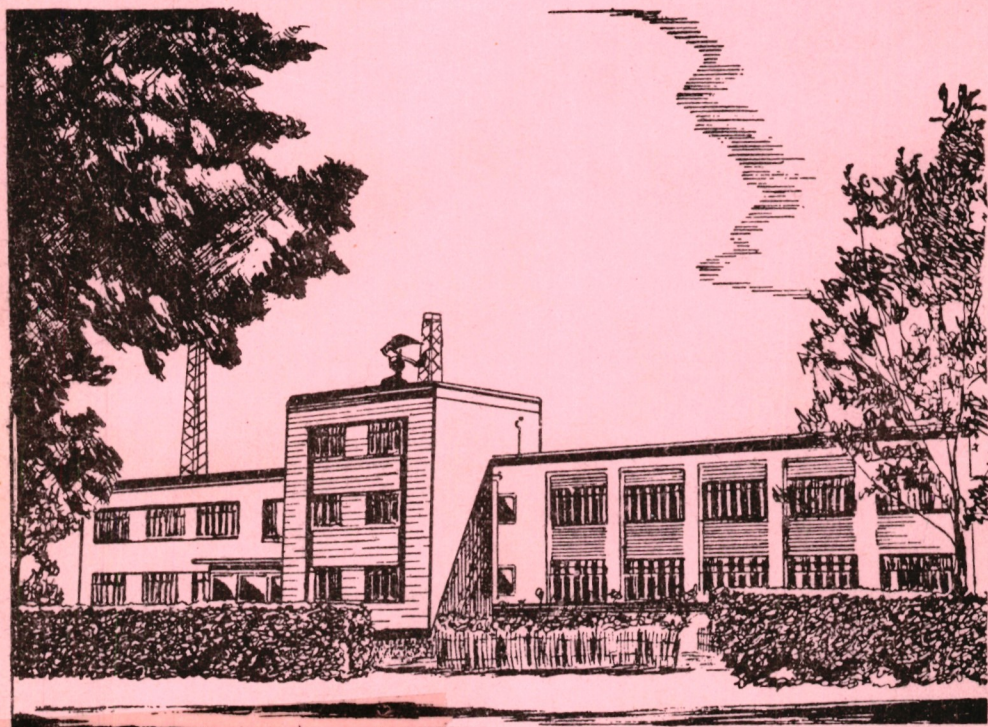




**KENYA
METEOROLOGICAL DEPARTMENT
ANNUAL REPORT 1981/1982**



Meteorological Headquarters

060

KMD

**ANNUAL REPORT
ON THE
KENYA METEOROLOGICAL DEPARTMENT
1ST JULY 1981 TO 30 JUNE 1982**

Presented by the Director
to the
Minister for Transport and Communications

Issued by
Kenya Meteorological Department
Dagoretti Corner, Ngong Road.
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KENYA NATIONAL ASSEMBLY
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1.1. FOREWORD BY THE ACTING DIRECTOR

During the period under review the Department continued to participate at the international level, in the activities of the World Meteorological Organization (WMO) constituent bodies. In particular, the Director continued his active and effective participation in the Executive Committee of the WMO. Our active participation in various functions of WMO constituent bodies has attracted considerable benefits to the Department through WMO's Voluntary Co-operation Programme (VCP) both in terms of equipments and fellowships for our technical and professional staff.

Various conferences and meetings of technical commissions of WMO met as a precursor to the World Meteorological Congress in 1983. The Department was represented in the Commission for Atmospheric Sciences (CAS) in Melbourne Australia, Commission for Instruments and Methods of Observation (CIMO) in New Mexico City, and Commission for Marine Meteorology (CMM) in Hamburg, West Germany. Various staff members participated in different working groups of the technical commissions of WMO in their expert capacity. In this respect, the Department has had up to four of its scientists selected to serve as expert members of working groups - a clear manifestation of the Department coming of age in the professional field of meteorology.

Among important visitors to the Department during the reporting period were Hon. J. Nyaga, M.P., Minister for Water Development and his Assistant Minister Hon. E. Kiptanui, M.P., the two Assistant Ministers for Transport and Communications Hon. M.P. Ole Nampaso, M.P., and Hon. M.O.S. Soba, M.P. We were further honoured by the visit of the Secretary General of WMO Prof. Wii-Nielsen, Secretary General of UNISPACE 82, Prof. Yash Pal, Dr. John Zillman Director of the Australian Bureau of Meteorology and Prof. G.O.P. Obasi, Director of Education and Training in WMO.

During my last report, I pointed out that we were in the process of installing various telecommunications equipment to facilitate meteorological data transmission and reception. I am now pleased to be able to report that during this period, the telecommunications computer was installed, tested and commissioned and should eventually take over the present semi-automatic system in the National Telecommunications Centre.

Our service to the various sectors of the economy improved somewhat with the improvement in telecommunications facilities. We continued to liaise with the various arms of the Government in matters requiring meteorological input; notably in Agriculture, Environment and Natural Resources, Water Resources Development and other areas where climatological data can be of use in national planning and development.

The period under review saw considerable efforts at publicizing the work of the Department through various media, notably the VOK and the local press. However, gaps still remained in communication with the general public on daily weather forecasts. Nonetheless, our public forecasts continued to verify up to 95% and our service to aviation continued to be of very high and competitive standards.

The Institute for Meteorological Training and Research continued to provide training to English speaking students in Africa and beyond. The student population ranged from 30 - 159 in the course of the review period. It is with pleasure that I report that the revenue earned at the Institute during this period was adequate to sustain the Hostel function throughout the year. A total of K.shs. 760,000.00 was earned through Hostel charges and over Kshs. 445,000.00 in tuition fees.

The research work at the Institute was reduced somewhat due, in part, to staff going out on fellowships, and redeployment to other urgent operational functions. Nonetheless, five research reports, which will ultimately be

published in scientific journals, were published during the period under review.

Staffwise, there was considerable reversal in the previous trend of mass resignations in the meteorological Assistant, Technician and Telecommunications Assistants cadres. This is due to our successful efforts to get officers promoted to vacant posts within the various cadres. We continued to have an extremely disciplined workforce, but in a few isolated cases, it was necessary to institute severe disciplinary action which led to the retirement, in the public interest, of two officers. It is with regret that I report the death of two officers, the late Mr. Charles Owino of natural causes and the late Mr. John Murage in a motor Vehicle accident.

Despite considerable expansion in the departmental facilities and staff, the Treasury found it difficult to provide the Department with required financial resources to sustain the expansion exercise and maintain high standards. This has called for considerable belt-tightening and, unfortunately resulted in the non-realization of some of our original objectives in the provision of better services to the various sectors of the economy.

I wish to take this opportunity to commend all staff of the Department for the commitment they have shown to assigned duties which has greatly enhanced our contributions to various sectors of the national economy. I wish to acknowledge with thanks the co-operation I have received from my colleagues in the Departments/Ministries of Agriculture, Environment and Natural Resources, Energy, Water Development, Defence and Civil Aviation in carrying out my duties.

A.L. Alusa

Ag. DIRECTOR OF METEOROLOGICAL SERVICES

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1.3. Functions of the Meteorological Department.

The Kenya Meteorological Department is the State Meteorological Service. It forms part of the Ministry of Transport and Communications. The Director is responsible to the Minister for Transport and Communications through the Permanent Secretary, Ministry of Transport and Communications.

The general functions of the Meteorological Department are:-

- (i) The provision of meteorological and climatological service to Agriculture, plantation farming, forestry development and for the better exploitation and utilization of natural resources for national development.
- (ii) The provision of meteorological and climatological service to water resources development and other government departments public corporations, local authorities, the mass media and the general public.
- (iii) The provision of meteorological service to civil aviation for the safety and economy of civil aircraft operations.
- (iv) The provision of meteorological service to shipping in the western Indian Ocean including the issue of cyclone warning for the safety of merchant and other ships in the western Indian Ocean.
- (v) The provision of meteorological service to military aviation for the safety of Kenya Air Force aircrafts for national defence.
- (vi) The provision of meteorological and climatological advice to the private sector including industry, commerce and public utilities
- (vii) The provision of meteorological and climatological advice for the improvement and

preservation of national environment for a better human life.

- (viii) The organization and administration of surface and upper air meteorological observations within its area of responsibility and the publication of climatological data.
- (ix) The maintenance of an efficient telecommunication system for rapid collection and dissemination of meteorological information required for national and international use in accordance with World Meteorological Organization and ICAO procedures.
- (x) Research in meteorology and climatology including co-operation with other authorities in all aspects of applied meteorological research.
- (xi) The maintenance of National Meteorological Library.
- (xii) Evolving suitable training programmes in all fields of meteorology relevant to national development.

The meteorological Department also takes a leading part in International co-operation in meteorology. The Director is the Permanent Representative of Kenya to the World Meteorological Organization and acts in concert with the other Directors of the Meteorological Services in the general development of meteorology in Africa. He is also an elected member of the Executive Committee of the World Meteorological Organization.

1.4. Principal Officers of the Meteorological Department.

Director

J.K. Murithi, B.Sc. (London),
Dip. Met. (Nairobi)

Deputy Director

A.L. Alusa, B.Sc. (Oregon State),
M.Sc. (State Univ. N.Y.)

Principal Met. Officer
(Office of the Director)

L.K. Kariungi

International Relations Section:

Principal Meteorologist G.Mwebesa (Mrs), B.Sc. (Nairobi)

Operational Services Division:

Assistant Director E.A. Mukolwe B.Sc.,
Dip. Met. (Nairobi)

Regional Meteorological Centre:

Principal Meteorologist K.N. Mutaku, B.Sc. (Dar-es-Salaam),
Dip Met. (Nairobi).

Aeronautical Section:

Principal Met. Officer A.C. Warratho
Jomo Kenyatta
International Airport J. Agin

Senior Meteorological Officers (in charge of forecast Offices):

Mombasa International Airport S. Magalasia

KAF Eastleigh Airport L.K. Njoroge

KAF Nanyuki Airport S. Wanderi

Port Met. Office, Kilindini S. Ochieng' (Acting)

Engineering Section:

Principal Engineering Technician P.S. Mwasi

Communications Section:

Senior Communications Officer J.M. Oluoch

General Services Division:

Assistant Director S.J.M. Njoroge, B.Sc.,
Dip. Met. (Nairobi)

Climatology Section:

Meteorologist R.S. Masika, B.Sc.,
Dip. Met. (Nairobi)

Observatories Section:

Principal Meteorologist J.H. Kinuthia, B.Sc. (Nairobi)

Agrometeorology Section:

Senior Meteorologist S.B. Oteng'i, B.Sc. (Nairobi)

Instruments Section

Senior Instruments Officer G.M. Muchemi

Printing Section:

Press Superintendent W. Ogada

Institute for Meteorological Training and Research, Nairobi.
(IMTR):

Assistant Director J.K. Njihia, B.Sc., M.Sc.,
Dip. Met. (Nairobi).

Training Section
Principal Meteorologist L.N. Njau, B.Sc. (Nairobi)

Research Section:
Principal Meteorologist R.E. Okoola, B.Sc. (Reading)

National Meteorological Library:

Librarian V. Saropa

Administrative Section:
Senior Executive Officer M. Owino

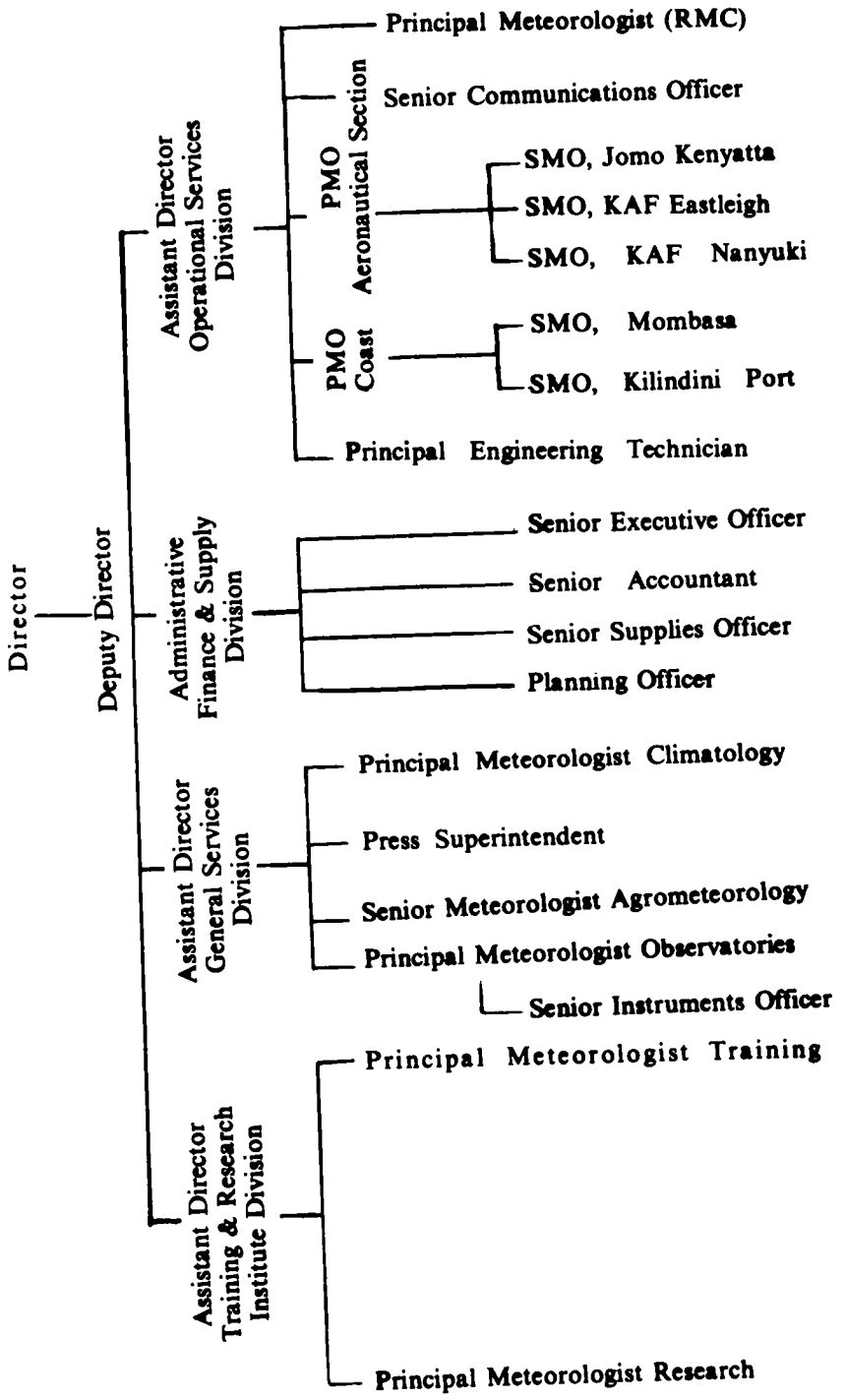
Accounts Section:
Senior Accountant J.E. Kamau

Supplies Section:
Senior Supplies Officer J.O. Nasibi

Planning Development Section:
Planning Officer E.G. Njoroge

Transport Section:
Transport Officer J.C. Ndungu

1.5 ORGANIZATION OF THE METEOROLOGICAL DEPARTMENT



2. Technical Co-operations and General International Affairs:

2.1 General

The Department was involved in many international activities during the period. Bilateral programmes aimed at the maintenance and modernization of the National Telecommunications Hub (NTH) and the National Meteorological Centre (NMC) continued to be implemented. The country was represented at international meetings by several officers.

2.2. Overseas Training.

Through the World Meteorological Organization (WMO) Voluntary Co-operation Programme (VCP) and bilateral arrangements, the following specialized training programmes were undertaken.

2.2.1. Messrs G. Kibiru and C. Gathu attended a five and half months course on the maintenance of the APT/WEFAX receiving station organized in the Federal Republic of Germany.

2.2.2. Mr. R. Masika attended a three-week WMO workshop on data processing in the United States of America.

2.2.3. Messrs G. Muhoro and P. Kanui continued their training on Electronics in the United Kingdom.

2.2.4. Messrs J.M. Kimani, D.M.M. Saisi and J.G. Njuguna were attending a course on computer science in France by the end of the period.

2.3. Equipment

Through the VCP Programme of the WMO, the Federal Republic of Germany donated an Automatic Picture Transmission Receiver (APT/WEFAX) station which was installed at the Institute for Meteorological Training and Research in April 1982. The installation of the Automatic Message Switching System which was acquired through the French Credit was nearly completed by the end of the reporting period. Installation of other equipment and instruments acquired through bilateral arrangements and

VCP continued both at the Department's Headquarters and Outstations.

2.4. International Conferences and Meetings:

2.4.1 During September/October, the Director, Mr. J.K. Murithi and Assistant Director, Operations, Mr. E.A. Mukolwe attended a Civil Aviation Area Forecast Panel in Montreal, Canada during April/May.

The Director accompanied by Mr. E.A. Mukolwe and Mr. A.C. Warratho represented Kenya at the ICAO Meteorology/Communications Divisional Meeting and the WMO Commission for Aeronautical Meteorology in Montreal, Canada. In June the Director accompanied by Mr. E.A. Mukolwe and Mrs. Mwebesa attended the 34th Session of the Executive Committee of the World Meteorological Organization in Geneva, Switzerland. In January the Director represented Regional Association I (Africa) in a WMO Panel on Technical Commissions. Towards the end of January the Director accompanied by Mr. S.J.M. Njoroge and Mrs. Mwebesa represented Kenya at the WMO RA I Climate Conference held in Arusha, Tanzania.

2.4.2. The Deputy Director, Mr. A.L. Alusa attended a meeting of experts on Cloud Physics and Weather Modification in Boulder, Colorado, U.S.A. in December 1981. In February, 1982 Mr. Alusa represented Kenya at the 8th Session of the WMO Commission for Atmospheric Sciences in Melbourne, Australia. From Melbourne, Mr. Alusa travelled to Indonesia where he had discussions with the Director of Geophysical Meteorological Institute in Jakarta on data processing and its computerization.

2.4.3 Messrs E.G. Njoroge and R.S. Ochieng' represented Kenya at the 8th Session of the WMO Commission for Marine Meteorology in Hamburg, West Germany.

2.4.4. Mr. S.J.M. Njoroge, Assistant Director, General Services, represented Kenya at the 8th Session of the

WMO Commission for Instruments and Methods of observation in Mexico City.

2.4.5. Mr. R.E. Okoola participated in an International Conference on the Scientific Results of the Monsoon Experiment and MONEX Review Meeting held in Bali, Indonesia. Mr. Okoola also attended a Winter Workshop on the Monsoon Dynamics in Dacca, Bangladesh.

2.4.6. Mr. A.C. Warratho represented the Department at a WMO Working Group on the Provision of Meteorological Information to Aircrafts Before and During Flight (PROMET) in Washington D.C.

2.4.7/ Mr. S.B. Oteng'i participated at a WMO Symposium on Meteorological Aspects of Tropical Droughts held in New Delhi, India.

2.4.8. Mr. L.N. Njau represented Kenya at a Meeting of Government Experts on Climate related monitoring activities held in Geneva.

2.4.9. Mr. K.N. Mutaku, Senior Meteorologist, attended a meeting of the WMO's Working Group on Codes held in Geneva.

2.4.10 Mr. J.H. Kinuthia, Senior Meteorologist, attended a meeting of the Commission for Basic Systems Working Group on the Global Observing Systems. The session on the study Groups on Best Mix Observing Systems was held in Shinfield Park, United Kingdom.

2.5. Institute for Meteorological Training and Research:

The second meeting of the Inter-Governmental Council of the Institute was held towards the end of October, 1981 and participants from Ethiopia, Kenya, Malawi and Zambia together with WMO and UNDP representatives had very useful discussions. During the last quarter of the period the Institute was visited by Professor G.O.P. Obasi, Director of the Education and Training Department of the WMO. Two Meteorologists from Ethiopian Meteorological Agency visited the Department on a familiarization tour. The Institute continued to offer training facilities to students from Africa and Beyond.

2.6. Important Visitors to the Department:

Many people from all walks of life and from many parts of the World visited the Department during the period. Researchers, farmers, educators and students sought expert technical advice concerning the weather and climate from the Department. Other experts and administrators visited the Department to acquaint themselves with the work of this service and exchange views with officials of the Kenya Meteorological Services. A few of the visitors to the Department are listed below:-

2.6.1. In early August the Secretary-General of the World Meteorological Organization, Professor A. Wiin-Nielsen visited the Department together with the Secretary-General of Unispace 82, Mr. Yash Pal, from United Nations, New York and Mr. Theresa Ruinge from the Kenya National Council for Science and Technology.

2.6.2. In the middle of August Ms Carol Borquaye from Australia visited the Department.

2.6.3. Towards the end of August Messrs Hans Kramp of UNDP, Bujumbura, and Best Kisrup of the Danish Meteorological Institute visited the Department.

2.6.4. During the Inter-Governmental meeting of the Council for the IMTR, the following experts had discussions with officials of the Department:-

B.K. Mlenga from Malawi Meteorological Services, V.A. Simango, Director of Zambia Meteorological Department, W. Degefu, General Manager of the National Meteorological Agency of Ethiopia, B. Lagarde of WMO, G.C. Asnani from University of Nairobi and Karen Petersen of UNDP, Nairobi.

2.6.5. In the first half of November, the Department was visited by Mr. C.N. Mutitu, Director, Water Engineering Department of the Kenya Ministry of Water Development. During the same time Mr. Takei of UNESCO, Dakar, Senegal and Mr. W.S. Sehmi of WMO, Geneva visited the Department.

2.6.6. Mr. S.B.O. Omondi, the Deputy-Secretary with the

Ministry of Transport and Communications visited the Department during the latter half of November. Mr. K. Macleod of WMO, Geneva visited the Department during the last week of November.

2.6.7. Mr. W.M. Ndetei, Under-Secretary, Directorate of Personnel Management visited the Department in February and officiated at a graduation ceremony at the Institute.

2.6.8. In March the Department was honoured by the visit of two Assistant Ministers; Hon. M.O.S. Soba and Hon. M.P. Ole Nampaso of the Ministry of Transport and Communications.

2.6.9. At the beginning of May, the Department was visited by Professor G.O.P. Obasi, Director of the Education and Training Department of the WMO, Geneva.

2.6.10. In the middle of May, the Department was honoured by the visit of the Minister for Water Development Hon. J. Nyaga accompanied by his Assistant Minister Hon. E. Kiptanui and Mr. A. Vienna, a Deputy Secretary. Hon. Nyaga officiated at the opening ceremony of a hydrological course organized by WMO.

2.6.11. Dr. John Zillman, the Director of the Australian Bureau of Meteorology visited the Department towards the end of June.

3. Operational Services Division:

3.1. General:

One of the major changes that took place in the Division was the installation of the telecommunications computer which will eventually replace the current semi-automatic system in the National Telecommunications Centre (NTC). It will have quite an impact in the volume of data exchanged and on the speed at which it is exchanged. Along with the new system, an air conditioner and a no-break system were also installed. Other installations which have already been accomplished are the new type of receivers and transmitters, secondary APT/WEFAX stations and a complete APT/WEFAX stations at the Institute.

Although there was only one Divisional meeting, there

were a number of co-ordination meetings to plan the above installations. The division actively participated in the agricultural shows. This year, the Division was also charged with the co-ordination of the World Meteorological Day Celebrations and continued to co-ordinate the teaching of the new Synop and Ship Codes which became operational in January.

Installation of new radio telephones to improve the national data collection network was held up by lack of material and transport. The quality of work in the Division was affected by lack of spare parts, and qualified personnel. Despite the drawbacks, all the available resources were mobilised to maintain a high quality of service. Transport admittedly rendered below average service as a result of the age and the condition of the Vehicles. By the end of the period a number of vehicles had been boarded as being uneconomical to run but unless they are replaced the situation is unlikely to improve. Due to the co-operation of everyone, the Division had a very successful year in discharging most of its duties.

3.2. Weather reports and forecasts:

Intensive training courses in the application of the synop and ship codes were conducted and when they became operational on 1st January, 1982, no problems were experienced .

The surface observation network over Kenya increased when Kakamega and Kisii were up-graded to full time stations. However, the radio-sonde ascents from Garissa were infrequent.

Data reception from Offenbach and Lusaka was generally good with only a few problems of temporary nature. Reception from the Cairo and Kano areas of responsibility was fair while that from the Brazzaville area remained poor. A number of Weather reports from Uganda started to trickle in through the AFTN and radio telephone but the reports were very sparse and irregular.

Finished products from other Regional Meteorological Centres were not available at one stage due to

lack of Mufax paper. The normal synoptic network continued to be supplemented by Satellite photographs.

The Upper Air Unit at the Headquarters functioned satisfactorily with a high number of successful ascents. The Upper Air Unit at Kericho functioned well except for the months of July and April when all ascents except one were impossible due to shortage of hydrogen gas.

The Garissa Upper Air Unit was non-functional because the hydrogen plant was out of use.

3.3. Regional Meteorological Centre (RMC)/National Meteorological Centre (NMC) Area Forecast Centre (AFC):

3.3.1. General:

Staff in National Meteorological Centre continued to discharge their duties efficiently. However, a number of difficulties were encountered, among them being lack of essential stores. Since the closure of the two side doors after the installation of the APT/WEFAX equipment the working area remained stuffy since no extractor fans were acquired. Shortage of staff especially in the Meteorological Assistant cadre was a major handicap to the work of the Division.

3.3.2. Operations:

A course on interpretation of photographs received from satellites was organized for Meteorologists. The course was conducted by an expert from France. The APT/WEFAX equipment was fitted with a component having a programme for gridding pictures from polar orbiting satellites. This component later became non-operational and the pictures were received without the grids which are useful in pin-pointing more accurately the position of various features portrayed by the pictures.

3.4. Meteorological Service to Civil Aviation:

Upper air observations over the tropical belt continued to be poor with the result that any derived upper air prognosis had low level of confidence. The number of AIREPS and debriefs received at the AFC were very few compared with the daily flights operating in the belt.

The significant weather prognosis was improved by satellite photographs. Some of those from the geostationary satellite were partly processed to determine cloud tops. When mifax paper was in short supply, significant weather and prognostic charts had to be taken to Jomo Kenyatta Airport by road while Mombasa Airport was made to do with ARMETS.

A number of meteorologists and forecasters went for familiarisation flights arranged through the courtesy of Kenya Airways.

3.4.1. Summary of Weather Forecasts and Reports:

Forecast folders (JKA)	12145
Forecast folders Wilson	2957
Rofors/Proros (Routine)	2591
Rofors/Proros (Misc.)	1458
Trend Type forecasts	17869
Tafs - JKA	4380
Tafs - Kisumu	856
Aireps	1891
Forecasts folder - Moi	2946
Tafs - Moi Airport	4380
Tafs - Malindi	730
Trend type forecasts	17520

3.4.2. Other Matters:

There were three accidents of which two were non-fatal at Wilson Airport. In the third accident all four occupants died. There was an increase of traffic at Kisumu since Kenya Airways Started operating some flights there. Mawingo Airlines operating from Malindi requested for TAFS and QFAS to be decoded on Form 2053.

3.5. Meteorological Service to Military Aviation:

Problems similar to those outlined under item 3.4. above were encountered in discharging these duties. Special monthly weather bulletins requested during the last report continued to be supplied to Military aviation.

3.6. Meteorological Service to Shipping in West Indian Ocean.

In addition to normal daily bulletins on shipping, warnings were issued on eight tropical cyclones which occurred in the neighbourhood of Malagasy. These cyclones were mostly identified by means of satellite photographs because the observational data from ships in the area was very sparse and, on some occasions, not available. The severest of these cyclones was "JUSTINE" which occurred in the third week of March causing a delay in the on-set of the long rains over the Kenyan areas. Much destruction was also reported from Malagasy.

Following the recommendations submitted by the Commission for Marine Meteorology, a WMO questionnaire on issuance of significant weather for shipping was completed and returned to WMO Headquarters. An additional chart for shipping based on 0600Z observational data and analysed in a similar manner as the one based on 1200Z data was introduced. Ship observations received via Mombasa radio during the period totalled 1806.

3.7. Meteorological Service to the General Public:

The monthly weather bulletins were not published in the daily newspapers. However, these were published by the "Kenya Farmer" and in the "Farming Weather", the latter being issued by this Department. During the World Meteorological Day Celebrations, a number of talks and interviews through radio and television were organized with the Voice of Kenya. Public talks and conducted tours were also organized both at the Headquarters and at all Meteorological Stations.

3.8. National Telecommunications Centre (NTC)/Regional Telecommunications Hub (RTH).

The programme of modernizing the department's telecommunications system continued steadily. Installation of the Telecommunications computer was nearing completion. The programme also included installation of Transreceiver Radio Telephone to 17 observing stations around the

Republic. Another improvement on data distributions was the re-engineering of the two omnibus (OPMET and BAMET) circuits.

There had been a remarkable improvement on the reception of the meteorological data after the installation of the new receivers, after overhauling the old aerials and installation of the new additional serial. In order to meet the World Weather Watch requirements NTC Nairobi added into its circuit a link with NMC Mogadishu. At the time NTC Nairobi had eight international centres connected to it. Of these Offenbach, Lusaka and Reunion, were on satellite, while Cairo, Kano, Addis-Ababa and Mogadishu were operating on HF Mode of communications.

Landline circuits linked the NTC to three meteorological centres, namely Jomo Kenyatta, Moi and Dar-es-salaam Airports. Apart from day to day intermittent break-downs, all circuits linked to the NTC Nairobi, had been operating satisfactorily, leading to circuit performance of ninety percent.

3.9. Engineering Section:

3.9.1. There was a shortage of qualified staff in all the Engineering units. Resignation of technical staff was the major cause of the shortage.

Equipment training for Engineers and Technicians was carried out on transmitters, Automatic Switching Equipment and on the operation of power generator. One Telecommunications Engineer attended a course on Micro-Wave Techniques at the Kenya Posts and Telecommunications Corporation ; Central Training School Mbagathi; while one technician continued the training in telecommunications at the Kenya Polytechnic.

The number of Engineering staff remained far below that needed in order to cope with the amount of engineering work for the extra equipment obtained under French Credit.

3.9.2. Installations:

An Engineer from Germany and two Engineers from the Department installed Donnier APT ground equipment at

the Institute. A Radio Telephone was installed at Makindu Meteorological Office. A wideband aerial was installed at Lodwar Meteorological Station. Mr. G.A. Delorme and Mr. Mr. Jongejanis of European Space Agency visited the section in connection with Meteorological Data Distribution systems to be installed. (SIRIO - 2)

All installed equipment and systems functioned satisfactorily. The problem of spare parts continued to exist due to shortage of funds. Some of the transmitter parts which needed to be replaced from France took a long time to arrive.

3.9.3. Other Activities:

Mr P.M. Kimotho represented the Department at the 15th Annual Regional Telecommunications Conference in Gaborone, Botswana, from 24 August, to 8th September, 1981.

Mr. J.F. Omware went to Cairo, Egypt, to carry out bilateral monitoring operation on our transmission frequencies to Cairo.

3.10. Transport:

Most of the vehicles in our fleet were mainly old ones some of whose bodies were badly in need of rebuilding. They were invariably in the garages for one reason or another and they were becoming expensive to run. A number of accidents added to the plight by grounding some of them and putting others temporarily off the road. Fortunately none of these accidents was fatal. Some of the vehicles were held in garages for periods due to lack of spare parts. At the beginning of the report period, two of the previously boarded vehicles were replaced with a Range Rover and a Datsun pick-up.

Despite the difficulties outlined above, a number of journeys were made to various areas of the country.

4. General Services Division:

4.1. General:

The Division is responsible for the natural resources activities of the Department which include Climatology, Data Processing, Agrometeorology and Hydrology. In addition Instruments, Printing, Observatories and Training schedule

fall under the Division.

4.2. Weather in Kenya.

The period under review has been characterized by rainfall totals that were below the long term averages in most areas. Between July and December 1981 most areas had rainfall below the average. In 1982, the first three months received rainfall totals of the order of 60% below the average, except in Nyanza and Western Provinces. April and May rainfall records were generally near and above average. Summary of rainfall totals for the periods July 1981 to June 1982 and the percentage of the long term mean from selected stations is shown below:

Western Province:

The area received rainfall totals that were below average except for the months of September and April where rainfall totals were near and above average reaching maximum in the month of May where Kakamega and Busia districts recorded rainfall totals almost twice the average.

Station	Total (mm)	% of Mean
Bungoma	1198	113
Busia	1362	85
Butere	2057	96
Kakamega	2150	106
Bukura	1945	97

Nyanza Province:

July to December 1981 period was characterized by rainfall totals of the order of 20-40% below the average with the exception of September where Kisii and South Nyanza districts recorded rainfall totals above the average. January to June 1982 period rainfall totals were near average, most rain was in months of April and May with Kisii and South Nyanza stations reporting rainfall totals three times the average.

Station	Total (mm)	% of Mean
Kisumu	929	70
Kisii	1644	101
Maseno	950	50
Kadenge	1497	95

Rift Valley Province:

The total rainfall for the six months of 1982 was below average by 60% in the Northern and Southern districts, and between 20 - 40% below the average in the highlands west of Rift Valley and Nakuru districts. while Highlands West of Rift Valley and Central Rift Valley recorded rainfall totals which were above average in the months of April and May. Other parts of the Province had rainfall totals of the order of 20 - 40% below the average.

Station	Total (mm)	% of Mean
Nakuru	876	82
Nyahururu	902	77
Narok	592	80
Magadi	277	55
Ngong	514	62
Lodwar	140	76
Kitale	1585	133
Eldoret	1008	86
Kericho	2106	103
Njoro	804	85

Central Province and Nairobi Area:

The Province received varied rainfall from place to place. January and February were dry months with rainfall totals of the order of 50 - 80% below the average. Between months April and May rainfall totals were near and above average in the whole province. Nyeri and Murang'a districts reported rainfall totals that were almost twice the average in the month of May.

Station	Total (mm)	% of Mean
Murang'a	1151	96
Nyeri	1097	119
Kiambu	692	67
Kikuyu	904	93
Thika	536	61
Dagoretti	736	69
Jomo Kenyatta Airport	381	50
Kabete	821	80

Eastern Province:

July, January and February rainfall totals were very low to the tune of 80 - 100% below the average. During the months of October, March, April and May the Province experienced rainfall totals which were near above average with Marsabit recording twice the average. Most of the rain occurred in May.

Station	Total (mm)	% of Mean
Moyale	944	134
Marsabit	1162	137
Meru	1138	85
Embu	1118	104
Machakos	451	65
Makindu	408	67

North Eastern Province:

Rainfall totals for this area were generally below average with July, August, January and February rainfall totals being about 90% below the average. Garissa had rainfall totals that were above average between April and May.

Station	Total (mm)	% of Mean
Garissa	302	93
Mandera	176	69
Wajir	199	69

Coast Province:

The Province had rainfall totals that were above the average mainly over the Coastal Strip. The Inland stations with the exception of Voi were deficient in rainfall during the year with rainfall totals between 40 - 60% below the average. October, April and May rainfall totals were above average with some of the Coastal Strip stations reporting three times their average rainfall.

Station	Total (mm)	% of Mean
Lamu	1585	174
Malindi	1298	123
Mombasa	1598	153
Voi	564	102
Kiwalwa	378	60
Taveta	179	52

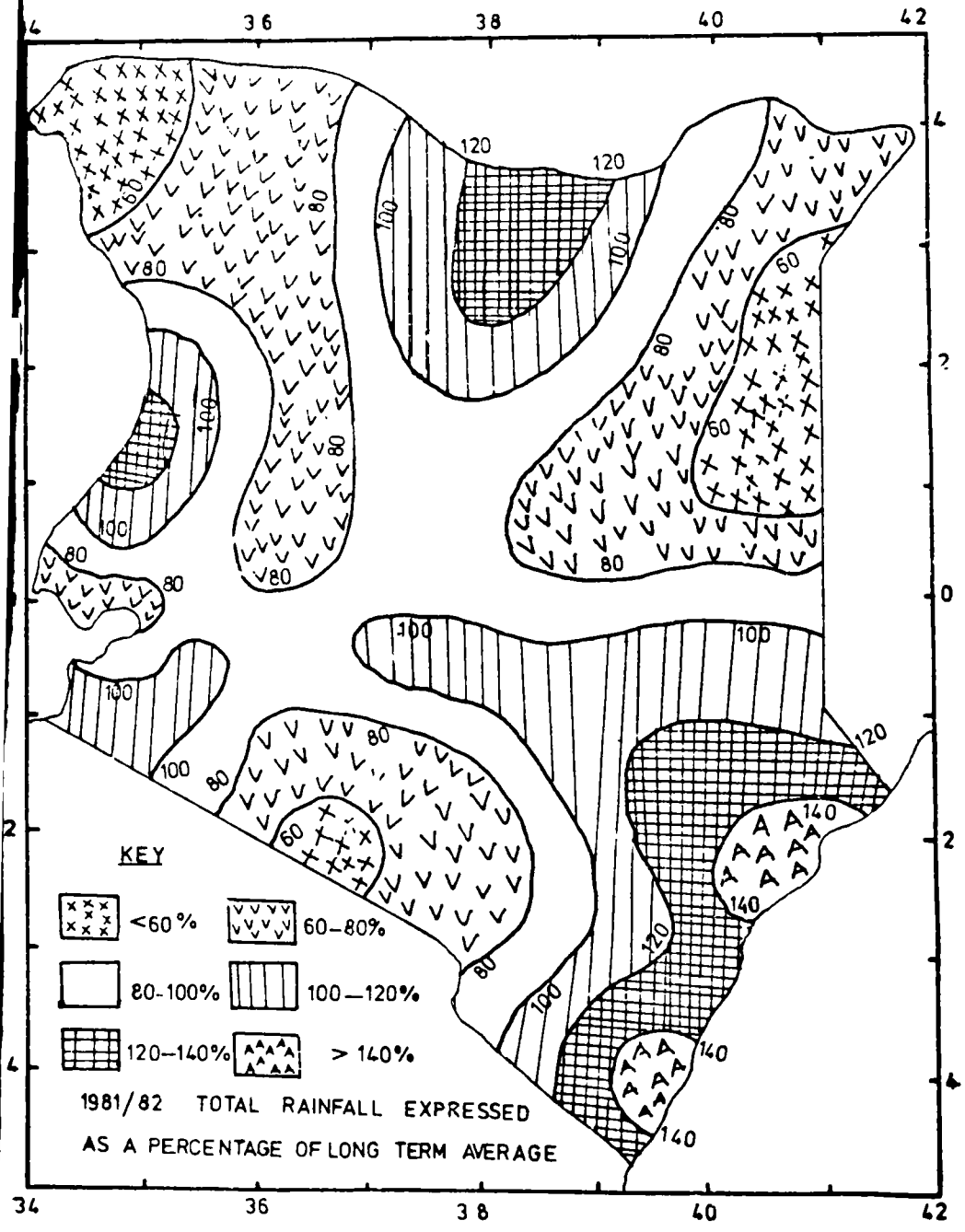
4.3. Agrometeorology and Agromet Observatories:

The Section remained temporarily understaffed during most of the period as two meteorologists and one Senior Meteorological Officer left for further studies.

Expansion of the station network was put in abeyance pending the outcome of the negotiations between this Department and various ministries hosting some of the Agrometeorological stations. The current Agromet Observatories are situated at Kabete, Thika, Embu, Meru, Nyahururu, Njoro, Kitale, Kakamega, Kisii, Mtwapa, Msabaha and Katumani.

Two publications, 'Weather and Crop Review' issued for every ten days period and 'Farming Weather' issued for every month continued to be received well by the farming community.

Research work on the determination of soil constants for various stations was started by the section with the collaboration of staff at the Institute for Meteorological Training and Research, Nairobi.



4.4. Hydrometeorology:

4.4.1. The Hydrometeorology unit which continued to function within the Climatology Section worked closely with the Ministry of Water Development and the Hydromet Survey Project of Lake Victoria. For the efficient running of the Hydromet network around Lake Victoria, the Department continued to station Mr. W.O. Otieno, a Senior Meteorological Supervisor, at Kisumu to supervise and inspect the Hydromet Survey Project network.

4.4.2. In addition to Lake Victoria network the Hydrometeorology unit maintains a network of rainfall observing stations throughout the country which number one thousand seven hundred (1,700). The rainfall stations Inspector made only three inspection safaris which covered Nakuru, Nandi, Kericho, Uasin Gishu, Baringo, Narok, Moyale, Marsabit districts and Nyanza Province. A total of two hundred and seventy one (271) rainfall stations were inspected and thirty three (33) new ones recruited. A total of 80 measuring glasses and 29 raingauges were issued to various rainfall stations to replace defective ones. Shortage of raingauges and transport problems made the inspection of rainfall stations difficult towards the end of the period.

4.5. Climatology and Data Processing:

4.5.1 There was no major change in the organization or function of the climatological section during the period.

4.5.2. During this period the Deputy Director and Officer in Charge Climatological Section (CLS) represented the Department in meetings on the development of National Lighting Protection Code. They worked on the cloud distribution in western Kenya. The Department was one of the Government Departments which was requested to contribute to the National Position Paper on Human Settlement in Disaster-Prone Areas which was discussed during the 5th Session for Commission on Human Settlement held in Nairobi between April/May 1982. The Deputy Director and Officer in Charge CLS, represented the Department and

worked on a section on drought, atmospheric pollution, floods and wind storms.

4.5.3. New coding system for meteorological data was introduced in January 1982 and this necessitated the reformatting of the observations registers. The amount of data being processed increased gradually due to existing stations being upgraded with more equipment and extended hours of observation.

4.5.4. Climatological data was received from 108 stations which include synoptic, agrometeorological, hydrometeorological and temperate stations and have been processed and placed on appropriate storage form.

4.5.5. Demands for information continued to be both many and varied as detailed in 4.8. There were also visitors, mainly from schools and colleges. Sometimes in October 1981 a group of FAO members visited the section.

4.5.6. With the absence of a 9 - track Key Edit Unit, the Department continued to rely on the Kenya Posts and Telecommunications Computer for conversion for the 7-track tapes into 9-track tapes. The Central Tender Board approved the conversion of our present Key-Edit Unit and an agreement had already been entered into with ICL. Meteorological data including rainfall, synoptic data, agrometeorology data have been entered on to magnetic tapes. A contract was signed between Kenya Government and the French Government for the installation of a data processing computer in the Department. Specifications were drawn up by our computer experts and training programmes for the new computer had already commenced.

4.6. Training Activities:

The Division was co-ordinating the training activities of the Department as a whole. The Department puts a lot of emphasis on training of professionals in specialised meteorological fields as well as participation in seminars that are relevant to Meteorology.

The following local and overseas training programmes were undertaken during the year:-

- One Meteorologist, Mr. S. Mwandoto, successfully completed an Msc. degree in Agricultural Meteorology from Reading University, U.K.
- Three Meteorologists left for various courses overseas under the Institute Project Fellowships. They are:-
- Mr. E.M. Kihato - Meteorological Instrumentation course in Canada.
- Mr. I.K. Essendi - Meteorological Telecommunications course in India.
- Mr. F. Agumba - Computer Data Processing Course in U.S.A.
- One Meteorologist, Mr. J. Mwikya, went to India to study Agrometeorology under Commonwealth Funds for Technical Co-operation.
- Six Meteorological Officers continued with the undergraduate course leading to a BSc. degree in Meteorology in the University of Nairobi.
- Six Instruments Assistants underwent various technical training courses at Kenya Polytechnic.

4.7. Observatories:

The Principal meteorologist in charge of Observatories made inspection "safaris" to meteorological stations in the Coast, Nairobi, Rift Valley, Nyanza and Western Provinces. Although no new stations were opened during the period, 16 synoptic stations were upgraded to observe weather for 24 hours daily and two to observe weather for 18hours daily.

There was little progress achieved in the development of existing stations. Shortages of office accommodation and staff houses continued to be a major problem. In some of these stations, the Department has already been allocated sites by the Commissioner of Lands.

All outstations performed well during the period. The following is the full list of stations that make our national network and 18 of these stations make pilot balloon observations.

24 Hour Stations

Jomo Kenyatta Airport	Lamu
Moi Airport	Wajir
Malindi	Garissa
Kisumu	Moyale
Kitale	
Headquarters Observatory	
Meru	
Nakuru	
Eldoret	
Voi	
Makindu	
Narok	
Lodwar	
Mandera	
Marsabit	
Embu	

18 Hour Stations

Wilson
Kisii
Kakamega

12 Hour Stations

Nyeri
Thika
Machakos
Nyahururu
Kabete
Mtwapa

Pilot balloon for the period 1st July 1981 to 30th June 1982

Station	No Possible	No Made	Percent	No. Above 15,000 ft.		Highest ft.	Date
				Percent			
Nakuru	730	670	91	524	78	61,641	5.12.81
Makindu	730	629	86	146	23	53,280	24.6.82
Moi Airport	730	629	86	78	12	46,202	22.6.82
Lodwar	730	623	85	267	42	61,690	12.8.81
Kisumu	730	609	83	472	77	53,769	29.4.82
Voi	730	551	75	105	19	58,390	8.12.81
Eldoret	730	527	72	439	83	66,999	21.1.& 25.6.82
Malindi	730	486	66	159	32	63,070	23.11.81
Meru	730	466	63	222	47	44,600	6.11.81
Kitale	730	463	63	314	67	63,700	21.4.82
Narok	730	449	61	238	63	48,200	15.6.82
Moyale	730	449	61	127	28	47,100	13.1.82
Mandera	730	372	50	103	27	72,556	1.10.81
Embu	730	265	36	119	44	46,900	18.3.82
Nyeri	730	227	31	130	57	41,270	13.3.82
Garissa	730	168	23	24	14	46,982	23.11.81
Wajir	730	129	17	25	19	59,300	17.9.81

4.8. Services to Public Including Enquiries, Shows, etc.

The Division continued receiving climatological enquiries mainly from Government Ministries and Departments, consulting engineers, building contractors, institutions, transport corporations, insurers, manufacturers, religious organizations, petroleum companies and the general public both local and overseas.

The enquiries came by letter and/or in person or telephone. Over 700 enquiries were received and attended to during the period.

The Department participated in the 1981 Nairobi International and Mombasa shows and won the 1st place as the best Government Stand in the Mombasa show.

4.9. Instruments:

The Section maintained meteorological instruments in all the Department's network satisfactorily. Production of simple meteorological instruments, re-conditioning of unserviceable ones and calibration was carried out; this service was extended to other Institutions that requested for it. Instruments officers visited several outstations where repair and calibration of instruments was carried out.

4.10. The Printing Section:

The Printing Section of the Department is responsible for printing of operational forms and publishing meteorological memos, pamphlets, agrometeorological bulletins, research reports, etc. The section received new equipment which facilitated efficiency. All the new machines, however, were not fully operational due to difficulties experienced in procurement of printing materials.

A total of 99,423 different books and forms were printed during the year. Over 600 books were bound. Shortage of printing paper continued to be a problem in the Section.

5. Institute for Meteorological Training and Research, Nairobi.

5.1. Administration and Support Services:

5.1.1. General:

During the period covered by this report, several members of the staff left the Institute while new members joined.

The performance of various duties at the Institute continued fairly smoothly. The hostel continued to accommodate our own students and a few from other institutions. Acute shortage of hostel accommodation was experienced in the first quarter of the reporting period. The student population varied from 159 at the beginning of the reporting period to only 30 during Christmas of 1981 and the mid-year holidays in June 1982. From 8th November to 12th December 1981, 14 delegates sponsored by WMO, UNDP and UNESCO were accommodated at the hostel. We also offered facilities for a WMO Hydrology course hosted by the Ministry of Water Development. This course lasted from 3rd May to 2nd July 1982 and had eighteen participants from 14 African countries.

Besides staff meetings, Students representatives and supervisory staff held several meetings under the Chairmanship of the Meteorological Superintendent to solve various problems. As a result of these meetings, good relations between staff and students has been achieved.

5.1.2. Accounts and Stores:

During the period covered by this report, the revenue collected at the Institute was as follows:

Hostel accommodation charges	Kshs. 769,978.65
Tuition fees	Kshs. 445,305.00
Sale of Departmental Publications	Kshs. 3,320.00
Sale of tea/coffee	Kshs. 2,730.00
Hire of Auditorium	Kshs. 500.00

5.2. General Services:

5.2.1. Library Services:

During the period under review, the Library continued

to offer its services not only to the meteorological community of members of staff and students, but also to the professional users outside the Department.

The Library was once again represented during the Mombasa and Nairobi Agricultural shows where departmental publications continued to be of great demand by government ministries, commercial interests, researchers, private individuals and farmers. The following publications were in great demand viz. "Climatological Statistics for Stations in East Africa, Kenya, Tanzania and Uganda", "Farming Weather and "Research Reports".

A consignment of World Meteorological Organization and International Civil Aviation Organization operational documents was acquired through purchase and processed by the Library. These documents were kept at the Operational Branch Library at the Headquarters to cater for the Operational staff and the Directorate.

Renewal of subscriptions to periodicals for the year 1982 was effected through the Crown Agents in London and the American Meteorological Society in November 1981 and all the journals for 1982 were being received in the Library.

The Library staff made two library inspection visits to Jomo Kenyatta International Airport and Eastleigh meteorological sub-libraries whereby a complete list of their holdings was completed. Arrangements are under way for similar inspection visits to Mombasa and Nanyuki meteorological sub-libraries.

5.2.2. Library Statistics:

New Publications (periodicals, non-accessioned)	1,805
Departmental publications issued	1,950
Books borrowed	2,214
Books bound and repaired (by Department's Printing Section)	160

5.2.3. Research papers and other Departmental Publications:

- (a) Chemical composition of precipitation in East Africa by H. Rodhe, E.A. Mukolwe and R. Soderlund, Research Report No. 2/81.

- (b) The Stability of Monsoon flow over Central Arabian Sea during June 1979, by Raphael Okoola, Research Report No. 3/81.
- (c) The nature of homogeneity in rainfall records over East Africa by L.J. Ogallo, Research Report No. 4/81.
- (d) Reliability of Rainfall in East Africa by L.J. Ogallo, Research Report No. 5/81.
- (e) Institute for Meteorological Training and Research Record of Research for the period 1st January, to 31st December, 1979 Annual report for the year 1979.
- (f) Kenya Meteorological Department, Annual Report, 1979/1980.

5.3. Training Activities:

5.3.1. During the period under review, a number of courses ended, others were in progress while new ones commenced. All these professional courses are shown in Table 5.3.1

5.3.2. The Institute offered service courses in Meteorology to Air Traffic Controllers Telecommunications trainees at the East African School of Aviation. Lectures in General Meteorology and Instruments were organized by the WMO Class IV course Leader for the students of the Staff Training School of the Ministry of Water Development

5.3.3. University of Nairobi Department of Meteorology continued to offer supervision to the four Instructors engaged in research for M. Sc. degree. Two other Instructors were pursuing the undergraduate B.Sc. degree studies.

5.4. Research Activities:

Research Completed during the period:

5.4.1 Four Research projects were completed during this period and these have been published as research reports - see section 5.2.3.

The following other research projects were completed but had not been printed during this report.

- (a) Solar power potential in Kenya by R.E. Okoola.
- (b) The reliability of pentad rainfall in Kenya by S.B. Oteng'i.

- (c) The relevancy of meteorology to the development and utilization of aquatic resources by E.A. Mukolwe.

The complete research projects included some contributions from the Department of Meteorology, University of Nairobi.

5.4.2. Research Programmes in progress:

The following research projects for M.Sc. degree programme at the University of Nairobi were still going on and the progress was good during the period of the report.

- (i) **Study of Mean Upper Tropospheric Horizontal Motion Fields in the near Equatorial Region** by N.D. Pyuzza.

Winds for this study have been extracted from 300 mb charts at grid intervals of 5° latitude/longitude. This project was nearing completion by the end of the report period.

- (ii) **Tropospheric wave Disturbance in East Africa** by L.N. Njau.

- (iii) **Fluctuations in the Intensity of the Monsoon circulation at the Equator and to the South during June to August 1979** by E.A. Okoola.

This project was nearing completion by the end of the report period.

5.4.3. Miscellaneous:

- (i) Mr. R.E. Okoola, Principal Meteorologist (Research), returned from the conference/ Meeting in Bali, Indonesia, on 8th November 1981 where he presented a paper entitled "Pressure Surge in the Southwest Indian Ocean in relation to onset and activity of summer monsoon in South India". This paper is included in the Conference Proceedings published by WMO in March, 1982.
- (ii) During this period one seminar was held at the Institute. This was on "The impact of FGGE data on forecasting in the Southern hemisphere" by

Table 5.3.1.: Detailed summary of the courses held within the period covered by the report.

COURSE	KENYA	TANZANIA	MALAWI /ZAMBIA	BOTSWANA	SEYCHELLES	ETHIOPIA	GAMBIA	BANGLADESH	TOTAL	SUCCESSFUL TRAINEES
WMO Class IV Course - B. 44 29.6.81 - 23.10.81	88								10* 88	77
WMO Class II Course No. MOC 17 7.1.80 - 4.12.81	5	5	1	1	2	8			22	
WMO Class II Course No. MOC 18 4.1.82 - 3.12.82		4	1	3	1	6			19	Continuing
WMO Class II Course NO. MOC 19 11.1.82 - 3.12.82	7	5	4			1			1* 16	Continuing
WMO Class III Course NO. AOC 3 5.1.81 - 9.10.81	17	4					1		22	8
WMO Class III Course No. AOC 4 11.1.82 - 8.10.82	16	4					3		23	Continuing
Advanced Forecasting Course (AFC) No. 6 29.3.82 - 4.6.82						5			7	7
Operational Training Course (OTC) No. 11 12.10.81 - 12.3.82	24								2* 24	22
Special Course in Agronomy No. 7A 28.6.82 - 23.12.82	1	1		1				1	4	Continuing
WMO Class IV Course - B. 45 28.6.82 - 22.10.82	5				8				13	Continuing

10* Ten students left through resignation and desertion

1* One Ethiopian left before completing the course

2* Two students left before completing the course

Dr. John Zillman, Director, Australian Bureau of Meteorology, Melbourne, Australia.

- (iii) Mr. R.E. Okoola, Principal Meteorologist (Research), was appointed a junior Associate of the International Centre for Theoretical Physics, Trieste, Italy.**
- (iv) A Dornier APT/WEFAX Satellite Picture receiving equipment was installed at the Institute in April. The equipment was donated by the Republic of Germany. The picture received will be used both for Research and training.**

5.5. Mt Kenya Baseline:

5.5.1 Efforts to continue minimum observational programme on Mt. Kenya, at Timau Hill were thwarted by a number of problems. One of them being the frequent breakdown of the Automatic Weather Station.

5.5.2. Dr. R. Pueschel of National Oceanic Atmospheric Administration (NOAA), Environmental Research Laboratories, Boulder Colorado, U.S.A., visited the station as a WMO Consultant between 13 and 16 September, 1981. Dr. Pueschel brought a few spare parts for the Automatic Weather Station which brought the instrument into operation. Efforts to install the Station at the Timau Hill were not successful.

5.5.3 The precipitation collection at Meru Meteorological Station, a recommended nearby site, was in good progress during the period of this report. Meru station is one of the stations which form a complete network of rainfall sampling stations for precipitation chemistry analysis.

6. Administrative, Finance, Planning and Supplies Division:

6.1. Staff Administration:

Fourteen posts of Meteorologists and 39 posts of Meteorological Assistants which were created during the period under review were filled. The post of Security Officer which fell vacant during the previous year was also filled.

Although there was mass resignation and desertion of telecommunication engineers, resignation and desertion by

staff in the meteorological Assistants, Communication Assistants and Engineering Assistants cadres which had become a common phenomenon was greatly reduced. While a number of officers from these cadres were transferred on promotion to other ministries and departments numerous vacant posts were filled by promotion of serving officers. Twenty seven Meteorological Assistants II, Eight Communication Assistants II, Three Instrument Assistants II were promoted to Grade I's in their various cadres. Seven Meteorological Officers III were also promoted to Grade II.

During the report period 4 officers of different cadres retired from the service on attaining the age of 55 years. One officer retired under "50 year rule while two officers were retired in public interest.

Two officers died during the period under review. The late Mr. Charles Owino (P/No. 677783) from natural causes and the late Mr. John Murage (P/No. 590354) after a motor vehicle accident.

6.2. Accounting Services:

The Financial Year 1981/82 was closed on 30th June, 1982. The financial position in total was as follows:-

6.2.1. Recurrent Expenditure:

Headquarters and Outstations:

Provision	Actual Expenditure	Under	Over
Kshs.	Kshs.	Kshs.	Kshs.
40,466,000	39,291,720	1,174,250	-
1,000	124,100	-	114,100
40,465,000	39,167,620		

Institute:

Provision	Actual Expenditure	Under	Over
5,486,520	2,682,800	2,803,720	-
600,000	1,259,660	-	659,660
4,886,520	1,423,140		

6.2.2. Development Expenditure:

Provision	Actual Expenditure	Under	Over
Kshs.	Kshs.	Kshs.	Kshs.
18,710,600	14,484,780	4,225,820	-

6.3. Planning Section:

6.3.1. Development Estimates:

The Development Estimates for 1981/82 had a reduction as shown below:-

220 - Telecommunications Equipment-reduced from Kshs. 8,000,000 to Kshs. 3,610,000

465 - Staff Housing Outstations - reduced from Kshs. 10,500,000 to Kshs. 8,000,000.

466 - Workshop Machinery and Furniture - reduced from Kshs. 1,000,000 to Kshs. 200,000.

The project on Institute Library where there was Kshs. 1,000,000 could not be started due to the financial restrictions imposed by the Treasury.

For the six storey headquarters building, the project could not be started due to lack of funds. However, approval was given to build two workshops and this will ease the office congestion as the Printing Section will move into one of the workshops and the present space in Printing be covered into offices.

6.3.2. Headquarters Construction:

The project on 12 blocks of flats comprising of 72 units continued satisfactorily and by January 1982 six blocks were completed, but could not be occupied as electricity had not been connected, though M/S E.A. Power and Lighting were paid for the job in October, 1981.

The access road completed during the 1980/81 financial year was damaged by rains as the work was not properly done. Although a decision was made to penalize the contractor for the poor job he did, the matter had not been finalised by the Provincial Works Officer, Ministry of Works and Housing.

The case of renovated junior quarters which kept on

leaking was handed over to the Attorney General's Chambers as the Contractor denied he was responsible for re-doing the job at his own cost.

6.3.3. Outstations Projects:

The retention fund and final account for the completed project of eleven houses and an office at Narok were paid.

All the other on-going projects at Moyale, Garissa, Lodwar, Voi and Transmitter Station continued but at very slow pace. All the projects were very much behind schedule. The contractors at Garissa and Moyale were charged for damages from November 1981 at a rate Kshs. 1,000/- per week for failing to complete on time.

At Eldoret where the staff housing project was abandoned by the Contractor the previous year, another contractor was given a contract in August 1981 to complete the project by February 1982. He was unable to complete the work on schedule and although he was given a time extension of 24 weeks, the work was not yet half way through at the end of the report period.

Poor supervision of projects by Ministry of Works and Housing personnel and appointment of poor contractors were the major problems affecting our projects and costing the Government a lot of money.

6.3.4. French Credit Purchase Phase I:

Most of the equipments in connection with French Credit Purchase Phase I were received and the project had only minor problems.

A new 210 KVA stand-by generator was installed at Headquarters and commissioned. Another 400 KVA stand-by generator was in the process of being installed at Transmitter Station. The installation of the generator at Transmitter Station was behind schedule as the Contractor who was given the job to build the power house delayed the completion of the work

6.3.4. Equipment and Plants:

A new air-conditioner for the message switching computer was installed but commissioning was yet to be done.

A new PABX was ordered in December 1981 but the firm which won the contract could not supply and install the PABX on time because of delay in obtaining import licence for the equipment. The old PABX continued to give very poor service because of lack of spares for maintenance.

The boiler at the Institute Hostel gave poor service and broke down completely towards the end of the report period. Ministry of Works and Housing was called to repair the boiler but had not taken positive steps by the end of this period.

On the whole Ministry and Housing failed to maintain the equipment properly and also failed to repair leakages at the Institute which were first reported to them in November, 1979.

6.4. Supplies Services:

The Supply Section was affected by frequent changes of staff and also lack of qualified supplies staff.

These frequent changes affected the work in Stores. Also despite many requests to the Head of Supplies services to fill the vacant posts, the following posts remained vacant:-

Senior Supplies Officer
Supplies Officer I
Supplies Assistant I
Storeman II

One of the clerical officers who attended a Supplies Course at the Maseno Government Training Institute earlier on was promoted to Storeman I.

6.5. Security:

Theft of food staff from the Institute Hostel was greatly reduced. One successful prosecution involving three officers working in the premises was made. Theft of a water pump, wall clocks and parts of two GK vehicles occurred during the period under review. There was, however, notable reduction in motor vehicle accidents.

Printed by KMD Printers