



Report on a cooperation mission to the Kenya Soil Survey

September 1990

E.M.A. Smaling

International Activities Report 9

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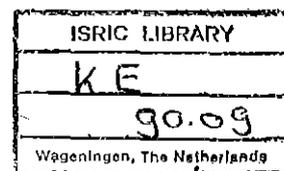
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The Winand Staring Centre, Wageningen (The Netherlands), 1990

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The WINAND STARING CENTRE is continuing the research of: Institute for Land
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Institute (STIBOKA).

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SUMMARY

1. The Netherlands Government, through the Directorate-General for International Cooperation (DGIS), has pledged financial support to the Kenya Agricultural Research Institute (KARI). Part of this support is earmarked for the Kenya Soil Survey (KSS). The technical support to KSS has been subcontracted to the Winand Staring Centre for Integrated Land, Soil and Water Research (WSC) in Wageningen, for a four-years period (1990-1993). This subcontract was signed by September 1990.

2. DGIS has allocated a total contribution to the KSS budget 1990-1993 of Dfl. 3,142,000/=. Out of this total, Dfl. 1,605,000/= is administered through DGIS and WSC, and Dfl. 1,537,000/= flows through the Royal Netherlands Embassy in Nairobi (RNE) and KARI.

3. The transfer of funds covering 'Operational Costs' from RNE to KARI and then to KSS is still hampered. Since February 1989, KSS has received only two installments, whereas installments were meant to be made on a quarterly basis. The main delay seems to occur at the Accounts Department of KARI. This problem could perhaps be tackled if RNE would grant KSS a standing imprest of, for example, KShs. 100,000/=.

4. In order to square local expenses on 'Training'-related issues, a current account was opened at ABN Nairobi. This was approved by both KARI and RNE. From now on, the RNE is requested to render services only on foreign currency and visa for KSS fellows travelling abroad, as well as on the duty exemption of shipped and airlifted consignments and the purchase of vehicles.

5. Upon completion of the workshop on Geographical Information Systems, consensus was reached on KSS being ready for a development in automated storage and presentation of the land data it collects. As hardware and software will cost over Dfl. 100,000/=: KARI was requested, and agreed, to contribute to this purchase out of the Dutch core funding.

6. It was agreed that the following reports be written by WSC and KSS management and dispatched to DGIS, RNE and KARI: reports on the six-monthly working visits (International Activities Reports of WSC), quarterly progress reports (Head KSS) and annual reports (KSS staff).

7. It is imperative that the six-monthly fuel and night-out allocations from the Kenyan budget component reach KSS by early January and early July. At present, field survey officers can not stick to their work planning because allocated funds do not arrive on time.

8. It was agreed by KARI that surveys-on-request are charged according to fixed prices. A pricing system for the different kinds of survey has been prepared and will soon be handed over to KARI. Out of any overhead charged by KSS to clients, KARI will return 50% to KSS for reinvestment. This is a very encouraging step in becoming self-supporting.

9. The backlog of survey reports was dealt with at length during the 1989 'Workshop on Report Writing and Editing' by Dr. T. de Meester. By mid-1990, the progress as to reconnais-

sance surveys is still modest. The backlog on surveys-on-request (detailed surveys and site evaluations), however, has been cleared. Moreover, reports of new surveys executed in 1989 and 1990 have been dealt with immediately on completion of the fieldwork.

10. Two landrovers were purchased in Kenya, and released to KSS by mid-August 1990. It is emphasized that each vehicle should be appointed to one and the same driver. It should also be stressed that the vehicles should be permanently at the disposal of the Kenya Soil Survey. Good and reliable vehicles are of paramount importance to a survey organization such as KSS.

11. It was agreed that on travelling abroad, daily allowances will be paid according to UN standards, as long as Dutch funds are drawn on. Officers going out for long-term training are subjected to daily allowance rates set by the institute/university at which they will stay, unless decided otherwise by the Head KSS and the WSC officer. In order to meet initial expenses and airport tax, the RNE will provide US \$ 120/= to each departing officer.

1 INTRODUCTION

During the period between July 30 and August 31, 1990, Ir. E.M.A. Smaling of the Winand Staring Centre for Integrated Land, Soil and Water Research, Wageningen, The Netherlands (WSC) spent 3 weeks on a working visit to the Kenya Soil Survey (KSS). Since 1972, this institute is supported through a bilateral agreement between the Netherlands Directorate for International Cooperation (DGIS), and the Kenya Agricultural Research Institute (KARI), which is part of the Ministry of Research, Science and Technology. The cooperation between KSS and WSC is laid down in an official 'Twinning Agreement'. Working visits between the two sister institutes take place on a six-monthly basis. Reports of previous missions (July 1989, February 1990) are available at the Kenya Soil Survey and at the Winand Staring Centre, Department of International Cooperation.

The terms of reference for the present mission were:

1. Review progress in writing-up of reports with the individual officers concerned.
2. Assist Ir A.K. Bregt (WSC) where necessary in the execution of a workshop on geographical information systems (GIS) at the Kenya Soil Survey.
3. Discuss with Ir Bregt and KSS officers the equipment requirement for the proposed Kenya Soil Survey automated data storage and retrieval system.
4. Review, in consultation with KSS officers, the equipment requirement for the various sections as well as the transport needs.
5. Review the training projections (long-term and short-term), refresher courses, workshops, seminars and conferences.
6. Review the tentative breakdown of the KSS budget for the financial year 1990/91.
7. Establish a feasible mechanism to facilitate the flow of funds from WSC to KSS, particularly referring to funds for training, workshops and conferences.
8. Discuss any other subject matter pertaining to the well-being of KSS that may not be included in points 1-7 above.

2 CONTRACT DGIS-WSC

The Netherlands Government, through the Directorate-General for International Cooperation (DGIS), has pledged financial support to the Kenya Agricultural Research Institute (KARI). Part of this support is earmarked for the Kenya Soil Survey (KSS). The technical support to KSS has been subcontracted to the Winand Staring Centre for Integrated Land, Soil and Water Research (WSC) for a four-years period (1990-1993). This subcontract was signed by September 1990. This means that the KSS-WSC Twinning Agreement can now be implemented, including the write-up of an Inception Report (Plan of Operations) and the appointment of a Project Liaison Unit, which will act as a steering committee. This will be done in October 1990.

3 FINANCES

In conjunction with the signing of the subcontract, DGIS approved the Dutch contribution to the KSS budget 1990-1993 (see Annex). Part of the budget, totalling Dfl. 1,605,000/=-, is administered through DGIS and WSC. 'Equipment' and 'Training' account for some 65% of this part of the total allocation. The other part of the Dutch budget component flows through the Royal Netherlands Embassy in Nairobi (RNE) and KARI. This amount equals Dfl. 1,537,000/=-. The Dutch contribution equals approximately 50% of the total KSS budget. The Government of Kenya brings in the other 50%, which is mainly made-up of salaries. Besides, there are funds for maintenance of the station and for fieldwork (fuel, night allowances).

In the Annex, it can be seen that the budget item 'Operational Costs' is supposed to flow almost entirely from RNE to KARI and then to KSS. RNE only releases funds on proper accounting of the invoices. Up till now, the experience was that significant delays occur at the Accounts Department of KARI, which has to go through, approve and submit invoices received from KSS. Once the invoices have reached RNE properly, money is submitted to KSS smoothly. As a result of the above, KSS received only two installments since February 1989, whereas installments were meant to be made at a quarterly basis. As a consequence, from time to time KSS has no Dutch funds for servicing of plant, equipment and vehicles, procurement of tyres and stationery, and for fuel and night allowances. This problem could perhaps be solved if RNE would grant KSS a standing imprest of, for example, KShs. 100,000/=-.

In order to square local expenses on 'Training'-related issues while the WSC officer is in Kenya, a current account was opened at ABN Nairobi. This was approved by both KARI and RNE. The assignment and duties of a future liaison officer for RNE-KARI affairs was once again discussed. As the local account is now operational, there is less need for such an officer as far as KSS is concerned. From now on, the RNE is requested to render services only on foreign currency and visa for KSS fellows travelling abroad, as well as on the duty exemption of shipped and airlifted consignments and the purchase of vehicles.

Upon completion of the workshop on GIS (20-24 August, 1990), consensus was reached on KSS being ready for a development in automated storage and presentation of the land data it collects. The system proposed to be procured is ARC/DBase. As hardware and software will cost over Dfl. 100,000/= (see separate report by Ir A.K. Bregt), KARI was requested, and agreed, to contribute to the GIS-development at KSS out of the Dutch core funding.

4 SUMMARY OF KSS ACTIVITIES

Open day

On June 15, 1990, an Open Day was organised at the National Agricultural Research Laboratories (NARL). The day was reported to be successful. Among the many visitors were the Minister for Research, Science and Technology, Mr George Muhoho, and the Director of KARI, Dr E. Nderitu.

Management

It was agreed that the following reports be written by WSC and KSS management and dispatched to DGIS, RNE and KARI: reports on the six-monthly working visits (International Activities Reports of WSC), quarterly progress reports (Head KSS) and annual reports (KSS staff). It was stressed that the quarterly reports should be brief, to-the-point statements on the achievements in a period of three months. The annual report should be split into a general part, including a list of officers having been on long- or short-term training, short workshop reports (0.5-1 page) and the general state of affairs at KSS during the reporting period. Next, a technical part should clearly list the tasks and achievements of each officer during that year, the results of conducted studies, and, in case requests for surveys have been received, from whom, whether the services were paid for, and whether any overhead was charged.

Meetings with the section coordinators should be frequent, and should have a more technical character than the general staff meetings.

Field Survey Section

The Government of Kenya funds for fieldwork are scarce and are depleted rapidly by a survey organisation such as KSS. In addition, the funds usually come late. As mentioned in an earlier report, it is imperative that six-monthly allocations reach KSS by early January and early July. It is frustrating for field survey officers to have to give up their work planning because allocated funds are not there, and see the fieldwork-friendly months of January, February, July and August go by from behind the desk.

It was agreed by KARI that surveys-on-request are charged according to fixed prices. A pricing system for the different

kinds of survey has been prepared by Mr Kilambya (KSS Agro-Economist). It was discussed during the mission, and it will soon be submitted to KARI which will officially gazette the document. The pricing system includes a certain percentage overhead, of which KARI will return 50% to KSS for reinvestment. This is a very encouraging first step in becoming self-supporting. Free-of-charge surveys must be completely abolished. It turned out that individuals requesting such services were very well able to pay for them. As deadlines need to be met to satisfy clients, it was suggested to pay KSS officers 75% of their daily allowance during the survey. On delivering the draft report to the client, the remainder will be paid.

The Field Survey Section of KSS is presently headed by Mr Aore, who joins editing responsibilities for all survey reports with Mr Okoth, from the same section, and Mr Gatahi, from the Land Evaluation Section. Mr Aore gave the visiting WSC officer a clear picture of the different duties of the officers at the time of the visit. Mr Waruru, before leaving for Belgium for MSc. training, produced four reports. Mr Aore is in charge of the on-going Narok reconnaissance survey. Mr Okoth will focus on the completion of the Transmara reconnaissance survey. Mr Gicheru will do the same for the reconnaissance surveys of Bondo and Chuka. Mr Rachilo has nearly completed the Busia reconnaissance survey report. Mr Kimani returned from training in The Netherlands (ITC, Diploma Course in Soil Science) and will embark on new surveys.

Land Evaluation Section

This section is headed by Mr Gatahi. He is the editor of all Land Evaluation chapters in KSS reports. Next, he has been working on a research proposal on the measurement of moisture availability to crops in various Kenyan soils.

Meanwhile, Mr Gatahi is in charge of the write-up of the reconnaissance survey of Malindi. The research proposal mentioned above will be supported after the Malindi survey report has been completed.

Mr Kamoni left for ITC, Enschede, for a specialised training on Geographical Information Systems. He will be managing the GIS development at KSS in the near future.

KSS vegetation scientist Mr Situma will join the GTZ Range Management Handbook Project team to Turkana District during September/October 1990. He will be the counterpart to Mr Herrlocker, the team's vegetationist/range ecologist. The team further includes the WSC soil scientist Drs Touber, officers from the Ministry of Livestock Development and the project teamleader (Dr Walther).

Mr Achieng (land use survey) will join the West Virginia University in January 1991 for BSc. studies on Agronomy. Mr Kilambya (agro-economist) will assist the KSS management in drafting the annual budget, and in further developing a pricing system for soil surveys. Also, Mr Kilambya is in charge of the description of Land Utilization Types for land evaluation at reconnaissance scale.

Soil and Water Management Section

In the previous mission report, it was stated that the soil physics laboratory is poorly equipped. As a follow-up, discussions were held with Mr Mare, who suggested the procurement of a number of instruments. As soil physical aspects and management become increasingly important in land evaluation in Kenya, it was suggested to send Mr Mare to The Netherlands by early 1991 for a refresher course on measuring techniques (infiltration, permeability, matric suction, texture). The section awaits the return of Mr Ekirapa, who is in Canada for MSc. studies. The present research work on quantification of moisture availability by Mr Kiome as well as the research proposal by Mr Gatahi indicate the need to make the physical laboratory more operational. Mr Kariithi will soon complete his Polytechnic training (high grade), and will then be a full member of the section.

The KSS Agro-climatologist, Mr Ndaraya, contributes to KSS reports in the form of writing climate chapters. He will also undergo DBase training, so as to prepare him for his tasks in automated data storage, manipulation and retrieval of climatic data.

The soil micromorphology laboratory is well-equipped, but rather underutilized. Only one technical officer (Mr Kinyanjui) and one technical assistant (Mr Onyono) man this laboratory, whereas they also have field work duties. Specific training on preparation and interpretation of thin sections is imperative to keep this section up to standard. Therefore, both officers are proposed for long-term training in 1991.

Soil Chemistry and Fertility Section

The KSS soil chemistry laboratory performs special analysis, requested by KSS field officers. Routine analysis of soil samples is normally done at the NARL Section 'Agro-Chemistry', but the KSS section can also do this if required.

A set of equipment was purchased for the laboratory. During 1990 and 1991, efforts are geared towards enhanced operationalization of this laboratory, which is manned by Mr Ochieng (head), Mr Kariuki (BSc.) and Mr Gachini (Polytechnic). Mr Ochieng will participate in a refresher course in The Netherlands in October 1990 for a duration of two months, whereas Mr Gachini will undergo DBase training, so as to prepare him for automated storage, manipulation and retrieval of soil chemical data.

The laboratory urgently needs one or two new technicians (polytechnic level).

Cartography Section

For the cartography section, quite a number of items were bought in The Netherlands and also in Kenya (see Section 'Equipment'), including the long-awaited lettering machine. A number of pending reconnaissance maps can now be printed soon. Training for this section is in full swing. The coordinator of the cartography section, Mr Olulo, will visit a symposium on thematic mapping from satellite imagery in France in September, after which he will follow a short refresher course in October 1990 in the Netherlands (ITC, WSC). Mr Maingi is

presently attending a specialized 4-months GIS course at ITC, Mr Osiemo follows a one-year cartography course at ITC (to be completed in December 1990), Mr Mikisi will be considered for further training in 1991, and the section recently welcomed Mrs Pamela Oketch as a permanent staff member, who for many years delivered good services to the section while being a casual.

5 REPORTING BACKLOG

The backlog of survey reports was dealt with at length during the mid-1989 'Workshop on Report Writing and Editing', by Dr. T. de Meester. By mid-1990, the progress as to reconnaissance surveys is still modest. The pending reports are:

- Makueni (R5) - write-up halfway (Muchena, Njoroge)
- Busia (R8) - ready for editing and printing (Rachilo)
- Galole (R9b) - map to be completed soon (Kibe, Kinyanjui)
- Bondo (R10) - map to be completed soon; write-up halfway (Gicheru)
- Transmara (R13) - text ready for 75%; map to be completed soon (Okoth, Wamicha)
- Malindi (R14) - write-up in initial stages (Gatahi)
- Narok (R15) - fieldwork on-going (Aore)
- Chuka (R16) - text ready for 75%; map to be completed soon (Kiome, Gicheru)

Completion of the maps has been delayed by the absence of a lettering machine at the Cartography Section. This instrument is now included in the consignment that is presently underway.

The backlog on requested surveys (detailed surveys and site evaluations) has been cleared. Moreover, reports of new surveys executed in 1989 and 1990 have been dealt with immediately on completion of the fieldwork. Presently, requests for surveys have been received from government institutions, parastatals and international organizations. With the KSS brochure out soon, it is expected that KSS may receive more requests than it can handle. According to KARI however, there is no immediate scope for expansion of senior staff.

6 RESEARCH PROGRAMME

Mr Kiome is carrying out a Ph.D. study on soil moisture availability to crops on the eastern slopes of Mount Kenya. Part of his study is funded by the Overseas Development Administration (ODA). A large part of his fieldwork is to be financed by KARI through EEC. During the mission, this money was found not to be available due to processing problems. In order not to have Mr Kiome stranded, he was given Dutch funds to continue his fieldwork until the end of 1990. This sort of expenditures is actually not budgetted for and is at the expense of other budget items.

It must be noted that the Dutch contribution to the KSS actually does not cater for the funding of research proposals. These mostly entail expenses of over KSh. 1,000,000/= (approx. Dfl. 77,000/= which is would be an overburden on an average annual budget of Dfl. 785,000/=.

KARI is to start a specific fund for research, drawing on core funds from the different donors. This still has to become operational.

7 WORKSHOP ON GEOGRAPHICAL INFORMATION SYSTEMS

A workshop was held at the KSS on Geographical Information Systems (20-24 August, 1990). A detailed account is given in a separate report by the course tutor, Ir A.K. Bregt (WSC). 20 research and technical officers from KSS and 2 from the NARL Irrigation and Drainage Research Section participated. The workshop was highly appreciated by most participants. It was seen as a very valuable first step of KSS towards future use of inventory data in the interest of land use planning. Use of automated data will also enable KSS to respond more rapidly to specific land resource-related questions from the national and regional agricultural staff.

The follow-up to this workshop consists of:

- three KSS officers will attend ITC, Enschede for a specialised training course on GIS; one general manager (Kamoni, MSc. Wageningen), one data base officer (Kimotho, Diploma Soils ITC) and one graphics officer (Maingi, Diploma Cartography ITC);
- seven senior KSS officers will follow four weeks DBase courses in Nairobi, so as to get familiar with storing and retrieving field data (3 surveyors, 1 land evaluation specialist, 1 agro-climatologist, 1 agro-economist, 1 soil chemist);
- two rooms at the KSS premises will be vacated for the preparation of a GIS-room and a computer room: painting, connecting door, new locks, protection bars in front of the windows, sturdy wooden tables accommodating positions for six computers, printers and a voltage stabilizer, extra sockets and a neat wiring system, chairs and shelves;
- hardware and software will be procured (financially supported through KARI core funding).

By January 1991, the three GIS trained officers will return to Kenya, and will be able to provide on-the-job training to other KSS staff. ARC/INFO experts at UNEP and RCSSMRS were found willing to step in for trouble shooting in the early stages, whereas they were also willing to release already digitized topographic information on Kenya to KSS. Students recruited from Wageningen Agricultural University may help in enhancing the use and understanding of the GIS.

The next workshop will be held in July/August 1991. Tentatively, the subject chosen is 'Land Evaluation: qualitative vs. quantitative approaches'.

8 EQUIPMENT

The following equipment was purchased during the first half of 1990:

Survey equipment

- 6 Giant footpumps for landrovers
- 2 office tents
- 6 living tents
- 10 metal jerricans (20 l)
- 10 canvas beds
- 4 kerosine lamps

4 gas lamps
 4 gas burners
 100 m² plastic and 100 m² canvas for repairing tents
 1000 m nylon sewing threads (6 mm)
 500 m nylon rope
 Spades, hoes and cooking utensils (in Kenya)

Office equipment

4 filing cabinets
 2 open cupboards (2 m high)
 2 Compaq 386 Personal Computers + matrix printer + voltage stabilizer
 2 Brother WP-5 typewriters/wordprocessors
 5 scientific pocket calculators
 stencilpaper, photocopying paper, printer paper
 Minor office items (in Kenya)

Labour and materials to turn two office rooms into a GIS-room and a computer room (tables, window bars, shelves, locks, new connecting door).

Laboratory equipment

Water distillation unit
 Water heater
 Isomantle
 Centrifuge tubes 100*100 ml, 100*50 ml
 Universal dispenser
 2 portable pH-meters

Cartography equipment

Kroy 190 lettering machine + accessories
 Large numbers of consumable items (not specified)
 Film and developer (in Kenya)

A consignment of the goods purchased in The Netherlands was shipped to Kenya in September 1990. KARI Senior Supplies Officer (Mr Murugu) will receive the Original Bill of Lading, with packlist and invoices. He will be responsible for a smooth clearance of the goods, once in Kenya. He will contact Mr Lubbers (RNE) for duty exemption.

9 TRANSPORT

Two cross-country landrovers were purchased in Kenya. KARI Supplies Section (Mr Murugu) and the RNE (Mr Lubbers) coordinated the procurement, resulting in release of the vehicles to KSS by mid-August 1990. They have four doors, are petrol-driven and equipped with two fuel tanks. The KSS landrovers are serviced at CMC. Complaints about deteriorating services at CMC have been laid down in a letter to the manager by Mr Wokabi, Head KSS, and were followed-up during the mission. Most vehicles are still roadworthy, but the older ones regularly develop problems, thus draining the

funds KSS receives from the RNE through KARI. These vehicles are: 98 Y, 99 Y, 486 Y and G 544. In better shape are the vehicles G 470, H 348, J 501 and J 502.

A Peugeot 504 was ordered by late August 1990. One of the older Peugeots (GK 900 S) often requires major repairs and may be phased out when the new vehicle arrives. The second Peugeot (GK 158 Y) and the pick-up still render good services.

The Canter minibus is still grounded because of an engine knock. It is still to be decided whether this vehicle will be revived.

It is again emphasized that each vehicle should be appointed to one and the same driver. During the mission, most vehicles were fit for the road, fuel was also available, but drivers were lacking. Two drivers retired recently, while two others have been transferred by KARI Headquarters. The Head KSS and the WSC officer pleaded at KARI Headquarters to rectify this situation.

It should also be stressed that the vehicles belong to the Kenya Soil Survey. Good and reliable vehicles are of primary importance to an organization such as KSS. There may be occasions that KARI Headquarters requires extra means of transport for certain occasions. This is understandable, but it should only occur in exceptional cases.

10 TRAINING/WORKSHOPS

The following officers were out on training at the time of the present mission:

- Wamicha (Ph.D. Germany), expected back in 1990,
- Ekirapa (MSc. Canada), expected back in 1990,
- Wanjogu and Macharia (MSc. Nairobi), until mid-1991,
- Osiemo (Cartography, ITC, The Netherlands), until Dec. 1990,
- Njoroge (BSc. West-Virginia University), until mid-1992,
- Aguno Omwanda (Library Studies, Botswana University), until mid-1991,
- Kamoni, Kimotho and Maingi (ITC, The Netherlands; special 4 months training on data base management and GIS); Sept.- Dec. 1990.

KSS officers attended the following international congresses:

- Gicheru (Congress on Desert Soils, Beijing, China; July 90).
- Wokabi, Okoth (ISSS Congress, Kyoto, Japan; August 90).

The following officers are due for long-term training:

- Waruru (MSc. Soil Science (Semi-)arid Lands, Gent, Belgium; on Belgian funds; 1990-1992)
- Wokabi (Ph.D. Land Evaluation, ITC, The Netherlands; Sept. 90-March 91)
- Achieng (BSc. Agronomy, West-Virginia, USA; Jan. 91)
- Kinyanjui (MSc. Soil micromorphology, Gent, Belgium; August 91)
- Mikisi (Cartography, Denmark; August 91)
- Onyono (ITC Diploma Course on Soil Science; Sept. 91).
- Rachilo (Soil Science (Semi-)Arid Lands, Gent, Belgium; on Belgian funds ??; Sept. 91).

Nominated for short term training, seminars and congresses are:

- Olulo (workshop cartography, Oct. 90)
- Ochieng (short course on soil fertility and plant analysis, Oct.-Dec. 90)
- Aore (FAO-sponsored meeting on new soil classification systems, Ghana; Nov. 90)
- Mare (2 month on-the-job soil physics, WSC Wageningen, early 1991)
- 4-5 officers (East African Soil Science Society, Arusha, Tanzania, Dec. 1990)
- 3 secretaries (WordPerfect, 'Insight Computers', Nairobi, Sep.-Dec. 90).
- 7 research and technical officers (DBase, 'Insight Computers', Nairobi, Sep.-Dec. 90).

It was agreed that daily allowances will be paid according to UN standards, as long as Dutch funds are drawn on. Officers going out for long-term training are subjected to daily allowance set by the institute/university at which they will stay, unless decided otherwise by the Head KSS and the WSC officer. In order to meet initial expenses and airport tax, the RNE will provide US \$ 120/= to each departing officer.

Officers travelling to The Netherlands should book their tickets through the KLM office in Nairobi. For other destinations, they may obtain tickets through other agents.

ACRONYMS

AUW	Agricultural University Wageningen
DGIS	Directorate-General for International Development cooperation, Ministry of Foreign Affairs (The Netherlands)
DRSRS	Department of Resource Surveys and Remote Sensing (Ministry of Planning and National Development)
EEC	Commission of the European Communities
FAO	Food and Agriculture Organization of the United Nations
FURP	Fertilizer Use Recommendation Project
GIS	Geographical Information System
GTZ	German Society for Technical Cooperation
ISRIC	International Soil Reference and Information Centre
ITC	International Institute for Aerospace Survey and Earth Sciences
KARI	Kenya Agricultural Research Institute
KSS	Kenya Soil Survey
ODA	Overseas Development Administration
NARL	National Agricultural Research Laboratories
RCSSMRS	Regional Centre for Services in Surveying, Mapping and Remote Sensing
RNE	Royal Netherlands Embassy
TA	Technical Assistant
TO	Technical Officer
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WSC	Winand Staring Centre for Integrated Land, Soil and Water Research

ITINERARY

28-7	13.00	Departure Amsterdam KL 595
	23.00	Arrival Nairobi JKA Airport
30-7	morning	KSS - Mr S.M. Wokabi, head; NARL - Dr. F.N. Muchena, Director
	afternoon	RNE - Mr J. Lubbers, clearance and fellowships officer
31-7 to 10-8		Visits to FURP sites in Nyanza and Coast Province
13-8	morning	KSS - Discussions with Gicheru, Rachilo, Ndaraya, Kamoni; Aguno (leaving 14/8 for Botswana)
	afternoon	KSS - Ochieng (acting Head KSS), Waruru, Macharia, Kariithi, Maingi
14-8	morning	KSS - preparation GIS workshop
	afternoon	KSS - transport matters (Shitakha, Situma)
15-8	morning	SS - Kiome (Ph.D. research); Kinyanjui, Ochieng
	afternoon	KSS - preparation GIS workshop; visit to CMC garage

16-8 morning	KARI - meeting with Mr R. Rutto, Deputy Director; Mr N.K. Murugu, Senior Supplies Officer
afternoon	KSS - meeting with Kilambya on costing proposal
17-8	KSS - meeting with D. Gachubi (IBM) on preparation GIS- and computer room at KSS; Gicheru (work planning Bondo and Chuka reports), Mare
20-8 to 24-8	KSS - GIS workshop by Ir. A.K. Bregt (Winand Staring Centre) Opening: Mr C. Njihia (acting Director NARL) Closing: Dr F.N. Muchena (Director NARL)
27-8 morning	KSS - Wokabi
afternoon	KSS - Aore (Coordinator Field Survey)
28-8 morning	FURP - seminar Dr F. Lenga and Mr R Roetter
afternoon	KSS - Wokabi Macharia, Waruru, Kamoni, Kimotho, Maingi (forthcoming training)
29-8 morning	RNE - debriefing Mr L. Jacobs (second secretary)
afternoon	KARI - debriefing Mr G. Hinga, ass. Director Soils, Water and other resources
30-8 morning	RNE - Mr N. Visser, agricultural attaché, Mr A. Huitzing, ambassaderaad
afternoon	FURP - Prof. Dr C. Kromm (Coordinator), Mr S.M. Nandwa (Counterpart Coordinator), Dr F. Schnir (Soil Chemist), Dr. H. Prestele (Agronomist)
31-8 morning	KSS - Wokabi
afternoon	KSS - Gatahi (coordinator Land Evaluation) Debriefing Mr C. Njihia (acting Dir. NARL)
2-9 2.45 a.m.	Departure KL 596.
10.00	Arrival Amsterdam.

Other persons contacted:

Dr H. Croze (UNEP)
 Mrs M. Schomaker (UNEP associate expert)
 Mr J. van Woerden (UNEP associate expert)
 Mr H. van Bremen (UNESCO associate expert)
 Mrs W. Ferguson (FAO associate expert at RCSSMRS)
 Mrs I. Duchhart (AUW - Dep. of Landscape Architecture)
 Mr B. van Helden (EEC)
 Dr D. Walther (GTZ, Range Management Handbook).

ANNEX

KENYA SOIL SURVEY/K.A.R.I. (KE/88/008)
Project phase 1990-1993; Contribution Netherlands Government (in 000 Dfl.)

	-1990-		-1991-		-1992-		-1993-		-TOTAL-	
	Neth	Ken	Neth	Ken	Neth	Ken	Neth	Ken	Neth	Ken
200 PERSONNEL COSTS										
211.4 Costs in the Netherlands	33.0		33.0		33.0		33.0		132.0	0.0
211-215 Short missions	40.2	4.0	40.2	4.0	40.2	4.0	40.2	4.0	160.8	16.0
270 Consultants	26.1		26.1		26.1		26.1		104.4	0.0
Subtotal	99.3	4.0	99.3	4.0	99.3	4.0	99.3	4.0	397.2	16.0
400 EQUIPMENT/INVESTMENTS										
421 Survey equipment	35.0		10.0		10.0		10.0		65.0	0.0
423 Cartographic equipment	100.0	5.0	25.0	5.0	25.0	5.0	25.0	5.0	175.0	20.0
424 Laboratory equipment	30.0	5.0	20.0	5.0	20.0	5.0	20.0	5.0	90.0	20.0
425 Office equipment	35.0	5.0	15.0	5.0	15.0	5.0	15.0	5.0	80.0	20.0
426 Library	30.0		15.0		15.0		15.0		75.0	0.0
430 Vehicles		130.0		85.0		85.0		75.0	0.0	375.0
480 Insurance, freight charges	10.0		10.0		10.0		10.0		40.0	0.0
Subtotal	240.0	145.0	95.0	100.0	95.0	100.0	95.0	90.0	525.0	435.0
500 OPERATIONAL COSTS										
520 Maintenance equipment		20.0		20.0		20.0		15.0	0.0	75.0
530 Maintenance vehicles	5.0	65.0	5.0	65.0		70.0		60.0	10.0	260.0
Fuel	5.0	35.0	5.0	25.0		20.0		15.0	10.0	95.0
540 Stationary	5.0	20.0		20.0		15.0		10.0	5.0	65.0
590 Travel, accomodation		35.0		25.0		15.0		15.0	0.0	90.0
Subtotal	15.0	175.0	10.0	155.0	0.0	140.0	0.0	115.0	25.0	585.0
600 TRAINING										
610 Netherlands	80.0	28.0	80.0	20.0	60.0	20.0	60.0	20.0	280.0	88.0
620 Kenya		44.0		25.0		25.0		25.0	0.0	119.0
640 Elsewhere	45.0	8.0	50.0	10.0	50.0	10.0	50.0	10.0	195.0	38.0
690 Short courses, workshops, seminars, congresses	10.0	30.0	11.0	32.0	17.0	39.0	17.0	39.0	55.0	140.0
Subtotal	135.0	110.0	141.0	87.0	127.0	94.0	127.0	94.0	530.0	385.0
SUBTOTAL	489.3	434.0	345.3	346.0	321.3	338.0	321.3	303.0	1477.0	1421.0
800 CONTINGENCIES	40.7	36.0	29.7	29.0	26.7	27.0	28.7	24.0	127.8	116.0
TOTAL	530.0	470.0	375.0	375.0	350.0	365.0	350.0	327.0	1605.0	1537.0
GRAND TOTAL		1000		750.0		715.0		677.0		3142.0