



SCHEDULE OF OPERATIONS
THE KENYA SOIL SURVEY PROJECT
(revised 1979)

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SCHEDULE OF OPERATIONS

The Kenya Soil Survey Project

The Schedule of Operations has been drawn up in joint consultation between the Competent Authority of the Kingdom of the Netherlands and the Competent Authority of the Republic of Kenya under Article VIII of the Agreement concerning the Kenya Soil Survey Project signed at Nairobi on

1. Name of the project : The Kenya Soil Survey Project.
2. Aim of the project : To assist the Kenyan Soil Survey in the operation of a soil survey programme in which Kenya staff will be trained in soil survey work particularly aimed at rural land use planning and to cooperate in the training of Kenyan staff. It will produce information on soil and land resources required for accelerated agricultural development.
3. Location : The project will be located in Nairobi.
4. Language : The official language will be English.
5. Netherlands contribution : experts
visiting experts
fellowships
equipment
research
6. Kenyan contribution : counterparts
clerical staff and drivers
land and buildings
centre running costs including the running and maintenance of vehicles
housing overseas staff
routine soil analyses
7. Duration of the project : Five years, with an extension of five years
8. Competent Netherlands Authority : The Netherlands Minister for Development Cooperation.
9. Competent Kenyan Authority : The Minister for Agriculture of the Republic of Kenya.

10. The Netherlands Organization : The International Technical Assistance Department of the Netherlands Ministry of Foreign Affairs, hereinafter referred to as the Executive Authority, shall act on behalf of the Competent Netherlands Authority, and shall be assisted by the following Institutions of the Ministry of Agriculture and Fisheries: The International Agricultural Centre (IAC) and the Netherlands Soil Survey Institute (STIBOKA)
11. The Kenyan Organization in charge of the project : The Director of Research of the Ministry of Agriculture shall act as the Executive Kenyan Authority on behalf of the Competent Kenyan Authority. The Kenya Soil Survey shall constitute a separate section within the Research Division of the Ministry of Agriculture. The leader of the Dutch team, coordinates his activities and responsibilities with the Head of the Kenya Soil Survey.

1. THE PROJECT

1.1 Aim of the Project

The Competent Netherlands and Kenyan Authorities shall co-operate in providing training for and the conducting of soil surveys which will produce information about the soil and land resources of Kenya required for accelerated agricultural development and systematic rural land use planning. In order to staff the Kenya Soil Survey entirely by Kenyans by the end of the project period, the training of Kenyan citizens in soil science, soil survey and soil survey interpretation will have first priority.

1.2 Main features of the Project

- A team of Netherlands experts shall continue to co-operate in the operations of the Kenya Soil Survey. The activities of this project shall consist of:
- a. Assisting in the training of Kenyan counterparts in certain aspects of soil survey and thus help to build up a cadre of trained soil survey specialists, soil survey interpretation specialists, draughtsmen and laboratory staff.
 - b. Assisting in the training of Kenyan officers from other Kenyan Institutions in soil survey and soil survey interpretation, if and when such can fit-in with the main purpose of the Project.
 - c. Assisting the Soil Survey Advisory Committee in determining priority study areas.
 - d. Assisting in soil surveys and in indicating their practical applications in areas selected in co-operation with the competent authorities of the Kenya Government. For the practical application co-operation and advice will be sought from cropspecialists, soil fertility experts, agricultural economists, planning experts, etc. from other Kenyan institutions.
 - e. Assisting in operating a chemical-physical laboratory to cater for the specific needs of soil survey in terms of special analysis, research and general interpretations of soil data.
 - f. Assisting in co-ordinating and correlating all soil surveys and their interpretations as an aid in the country-wide planning of land use and accelerated agricultural development.
 - g. Assisting in making available to the Extension Services and other relevant Government Departments, the results of soil surveys for dissemination to farmers and other land users in a manner that can be readily understood and utilized.
 - h. Assisting in making available to the University of Nairobi and Agricultural training institutions the results of soil surveys for the use in the teaching programmes.

1.3 Location of the Project

The headquarters of the Project will be located at Nairobi. Periodically the staff, will however, be working outside Nairobi for prolonged periods at various soil survey projects throughout Kenya.

1.4 Netherlands Experts

1.4.1 Resident Experts

The Netherlands shall contribute towards the staffing of the Kenya Soil Survey by making available the service of the following experts:

- a. one ecologist (vegetation-soil management) who shall be the teamleader
- b. one soil survey expert
- c. one soil chemist-physicist (1 year).

The experts shall be made available as set out in the Time Schedule (see Annex III) (revised).

To qualify for an appointment on this project the Netherlands experts should be university graduates (or equivalent) and have extensive practical experience.

The responsibility for appointing experts shall rest with the Competent Netherlands Authority, who shall submit the names and other particulars of experts to be sent by the Netherlands to the Government of Kenya for approval.

The responsibility of recalling the experts shall rest with the Competent Netherlands Authority in consultation with the Competent Kenyan Authority.

1.4.2 Visiting Experts

Apart from the resident experts the Netherlands will provide for a number of experts, selected according to the type of special problems that may arise, who will, during short visits to the project, advise on their respective professional fields or give special courses. Some man-months per year will be made available.

1.5 Kenyan personnel

Kenya shall supply the following personnel (for details see the 1979 Review Report):

- a) one senior-agricultural officer, who will be Head of Kenya Soil Survey.
- b) 18 agricultural officers (University graduates)
- c) 13 assistant agricultural officers (Egerton level)
- d) 24 technical assistants
- e) 3 draughtsmen/cartographers and 3 assistant-draughtsmen
- f) 1 graphic reprographer
- g) 5 laboratory technicians/technologists
- h) 1 library assistant.

In addition to this personnel administrative and clerical staff as well as drivers and subordinate staff shall be supplied as follows:

- 1 executive officer
- 6 clerical officers
- 1 secretary stenographer
- 2 typists
- 1 storeman
- 2 assistant storekeepers
- 1 purchasing officer
- 12 drivers
- 9 subordinate staff.

All Kenyan staff shall be made available as set out in the Time Schedule (see Annex III, revised).

1.6 Fellowships

The Netherlands shall make available a number of fellowships amounting to 8 man-years for Kenyan counterpart staff to be especially trained in soil survey, soil survey interpretation, airphoto interpretation, cartography, etc. The decision of granting fellowships shall be taken by the Competent Netherlands Authority upon receiving a proposal from the Kenya Government after recommendations by the Teamleader.

1.7 Equipment and Running costs

1.7.1 Netherlands contribution

The Netherlands shall provide scientific and educational equipment and vehicles as indicated in Annex I (revised).

The items as indicated in Annex I must be considered as tentative and indicative and apt to revision. Variations in this list may be made by mutual consent of the Competent Authorities to suit the requirements of the project provided that the total costs mentioned in Annex I will not be exceeded.

The cost of transport, including insurance, of the equipment supplied by the Netherlands to Nairobi shall be borne by the Netherlands.

The equipment will remain the property of the Netherlands Government until the end of the extended Project period and as such fall under the responsibility of the Teamleader.

1.7.2 Kenyan contribution

All running costs of the Kenya Soil Survey shall be borne by the Government of Kenya as indicated in Annex II (revised).

The running costs include among others running and maintenance of vehicles, field

allowance of the Kenyan staff, housing overseas staff, full maintenance of office and laboratory.

These costs will be reviewed every year and if necessary may be revised in mutual agreement between the Competent Authorities.

Living accommodation shall be provided free of charge and shall contain basic furniture, boilers, electricity, running water and telephones.

1.8 Land and Buildings

1.8.1 Kenyan contribution

The Kenya Government shall provide adequate office, laboratory and storage space for the Kenya Soil Survey.

The Competent Kenyan Authority shall provide in the respective regions where soil surveys are being carried out adequate parcels of land for soil management and other experiments necessary for the practical applications of the soil surveys.

1.9 Research and Soil analysis

1.9.1 Netherlands contribution

Where desirable, specific research and other special work which cannot be done in Kenya may be carried out in laboratories and institutes in the Netherlands. The work to be considered for this shall be decided upon the Teamleader in consultation with the Head of Kenya Soil Survey and the other officers. The costs of this research shall be met by the Netherlands Government from project funds earmarked for this purpose in the budget.

In addition, costs of data acquisition and processing, e.g. by computer analysis, will be met from Project funds.

1.9.2 Kenyan contribution

- a. Complete routine soil analyses for soil survey up to a maximum of 4000 samples per year will be carried out by the routine laboratory of the chemistry section of the National Agricultural Laboratories. For this purpose two laboratory technicians of the Kenya Soil Survey will be given on loan to the routine laboratory of the N.A.L.'s Chemistry Section.
- b. The Ministry of Agriculture shall assist in making available to the Project staff, the results of research carried out for the Government of Kenya, which can be of use for the soil survey and associated land classification.

1.10 Project budget

A detailed revised budget, indicating the Netherlands and the Kenyan contributions to this project is presented in Annexes I and II respectively.

2. ORGANIZATION AND DUTIES

2.1 General

The Kenya Soil Survey shall constitute a separate institution of the Scientific Research Division of the Ministry of Agriculture. The Teamleader shall be directly responsible to the Director of Research, Ministry of Agriculture, through the Head of Kenya Soil Survey for all technical activities of the Dutch staff, as mentioned under 1.2. The Kenya Soil Survey shall be free to publish results under the general responsibility of its Head, in consultation with the Teamleader.

The Teamleader shall be responsible to the Netherlands Executive Authority for all matters concerning the implementation of the Netherlands contribution as described in this Schedule of Operations. He shall be free to delegate one or more of his duties to a Deputy Teamleader appointed by the Competent Netherlands Authority.

The Head of the Kenya Soil Survey and the Teamleader shall submit jointly a progress report every three months, commencing 1st April 1980 to the Competent Authorities of each country, through the Chief Research Officer. A copy of each report shall be submitted to the Director National Agricultural Laboratories and the Royal Netherlands Embassy at Nairobi.

The Netherlands organization in charge of the project will be the International Technical Assistance Department of the Netherlands Ministry of Foreign Affairs. This organization will be assisted by the following Institutions of the Ministry of Agriculture and Fisheries: The International Agricultural Centre (IAC) and the Netherlands Soil Survey Institute (STIBOKA).

Advice and assistance will also be requested from the Agricultural University (M.Sc. - training soil science) at Wageningen and the International Institute for Aerial Survey and Earth Sciences (I.T.C.) at Enschede (airphoto interpretation).

2.2 Dutch Experts

There will be a maximum of three Dutch experts as follows:

- a. One soil survey expert who will act mainly as soil correlator - map co-ordinator. He will also assist in training Kenyan counterparts in soil survey techniques.
- b. One ecologist who shall be engaged in vegetation survey and soil management research as needed for a proper interpretation of the soil maps.
- c. One soil chemist-physicist who shall work in very close co-operation with the Chemistry Section of the National Agricultural Laboratories to assess the value of various physical and chemical laboratory methods, to carry out research on various physical and chemical soil properties and to aid in the interpretation of the laboratory data in terms of practical management recommendations.

In order to help the routine laboratory to analyse the increased number of soil samples, two laboratory technicians of the Kenya Soil Survey will be given on loan to the routine laboratory of the N.A.L.'s Chemistry Section.

The Netherlands experts shall perform their duties under the direction of the Teamleader, who shall bear general responsibility for their contribution to the project. The experts shall report to the Teamleader at regular intervals in accordance with the instructions issued to them by the Netherlands Executive Authority. The Netherlands experts attached to the Project shall be entitled to periodical leave in accordance with the regulations applicable to Netherlands civil servants. The Teamleader shall recommend the dates of leave to be granted to the Netherlands experts.

2.3 Kenyan personnel

There will be a total of 96 Kenyan professional, technical and administrative staff and 9 subordinate staff in the project. Detailed breakdown of this staff is given in 1.5 above. All Dutch experts will have a least one Kenyan counterpart of university education and one or more counterparts of assistant-agricultural officer level.

The Kenyan staff will be responsible at different levels for various aspects of the Soil Survey Programme. The Dutch staff will assist in certain aspects of the work.

The Kenyan counterparts shall work under the general direction of the Head of Kenya Soil Survey and report to him on technical matters.

All administrative matters regarding the counterpart and supporting staff and the Kenyan Government's contribution in general will be the responsibility of the Head of Kenya Soil Survey who will be of at least Superscale status. The Head of Kenya Soil Survey shall also liaise with the Ministry Head Office, Provincial Administration in the field and others, and will provide the link with other local agencies having connections with the Kenya Soil Survey.

The Executive Officer shall keep an accurate accounting system so that all money and equipment from the Kenyan and Dutch Governments can be carefully accounted for. He will be directly responsible for transport coordination, finances and personnel.

3. EXECUTION

3.1 Priorities

The aim of the project is to assist in building up the Kenya Soil Survey so that it can be run effectively by well trained Kenyan soil scientists. The training of Kenyan counterparts will therefore have first priority.

This training will be done mainly on-the-job and will chiefly concern staff members of the Kenya Soil Survey. However, provided that this fits in with the main purpose of Kenya Soil Survey, Kenyan officers of other relevant organizations should be trained, who after their training return to their parent organizations to assist in solving soil problems that may arise.

During the programme various areas will be surveyed. The areas concerned will be decided on by the Soil Survey Advisory Committee functioning within the Ministry of Agriculture, of which the Head of Kenyan Soil Survey and the Teamleader will be members. In case requests for soil surveys are so many that they cannot be undertaken without adversely affecting the training programme, the training shall have first priority; the Director of Research in mutual agreement with the Head of Kenya Soil Survey and the Teamleader may, in consultation with the Soil Survey Advisory Committee reject those projects that do not fit in the training programme. In such cases the Kenya Government may request the services of other competent organizations for some of the ad hoc soil surveys.

3.2 Time Schedule

The stages of the operations and the steps to be taken by each Government are given in summary form in Annex III to this Schedule of Operations. The Competent Authorities of each country shall see that each stage of the operations, such as the delivery of equipment and the availability of counterparts, are accomplished at the proper times.

The duration of the project including a second extension shall be for ten years. The date of commencement of the project has been fixed as Jan. 1, 1972 (zero on time schedule) and the starting date of the second extension will be Jan. 1, 1980.

This Schedule of Operations shall be reviewed and if necessary revised after one year from the start of this extension, especially with regard to the role of the Kenya Soil Survey in the over-all development of the country (review mission Jan. 1981).

In accordance with Article IX of the Agreement signed at Nairobi the date of termination of operations referred to in the Schedule shall be fixed on Dec. 31, 1981, unless the Competent Authorities agree in writing to an earlier or later date of termination, it being understood that any such agreement shall be concluded six months prior to the new date of termination.

4. FINAL CLAUSE

Final Report

On completion of the project, the Teamleader shall draw up a final report giving a description of all aspects of the work done in connection with the project and containing recommendations on future policy, covering such aspects as the role of the Kenya Soil Survey, liaison with the Donor Country and other international agencies. Copies of this report shall be submitted to the Competent Netherlands and Kenyan Authorities and to the Royal Netherlands Embassy in Nairobi.

ANNEX I. Schedule of Operations (revised January 1979) - Kenya Soil Survey Project.

Estimated contribution of the Netherlands Government (in Dutch guilders).

	1979	1980	1981	Total
<u>Experts</u>				
2 soil surveyors (one till 1-1-'80)	560.000	420.000	300.000	1.280.000
1 soil surveyor/landclassification expert (till 1-4-'79)				
1 ecologist				
1 soil chemist/physicist (till 1-1-'81)				
<u>Visiting experts, short term consultancy</u>	20.000	20.000	20.000	60.000
<u>Fellowships (incl. local training)</u>	90.000	90.000	90.000	270.000
<u>Equipment</u>				
airphoto interpretation equipment	-	-	-	
teaching equipment	2.000	2.000	2.000	
drawing and reproduction equipment	40.000	30.000	30.000	
soil survey field equipment	10.000	10.000	10.000	
camping equipment	50.000	20.000	20.000	
laboratory equipment	50.000	50.000	20.000	
office equipment	10.000	5.000	5.000	
books and periodicals	3.000	3.000	3.000	
5 long wheel base Landrovers	120.000	40.000	40.000	
2 Peugeot stationwagons	20.000	-	20.000	
2 trailers for Landrovers	-	4.000	4.000	
2 watertrailers for Landrovers	-	4.000	4.000	
transport of equipment	10.000	10.000	10.000	
insurance of vehicles	15.000	15.000	15.000	
sub-total equipment				706.000
<u>Technical services and research in the Netherlands</u> (incl. map making/printing)	100.000	350.000	70.000	520.000
<u>Field allowance Dutch experts</u>	20.000	20.000	20.000	60.000
<u>Data acquisition and processing</u>	10.000	10.000	10.000	30.000
<u>Air travel in Kenya and Africa</u>	10.000	10.000	10.000	30.000
<u>Housing Dutch experts</u>	40.000	30.000	20.000	90.000
<u>Miscellaneous</u>	-	-	254.000	254.000
Total	1.180.000	1.143.000	977.000	3.300.000
Estimated contribution 1977/1979 (see Annex I Sched. Oper. Sept. 1976)			4.500.000	
Expenditure up till 31/12/1978			2.300.000	
Available for period 1979/1981			2.200.000	
				2.200.000
				To be added from allocation
				1.100.000

ANNEX II. Schedule of Operations - Kenya Soil Survey Project (revised 1979).
 Estimated contribution of the Kenya Government (in Kenyan Pounds).

<u>Item</u>	Year	1978/79	1979/80	1980/81
		KE	KE	KE
Transport		8,700	11,700	12,700
Travelling		11,420	13,500	15,000
Maintenance		5,000	6,500	7,000
Plant and Equipment		3,200	3,700	4,000
Aerial-photo		2,000	2,500	2,500
Uniforms		1,080	1,100	1,200
Miscellaneous		1,600	1,700	2,000
Stationery and printing		-	3,000	4,500
Office Equipment		-	1,250	1,500
Library		-	250	500

