrition surveys.

Eventually one such Health Epidemic Unit will be required for each Province, but at the outset and until experience has been gained and the reactions of the people gauged in the various areas Provinces may in some cases be grouped. Normally transport will be by lorry, but for the Cross River and Niger Delta where the incidence of Yaws is very high shallow draught river launches ought to be provided, while a deeper draught launch is required for Lagos-Sapele Creek. In all it is estimated that fifteen land and three

riverine units should be established at a capital cost of £110,000. Annual Recurrent Charges would be in the neighbourhood of £67,000.

12. Promotion of Rural Health

The position outlined in Sir Rupert Briercliffe's memorandum on the subject of Health Centres remains the same, but estimated costs should be increased to £15,000 Capital and £1,500 per annum Recurrent Expenditure. He wrote as follows:-

> "An important step in this direction would be to develop Native Administration Dispensaries into Health Centres. When the scheme for these dispensaries was originally put forward it was considered that a principal function of the dispensaries should be to spread a knowledge of health and hygiene among the rural population. This function however has never been realised and the dispensaries provide merely an inefficient type of medical relief which cannot permanently raise the level of the public health in the areas they serve. It is, therefore, desired to give a demonstration of health centre work by posting to each dispensary in one or two selected Provinces, a sanitary inspector and a midwife health visitor in addition to the dispensary attendant, and by placing the group of dispensaries under the close supervision of a Medical Officer trained and interested in the development of rural health work and of a Nursing Sister with maternity and child welfare experience.
>
> There are now about 340 Native Administration Dispensaries in Nigeria and the cost of carrying out the demonstration in a group of about 15 would be approximately as follows:-
>
> Capital outlay (including housing for Medical Officer, Sister, Sanitary Inspectors and Midwives) £12,500, recurrent expenditure £4,000 per annum."

In seeking to improve rural health the value of the cinema and other forms of mass education, preferably pictorial, have not been forgotten, particularly as the mobile health propaganda which was first established in 1936 met with immediate, outstanding and continued success. Provincial units will be required, but it would appear that the Public Relations Officer should undertake the responsibility of co-ordinating propaganda and, accordingly, no extra provision has been made herein. It is to be understood of course that the staff of the proposed Epidemic Units will play their full part in such activities.

13. Training of African Personnel

For the development of essential medical services it is evident that much more will have to be done towards extending and improving the training facilities for African Medical Officers locally. At the moment there are less than 200 doctors within and without Government service who are practising curative medicine, and this number must be multiplied ten-fold if more than the fringe of the problem is to be dealt with. It is not suggested that such a number should be actually employed by Government, but if Government is to assume responsibility for the rapid development of the country then it must be held responsible for providing more adequate medical training facilities than exist at present.

The findings of the Elliot Commission on Higher Education in West Africa are not yet to hand, but it seems likely that they may recommend a single medical school for West Africa, and it may well be that they will put forward the view that this should be elsewhere than at Yaba. Whatever the recommendation may be, it seems obvious that Nigeria requires a Medical School of its own, as, for the proposed hospital extensions alone, its anticipated requirements include an additional 56 Assistant (i.e. locally trained) Medical

Officers. This will bring the number employed in that cadre to approximately one hundred, but wastage is so high, due in the main to the anxiety of many of these officers to desert Government service for the more attractive and apparently lucrative field of private practice, that, allowing for the rejection of misfits, probably three times that number of students will have to be catered for in any one decade. With the reduction in Yaws which may be expected to follow intensive mass treatment campaigns, this trend may ease somewhat because of the resultant diminution in so-called "injection practices" which at present pay handsome dividends on investments in N.A.B. and similar remedies, but any such reduction is almost bound to be offset by the increasing demand for private maternity and surgical attendance. Writing in early 1940 upon this question, Sir Rupert Briercliffe envisaged a School which would serve all four West African Colonies and a preliminary plan of the buildings required for a new Medical Centre at Yaba was drawn up. It was then estimated that capital and recurrent costs were likely to amount to £350,000 over a ten year period, this sum to include the annually recurrent expenditure on the existing Medical School which at present amounts to about £6,000. The capital cost included the provision of a large hospital, but it seems probable that the 600 extra beds which it is proposed to provide in the Capital will suffice for general work. Special wards will be required, however, for sick children, treatment of eyes etc. and, in view of this, linked with the increase in building costs and the fact that the fate of the School has yet to be decided, the figure of £350,000 should stand. At this juncture it may be apt to observe that the question of removing the Medical School to some area outside the Colony must command most serious consideration: the Ibadan area would appear to offer a more favourable situation.

14. Pharmacy School

A Pharmacy School is needed in Northern Provinces as the Lagos School gives a course which is much too far advanced for students coming from the North. A small School, possibly in Zaria where a similar institution to that contemplated was closed down some years ago, is required, Where a two year course in dispensing would be given. It should suffice if the school admits 8 to 10 students a year and the course should be purely practical, omitting chemistry, physics and botany. The necessary teaching could quite well be carried out by a good African Dispenser. When qualified, these students would be employed as compounders in Native Administration Hospitals of the Northern Provinces and should also prove suitable for smaller hospitals in outlying districts, provided a supervising dispenser with a Lagos qualification is appointed to each Province to superintend their operations. Capital costs will be about £7,000 and recurrent charges, based on an average attendance of 10 students in each year, about £1,300.

15. Training of Nurses

The training of nurses although carried out to a uniform syllabus is somewhat haphazard at present and is normally conducted in all hospitals to which Nursing Sisters are posted. Greater efficiency and uniformity would be attained if special teaching schools were established in some of the larger hospital centres and, to provide for economy of teaching staff, these might well be situated in the same areas as Midwifery Schools, with the exception of Ilorin which does not offer the same scope for general hospital work. So far as Northern Provinces are concerned, Kano offers most adequate facilities for general training and in the South teaching centres could best be provided at Lagos, Ibadan, and at Aba. For female nurses hostels will be required, a most important consideration, and additional Sister-Tutors will be needed, as those engaged in the training of health visitors and midwives will be too busily engaged on district work on top of their other duties to undertake teaching responsibilities.

Capital Costs	...	£35,000
Recurrent Charges	...	£6,000.

16. Training of Midwives and Health Visitors

The proposal to post midwives to Native Administration Dispensaries and the expansion of Maternity Services generally calls for the early provision of training schools, which, for the present with the exception of Ilorin, should be situated in Southern Provinces. It has been suggested that among other places new Maternity Wards should be built at Ibadan and Aba and these towns offer ideal centres for the establishment of training depots. They have a further advantage in so far as training of health visitors is concerned, as facilities for the teaching of hygiene will be readily available.

There are at present two classes of Midwives. Grade I Midwives are given a course lasting at least two years at Lagos, Aba, Ilorin and Calabar, and teaching of this class of girl should continue in these areas. The present proposal to establish three large schools at Aba, Ibadan and Ilorin is mainly concerned with the training of health visitors who will receive a year's course in general nursing followed by the usual six months' teaching accorded to Grade II Midwives, which in turn will be followed by six months' training in general sanitation, child welfare and district work. It is most essential that well-conducted hostels should be established in these areas and at Lagos if well-educated girls of good family are to be attracted to the Service, and provision is included for such in the estimates, which further include provision for the appointment of four Lady Medical Officers and four Sister-Tutors for training purposes.

Capital Costs	...	£40,000
Recurrent Charges	...	£9,000

17. Training of Sanitary Inspectors

Schools for the training of Sanitary Inspectors are situated at Lagos, Kano and Ibadan, that at one time conducted at Umudike College having been closed down some years ago owing to shortage of accommodation, with the result that pupils from Eastern Provinces have to be sent to Ibadan for training, an undesirable feature which adversely affects recruiting. It is proposed to establish a new school for Native Administration Inspectors in Eastern Provinces at Aba at an estimated cost of £5,200, while in order to improve the quality of teaching in the other Schools and provide more adequate hostel accommodation at Ibadan and Kano, it is estimated that a further £10,000 is required - say £15,000 in all. Recurrent Expenditure will be at the rate of £1,200 per annum.

18. Summary of Recommendations

It is estimated that during the next fifteen years the following development schemes should be inaugurated and financial provision made as indicated:-

		Capital	Annually Recurrent
Addition to Government Hospital Services	...	£2,600,000	£275,000
Mental Institutions	...	300,000	30,000
Sanatoria	...	110,000	21,000
Maternity Hospitals	...	72,000	19,000
Mobile Epidemic Units	...	110,000	67,000
Rural Health Centres	...	15,000	1,500
Medical School	...	350,000	-
Pharmacy School in Northern Provinces	...	7,000	1,300
Training of Nurses	...	35,000	6,000
Training of Midwives and Health Visitors	...	40,000	9,000
Training of Sanitary Inspectors	...	15,000	1,200
		£3,654,000	£431,000

Approximate Total required over 10 years = £8,000,000

(**Note**: As these figures do not include provision for passages, pensions and increments the annually recurrent figure should be increased to at least £500,000 making the ten year total £8,654,000. F.E.V.S.)

G.B. WALKER

Ag. Director of Medical Services

12th September, 1944.

Appendix A.

Province.	Population (approx.)	Hosp. Centre.	Class of Hosp.	Beds existing.	Beds proposed	Addition.
Adamawa	700,000	Yola	B	36	180	144
		Jalingo	C	–	60	60
Bauchi	1,000,000	Bauchi	B	56	180	124
		Azare	C	43	60	17
		Gombe	C	–	90	90
		Katagum	C	–	60	60
Benue	1,000,000	Makurdi	B	[illegible]	180	101
		Keffin-Nasarawa	C	–	60	60
		Otukpo	C	–	60	60
		Katsina Ala	C	–	60	60
		Wukari	C	40	90	50
Bornu	1,200,000	Maiduguri	A	289	360	71
		Biu	C	–	90	90
		Geidam	C	–	90	90
		Nguru	C	–	60	60
		Dikwa	C	–	90	90
		Potiskum	C	–	60	60
Ilorin	600,000	Ilorin	B	46	180	134
		Kaiama	C	–	60	60
		Offa	C	–	90	90
		Lafiaji	C	–	60	60
Kabba	500,000	Lokoja	B	43	90	47
		Idah	C	40	90	50
		Okene	C	–	90	90
Kano	2,500,000	Kano	A	308	600	292
		Hadejia	C	36	60	24
		Kazaure	C	–	60	60
		Gwarzo	C	–	60	60
		Birnin-Kuda	C	–	60	60
Katsina	1,000,000	Katsina	A	244	300	56
		Daura	C		50	60
		Funtua	C		90	90
Niger	500,000	Minna	B	34	120	86
		Bida	B	70	90	20
		Alawa	C	–	60	60
		Abuja	C	–	60	60
		Kontagora	C	–	60	60
Plateau	600,000	Jos	A	122	180	58
		Barakin-Ladi	C	62	120	58
		Pankshin	C	62	90	28
		Kafanchan	C	34	90	56
		Wamba	C	–	60	60
Sokoto	2,000,000	Sokoto	A	116	360	244
		Gwandu Birnin Kebbi	C	10	90	80
		Gusau	C	25	90	65
		Zuru	C	–	60	60
Zaria	500,000	Zaria	B	155	180	25
		Kaduna	A	134	180	46
		Anchau	C	–	60	60

Abeokuta

Appendix A (Contd.)

- 2 -

Province	Population (approx.)	Hosp. Centre.	Class of Hosp.	Beds existing.	Beds proposed	Addition.
Abeokuta	500,000	Abeokuta	A	96	360	264
		Ilaro	C	-	90	90
Benin	500,000	Benin	B	35	120	85
		Asaba	C	-	60	60
		Auchi	C	-	60	60
		Agbor	C	29	60	31
Calabar	1,000,000	Calabar	A	132	180	48
		Eket	C	-	60	60
		Uyo	C	-	60	60
		Ikot Ekpene	C	68	90	22
		Opobo	C	28	90	62
Cameroons	400,000	Victoria	A	97	180	83
		Tiko	C	150	150	-
		Buea	C	5	60	55
		Mamfe	C	60	90	30
		Kumba	C	74	90	16
		Bamenda	B	110	110	-
		Banso	C	-	60	60
Ijebu-Ode	350,000	Ijebu Ode	B	68	180	112
		Shagamu	C	-	60	60
		Epe	C	-	60	60
Ogoja	750,000	Ogoja	B	35	90	55
		Abakaliki	C	16	60	44
		Ikom	C	-	60	60
		Obubra	C	31	60	29
		Afikpo	C	-	60	60
Ondo	500,000	Akure	B	41	120	79
		Ado Ekiti	C	-	60	60
		Ondo	B	-	120	120
		Ikere	C	-	60	60
		Okitipupa	C	-	60	60
Onitsha	1,100,000	Onitsha	B	63	180	117
		Enugu	A	72	180	108
		Nsukka	C	-	90	90
		Ihiala	C	-	90	90
Owerri	1,600,000	Port-Harcourt	A	130	180	50
		Aba	B	102	180	78
		Owerri	C	82	120	38
		Okigwi	C	76	120	44
		Umuahia	C	40	90	50
		Ahoada	C	-	60	60
		Degema	C	42	90	48
Oyo	1,400,00	Ibadan	A	151	360	209
		Oshogbo	B	60	120	60
		Ife	C	-	60	60
		Iseyin	C	-	60	60

Warri

Appendix A (Contd.)

Province.	Population (approx.)	Hosp. Centre	Class of Hosp.	Beds exist-ing.	Beds pro-posed.	Addition.
Warri	500,000	Warri	B	26	180	154
		Forcados	C	24	60	36
		Obetim	C	-	60	60
		Ughelli	C	-	60	60
		Sapele	B	31	90	59
Lagos Colony	350,000	Lagos	A	246	600	354
		Ikorodu	C	-	60	60
		Badagry	C	-	60	60
Nigeria	21,050,000	Whole Country	13A 19B 70C	4,284	11,880	7,596

R.A.A.

Appendix B.

Staff Expansion for Hospital Development Scheme.

3 Asst. Directors of Health Service @ £1,500 ...	£4,500
4 Specialists - 1 @ £1,500; 3 @ £1,300	5,400
8 Pathologists @ £660; £660; £660-30-840-40-1000; £1,050-50-1,200	5,280
Staff Pay @ £150	1,200
10 Senior Medical Officers @ £1,200-50-1,400	12,000
12 Medical Officers @ £660; £660; £660-30-840-40-£1,000 ...	7,920
40 Medical Officers @ £400-30-720	16,000
56 Asst. Medical Officers @ £160-20-300	8,960
4 Matrons @ £720	2,880
8 Senior Nursing Sisters @ £520-20-600; £630	4,160
15 Nursing Sisters @£350; £350; £400-20-480	5,250
5 Inspecting Radiographers @ £500-20-600	2,500
30 Asst. Radiographers @ £66-6-72; £80-8-128	1,980
40 Technical Assistants @ £48; £48; £54-6-72; £80-8-128	1,920
96 Dispensers @ £66-6-72; £80-8-128	6,336
20 Charge Nurses @ £240-12-300	4,800
1,300 Nurses @ £30; £30; £36-6-48; £48; £48-6-72; £80-8-128	39,000
500 Ward Servants @ £24-3-36	12,000
Cooks, Washermen etc.	6,500
Timekeepers & Attendants @ £18-3-36	5,400
Artizans (Carpenters, Disinfector Mechanics) and Tradesmen, Non-Pensionable Clerks & Typists @ £36-6-72	5,400
100 Motor Drivers @ £36-6-66	3,600
Labour	10,000
Drugs, Diets, Dressings etc.	100,000
	£273,046

ANNEXURE 4 .

SKETCH OF A TEN YEAR PLAN OF EDUCATIONAL DEVELOPMENT.

(Director of Education).

This plan is rigorously symmetrical in form as it must necessarily, at the present stage, be conceived in general terms. In consequence, it is highly arbitrary in relation to the actual course which development may be expected to follow. For instance, all primary schools are assumed to hold an equal number of pupils and to cost an equal amount to build. This will certainly not be the case in practice. To sketch the actual development would require a preliminary detailed survey of the whole country, region by region, and this we shall not be able to achieve for some considerable time. On the other hand, it is thought that a plan conceived in general terms, while ignoring local particulars, should give a rough notion of average costs on the basis of current wages and prices. This is the only basis on which we can attempt an estimate, though it is realised that money values may change considerably during the next ten years.

2. In considering the development of education - using this word for the present to denote formal schooling of various types and at various levels - it very soon becomes clear that we cannot divorce it, even in idea, from the general development of the country. Educational and general development are closely interlocked and bear directly on one another at all points. Moreover, it appears that all the Departments will have two urgent needs in common, first, many more Africans with a post-secondary education and, second, a very considerable increase in European staff to give the necessary technical training to these same Africans. Until these needs are met, no large development in any sphere will be possible. No doubt much of the European increase will be temporary, but it must loom large in any estimates for the next decade and its costs must be regarded as "capital expenditure".

3. As regards the Education Department, the "technical training' just mentioned will consist of the production of competent teachers, of which we are grievously short at all levels. The lack of efficient teachers has been our greatest weakness for many years, and educational expansion generally depends on removing this weakness. The training of teachers, then, and the provision of a broad post-secondary education - which all Departments as well as our own require - must be the first task of the Education Department. Perhaps the last clause should be qualified. The future of post-secondary education will depend on the recommendations of the Elliot Commission which are not yet available. It may very well be that this particular reach of Education will be removed from the control of our Department altogether. This possibility, and our utter ignorance of the form which the Commission's recommendations will take, make it impossible to sketch any plan for higher education. We are compelled, therefore, to leave the Higher College at Yaba out of our calculations, and we merely record that the rapid expansion of this institution, or of something related to it, is the pivot on which all else turns. At this point it may be very pertinently asked where the candidates for this institution are to come from. A much larger entry into Yaba (sic) - if the entrants are to be up to standard - surely requires an expansion of the secondary schools and this, in turn, depends upon a wide extension of primary education? This would be quite true if educational development were to be well-proportioned. Unfortunately, confronted as we are with urgent needs, we must acquiesce in bad proportions for a time or, to vary the metaphor, we must put excessive strain on one part of the machine while taking care that this strain is not so great as to cause a general breakdown. Now it appears that the Secondary Schools are best able to take the strain but on one indispensable condition - that they have a considerable increase in their European staff. The immediate necessity is not so much to extend the quantity of secondary education as to improve its quality. There is much good

human

human material in the secondary schools; their weakness lies in their inadequate staffs. Given good staffs, they may be able to provide young men for higher education in sufficient numbers to make general Development reasonably rapid.

4. This, of course, is far from being an ideal arrangement. It means applying a sudden and violent stimulus to the secondary schools, and especially to their upper classes, which is not altogether healthy and which will certainly not produce an ideal product. Worse still, it involves a temporary neglect of primary education which, in itself, requires a massive development. On the other hand it need not preclude the wide dissemination of a rude elementary education among the masses. Indeed, a spread of rudimentary education, even if this extends only to a modest vernacular literacy, appears to be necessary in order to secure a receptive Public for projects of Development. When we speak of neglecting primary education we mean the neglect of regularly constituted schools with properly trained staff. These must await the teachers which it is the business of the secondary schools and the Training Centres to produce. Their turn will come a little later.

5. The rudimentary education of the masses will, of course, require money. We have not attempted to estimate the cost, partly because a great deal of the work will have to be done - if it is to be done at all - by voluntary and unpaid labour, and partly because "mass education" is by no means the exclusive preserve of the Education Department.. It will require the co-operation of several Departments and thus should not be charged exclusively to the Education Vote. (In any case a firm estimate of the cost seems to be a sheer impossibility at the moment).

5A. We date the start of our development in 1946 for it seems unlikely that we shall obtain European staff - the sine qua non - before that year.. Given some 30 Europeans for the secondary schools, we assume that the latter will be able to produce 50 men a year during the ensuing decade for training as high grade teachers. (We put the number 50 as a constant because the secondary schools, with the requirements of other Departments pressing upon them, will probably not be able to produce more for us). It is assumed that our men will require a four-year course after leaving the secondary schools - three years to bring them up approximately to the standard of Intermediate Arts or Science and a further year of professional training. From 1950 Onwards, therefore, we should have an output of 50 high grade teachers per annum. These men will be used both to swell the staffs of the secondary schools, thereby allowing these to achieve a modest expansion, and also to staff centres for training <u>primary</u> teachers. The proportion of staff allocated to each of these two types of institution cannot be constant. It must vary from year to year as the number of <u>students</u> available for the Training Centres will depend in turn on the output of the secondary schools. It is a tricky business.

6. We assume that entrants to the Training Centres must have reached Class Middle IV in a secondary school, and that they will be given a professional course of two years. If, as seems probable, we can count on no substantial entry before 1952, we shall have our first batch of <u>primary</u> teachers ready for action in 1954. At the end of the first decade, therefore, and at the expense of much money and labour, we shall admittedly be in a position to provide an efficient <u>primary</u> schooling for only a mere fraction of the children but, on the other hand, we shall have created the machinery for a very rapid rate of expansion. Meanwhile, as had been already said, we hope for a considerable spread of rudimentary education among the masses, especially among adolescents and young adults.

7.

7. It will be observed that almost four-fifths of our total expenditure is devoted to buildings. We have allowed for permanent structures in every case and have assumed that these will be built as wholes, not constructed "piecemeal". Thus the building programme will be considerably in advance of the accommodation required for the pupils and this explains, for instance, the very high figure for building in 1955, the year in which we shall first be able to expand Primary Education on a large scale. Nevertheless, heavy though the cost may be, we judge this to be the most economical method of procedure in the long run. The value of this capital expenditure will be realised in the second decade.

8. It is perhaps superfluous to mention that the very high cost of building in this country is a grave menace to development in several Departments, but particuarly so for us. It is to be hoped that a cheaper way of efficient building will be discovered in the near future. (What about "pre-fabricated" schools?) In view of current costs our estimates probably err on the side of modesty. We have allowed £30,000 for a secondary school of 450 pupils, £5,000 for a primary school of 500 pupils, and £1,500 for a training centre with 100 students. The figure for training centres is low, perhaps too low, but it consisdered that many of these will be situated in rural areas and built of local meterials.

9. No distinction has been made in Buildings and Upkeep between institutions for boys and girls. Although their respective courses will be by no means identical, nor the accommodation and equipment which each will require, it is considered that there should be no great difference in the average costs.

10. Salaries have been estimated according to the current scales for Europeans and Africans alike, except that the women have been put at the same rates as the men. (The Nigerian Government at present has not a consistent policy in this matter). The African scales are those approved by the Board of Education, 1942. Undoubtedly these scales are excessive in relation to the cost of living in certain parts of the country. It is pretty clear, too, that on average they are higher than in Britain compared with the income per head of the population. On the other hand, it is impracticable to reduce the salaries of trained teachers, while leaving untouched those of other people with an approximate standard of general education and professional training; if salaries are considered excessive they must be scaled down in all the professions.

11. The figures given represent the cost of sheer expansion. They take no account of existing educational expenditure. It is impossible to give a true figure for the latter as much of the cost is borne by Native Administrations and by Missionary Societies from funds raised both in Europe and in this country. The amount contributed by Native Administrations is bound to depend on the tax percentage allocated to their use by Government, and this is not constant. With regard to the Missionary Societies, it is expected that their funds from Europe will diminish rather than increase after the war. Local contributions may increase, but the amount is quite uncertain. In view of this general uncertainty, it is thought best to ignore the possibility of increased contributions from non-Government sources and to assume that the cost of expansion must be borne by the Nigerian Government and the Colonial Development and Welfare Fund. It does not follow, of course, that Government will be the sole <u>agent</u> in undertaking this scheme of expansion, but it does mean that the funds will have to be provided by the Nigerian and British taxpayer. The estimate for Government expenditure on Education during the current year is nearly £500,000. Apart from expansion, therefore, Government total liabilities during the next decade will be about £5,000,000. We have estimated the cost of expansion at, roughly, another £5,000,000. If the whole cost were to be borne by the Nigerian

Government

Government, it would amount to about 10% of current revenue, that is, about double the present percentage of expenditure on education.

12. Educational Revenue is estimated over the total period at £62,700. This is based on the assumption that the secondary pupil will pay £2 per annum and the primary pupil 10/- per annum, on average. It may be noted that nearly half of the amount will be received in the last year. After that, if the payment of fees is to remain, income from this source will expand at a very rapid rate.

13. Technical equally with general education is closely interlocked with general development. The lines on which technical training should be conducted are at present the subject of active examination in consultation with the Acting Director of the West African Institute. Whatever decision may be reached by Government in this important matter, it is reasonable to suppose that it will not deviate in essence from the proposals now under review.

14. Subject to the foregoing reservation, it may be expected that the central features of the development of technical education will be the establishment of Arts and Crafts Teachers Training Colleges on the one hand and of factory-cum-workshops on the other.

15. It is proposed that students for the Arts and Crafts Colleges should be recruited on the basis of character and talent and that they receive their general education at the same time as they receive their training as craftsmen and teachers. These specialist teachers must be peak products and on the completion of their training would be posted to School Craft Centres. The Centres would be attached to a basic or elementary school equipped with the requisite buildings and apparatus to meet the needs of the ordinary teachers of the surrounding schools. The latter would attend the Craft Centres after school hours and during vacations in order to learn from the Specialist Art and Craft teachers and to absorb the working atmosphere of the Centres.

16. Those responsible for School Art and Craft education must collaborate closely with those controlling the factory-cum-workshops. In other words there must be an alliance between aesthetics and utility - a vital factor if the products of these organisations are to become specific, beautiful and marketable not only locally but throughout the rest of the world.

17. The educational principle underlying the establishment of the workshop - factories is that they are the producing centres of the artisan craftsmen, Whether these factories are to be run under the aegis of the West African Institute or under a specific Department of Government is a moot point. Suffice to say that the Department of Education will be concerned merely with the extension work. A special cadre of extension class teachers will be required since the functions of the factories will be not only technical training but the moulding of the character of the craftsmen. The objective is to train the latter to become self-respecting citizens, to form the creative backbone of Nigerian Society and to re-establish the ethical codes which are being lost by the illiterate peasantry on the one hand and by the professional and fonctionnaire classes on the other.

18. These developments will involve large capital expenditure and the employment of a considerable number of highly qualified specialist European staff. An attempt has been made to give an estimate of the probable cost in so far as the Department of Education is likely to be concerned. As already explained, these estimates do not include the cost of establishing workshop-factories or of their staffing apart from the Extension Service.

EDUCATION TABLE A. CAPITAL AND RECURRENT EXPENDITURE FOR 10 YEAR GENERAL PLAN.

Year	Capital Expenditure			Recurrent Expenditure (consolidated charges including permanent passages in case of staff				Totals.	
	Secondary	E. T. Centres	Primary	Expansion of existing staff (see Table D1)	Staff - new secondary (see Table C)	New staff H. T. Cs. and primary. (see Table D2 & 3)	Upkeep of schools etc.	Capital £	Recurrent £
1945	4 Schools £120,000	-	-	-	-	-	-	120,000	-
1946	-	-	-	48,000	19,200	-	3,000	-	70,200
1947	-	-	-	48,000	28,800	-	6,000	-	82,800
1948	-	-	-	48,000	41,600	-	9,000	-	98,600
1949	-	-	-	54,000	53,600	-	12,000	-	119,600
1950	-	-	-	54,000	60,520	-	15,000	-	129,520
1951	-	10 Centres £15,000	-	54,000	68,360	-	18,000	15,000	140,360
1952	-	10 Centres £15,000	-	54,000	74,032	10,288	24,000	15,000	162,320
1953	-	15 Centres £22,500	170 Schools £850,000	54,000	78,816	20,784	36,000	872,500	189,600
1954	-	15 Centres £22,500	170 Schools £850,000	66,000	87,568	60,032	53,550	872,500	267,150
1955	-	-	410 Schools 2,050,000	66,000	94,128	127,892	76,650	2,050,000	364,670
Totals	£120,000	75,000	3,750,000	546,000	606,624	218,996	253,200	3,945,000	1,624,820

TABLE C.

NEW SECONDARY SCHOOL STAFFS.

Salary Scales: EUROPEAN - £400, £400, £450; £500-25-600; £630; £690 - 30 - 840.

AFRICAN - £88-8-128; £160-10-220.

	SALARIES (ACTUAL)	£		CONSOLIDATED CHARGES (to cover salary, leave pay, passages, pensions, etc.)	£	
1946	24 Europeans @ £400	= 9,600	9,600	24 Europeans @ £800	= 19,200	19,200
1947	24 Europeans @ £400	= 9,600		24 Europeans @ £800	= 19,200	
	12 " " £400	= 4,800	14,400	12 " " £800	= 9,600	28,800
1948	24 Europeans @ £450	=10,800		24 Europeans @ £800	= 19,200	
	12 " " £400	= 4,800		12 " " £800	= 9,600	
	16 " " £400	= 6,400	21,000	16 " " £800	= 12,800	41,600
1949	24 Europeans @ £500	=12,000		24 Europeans @ £900	= 21,600	
	12 " " £450	= 5,400		12 " " £800	= 9,600	
	16 " " £400	= 6,400		16 " " £800	= 12,800	
	12 " " £400	= 4,800	28,600	12 " " £800	= 9,600	53,600
1950	24 Europeans @ £525	=12,600		24 Europeans @ £900	= 21,600	
	12 " " £500	= 6,000		12 " " £900	= 10,800	
	16 " " £450	= 7,200		16 " " £800	= 12,800	
	12 " " £400	= 4,800		12 " " £800	= 9,600	
	50 Africans @ £88	= 4,400	35,000	50 Africans @ £114.8/-	= 5,720	60,520
1951	24 Europeans @ £550	=13,200		24 Europeans @ £900	= 21,600	
	12 " " £525	= 6,300		12 " " £900	= 10,800	
	16 " " £500	= 8,000		16 " " £900	= 14,400	
	12 " " £450	= 5,400		12 " " £800	= 9,600	
	50 Africans " £96	= 4,800		50 Africans @£124.16/-	= 6,240	
	50 " " £88	= 4,400	42,100	50 " "£114.8/-	= 5,720	68,360
1952	24 Europeans @ £575	=13,800		24 Europeans @ £900	= 21,600	
	12 " " £550	= 6,600		12 " " £900	= 10,800	
	16 " " £525	= 8,400		16 " " £900	= 14,400	
	12 " " £500	= 6,000		12 " " £900	= 10,800	
	50 Africans @ £104	= 5,200		50 Africans @ £135.4/-	= 6,760	
	50 " " £96	= 4,800		50 " "£124.16/-	= 6,240	
	30 " " £88	= 2,640	47,440	30 " "£114.8/-	= 3,432	74,032
1953	24 Europeans @ £600	=14,400		24 Europeans @ £900	= 21,600	
	12 " " £575	= 6,900		12 " " £900	= 10,800	
	16 " " £550	= 8,800		16 " " £900	= 14,400	
	12 " " £525	= 6,300		12 " " £900	= 10,800	
	50 Africans " £112	= 5,600		50 Africans @ £145.12/-	= 7,280	
	50 " " £104	= 5,200		50 " "£135.4/-	= 6,760	
	30 " " £96	= 2,880		30 " "£124.16/-	= 3,744	
	30 " " £88	= 2,640	52,720	30 " "£114.8/-	= 3,432	78,816

				£				£
954	24	Europeans	@ £630 =	15,120	24	Europeans	@ £1,100 =	26,400
	12	"	" £600 =	7,200	12	"	" 900 =	10,800.
	16	"	" £575 =	9,200	16	"	" 900 =	14,400
	12	"	" £550 =	6,600	12	"	" 900 =	10,800
	50	Africans	" £120 =	6,000	50	Africans	" £156 =	7,800
	50	"	" £112 =	5,600	50	"	" £145.12/- =	7,280
	30	"	" £104 =	3,120	30	"	" £135.4/- =	4,056
	30	"	" £ 96 =	2,880	30	"	" £124.16/- =	3,744
	20	"	" £ 88 =	1,760	20	"	" £114.8/- =	2,288
				57,480				87,56
1955	24	Europeans	@ £690 =	16,560	24	Europeans	@ £1,100 =	26,400.
	12	"	" £630 =	7,560	12	"	" £1, 00 =	13,200
	16	"	" £600 =	9,600	16	"	" 900 =	14,400
	12	"	" £575 =	6,900	12	"	" 900 =	10,800.
	50	Africans	" £128 =	6,400	50	Africans	" £166.8/- =	8,320
	50	"	" £120 =	6,000	50	"	" £156 =	7,800.
	30	"	" £112 =	3,360	30	"	" £145.12/- =	4,368
	30	"	" £104 =	3,120	30	"	" £135.4/- =	4,056
	20	"	" £ 96 =	1,920	20	"	" £124.16/- =	2,496
	20	"	" £ 88 =	1,760	20	"	" £114.8/- =	2,288
				63,180				94,12

TABLE D(i)

Expansion of Existing Secondary Schools and Administrative Staff. 30 Europeans for each.

Salary Scales - £400, £400, £450 £500-25-600; £630 £690-30-840

	SALARIES (ACTUAL)	CONSOLIDATED CHARGES (to cover salary, leave pay, passages, pensions, &c.)
1946	60 Europeans at £400 = 24,000	60 Europeans at £800 = £48,000
1947	60 Europeans at £400 = 24,000	60 Europeans at £800 = £48,000
1948	60 Europeans at £450 = 27,000	60 Europeans at £800 = £48,000
1949	60 Europeans at £500 = 30,000	60 Europeans at £900 = £54,000
1950	60 Europeans at £525 = 31,500	60 Europeans at £900 = £54,000
1951	60 Europeans at £550 = 33,000	60 Europeans at £900 = £54,000
1952	60 Europeans at £575 = 34,500	60 Europeans at £900 = £54,000
1953	60 Europeans at £600 = 36,000	60 Europeans at £900 = £54,000
1954	60 Europeans at £630 = 37,800	60 Europeans at £1,100 = £66,000
1955	60 Europeans at £690 = 41,400	60 Europeans at £1,100 = £66,000

TABLE D2.

NEW E.T.C. STAFFS.

Salary Scales: EUROPEAN - £400, £400, £450, £500-25-600; £630, £690-30-840.

AFRICAN - £88-8-128; £160-10-220.

	SALARIES (ACTUAL)	£		CONSOLIDATED CHARGES (to cover salary, leave pay, passages, pensions etc.)	£	
1952	10 Europeans @ £400 =	4,000		10 Europeans @ £800 =	8,000	
	20 Africans @ £88 =	1,760		20 Africans @£114.8/- =	2,288	
			5,760			10,288
1953	10 Europeans @ £400 =	4,000		10 Europeans @ £800 =	8,000	
	20 Africans @ £96 =	1,920		20 Africans @£124.16/- =	2,496	
	10 Europeans @ £400 =	4,000		10 Europeans @ £800 =	8,000	
	20 Africans @ £88 =	1,760		20 Africans @£114.8/- =	2,288	
			11,680			20,784
1954	10 Europeans £ £450 =	4,500		10 Europeans @ £800 =	8,000	
	20 Africans @ £104 =	2,080		20 Africans @£135.4/- =	2,704	
	10 Europeans @ £400 =	4,000		10 Europeans @ £800 =	8,000	
	20 Africans @ £96 =	1,920		20 Africans @£124.16/- =	2,496	
	15 Europeans @ £400 =	6,000		15 Europeans @ £800 =	12,000	
	30 Africans @ £88 =	2,640		30 Africans @£114.8/- =	3,432	
			21,140			36,632
1955	10 Europeans @ £500 =	5,000		10 Europeans @ £900 =	9,000	
	20 Africans @ £112 =	2,240		20 Africans @£145.12/- =	2,912	
	10 Europeans @ £450 =	4,500		10 Europeans @ £800 =	8,000	
	20 Africans @ £104 =	2,080		20 Africans @£135.4/- =	2,704	
	15 Europeans @ £400 =	6,000		15 Europeans @ £800 =	12,000	
	30 Africans @ £96 =	2,880		30 Africans @£124.16/- =	3,744	
	15 Europeans @ £400 =	6,000		15 Europeans @ £800 =	12,000	
	30 Africans @ £88 =	2,640		30 Africans @£114.8/- =	3,432	
			31,340			53,792

TABLE D3.

New Primary Schools Staffs.

Salary Scale: £36 - 6 - 72.

		£			£	
1954	500 Africans @ £36 =	18,000		500 Africans @ £46.16/- =	23,400	
1955	500 Africans @ £42 =	21,000		500 Africans @ £54.12/- =	27,300	
	1,000 " " £36 =	36,000		1,000 " " £46.16/- =	46,800	
			57,000			74,100

TABLE E.

Cost of Upkeep.

Secondary Schools (four)

1946.	3 Cl. I each school	3,000
1947.	3 Cl. I, 3 Cl. II	6,000
1948.	3 Cl. I, 3 Cl. II, 3 Cl. III	9,000
1949.	" " " 3 Cl. IV	12,000
1950.	" " " " 3 Cl V	15,000
1951.	" " " " " 3 Cl. VI	18,000
1952.	" " " " " "	18,000
1953.	" " " " " "	18,000
1954.	" " " " " "	18,000
1955.	" " " " " "	18,000

E.T.C.s

1952.	10 centres one class each at 600 p.a.		6,000
1953.	10 " " " " " " "	6,000	
	10 centres two classes each at 1200.	12,000	18,000
1954.	20 centres at 1200	24;000	
	15 centres at 600	9,000	33,000
1955.	35 centres at 1200	42;000	
	15 centres at 600	9,000	51,000

Primary Schools.

1954.	170 Schools (3 Cl.I each) at 15 p.a. each school		2,550
1955.	170 schools at 15	2;550	
	170 schools at 30 (3 Cl.I 3 Cl. II)	5,100	7,650

TABLE F.

Estimated Revenue from Fees.

Four Secondary Schools (25 pupils in a class)

1946.	3 Cl. I each school at £2 p.a. per pupil		600
1947.	3 Cl. I, 3 Cl. II		1,200
1948.	3 Cl. I, 3 Cl. II, 3 Cl.III,		1,800
1949.	3 Cl.I, 3 Cl.II, 3 Cl.III, 3 Cl.I .		2,400
1950.	3 Cl.I, 3 Cl.II, 3 Cl. III, 3 Cl. IV, 3 Cl. V		3,000
1951.	" " " " " 3 Cl. VI		3,600
1952.	" " " " " "		3,600
1953.	" " " " " "		3,600
1954.	" " " " " "		3,600
1955.	" " " " " "		3,600

Primary Schools. (35 in a class)

1954.	170 schools 3 Cl. I each at 10/- p.a. per pupil		8,925
1955.	" " " " " " "	8,925	
		17,850	26,775

Totals for

1954. Primary and Secondary schools	12,525
1955. " " " "	30,375
Grand Total over the whole period	63,700

TABLE G.

Technical Education for 10 years

Year.	Capital Expenditure.		Recurrent Expenditure.				Totals.	
	A.&.C.Tr. Colleges £	Craft Centres. £	A.&.C.T.C. Staff. £	C. Centres Staff £	Upkeep. A.&.C.T.Cs. £	Upkeep. C.Cs. £	Capital £	Recurrent £
1945	3 Colleges. 60,000	–	–	–	–	–	60,000	–
1946	–	–	19,818	–	10,500	–	–	30,318
1947	–	–	20,190	–	10,500	–	–	30,690
1948	–	–	20,562	–	10,500	–	–	31,062
1949	–	–	20,934	–	10,500	–	–	31,434
1950	–	6 Centres. 18,000	21,306	–	10,500	–	18,000	31,806
1951	–	18,000	21,678	1,440	10,500	3,000	18,000	36,618
1952	–	18,000	22,050	2,970	10,500	6,000	18,000	41,520
1953	–	18,000	22,407	4,590	10,500	9,000	18,000	46,497
1954	–	18,000	22,764	6,300	10,500	12,000	18,000	51,564
1955	–	18,000	23,121	8,100	10,500	15,000	18,000	56,721
Totals.	60,000	108,000	214,830	23,400	105,000	45,000	168,000	388,230

Total Capital	£168,000
Staff	238,230
Upkeep	150,000
	£556,230

Note Consolidated charges for staff not included.

Annexure 5

NIGERIA. TELECOMMUNICATION DEVELOPMENT

I. Telegraphs and Telephones

1. General. The existing Telegraph and Telephone routes are shown on Map A. 4 Except for the routes Lagos-Oshogbo, Zungeru-Kano and Port Harcourt-Enugu (all reconstructed fairly recently) and Enugu-Kaduna (completed in 1927) all these routes consist of light poles, having been built originally to carry two or three telegraph wires. Only minor strengthening of some routes has been undertaken to enable them to carry additional wires for trunk telephones.

2. Telegraphs. Most of the telegraph circuits on the main routes are superimposed on telephone channels and this method in some form or another will continue so that it is unlikely that any new telegraph lines will be built. Where telegraphy only is required a wireless station will provide the facilities most economically; unless an existing route runs close by. In any case new land-line telegraphs will not be expensive and need not be specially considered. An increase in the number of telegraph channels on main routes and the introduction of teleprinters is referred to in para.10 below.

3. Telephone Trunk Mileage. The existing telephone trunk system is only a skeleton. On the main routes Oshogbo-Kano, Oshogbo-Ilesha and Onitsha-Enugu there are two pairs of wires and on the routes Lagos-Oshogbo, Port Harcourt-Enugu, Aba-Calabar three or four; all others are single pairs. It may not be out of place to compare the total trunk telephone mileage in Nigeria (7,248 in 1943) with that of say Scotland which rose from 74,370 in 1925 to 296,673 in 1938. (The corresponding figures for U.K. are 769,621 and 3,763,064). It is not suggested that we should attempt to give Nigeria a trunk telephone system even approaching that of the United Kingdom in 1925, but when the distances involved in Nigeria are considered it will be realised that an efficient trunk telephone system will require a very large increase in effective wire mileage.

4. Repeaters, Zone and Group Centres. There is a limit to the length of wire (according to gauge of wire used) beyond which speech becomes impossible without "repeaters" (speech amplifiers) and according to various factors which have to be taken into account a point is reached where it is cheaper to use repeaters than to increase the gauge of wire. To use these economically it is necessary to divide the area to be served into Zones, sub-divided into Groups; provide "Zero-loss" trunks between Zone centres (which can best be obtained by use of "Carrier") and limit the loss between Zone and Group centres and minor exchanges. Speech from any exchange in one Group to any exchange in another Group whether in the same or another Zone thus becomes possible. In order that Nigeria may be connected to the International Telephone System it will be necessary to guarantee a certain "speech-level" for all outgoing calls and this can most effectively be done at one of the Zone Centres.

5. Carrier. In addition to the economies effected in the cost of overhead plant by repeaters, economies may also be effected by the use of "carrier" equipment which provides three additional telephone speech channels on the same pair of wires. Proposals have already been made to instal this apparatus on the Lagos-Oshogbo, Oshogbo-Kaduna and Oshogbo-Enugu routes. Eighteen additional telegraph channels can also be provided at little additional cost, by sacrificing one of the extra telephone channels but if more channels are required the whole route requires reconstruction before a second "carrier" line can be installed. Carrier circuits are more reliable for long distance telephony than ordinary physical circuits.

6. Use of Wireless. It is not possible in the short time available to say whether in all cases wireless will be more economical than land lines. The capital cost of the former is considerably lower than the latter for any distance over which 12 miles of the new route is required but the maintenance costs are higher and if there is likely to be development and connection is required to the main trunk system, a trunk line may prove to be justified. Wireless has the advantage of greater flexibility and for this reason it may be economical to instal it initially.

7. Economical Development. The object of these introductory remarks is to show that economical telephone development in a country where the distances involved are more than say 200 miles is not just a matter of erecting wires between two towns, but requires careful planning. The existing system has, so far as funds have allowed, been based on three Zone Centres at Oshogbo, Kaduna and Enugu with group centres at Lagos, Ibadan, Jos and Aba. It may be necessary to increase the number of Zone centres later and it will certainly be necessary to increase the number of Group centres. The proposals now being made should not however be regarded as final. Considerable modification may be necessary when there has been time to study them in detail.

8. New Construction. Map4B shows the new trunk lines and Wireless Stations necessary to make telephonic communication possible between the Central Secretariat, Chief Commissioners and Residents, between Residents and Administrative Officers, between Heads of Departments and the Departmental officers in the Provinces, and all immediate commercial requirements. The map does not show all the minor lines which may be necessary when Departmental requirements are fully known.

9. Telephone Traffic Requirements. A sufficient number of inter-Zone and Zone to Group trunks must be provided to give reasonably prompt service on the "control" system. ("On demand" and "no delay" system will be installed in areas where justified by revenue) and tentative suggestions for new Zone and Group centres are given in Map B. Reconstruction of the route Lagos-Oshogbo or the provision of coaxial cable for multi-channel carrier should be provided for.

10. Telegraph Traffic Requirements. Additional telegraph channels are required on the main routes and these can most economically be provided by carrier equipment, and the introduction of teleprinter working will still further speed up the disposal of traffic and increase the revenue earning capacity of each line.

11. Improved Local Telephone Service. An essential feature of an efficient trunk telephone service is an efficient local service so that subscribers can be connected to trunks without delay and speech efficiency be maintained throughout. Provisions for the conversion of the larger exchanges to automatic and improvement in equipment at more remote stations is therefore made.

12. Capital Cost. In attached Schedule I an approximate estimate of the Capital Cost of these proposals is outlined. For reasons given above it cannot be a close estimate of the final scheme and prices of copper wire, steel poles, etc. vary considerably. The rates shown should however cover reasonable contingencies. Buildings which are an essential part of this development are also included.

13. Revenue from Trunks. The revenue to be expected from these new trunks is extremely difficult to estimate. The capital cost of existing trunks (mostly built when labour was cheaper and on pole routes already erected for telegraphs) is about £150,000 and maintenance and operating costs are approximately £7,000 p.a. In 1943/44 cash revenue was £14,000 and the equivalent revenue for official calls about £15,000 but up to the present long distance

trunks have not been available for use (c.f. paras. 4 and 5 above). There is also some additional revenue to be expected from new subscribers who ask to be connected because of trunk facilities.

14. Number of Calls. About fifteen calls a day are required to meet maintenance and depreciation costs of a trunk line built on existing poles up to about 50 miles long and rather more than this for longer trunks. About three times that number of calls a day would be required to justify a new pole route on commercial grounds. Many of the new trunks asked for in the Northern Provinces would not therefore be revenue producing but those in Western and Eastern Provinces should at least pay for themselves.

15. Revenue and Recurrent expenditure. Schedule II attached gives a very approximate estimate of annually recurrent expenditure and revenue to be derived from the proposals. Only cash revenue is shown as no charge is made to other Departments, and it is of course quite impossible to indicate the saving in time and other benefits which the country as a whole will receive from an efficient telecommunication system. The Schedule also shows the additional European staff (included in annually recurrent expenditure) which will be required.

16. Construction and Installation Staff. About 2,500 miles of new route, 2,300 miles of new wire on existing routes and 1,000 miles of reconstruction will be required. This will keep three construction gangs busy for ten years; four construction Engineers will be required - to allow for leave. One installation Engineer will be required for automatic telephones (possibly provided by the manufacturers) and one Wireless installation Engineer for radio telephone work. Maintenance staff can undertake the other installation work and construction gangs will be recruited locally. Buildings will presumably be done by the Public Works Department.

II. Postal and General Development

17. Headquarters' Office. It is necessary to provide adequate accommodation to house the whole of the headquarters' staff in one building. At present the Chief Accountant is separated from the rest of the staff and occupies space required for expansion of the Lagos G.P.O.

18. New Post Offices. Many of the existing post offices are temporary mud-huts or at best semi-permanent buildings in various stages of decrepitude. The permanent buildings at the larger towns are in many cases too small and inadequate for reasonably efficient service. New offices are also required for growing public demands.

19. Quarters. Permanent quarters are required for African staff who in many cases have to live in temporary bush huts or in the town at some distance from their offices. Quarters will also be required for additional European Staff.

20. Motor Vans. With the increasing use of Air Mails there will be a demand for prompt delivery of all mails from the centres served by the main and internal services. Details of the scheme will have to be worked out and the comparative cost and reliability of running departmental vehicles or putting the work out to contract considered. This cannot be done until the post-war arrangements and the amount of traffic are known. The figure given in the estimate is for 60 mail vans at £250.

21. Travelling Post Offices. Travelling Post Offices on the through trains would give postal facilities at many way-side stations and should bring in some extra revenue.

22. Modern Postal Fittings. Most of the sorting arrangements at all Post Offices are out-of-date and inadequate. Modern sorting facilities, adequate private letter boxes etc. will speed up the handling of mails, give greater reliability and generally improve the service to the public.

23. Capital Cost. Schedule III gives the capital cost of those proposals. There should be no additional recurrent expenditure: extra revenue cannot be accurately forecast.

J.A. GUNDRY

17.9.44 for P.M.G.

Schedule I.

Telecommunication Development, Capital Cost.

		£
Oshogbo Zone	250 miles new pole route @ £140 a mile	35,000
	30 " 100 lb pr. on existing route @ £30 a mile	900
	180 " 200 " " " " " @ £42 " "	7,560
	Reconstruction Oshogbo-Akure	3,600
	Repeaters, Trunk equipment, power plant etc.	500
	3 Radio telephone sets @ £600	1,800
	New Telephone Exchanges	3,000
Benin Zone	250 miles new pole route @ £140 a mile	35,000
	15 " 100 lb pr. on existing route @ £30 a mile	450
	300 " 200 " " " " " @ £42 " "	12,600
	Repeaters, Trunk equipment, power plant etc.	1,200
	Reconstruction Benin-Asaba, Lokoja-Baro	5,000
	3 Radio telephone sets @ £600	1,800
	New telephone Exchanges	4,000
	Radio link Warri-Burutu	5,000
Kaduna Zone	180 miles new pole route @ £140 a mile	25,200
	530 " 200 lb pr. on existing route @ £42 a mile	22,260
	Repeaters, Trunk equipment, power plant etc.	1,600
	Overhaul Zungeru-Kaduna	1,000
	12 Radio telephone sets @ £600	7,200
	New Telephone Exchanges	1,000
Kano Zone	330 miles new pole route @ £140 a mile	46,200
	245 " 200 lb pr. on existing route @ £42 a mile	10,290
	Repeaters, Trunk equipment, power plant etc.	1,200
	2 Radio telephone sets @ £600	1,200
	New Telephone Exchanges	3,000
Enugu	900 miles new pole route @ £140 a mile	126,000
	500 " 100 lb pr. on existing route @ £30	15,000
	620 " 200 " " " " " @ £42	26,040
	Repeaters, Trunk equipment, power plant etc.	4,000
	Reconstruction various	3,000
	+ 8 Radio telephone sets @ £600	4,800
	New Telephone Exchanges	5,000
Aba Zone	300 miles new pole route @ £140 a mile	42,000
	280 " 100 lb pr. on existing route @ £30	8,400
	200 " 200 " " " " " @ £42	8,400
	Trunk equipment, power plant etc.	1,000
	Overhauls various	2,000
	+ 8 Radio telephone sets @ £600	4,800
	New telephone Exchanges	4,000
	River Cables	2,000
Cameroons Zone	50 miles new pole route @ £140 a mile	7,000
	40 " 200 lb pr. on existing route @ £42	840
	+14 Radio telephone sets @ £600	8,400
	New Telephone Exchanges	1,000
	General Development to Plantations	5,000
New routes (local lines) to outlying departmental offices		20,000
Telephones for Government officials at all stations		20,000
Conversion of larger exchanges to automatic		100,000
Teleprinters		10,000
Multi-channel telegraphs on main lines		12,000
	Carried forward	£678,240

+ Not all shown on map as position uncertain

Schedule 1 (contd.)

INTER-ZONE TRUNKS.

	£
Brought forward	678,240
Carrier Equipment Lagos-Kaduna & Lagos-Enugu (Telephone only)	22,000
Additional Carrier Equipment for Benin, Kano & Aba Zones	17,000
Trunk Line Kaduna-Enugu, 450 miles two pairs @ £60	27,000
Additional Carrier Equipment for Kaduna-Enugu	7,000
Completion of reconstruction Akure-Benin	5,000
Radio-telephone link Buea-Enugu	5,000

CONNECTION TO INTERNATIONAL TELEPHONE SYSTEM.

Reconstruction Lagos-Oshogbo and additional carrier equipment	15,000
Telephone Wireless Station Lagos	30,000

ESSENTIAL BUILDINGS FOR DEVELOPMENT.

Extension of Lagos Workshop	5,000
Technical School, Kaduna	2,000
" " Enugu	2,000
Extension of Technical School Lagos	1,000
Stores, Apapa	15,000
" Port-Harcourt & Kaduna	10,000
Buildings for Carrier Equipment Repeaters etc.	20,000
Telephone Exchange Buildings (where no Post Offices)	2,000
Building for Wireless installations	23,000
Total =	886,240

SCHEDULE II.

TELECOMMUNICATION DEVELOPMENT.

Recurrent Expenditure and Revenue.

Description	Capital Cost.	Estimated Revenue	Recurrent Expenditure	Remarks.
1. Oshogbo Zone Development	52,360	3,000	1,000	Revenue figures are based on assumption that there will be 5-15 calls a day on trunks; and on rentals from new subscribers. Potential revenue would be 10 times this figure if all trunks were fully used. Expenditure includes 2 Telegraph Engineers, African Inspectors, Linemen, operators; transport allowances, maintenance, fuel for wireless stations.
2. Benin " "	65,050	4,000	1,200	
3. Kaduna " "	58,260	2,000	3,000	
4. Kano " "	61,890	3,000	1,200	
5. Enugu " "	183,840	6,000	4,000	
6. Aba " "	72,600	6,000	3,000	
7. Cameroons" "	22,240	2,000	5,000	
8. Telephones to Government officials at all stations	20,000	nil	500	
9. Long lines to Deptl. offices	20,000	nil	500	
10. Conversion to Automatic telephones.	100,000	?	nil	4 European Inspectors required to set off against saving in operators.
11. Teleprinters	10,000	?	4,000	Includes 4 Teleprinter mechanics.
12. Multi-channel Telegraphs	12,000	?	1,500	Includes 1 Telegraph Engineer. The revenue from items 9-11 is problematical and cannot be stated in figures. If traffic demands grow the conversion will be justified by the increased revenue.
.Inter-Zone Trunks	83,000	4,000	3,000	Includes 4 Telephone Exchange Supts.
14. Connection to International Services	45,000	6,000	4,000	Includes 2 Shift Engineers and 2 Operators
15. Buildings	80,000			
	886,240	36,000	31,900	
	Postal & General.			
16. Buildings etc.	591,000	-	-	

SCHEDULE III.

Postal & General, Capital Cost.

		£
Headquarters Office		57,000
New Post Offices		300,000
Quarters for African Staff		150,000
Quarters for additional European Staff		32,000
Motor Mail Vans		15,000
Garages for Mail Vans		3,000
Railway Travelling Post Offices		24,000
Modern Postal Fittings		10,000
	Total	£591,000

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ANNEXURE 6

PROVISION OF STAFF FOR RURAL AND REGIONAL PLANNING

J.N. OLIPHANT, ADVISER ON RURAL DEVELOPMENT

If the best use is to be made of the money to be provided for development a great deal of detailed planning and supervision will be required. The planning will be largely concerned with the welding together, to form coherent and detailed plans applicable to particular areas, of the miscellany of projects, proposals and suggestions advanced in more general terms by the technical departments and other specialist agencies; while the supervision will be needed to ensure that these 'area' plans are properly carried out. Hitherto most of the planning done has been departmental: a road has been built, a water supply provided, without much regard to the repercussions that any such developmental work will set up, such as movement of population to enjoy the new facility, ribbon development and so on. The need for integrated planning, in which all the various departmental and other agencies affected by these repercussions will participate, is beginning to be appreciated; but what is not so clearly appreciated is that integrated planning (and the supervision needed in translating integrated plans into action) is a new field of endeavour, apart from one or two experiments like the Sleeping Sickness Settlement Scheme at Anchau; and that a special organisation and special personnel must be provided de novo to deal with it.

2. There seems to be no prospect of the Nigerian Government being financially in a position to meet this requirement, and it is suggested that the C.D.C. be asked to provide development staff over a transitional period of, say, 15 years as a corollary to the provision of funds for developmental works that are likely to be spread over approximately the same period. After that period it is hoped that a sufficiency of African personnel will have been trained for the work to be capable of taking it over to a large extent.

3. The P.D. Committees recently constituted have done much valuable preliminary work, but their functions are deliberative rather than executive, and some of them have begun to feel that it is futile to proceed with the elaboration of plans until such time as executive personnel becomes available to put them into effect; while the Administrative Service, which is best qualified to organise planning, is at present so short-handed and so pre-occupied with other essential work as to be quite incapable of taking on anything more.

4. The plans required will be of various types, from the large regional plan - an outline affair into the framework of which more detailed projects will be fitted as they mature - to the small nuclear, or model, rural development plan covering an area that may be as small as a single village. All types of plan will call for much detailed study and collection of data on the spot by the planning staff, as well as by representatives of the departments involved, whose activities will need co-ordinating. It is for such co-ordination, and for most of the executive work of putting plans into action, that staff is needed. In the Northern Provinces the small rural development plan is likely to be the rule, and the initial aim is to get a small-scale model scheme of this kind, more or less self-contained, into operation in a selected area in each Emirate.

5. One of the biggest difficulties lies in the fact that planning calls for experience of local conditions and native usages that

cannot be expected of newly recruited personnel: it must be at least <u>directed</u> by experienced officers, and the only possible solution seems to consist in the early recruitment of auxiliary officers who will 'devil' for the directive staff and, by relieving them of routine, enable them to give adequate attention to planning work.

5. Generally, the limiting factor in planning is lack of personnel and not lack of money: for example, in the Northern Provinces, one and a third of a million pounds of Development Reserves of the Native Authorities would be immediately available for the finance of the initial schemes proposed for each Emirate if the staff were there to prepare the plans and, what is even more important, to supervise their execution, at least in its early phases. European staff is rightly regarded as essential for this supervision, though from the outset African assistants should be trained to take over such duties. One task with which Africans at the present stage could not reasonably be expected to cope is the organisation of team-work by European provincial officers of the technical departments, to whom the idea of integrated planning is comparatively new.

6. The need for dependable European assistants, not necessarily possessing technical qualifications or specialised knowledge or experience, will also be acutely felt in the technical departments, whose supply of fully qualified recruits is bound to exiguous for some time to come, and until the machinery for technical training returns to normal. Men of good background and general education - not necessarily acquired at a University or public school: war itself is a great educator - and of assured integrity would be invaluable during and even after the period of transition from war-time to peace-time conditions, for carrying out duties that call only for intelligence, honesty and ability to follow simple instructions.

7. It has been suggested by the Chief Commissioner of the Northern Provinces that men of the right type should be obtainable from among the officers and N.C.Os. now serving with the Nigeria Regiment and that there are many who would like to make their future career in West Africa. As he points out, it is clearly preferable to choose men who are already aware of the conditions to which they would be coming than those who might, after experience, find the life uncongenial. It is certainly desirable to limit the field of selection as far as possible to candidates with some experience in the tropics, though otherwise it would seem unnecessary to lay down too hard and fast rules as to the source of supply.

8. Recruitment of what must inevitably be rather a scratch team of officers - using the term in no derogatory sense - for work that, in the long run, must be devolved on African personnel, presents obvious difficulties. The salary must be attractive, but at the same time not so attractive, having regard to other conditions of service (particularly security of tenure), as to arouse jealousy in the long-term permanent establishments. There should be scope for eventual absorption into those establishments, at a level fair to all concerned, of men whose innate ability has triumphed over any deficiencies in their educational equipment or training; and <u>per contra</u> there should be machinery for getting rid of those who prove unsuitable without undue hardship or the attachment of any stigma that would prejudice them in obtaining other employment.

9. This last requirement seems to rule out the device of efficiency bars, failure to pass which inevitably carries some slur. Probably the most suitable arrangement would be three successive agreements for, say, two, four and seven year periods respectively, at the expiry of any of which Government could refuse to renew without giving reasons. The first period would enable obvious misfits to

be weeded out expeditiously, while the second would eliminate others not so obviously short of the mark: towards the end of the third period, at latest, it should be clear whether the man has sufficient ability, or has acquired experience sufficiently valuable to Government, to justify his absorption in the permanent establishment, and if the answer is negative he is presumably not worth further retention.

10. On the whole, I think that it would be inadvisable to make the posts pensionable, but all officers leaving on expiry of agreement should receive a gratuity comparable with that for which an officer on the permanent establishment is eligible in the event of premature retirement on medical grounds. In addition there should, in my opinion, be a contributory provident fund on the lines of the one maintained for Government servants in India, under which the accumulated contributions are withdrawable on the officer's retirement. The Government contribution might be ten per cent of salary, while the officer should contribute a minimum of 6¼% or, at option, up to 12½%. Leave and passage privileges should be the same as those enjoyed by the permanent establishment.

11. The proposed cadre, at full strength, should consist of at least 100 officers, to be designated Development Officers. They might be recruited in three batches of 35, 35, and 30, starting in the fiscal year 1945-46. Provisionally 30 of the 100 officers would be assigned to duties under the Administrative Service in the Northern, and 40 in the Southern Provinces; while 30 would be seconded to the Departments according to their special aptitudes and experience.

12. The incremental scale proposed is:- £500-15-530-20-590-30-800.

13. The actual cost of these proposals will take some time to prepare in detail, but on the assumption that the enlistments will be made on the basis set out above, and that the scheme covers 15 years, the cost of salaries, passages, etc. will be approximately £1,200.000. It is assumed that housing will be provided by the Native Administrations, and local travelling expenses either by the Native Administrations or the Nigerian Government.

Annexure 7.

REPORT ON TOWN PLANNING IN NIGERIA.

Preface.

What pattern is Nigerian development likely to follow? How may Town Planning help to adjust the lines of the people so that they move happily from one pattern to another?

Good town planning should be considered as an instrument, a sort of shoehorn that eases on a difficult new shoe. It is neither fierce nor will-imposing but an art which like every other art flowers through understanding and love, giving poetic significance to what is practical. This quality must be established at the outset: it cannot easily be added in later development.

Report.

The report is dealt with under the following heads:-

1. The planning of villages.
2. The planning of towns.
3. The planning of communications.
4. Organisation of planning.
5. Estimates.

1. Village Planning.

The aim of village planning should be to make villages more attractive and workable so that, in this predominantly agricultural country, they may offer preferable alternatives to town life.

This should be carried out through a policy of education and persuasion. We would like to see the principles of planning exemplified in experimental villages, small scale models, and in illustrated booklets, backed by the minimum of legal control, varied to suit differing regions and religious habits.

The subjects to be dealt with will include village layouts, their junctions with main roads, and their relation to the surrounding countryside.

They will further deal with:-

(a) methods of preventing soil erosion;
(b) plans for houses, markets, community and school buildings;
(c) storage for food, farm machinery, firewood;
(d) suggestions for dealing with livestock;
(e) the forms that provision for water, electric light, telephone etc. should take;
(f) methods of dealing with sewage and refuse, including composting;
(g) precautions against disease;
(h) precautions against fire:
(i) provision for supplementary agriculture and aboriculture to maintain balanced diets;
(j) firewood reserves, etc.

There will be basic types to suit varying regional soils and climates adaptable for particular cases by the Planning Officer in consultation with the Regional Town Planning Officer.

The

The approach will be on an arithmetical basis and plans will be framed to allow of a choice in accordance with the size of the population to be catered for.

2. Towns.

The main problem in connection with the re-design of towns is to fit them for the impact of Western civilisation, of which motor transport forcing the relaying of main communications everywhere, may be cited as a typical manifestation.

The next important matter is the design of the localities in the town to conform with social and educational policy so that there shall be facilities for schools, hospitals, open spaces, markets and the like, in a proper ratio to the population and in positions where they will be most useful.

Planning and Housing.

We feel this to be a matter of gradual rehabilitation to higher standards of living based upon a rising national economy, initiated by Government with the object of providing examples that may be accepted and followed generally.

The means of carrying this out we see first as being the appointment of Town Planning Officers free to collect all relevant information, existing and projected, so that they may make lay-outs well in advance of building and be in a position to bring building applications into conformity with master plans.

Such officers should act regionally or for individual large towns, but we consider it of first importance that they should act independently of other Government departments, and act either for the Development Branch with which they will in any case work closely, or directly to chief political officers.

Few towns have as yet fully responsible councils, so that there will be a period during which responsibility will be slowly devolved. Eventually responsibility for the creation and maintenance of housing and other social activities, such as schools, must fall to them, and we consider that housing, which is likely to be an early responsibility, should be financed with a measure of independence and acknowledgment of the asset created.

With regard to the legal control of town planning, we feel that the degree of authority or goodwill in this country varies, and that an inflexible Town Planning Ordinance covering the whole country is not yet appropriate.

The first steps towards general planning control might take the form of a new set of model clauses or bye-laws covering the design of streets, open spaces, etc., in addition to and an amplification of the existing controls over sanitation and hygiene, which as they now stand require revision, especially where they deal with the spacing of buildings and with sanitation.

Such bye-laws should make the submission of plans showing room areas and volumes, drainage, methods of sewage and refuse disposal, compulsory. We would like to suggest that every applicant should be given a free booklet of advice and information on building and planning.

We hope that the semi-communal forms of land tenure still extant may be led, not towards individual freehold ownership, but to some still communal freehold system whereby the community may safeguard its proper assets.

The

The precedent set up in Lagos whereby people are induced to move from congested areas to other areas by the offer of freeholds we consider to be in the nature of a bribe with dangerous future repercussions, and should be discontinued. Only where land continues to be owned communally may the benefits of town planning be equitably distributed.

3. Communications.

These comprise those of air, water, road, railway, cable, telephone, wireless, and electrical power. The importance of considering these in terms of town planning lies in the fact that they are active powers that provoke development.

It is the history of every country where little attention has been paid to the effects of making new communications that hasty and insufficient communities have resulted, rectified only at great expense.

As an example, if Kano were to become a main junction airport, we must immediately consider the effect of this in conjunction with accelerated road transport upon a town built in an old pattern and ready for either disruption or reconstruction.

We wish to avoid the bad thinking that produced the Great West Road, and to join beauty with safety and usefulness in the earliest stages.

The connection between town planning and the projected main road programme for the country lies in the protection to be afforded to land bordering these roads, the provision of necessary branch roads, and in the planning of social and industrial activities generated by them.

As a matter of important detail we would like to see an exact grading of roads falling below the main road level so that road widths correspond with the traffic to be carried, and a metalled road is never used where a paved path will suffice: the cost of roads and ancillary services bulk largely in the costs of development and are finally reflected in the rent of dwellings.

4. Town Planning Organisation.

To carry out an active town planning policy a Town Planning Officer should be placed in each of the groups of provinces with a further officer in the Colony dealing principally with Greater Lagos.

These officers should act within their province only, but one of them should be available for consultation on town planning matters on a national scale.

During what remains of our present tour we are likely to be able to advise, in the form of a plan and report, on the following towns:

Lagos, in conjunction with Mr. Waide,
Port Harcourt,
Ibadan,
Kano,
Enugu,

and some of the smaller rapidly growing townships. This indicates

the scope of the work we can undertake this tour, but is subject to revision or expansion.

An actual town planning policy will call for an increase in the staff of the Survey and Valuation Branches and in town inspectorates generally.

In conclusion, we mention one or two imponderables such as hydro-electrification, possible migrations of population, industrialisation schemes, and the location of a terminal airport, of which we should like as much advance information as can be given.

5. Finance.

Estimates for a 10 year programme of Town Planning fall under four heads for which we can supply estimates for two only.

(a) Town Planning staff.
(b) Cost of carrying out a housing programme.
(c) Increases in staff of Lands Department (Surveyors, valuers) P.W.D. (Engineers, European and African Foremen of Works), and Medical Services (Sanitary inspectors).
(d) Cost of increased building and road making plant and equipment.

(a) The following town poanning staff is considered necessary:-

One Senior Town Planning Officer @ £1,500 p.a. or £2,250 consolidated	£2,250
Three Town Planning Officers @ £750 p.a. or £1,250 each consolidated	3,750
African draughting and clerical staff, say	2,500
Office accommodation (P.W.D. where possible) travelling and incidentals	1,500
Total	£11,000

The staff to be recruited for service from year 1945-6 and built up to full strength in 2 years.

(b) To set reasonable standards of housing cheap enough to stimulate better building by Africans, housing schemes should be u undertaken in Lagos and the principal towns, under properly constituted authorities administering government loans at low rates of interest, of which some part may be considered as irrecoverable.

We suggest that this takes the form of

(a) A model village of, say, 300 dwellings complete with all social buildings as set out earlier in this report, planned in conjunction with interested departments. We estimate the cost of this at	£125,000
(b) Research into building (£500 per annum)	5,000
Carried forward	£130,000

(c)

Brought forward	£130,000
(c) Housing in Lagos and other centres over 10 years on a graduated programme. Such housing to be carried out in fully integrated social groupings that include community centres, schools, clinics, markets, etc., and allow of the gradual development of a range of building types fitted to varying classes from the better paid clerk to the labourer. The aim is to show the most intelligent use of resources within the income available and to establish the economics upon which the as yet untried municipal authorities may advance. Finance should include both recoverable loan and a measure of directly irrecoverable experimental expdnditure	£3,500,000
	£3,630,000

The estimates for (c) and (d) overlap programmes initiated by other departments, and it is therefore not possible to say to what extent their increases in staff and equipment are likely to serve a town planning programme.

(Sgd.) E. Maxwell Fry, F.R.I.B.A.
Town Planning Adviser to the Resident Minister.

(Sgd.) Jane B. Fry, F.R.I.B.A.
Assistant Town Planning Adviser to the Resident Minister.

19th September, 1944.

Annexure 8.

NOTES ON THE BUILDING PROGRAMME INVOLVED IN THE VARIOUS DEPARTMENTAL DEVELOPMENT PROGRAMMES.

H.E. Walker, C.B.E. (Deputy Director of Public Works.)

The programmes include large numbers of buildings as follows:-

(i)	Medical Department	£3,500,000
(ii)	Education Department	4,000,000
(iii)	Prisons Department	340,000
(iv)	Agriculture Department	1,160,000
(v)	Posts and Telegraphs	
(vi)	Veterinary	
(vii)	African Housing	1,200,000
(viii)	European Supervision	800,000
		£11,000,000

say £1,100,000 p.a. on 10 years' programme.

For easy reference and clarity these programmes are briefly discussed in the succeeding paragraphs before describing the arrangements necessary for the carrying out of the work.

2. (i) Medical. The buildings mostly consist of additions and extensions to existing Provincial Hospitals and these will be in permanent construction of a high standard. Additions to existing and some new Cottage Hospitals most of which can be constructed in sound local materials. An average price for Provincial and Cottage Hospital accommodation has been taken at £343 per bed and is based on past experience and recent estimates. Research Institutes, Medical and Pharmacy schools, Nurses Training schools, etc. will also be built in standard permanent construction Rural Health centres (developed dispensaries) can be constructed in sound local materials.

The work generally is fairly well distributed over the Provinces and will not give rise to any difficulty over labour.

3. (ii) Education. The programme consists of 4 Secondary schools which should be constructed in permanent materials to a high standard. So far as school buildings are concerned, local construction can be used for dormitories etc. 50 Training centres which can be in sound local construction. The main item is 750 Primary schools estimated at £5,000 each or £3,750,000 in all, and this amount will only provide for purely local construction of a very simple type and this is considered suitable.

The work is very well spread over the country and should, for this reason, present no difficulty as regards labour and materials. But the buildings are required mostly at the end of a ten year period and as shown in the following table:-

1st year	£120,000
2nd year	nil
3rd year	95,000
4th year	nil
5th year	nil
6th year	nil
7th year	750,000
8th year	1,500,000
9th year	1,500,000
10th year	35,000
	£4,000,000

This

817

This of itself would be a most awkward programme to carry out, but can be adjusted in the general programme by accelerating the dates for the programmes for Medical Training Institutes and extensions to existing hospitals, etc. The Director of Medical Services has no objection to variation of the Medical programme on these lines.

4. (iii) Prisons. The programme consists of 9 Central Prisons, 22 Provincial Prisons, 90 local Prisons, of which the central Government will pay for 26 only, 4 Industrial schools. It is anticipated that a certain amount of prison labour and materials, e.g. bricks, will be available especially in the case of the Provincial and Local Prisons and Industrial schools.

The work is widely distributed and the demand on the Public Works Department for services should not be very great. Type plans will be used to a large extent.

5. (iv) Agriculture. The most important scheme appears to be the Palm Oil Experimental Station near Benin.

6. (v) Posts and Telegraphs. Requirements are a large number of country type Post Offices and extensions to existing offices and telephone exchanges.

Work will be widely distributed over the Provinces.

7. (vi) Veterinary. The buildings required are not extensive in comparison with requirements of other Departments.

8. (vii) African Housing. The programme will be concentrated in Lagos and a few of the larger towns. It is intended that the work should be largely educative and to some extent experimental and set an example to the African of what can be done in the way of improved housing. Also it is probabl that much of expenditure will be on sub-economic housing especially in Lagos where building costs are high and reduction in cost cannot be made by extensive use of local materials. To attain the objects set out above, it seems advisable to employ African contractors to the fullest possible extent. It is also necessary to take into account the very considerable programme of other Government buildings and private buildings which will be going on at the same time in these places. Careful consideration shows that African contractors in Lagos under the conditions anticipated, could deal with about 200 houses per annum. It might be possible to increase this gradually, but it would hardly be safe to budget for more on a ten year programme. In the other large towns a further 200 houses per annum could be built by similar means. Taking the average cost as £300 per house inclusive of all services, if the programme is largely for houses to let at sub-economic rents, the annual expenditure for 400 houses becomes £120,000 or £1,200,000 for a ten year programme.

9. It is assumed that the normal programme of buildings provided for under Nigerian Estimates for Public Works Extraordinary will continue and that the extent will be about £500,000 per annum. The total building programme will thus become £1,500,000 per annum, of which £500,000 can be dealt with by existing Public Works Department's staff and additional European supervisory staff will be required for the remaining £1,000,000 per annum. In estimating the number required, regard has been paid to the possibilities of carrying out work by contract, though it must be remembered that with contract work supervision and inspection is still required and the more detailed plans and specifications and Bills of Quantities entail additional work.

Artizans

Artizans and labour will be sufficient to cope with this programme and it will to a large extent, if not wholly, absorb the building trades artizans expected to be demobilised from the Army. In fact if ex-soldiers are not available it may be difficult to achieve the desired rate of progress, at any rate in the early stages. Supervisory African Technical staff will not be available in the earlier years, but will become so as work progresses. This will throw an additional burden on the European staff in the carrying out of duties which in recent years have been done by African technical staff, but this is unavoidable.

Timber supplies and other local materials will be adequate.

As regards joinery and furniture, it is assumed that it will be possible to obtain steel doors and windows for the more important buildings, but to provide the quantities required for the remainder it will be necessary to augment both the European staff and the woodworking plant at the Area and Provincial Workshops. The European staff required is shewn in the schedule.

It is estimated that woodworking plant to the extent of £10,000 will be required. Additional plant for building construction will also be required, e.g. concrete mixers, block and slab making machines. The estimates cost is £10,000 initially and £2,000 per annum for replacement as this type of plan has a fairly short life.

Summarised, the estimated cost of staff and plant required in addition to the amount allowed for in the Departmental programmes is:-

Capital Cost		
	Plant for Workshops	£10;000
	Plant for Construction	10,000
		£20,000
Annually Recurrent		
	European Staff	78;000
	Replacement of Plant	2,000
		£80,000 per annum

£800,000 on a 10 year programme.

Schedule of additional European Supervisory staff required for Building Programme of £1,000,000 per annum.

Architectural	
Architects for design of schools and hospitals	3
Architects for supervision of contract work in Lagos and the Provinces	9
Quantity Surveyors	3
Inspectors of Works and Foremen.	
Supervision of works	60
Joiners and cabinet-makers for workshops	6

Numbers in each case include reliefs.

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