1. STAFF LIST (As of 31st July, 1993)

1.1 Academic Staff

31/7/93

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS ABLE TO COVER IN SYLLABUS FOR B.Sc.	Year/Date of Appointment	Year/Date of Resignation
1	I.K. INOTI	36 (Nov 56)	PhD Ag.Eng. (Kyoto, 1991)	Chairman, Snr.Lect.	Agric. Machinery	AE2105, AE2202	9.5.91	
2	F.K. LENGA	39 (Feb 54)	PhD Soil Sc. (Utah State,1985)	Snr. Lecturer	Soil Physics	AE2305, AE2113, HC2302	30.10.90	
3	S.S. WERU	50 (Mar 43)	MSc Ag. Eng. (Silsoe, 1976)	Lecturer	Machinery	AE2307, AE2311	1.5.91	
4	L.O. ODHIAMBO	35 (Aug 57)	MSc Ag. Eng. (Seoul, 1986)	Lecturer	Irrigation	IN THAILAND (AIT～94-5)	1.2.90	
5	J.A. OWAKA	41 (Dec 51)	MSc Ag. Eng. (USSR, 1980)	Lecturer	Workshop Technology	AE2306, AE2214, AE2317	2.6.90	
6	C.N. ARIKA	37 (Apr 56)	MSc Soil Phy. (Texas Tech. 1986)	Lecturer	Soil Mechanics	AE0203, AE0309 AE0113	26.6.90	
7	G.M. NDEGWA	35 (Oct 57)	MSc Ag. Eng. (Silsoe, 1986)	Lecturer	Irrigtion	IN JAPAN (OKAYAM～96-3)	8.8.90	
8	I.K. KULECHO	38 (Mar 55)	MSc Ag. Eng. (Silsoe, 1985)	Lecturer	Irrigation	IN JAPAN (JICA C/P～94-12)	12.7.90	
9	D.M. MBURU	40 (Oct 52)	MSc Ag. Eng. (Nairobi, 1990)	Lecturer	Soil & Water Conserv.	AE0304, AE2314, AE0308	10.9.90	
10	J.T. MAILUTHA	38 (Oct 54)	MSc Ag. Eng. (Poland, 1986)	Lecturer	Agric. Machinery	AE0215, AE0216	1.10.90	
11	M.F. ODUORI		MSc Ag. Eng. (AIT, 1988)	Lecturer	Power & Machinery	IN JAPAN (KYUSHU～93-10)	1.4.92	
12	J.T. MAKANGA	38 (Aug 54)	MSc Ag. Eng. (Obihiro, 1990)	Lecturer	Power & Machinery	AE0206, AE0308	1.10.90	
13	S.J. OKWACH	(57)	MSc Ag. Eng. (TUAT, 1990)	Asst. Lecturer	Structures	IN JAPAN (TUAT～94-3)	19.8.91	
14	C.K. M'MARETE	34 (Feb 59)	MSc Ag. Eng. (USSR) (Nairobi,93)	Asst. Lecturer	Soil & Water	AE2215, AE0305,	10.11.89	
15	C.I. NINDO	27 (Jan 66)	MSc Ag. Eng. (Nairobi, 1991)	Asst. Lecturer	Postharvest	IN JAPAN (HIROSAKI～95-10)	17.10.88	
16	B.M. MATI	34 (Apr 59)	MSc Ag. Eng. (Nairobi, 1992)	Asst. Lecturer	Irrig., S&W Conserv.	AE2313, AE0201, HC2301	1.4.92	
17	J.M. KALULI	34 (Jan 59)	MSc Ag. Eng. (Ottawa, 1990)	Asst. Lecturer	Water Resources	IN CANADA (OTTAWA ～95-5)	1.10.90	
18	C.L. KANALI	31 (Mar 62)	MSc Ag. Eng. (Nairobi, 1992)	Asst. Lecturer	Power & Machinery	AE2301, AE2209	22.6.92	
19	A.H.O. ANYANGU	32 (Nov 60)	MSc Ag. Eng. (U of Melbourne 91)	Asst. Lecturer	Power & Machinery	AE0205, AE0307, AE0114	30.8.92	
20	P.G. HOME	32 (Jan 61)	MSc Ag. Eng. (Nairobi, 1992)	Asst. Lecturer	Irrigation	AE2112, AE0116, AE0208	1.11.89	
21	J. GATHENYA	29 (Dec 63)	MSc Ag. Eng. (Nairobi, 1993)	Asst. Lecturer	Irrigation	AE2203, AE2313, AE2303	1.11.89	
22	G. MWITHIGA	33 (Mar 60)	MSc Ag. Eng. (Nairobi, 1993)	Asst. Lecturer	Post Harvest	AE2315, AE0303, AE0302	24.10.88	
23	S.W. MUGUCIA		MSc Ag. Eng. (IWATE, 1993)	Teaching Assistant	Power & Machinery	IN JAPAN (IWATE ～96-3)	1.4.92	

1. 2 Established No. of Academic Staff by Designation and No. of Positions filled

	Prof.			Asoc. Prof.			S.L.			L.			Asst. L.			Teaching Asst.		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
1990/91	1	0	1	1	0	1	1	1	0	8	6	2		4			4	
1991/92	1	0	1	1	0	1	3	1	2	10	8	2	4	5	−1	4	4	0
1992/93	1	0	1	1	0	1	3	2	1	12	8	4	4	9	−4	4	4	0
1993/94	1	0	1	1	0	1	4	2	2	14	10	4	9	10	−1	4	1	3
1994/95																		
Total*	1	−	−	2	−	−	5	−	−	15	−	−	7	−	−	3	−	−

*: No. of staff required for the ultimate consolidation of the Department

1. 3 Teaching Load (%)

	1st Year						2nd Year						3rd Year						4th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91	90	5	5	90	5	5	-	-	-	-	-	-	-	-	-	-	-	-						
1991/92	90	5	5	-	-	-	90	5	5	-	-	-	-	-	-	-	-	-						
1992/93	100	0	0	95	5	0	95	5	0	95	0	5	-	-	-	-	-	-						
1993/94	100	0	0				90	5	5				100	0	0									
1994/95																								

	5th Year						6th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91												
1991/92												
1992/93												
1993/94												
1994/95												

K_F : Full-time Kenyan Staff
K_P : Part-time Kenyan Staff
F : Foreigners including Japanese

1. 4 Staff Mobility

	Staff appointed	Staff left after 2.5 yrs. service	Staff left after 5 yrs. service
1990/91	15	–	–
1991/92	18	–	–
1992/93	23	0	–
1993/94	23	0	–
1994/95			

(Inoti/Weru/Okwach formerly TSC)

(Mati/Oduori/Mugucia formerly TSC. Kanali/Anyangu from Ministry)

1．5 Technical Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	REMARKS/REQUIRED FOR
1	R. Matu	34 (Aug 58)	BSc (U of Nairobi. 82)	Senior Technician	Soil & Water	(Former TSC Lecture)
2	H.W. Nduati	42 (Dec 50)	Technician III (JKCAT. 1987)	Technician	Farm Power & Machinery	In JAPAN (MIYAZAKI. JICA C/P～93-10)
3	J.N. Thimba	35 (Jul 58)	Diploma (JKCAT. 1985)	Technician	Farm Power & Machinery	HND or practical training
4	F.K. Kigira	29 (Nov 63)	Diploma (JKCAT. 1986)	Technician	Soil & Water	HND or practical training
5	L.O. Mulamu	31 (Nov 61)	Diploma & Certificate	Technician	Farm Power & Machinery	Practical training
6	B.K. Maritim	35 (Aug 57)	HND (Kenya Poly. 1989)	Technician	Soil & Water	Practical training
7	M.M. Kagiri	30 (Jul 63)	Certificate(Eldoret I.A.. 85)	Technician	Soil & Water	Practical training
8	R.W. Mukua	28 (Dec 64)	Diploma (JKUCAT 1988)	Technician	Soil & Water	Practical training
9						
10						
11						
12						
13						
14						
15						

1．6 Established No. of Technical Staff by Designation and No. of Positions Filled

	Chief Technician			Senior Technician			Technicain			Subordinate Staff		
	Est.No	No.Fill.	Balance	Est.No	No.Fill.	Balanc	Est.No	No.Fill.	Balanc	Est.N	No.Fill.	Balance
1990/91	1	0	1	1	0	1	7	6	1	2	2	0
1991/92	1	0	1	1	1	0	7	7	0	3	2	1
1992/93	1	0	1	1	1	0	7	7	0	4	3	1
1993/94	1	0	1	2	1	1	8	7	1	5	3	2
1994/95												
Total*	1	—	—	3	—	—	13	—	—	7	—	—

*: No of staff required for the ultimate consolidation of the Department

2. STAFF RECRUITMENT PLAN

2. 1 Academic Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	PROFESSOR	FARM POWER & MACHINERY ENGINEERING	0	0	1	1	0 (1)	VERY DIFFICULT
2.	ASSOCIATE PROFESSOR	SOIL & WATER ENGINEERING	0	0	1	1	0 (1)	DIFFICULT
3.	ASSOCIATE PROFESSOR	POSTHARVEST & STRUCTURES ENGINEERING	0	0	1	1	0 (1)	DIFFICULT
4.	SENIOR LECTURER	POSTHARVEST & STRUCTURES ENGINEERING	0	0	1	1	0 (1)	POSSIBLE
5.	SENIOR LECTURER	SOIL & WATER ENGINEERING	1	1	1	2	1 (2)	POSSIBLE
6	SENIOR LECTURER	FARM POWER & MACHINERY ENGINEERING	0	1	2	2	1 (2)	POSSIBLE
7	LECTURER	POSTHARVEST & STRUCTURES ENGINEERING	0	0	3	3	0 (3)	POSSIBLE
8	LECTURER	SOIL & WATER ENGINEERING	5	5	6	6	5 (6)	POSSIBLE
9	LECTURER	FARM POWER & MACHINERY ENGINEERING	3	5	6	6	4 (6)	POSSIBLE
10	ASSISTANT LECTURER	POSTHARVEST & STRUCTURES ENGINEERING	2	3	3	3	3 (3)	POSSIBLE
11	ASSISTANT LECTURER	SOIL & WATER ENGINEERING	2	5	4	3	5 (3)	POSSIBLE
12	ASSISTANT LECTURER	FARM POWER & MACHINERY ENGINEERING	2	2	3	4	2 (4)	POSSIBLE
13	TEACHING ASSISTANT	POSTHARVEST & STRUCTURES ENGINEERING	1	1	1	1	0 (1)	POSSIBLE
14	TEACHING ASSISTANT	SOIL & WATER ENGINEERING	2	2	1	1	0 (1)	POSSIBLE
15	TEACHING ASSISTANT	FARM POWER & MACHINERY ENGINEERING	0	1	1	1	1 (1)	POSSIBLE
		TOTAL	18	23	35	36	23 (36)	

* : No. planned should be indicated in a blacket.

2. 2 Technical Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University. Private sector. etc.)
1.	CHIEF TECHNICIAN	FARM POWER & MACHINERY ENGINEERING	0	0	1	1	0 (1)	DIFFICULT
2.	SENIOR TECHNICIAN	POSTHARVEST & STRUCTURES ENGINEERING	0	0	1	1	0 (1)	POSSIBLE
3.	SENIOR TECHNICIAN	SOIL & WATER ENGINEERING	1	1	1	1	1 (1)	POSSIBLE
4.	SENIOR TECHNICIAN	FARM POWER & MACHINERY ENGINEERING	0	0	1	1	0 (1)	POSSIBLE
5.	TECHNICIAN	POSTHARVEST & STRUCTURES ENGINEERING	0	0	1	2	0 (2)	POSSIBLE
6	TECHNICIAN	SOIL & WATER ENGINEERING	2	3	4	4	3 (4)	POSSIBLE
7	TECHNICIAN	FARM POWER & MACHINERY ENGINEERING	2	3	4	4	3 (4)	POSSIBLE
8	JUNIOR TECHNICIAN	POSTHARVEST & STRUCTURES ENGINEERING	0	0	1	1	0 (1)	POSSIBLE
9	JUNIOR TECHNICIAN	SOIL & WATER ENGINEERING	1	1	1	1	1 (1)	POSSIBLE
10	JUNIOR TECHNICIAN	FARM POWER & MACHINERY ENGINEERING	0	0	1	1	0 (1)	POSSIBLE
		TOTAL	6	8	16	17	8 (17)	

* : No. planned should be indicated in a blacket.

3. STAFF (ACADEMIC AND TECHNICAL) DEVELOPMENT PLAN USING JAPANESE FUND AND OTHER SOURCES

Period of JICA Technical Cooperation

No	Staff (Qualification)	AREA OF STUDY	TYPE OF STUDY REQUIRED
1	A (MSc)	INSTRUMENTATION	MOMBSUSHO
2	B (MSc)	OPERATION RESEARCH	MOMBUSHO/THIRD COUNTRY
3	C (MSc)	WATER RESOURCE ENG.	OTHER
4	D (MSc)	COMPUTER SIMULATION AND MODELING	MOMBUSHO/OTHER
5	E (MSc)	SOIL & WATER	THIRD COUNTRY
6	F (MSc)	SURVEYING	C/P
7	G (PhD)	SOIL PHYSICS	C/P
8	H (PhD)	FARM POWER	C/P
9	I (DIPLOMA)	SOIL & WATER EXPERIMENT	C/P
10	J (DIPLOMA)	MACHINIERY MAINTENANCE	C/P
11	K (DIPLOMA)	SOIL & WATER EXPERIMENT	C/P

4. ACADEMIC ACTIVITIES

4.1 RESEARCH POLICY

1.Objectives

1. To encourage research as an academic activity among students and staff of the department.
2. To integrate teaching with research activities with the aim of
   a) applying knowledge gained and technologies developed appropriately to our environments, and
   b) improving or modifying methodologies to suit our environment among other factors, and serve as a tool for teaching purposes.
3. To encourage publications of research work by staff of the department.
4. To disseminate research findings through the University to the farmers and industries within the country, and
5. To monitor the impact of research findings in development projects and the community at large.

2.Areas of Priority

1. Promotion of rural agro-industry.
2. Development of farming systems for ASAL.
3. Development of machinery and processes for small-scale farmers, and
4. Outreach programmes in soil and water conservation, and agricultural machinery management.

3.Strategies

1. Intensive literature review
2. Drawing up of feasible research proposals by members of the academic staff in the department or with staff from other departments.
3. Refinement and approval of proposals by the University Research Committee.
4. Apply for Internal or external research funds, and funds made available.
5. Research implementation in coordination and consultation with relevant disciplines within and outside the country.
6. Submission of progress report to the University Research Committee or Funding sources.
7. Presentation at seminars in the campus or outside the country.
8. Final report submission to the University Research Committee or Funding sources.
9. Application for publication to academic journals.
10. Final result disseminmation through conference, seminar of workshops.
11. Linkage with other institutions and industries.
12. To encourage staff to join academic societies.
13. Problem finding for further research work or new project appraisal.

4.Possible research to be undertaken

Please see 4.4.

5.Requirements for the implementation

1. Subscription to relevant academic journals from within and outside the country for literature review and acquisition of new information.
2. Provision of sufficient fund and equipment (like computer and photocopier) to facilitate project implementation.
3. Staff development in terms of promoting one's area of specialization, such as:
   a) conversion of a research project for post graduate work.
   b) participation in local and/or international seminars, workshops, and conferences.
   c) affiliation to relevant professional societies/bodies.
   d) coordination/interlinkage with other institutions or persons, including visiti professors, in relevant disciplines.

4. 2 LIST OF ACADEMIC ACTIVITIES

- Major Accomplishments from April,1990 up to July,1993

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED/PRESENTED at	DATE
	RESEARCH ACTIVITIES			
1.	F.K.Lenga	Use of Thermal Time to Predict Phenology of Kenyan Maize gerplasm	East African Agric. & Forestry Journal	90/91
2.	F.K.Lenga	Estimation of Leaf Area per Plant in 8 cultivars of Maize (Zea mays L.)	Kenya Journal of Science (B) Vol.II	90/91
3.	I.K.Inoti	Versatile Microcomputer-controlled Pneumatic Precision Planter	Doctoral Thesis (Kyoto University)	March 91
4.	B.M.Mati	Assessing Bean Water Requirement for Juja Area	JKUCAT Research Report	March 91
5.	I.K.Inoti	Electrically Controlled Pneumatice Precision Planter (Part I,II,III)	Journal of Japanese Society of Agri. Mach.	90-11,91-5 & 9
6.	C.L.Kanali	Effects of Soil Compaction by Transportation Vehicles on the Sugarcane ...	MSc Thesis (University of Nairobi)	November 90
7.	J.M.Gathenya	Water Balance of Sections of Nairobi River	MSc Thesis (University of Nairobi)	January 92
8.	I.K.Inoti	Effect of Machinery Selection on Field Performance	JKUCAT Research Report	May 92
9.	B.M.Mati	The Influence of Crop Cover on Soil Erosion by Splash	MSc Thesis (University of Nairobi)	May 92
10.	P.G.Home	Drainage of Lowland Sugarcane Fields: Mumias - Kenya	MSc Thesis (University of Nairobi)	November 92
11.	B.M.Mati	Field Measurement of Splash Detachment Under Maize and Beans	A Journal in Germany	February 93
12.	G.Mwithiga	Change of Pyrethrin Content During Drying of Phyrethrum Flowers	MSc Thesis (University of Nairobi)	April 93
13.	C.K.M'Marete	Bearing Capacity of Ahero Irrigation Rice Field under the Exposure to Land,,	MSc Thesis (University of Nairobi)	April 93
14.	J.T.Mailutha	Development of Wind Turbine for Farm Use I and II	JKUCAT Research Report	May 91,& May 92
15.	J.T.Mailutha	Knowledge Engineering Based Solar Energy Utilization in Kenya (Part-I)	Agricultural Mechanization in Asia	Expected soon
	SEMINAR			
1.	F. K. Lenga	Field Response of Katumani Composite B Maize as Influenced by Soil,.....	KARI Research Officer	August 1990
2.	G. Mwithiga	A Thin Drying Equation for Pyrethrum Flowers	Kenya Society of Agric. Engineers	August 1990
3.	J. W. Kaluli	NGOs, Government and Technology Development in Machacos District	Seminar on Technological Solutions ...	March, 1991
4.	B. M. Mati	Assessing Bean Water Requirement for Juja Area	Seminar on Technological Solutions ...	March, 1991
5.	F. K. Lenga	Agriculture as a Profession for Women	Seminar on Women in Science and Technology	July, 1991
6.	J. W. Kaluli	Sampling Sediment Without Conventional Samples	Kenya Society of Agric. Engineers Seminar	August, 1991
7.	G. Mwithiga	Variation of Pyrethrin Content with Drying Temperature	Kenya Society of Agric. Engineers	August, 1991
8.	C. I. Nindo	Solar Crop Drying with Heat Storage	Kenya Society of Agric. Engineers	August, 1991
9.	J. T. Mailutha	Development of Wind Turbine for Farm Use (Part I)	Kenya Society of Agric. Engineers	August, 1991
10.	G. Mwithiga	Postharvest Management for Increased Head Rice Yield	Seminar on Mechanization of Rice Farming	November, 1991
11.	C. I. Nindo	Review of Drying and Milling Processes for Increased Head Rice Yield	Seminar on Mechanization of Rice Farming	November, 1991
12.	G. M. Ndegwa	Effects of Soil & Water on Rice Yields; the Wamumu Case Study	Seminar on Mechanization of Rice Farming	November, 1991
13.	J. W. Kaluli	Rice Production Trend in the Main Irrigation Schemes in Kenya	Seminar on Mechanization of Rice Farming	November, 1991
14.	F. K. Lenga	The Present Status of Agric. Engineering in Kenya. Curriculum and	Regional M.Sc Programme in Agric. Eng.	January, 1992
15.	J. T. Mailutha	Wind Energy in Kenya	Japanese Society of Agric. Machinery. W/S	April, 1992
16.	B. M. Mati	The Effect of Crop Residue on Soil & Water Conservation	Kenya Society of Agric. Engineers	August, 1992
17.	F. K. Lenga	Course Description for: (i)Statistics and Implementation (ii)Research ...	Prop.on M.Sc Course in Agric. Sys. Eng.	May, 1992
18.	C. L. Kanali	Establishment of Safe Axle Loads for Mumias (Kenya) Sugarcane Soils	Kenya Society of Agric. Engineers	August, 1992
19.	D. M. Mburu	Role of Sand Dams in Water Supply in Arid Areas	4th National W/S on Land & Water Mgt.	February, 1993
20.	J. M. Gathenya	Problems of River Water Management for A Basin West of Mt. Kenya	4th National W/S on Land & Water Mgt.	February, 1993
21.	B. M. Mati	Soil Erosion & Conservation on Land Affected by Road Drainage	4th National W/S on Land & Water Mgt.	February, 1993
22.	D. M. Mburu	Soil Erosion Problems Associated with New Settlement in Arid Areas of Kenya	Third U. N. Int'l Training Course	May, 1993

4. 3 LIST OF CURRENT RESEARCH PROGRAMMES

NO.	NAME OF RESEARCHER (Japanese Experts)	TITLE OF RESEARCH	PUBLISHED OR NOT	SOURCE OF FUND
1.	C. K. M'Marete (K. Yagi)	Installation of New Meteorological Station and Processing and Calibration of Meteorological Data	Not yet	JICA
2.	J. T. Mailutha (Prof. H. Murase)	Knowledge Engineering Based Studies on Solar Energy Utilization in Kenya	To be published (AMA)	Personal
3.	A. H. O. Anyangu	Farm Equipment Use on Smallholder Agriculture	Not yet	World Bank
4.	I. K. Inoti, A. H. O. Anyangu C. L. Kanali (Prof. H. Murase, K. Yagi)	Performance Evaluation of Tractor-Implement System	Not yet	JICA
5.	F. K. Lenga, C. N. Arika	Effect of Sub Mulching of Soil Available Moisture in ASAL Areas	Not yet	JKUCAT
6.	D. M. Mburu	Causes of Mass Movement Erosion in Murange District	Not yet	Swedish Govt.

4. 4 AREA OF RESEARCH INTERESTED BY STAFF

NO.	FIELD	MAIN TITLE(Long Term Research)	NAME	SUB TITLE
1	Crop Drying	Effects of Drying on Rice Quality	C. I. Nindo	1. Simulation of Thin Layer Drying 2. Drying by Use of Heat Pump 3. Automatic Control of Drying for Higher Quality
2	Water Resources	Modeling of Water and Land Use	J. W. Kaluli	1. Formulation of a Kenyan Model for Carrying Out Hydrologic Analysis 2. Modeling of Land Use and Water Pollution
3	Pyrethrum Drying	Effects of Drying Process on Quality of Pyrethrum Flowers	G. Mwithiga	1. Testing of a Simple Solar Dryer for Pyrethrum Flowers 2. Effects of Airtight Storage and Drying Process on the Quality of Pyrethrum Flowers
4	Irrigation	Irrigation Practices Suitable for Rice Farming	L.O. Odhiambo	1. Irrigation Practices Suitable for Soybean Growth in Rotaion with Wetland Rice 2. Possibility of Double Cropping of Rice in Mwea Irrigation Scheme
5	Crop Production Potential Analysis	Production Potential Analysis for Cropping System in the Semi Arid Areas of Kenya	F.K. Lenga	1. Production Potential Analysis for Pure Stands of Green Grams and Cowpeas 2. Production Potential Analysis for Cowpea-Maize Inter-Cropping System
6	Irrigation and Drainage	Surface Irrigation Method Suitable for High and Low Infiltrating Soils	G.M. Ndegwa	1. Evaluation of Surface Irrigation Methods in High Infiltrating Soils 2. Development of an Appropriate Method of Draining Waterlogged Areas of Central Province
7	Machine Development	Machine Development for Small Scale Farming	J. A. Owaka S.S. Weru	1. Development of Wheat Harvesting Machine for Small Scale Farming 2. Development of Simple Harvesting Machines for Small Rice Farmers 3. Development of Harvesting Equipment for Brussel Sprouts
8	Land Use in ASAL	Water Harvesting and Soil Erosion Control in ASAL	D. M. Mburu C. N. Arika	1. Evaluation of the Various Methods of Water Harvesting in ASAL 2. Soil Erosion Problems Associated with New Settlement in ASAL 3. Wind Erosion Modelling for the ASAL in Kenya
9	Water Pollution	Water Pollution from Agricultural Chemicals	C. N. Arika J. W. Kaluli	1. Surface and Groundwater Pollution from Applied Agricultural Chemicals 2. Modelling of Land Use and Water Pollution
10	Farm Power & Machiery	Tillage Machinery Development of Computer Analysis on farm power & machinery	J. T. Makanga I. K. Inoti	1. Comparison of Power Requirement by Disc and Mouldboard Ploughing 2. Development of Farm Machinery 3. Computer Analysis System on Farm Power & Machinery
11	Soil & Water Engineering	Irrigation and Drainage	C. K. M'Marete	1. Paddy Rice Production
12	Agricultural Machinery	Instrumentation Robotics (Harvesting) Low Energy Agriculture Production	A. H. O. Anyangu	1. Development of Manipulators and Fruit Harvest Hands of Agricultural Robot
13	Agricultural Machinery	Instrumentation Neural Network System	C. L. Kanali	1. Analysing the Interaction Between Quality Parameters and Neural Network Models 2. Development of an Efficient Database Structure for Sorting the Multitude of Sensoring Data 3. Evaluating the Feasibility of Applying Neural Network Models for Additional Fresh Fruits and Vegetables
14	Soil & Water Engineering	Water Management Irrigation Scheduling	P. G. Home	1. Crop Response to Soil Water 2. Irrigation Scheduling Using Soil Moisture Parameter 3. Effects of high groundwater tables on crop production

4. 5 Publication and Papers Presented out of Research Activities

	No. of Research undertaken	No. of Staff involved			No. of Publications	No. of Papers presented	No. of Research per Staff per Year
		K	J	Total			
1990/91	2	1	3	4	2	3	2/8
1991/92	3	3	3	6	3	9	3/11
1992/93	2	3	0	3	3	4	2/15
1993/94	6	10	4	14	3	1	6/15
1994/95							
TOTAL	12	17	10	27	11	17	

K : Kenyan Staff
J : Japanese Staff

No. of research per staff per year is expressed as No. of Research undertaken divided by all academic staff excluding those who are on study leave in adepaertment in that particular year.
No. of Staff involved may count the same staff repeatedly.

4. 6 Participation of SEMINAR/WORKSHOP/CONFERENCE

	No. of Staff Participated			No. of Papers presented	No. of Papers presented per Staff per Year	No. of Papers published out of Seminar/Workshop	No. of Papers published out of Seminar/Workshop per Staff per Year	No. of Seminar/ Workshop per Staff per Year
	K	J	Total					
1990/91	3	1	4	4	4/8	4	4/8	3/8
1991/92	11	2	13	10	10/11	10	10/11	11/11
1992/93	14	3	17	7	7/15	7	7/15	14/15
1993/94	10	0	10	1	1/15	0	0/15	10/15
1994/95								
TOTAL	38	6	44	22		21		

4. 7 Total Publications and Papaers Presented

	No. of Publications	No. of Papers presented	No. of publications per Staff per Year	No. of Papers presented per Staff per Year
1990/91	6	4	6/8	4/8
1991/92	4	10	4/11	10/11
1992/93	5	7	5/15	7/15
1993/94	3	1	3/15	1/15
1994/95				
TOTAL	18	22		

No. of Publications in 4. 7 is equal to the sum of Publications in 4. 5, and 4. 6.
No. of Papers presented in i4. 7 is equal to the sum of No. of Papers presented in4. 5, and 4. 6.
No. of Publications per staff per year in 4. 7 is expressed as No. of Publications in 4. 7 devided by total academic staff in a department in that particular year.
No. of Papers presented per staff per year in 4. 7 is expressed as No. of Papers presented in 4. 7 divided by total academic staff in a department in that particular year.

4. 8 Seminar/Workshop/Conference Organized by Department

	No. of Seminar/Workshop organized by Department		
	Internal	Public	Total
1990/91	0	0	0
1991/92	0	2	2
1992/93	0	1	1
1993/94	0	0	0
1994/95			
TOTAL	0	3	3

4. 9 Textbook/Manual Printed

	No. of Staff involved			No. of Books Printed	No. of Books printed per Staff per Year
	K	J	Total		
1990/91	0	0	0	0	0
1991/92	0	0	0	0	0
1992/93	0	0	0	0	0
1993/94	0	0	0	0	0
1994/95					
TOTAL					

No. of Books printed per staff per year is expressed as No. of books printed divided by total academic staff in a department in that particular year.

5. STATISTICS OF STUDENT : Planned No. of Student per Class : Degree Programme: 30 Diploma Programme: 36

5. 1 Degree Programme

		No. of Students admitted			No. of Students present			No. of Studsents proceeded to the following year			No. of Graduates			Grade of Graduates					No. of Graduates employed/ on the job		
		M	F	Total	M	F	Total	M	F	Total	M	F	Total	A	B*	B	Pass	F	M	F	Total
1990/91	1st	24	3	27	24	3	27	23	3	26(*1)											
	2nd																				
	3rd																				
	4th																				
	5th																				
	TOTAL																				
1991/92	1st	31	2	33	27	2	29	27	2	29											
	2nd	23	3	26	23	2	25(*2)	20	2	22 (*3)											
	3rd																				
	4th																				
	5th																				
	TOTAL																				
1992/93	1st	27	3	30	27	3	30														
	2nd	27	2	29	29	2	31														
	3rd	20	2	22	20	2	22														
	4th																				
	5th																				
	TOTAL																				
1993/94	1st																				
	2nd																				
	3rd																				
	4th																				
	5th																				
	TOTAL																				
1994/95	1st																				
	2nd																				
	3rd																				
	4th																				
	5th																				
	TOTAL																				
TOTAL																					

Pass Rate (%) = No. of students proceeded to the following year devided by No. of students present x 100
Note *1: Repeated(1). *2: Withdrawn(1). *3: Repeated(2), Deceased(1)

5. 2 Diploma Programme

		1990/91	1991/92	1992/93	1993/94	1994/95	Total
	1st	44		29	39		
	2nd		41	37	24		
	3rd			39	36		
TOTAL				105	99		

6. JAPANESE INPUT

6. 1 Dispatch of Experts

	Long Term (Man-Month)	Short Term (Man-Month)	Total
1990/91	12Man-Month(時田)	-	12Man-Month
1991/92	12Man-Month(時田)	1.5Man-Month	13.5Man-Month
1992/93	15Man-Month(八木村瀬)	3.5Man-Month	18.5Man-Month
1993/94	21Man-Month(八木村瀬)	2Man-Month	23Man-Month
1994/95			
Total	60Man-Month	7Man-Month	67Man-Month

Experts required for 1994/95

	Area of Specialization	Time and Duration	Nature of Assignment
1.	Instrumentation	94/4 - 8: 5 months	Lecture/Teaching
2.	System Engineering	94/4 - 8: 5 months	Lecture/Teaching
3.	Computer simulation & modeling	94/8 - 12: 5 months	Lecture/Teaching
4.	Soil & Water	94/7 - 8: 2 months	Research guidance

6. 2 Training and Scholarship

	JICA					Japanese Govt. (Mombusho)	Total
	C/P	3rd	Group	Local	Total		
1990/91	1	0	0	0	1	1(1)	2(2)
1991/92	1	1	0	0	2	1(1)	3(2)
1992/93	0	0	1	0	1	1(1)	2(2)
1993/94	1	2	0	0	3	0	3(1)
1994/95							
Total	3	3	1	0	7	3(3)	10(7)

No. of staff who are still in Japan should be indicated in blacket.

6. 3 Distribution of Degrees Awarded

	Degree Awarded				
	Ph.D.	M.Sc.	B.Sc.	Others	Total
1990/91	1	1	0	0	2
1991/92	0	3	0	0	3
1992/93	0	2	0	0	4
1993/94	0	2	0	0	4
1994/95					
Total	1	12	0	0	13

DEPARTMENT	1990/91 ¥ 2,575,000	1991/92 ¥ 9,318,000	1992/93 ¥ 3,912,000	1993/94 (¥8,571,200)	1994/95 (¥6,050,800)
Equipment provided or to be provided	Rotary tiller Data recorder Screw conveyor Parts for tractors	Personal computer system * 2 Lazer printer Image scanner Fast Fourier Transformer(FFT) Inverter * 2 Strobo scope Differential Transformer * 3 Electric conductivity meter PF meter PH meter Hydrometer set * 2 Stop watch * 6 Flask shaker Constant head permeameter Spare parts for tractors Data recorder Pen recorder Noize meter Dust meter	Soil moisture & temperature measurement system Memory card reader 123 Memoria SCSI interface board IC memory card Ribbon casette Recording paper Personal computer Uninterruptible power supply	Centrifuge for PF Nitrogen bombe Pressure regulator Oscilloscope BNC adaptor Strain gauge transducer Shaking bottle Falling head permeameter * 2 Soil moisture meter Data recorder for soil moisture Regulated DC power supply Electric balance * 2 Rack * 6 Computer desk * 2 Personal computer * 5	PF meter Sprinkling intensity meter $CO \cdot CO_2$ Measuring Equipment Software programmes Rice huller Uninterruptible power supply Computer (IBM compatible) Spare-parts for tractors Spare-parts for equipments

6. 5 JICA Local Cost* (K.Shs.)

	Local Research	Printing	Exchange Prog.	Seminar	Public Re.
1990/91	448,900/00	-	374,000/00	471,165/00	423,409/00
1991/92	1,461,000/00	18,600/00	595,413/80	349,915/00	125,950/00
1992/93	996,800/00		395,368/81	648,399/30	
1993/94					
1994/95					
Total	2,905,700/00	18,600/00	1,364,783/61	1,469,479/30	549,359/00

*:Excluding financial support on general affairs such as purchase of stationary, repair work, etc.

JICA Local Cost for the Department (K.Shs.)

	Local Research	Textbook/Manual	Exchange Prog.	Seminar	Local Traning	Total
1990/91	129,000	0	374,000	0	140,000	643,000
1991/92	365,504	0	0	40,900	9,753	416,157
1992/93	0	0	0	0	0	0
1993/94	357,000	0	0	0	0	357,000
1994/95						
Total	851,504	0	374,000	40,900	149,753	1,416,157

7. Local Cost by Kenyan Government (K.Shs.)

	Educational Materials	Research	Library Books/Journals	Seminar/ Conference	Transport/ Travel	Fuel/Energy	Personal Emolument	Miscellaneous	Total
1990/91									
1991/92									
1992/93									
1993/94									
1994/95									
Total									

JOMO KENYATTA UNIVERSITY COLLEGE OF AGRICULTURE AND TECHNOLOGY
(UNDERGRADUATE PROGRAMME) PROJECT

COMPILED INFORMATION FOR INTERIM EVALUATION

FACULTY OF AGRICULTURE

DEPARTMENT OF FOOD SCIENCE & POSTHARVEST TECHNOLOGY

JULY 1993

Contents

1. STAFF LIST (as of 31st July, 1993)

Page:

1. 1 Academic Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS TO BE COVERED IN SYLLABUS FOR B. Sc. *)	Year/Date of Appointment	Year/Date of Resignation
1	R. K. ONIANG'O	47	PH. D.	ASSOC. PROFESSOR	HUMAN NUTRITION	AF 2207	1990	
2	G. M. KENJI	42	PH. D	SENIOR LECTURER	FOOD CHEMISTRY	AF 2214, 2302	1989	
3	P. M. KUTIMA	36	PH. D	SENIOR LECTURER	MICROBIOLOGY	AF 2213, 2301, 2306	1990	
4	L. MWAJUMWA	39	M. SC	LECTURER	FOOD CHEMISTRY/POSTHARVEST TECH.	AF 2317, 2406, 2412	1991	
5	S. N. MUHOHO	36	M. SC	LECTURER	FOOD CHEMISTRY	AF 2404, 2305, 2409	1990	
6	M. A. MWASARU	38	M. SC	LECTURER	FOOD SCIENCE	AF 2405, 2406, 2411	1990	
7	W. O. AWINO	37	M. SC	LECTURER	FOOD ENGINEERING	AF 2303, 2309	1990	
8	C. M. KIIYUKIA	38	PH. D	LECTURER	MICROBIOLOGY	AF 2213, 2214, 2301	1990	
9	C. A. ONYANGO	32	M. SC	LECTURER	FOOD SCIENCE	AF 2312, 2408, 22411	1989	
10	P. M. KINYANJUI	37	M. SC	ASST. LECTURER	GENERAL MICROBIOLOGY	AF 2307	1990	
11	F. M. MATHOOKO	31	M. SC	ASST. LECTURER	POSTHARVEST TECHNOLOGY	AF 2317, 2415	1988	
12	C. A. OMUMASABA		B. SC	TEACHIING ASSISTANT	FOOD MICROBIOLOGY	N/A	1992	
13	E. M. GATAI		B. SC	TEACHIING ASSISTANT	FOOD PROCESS ENGINEERING	N/A	1992	
14	L. E. WONGO		PH. D	SENIOR LECTURER	POSTHARVEST TECHNOLOGY	AF 2318	1993	
15								

1. 2 Established No. of Academic Staff by Designation and No. of Positions filled

	Prof.			Ass. Prof.			S. L.			L.			Asst. L.			Teaching Asst.		
	Est. No	No. fill.	Balance	Est. No	No. fill.	Balance	Est. No	No. fill.	Balance	Est. No	No. fill.	Balance	Est. No	No. fill.	Balance	Est. No	No. fill.	Balance
1990/91	1	0	1	1	1	0	1	1	0	4	4	0	4	4	0	1	1	0
1991/92	1	0	1	1	1	0	2	1	1	4	5	0	4	4	0	3	1	2
1992/93	1	0	1	1	1	0	2	3	0	5	4	1	4	4	0	3	2	1
1993/94	1	0	1	1	1	0	3	3	0	8	6	2	6	2	4	4	2	2
1994/95																		
Total*		—	—		—	—		—	—		—	—		—	—		—	—

* : No. of staff required for the ultimate consolidation of the Department.

1. 3 Teaching Load (%) in Degree programmes

	1st Year						2nd Year						3rd Year						4th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91																								
1991/92	87.5	-	12.5	100	-	-																		
1992/93	87.5	-	12.5	87.5	12.5	-	50	37.5	12.5	75	12.5	12.5												
1993/94	87.5	-	12.5				87.5	12.5	-				50	-	50									
1994/95																								

	5th Year						6th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91												
1991/92												
1992/93												
1993/94												
1994/95												

K_F : Full-time Kenyan Staff
K_P : Part-time Kenyan Staff
F : Foreigners including Japanese

1. 4 Staff Mobility

	Staff appointed	Staff left after 2.5 yrs. service	Staff left after 5 yrs. service
1990/91	8	-	-
1991/92	2	-	-
1992/93	1		-
1993/94			-
1994/95			

1. 5 Technical Staff

Page:

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	REMARKS/REQUIRED FOR
1	T.W. WANDATI	37	B.Sc.	CHIEF TECHNICIAN	FOOD PROCESSING	
2	S.N. KAGUTHI	40	LABORATORY TECHNICIAN - II	SENIOR TECHNICIAN	CHEMISTRY	
3	G.K. KIARIE	41	LABORATORY TECHNICAN - I	TECHNICIAN A/B/C	MICROBIOLOGY	
4	H.N. WUNGAI	31	DIPLOMA	TECHNICIAN A/B/C	FOOD PROCESSING	ON STUDY LEAVE (KENYA POLYTECHNIC)
5	M.W. MWANGI	31	DIPLOMA	TECHNICIAN A/B/C	FOOD PROCESSING	ON STUDY LEAVE (B.Sc., JKUCAT)
6	E.M. MUYANGA	26	DIPLOMA	TECHNICIAN A/B/C	FOOD PROCESSING	
7	W.N. KINUNDU		DIPLOMA	TECHNICIAN A/B/C	FOOD PROCESSING	
8	J.N. WANBUGU		DIPLOMA	TECHNICIAN A/B/C	FOOD MICROBIOLOGY	
9	P.N. KARANJA	26	DIPLOMA	TECHNICIAN A/B/C	FOOD BIOCHEMISTRY	JICA C/P TRAINING
10	M.N. OKOTH	35	TECHNICIAN CERTIFICATE	TECHNICIAN A/B/C	FOOD PROCESSING	ON STUDY LEAVE (JICA C/P TRAINING)
11						
12						
13						
14						
15						

1. 6 Established No. of Technical Staff by Designation and No. of Positions filled

	Chief Technician			Senior Technician			Technician			Subordinate staff		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
1990/91	1	0	1	1	0	1	6	4	2	12	0	6
1991/92	1	0	1	1	0	1	7	6	1	12	0	6
1992/93	1	1	0	1	1	0	10	8	2	12	12	0
1993/94												
1994/95												
Total*		—	—		—	—		—	—		—	—

* : No. of staff required for the ultimate consolidation of the Department

2. STAFF RECRUITMENT PLAN

2. 1 Academic Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	PROF./AS. PROF	FOOD SCIENCE & POSTHARVEST TECHNOLOGY	2				2	
2.	AS. PROFESSOR	HUMAN NUTRITION	1*				1	
3.	LECTURER	FOOD SCIENCE & TECHNOLOGY	2*	(1)			3	
4.	ASSISTANT LECTURER	FOOD SCIENCE & TECHNOLOGY	1*				1	
5.	SENIOR LECTURER	FOOD CHEMISTRY	1	(1)			2	
6.	LECTURER	FOOD CHEMISTRY	2*	(-1)			2	
7.	TEACHING ASSISTANT	FOOD CHEMISTRY		1			2	
8.	SENIOR LECTURER	FOOD MICROBIOLOGY	1*				1	
9.	LECTURER	FOOD MICROBIOLOGY			1		1	
10.	ASSISTANT LECTURER	FOOD MICROBIOLOGY	1*+(1)*				1	
11.	TEACHING ASSISTANT	FOOD MICROBIOLOGY	1*				2	
12.	SENIOR LECTURER	FOOD ENGINEERING	1				1	

* : No. planned should be indicated in a blacket.

REMARKS: * indicates those who have been employed. ( ) indicates those on study leave.

2. 1 Academic Staff — continued

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University. Private sector. etc.)
26.	LECTURER	POSTHARVEST PLANT PATHOLOGY			1		1	
27.	TEACHING ASSISTANT	POSTHARVEST PLANT PATHOLOGY				1	1	
28.	SENIOR LECTURER	POSTHARVEST PEST CONTROL	1		*		1	
29.	TEACHING ASSISTANT	POSTHARVEST PEST CONTROL	1				1	
30.								
31.								
32.								
33.								
34.								
35.								
36.								
37.								
			21	6	5	3	35	

* : No. planned should be indicated in a blacket.

REMARKS: * indicates those who have been employed.
( ) indicates those on study leave.

2. 1 Academic Staff — continued

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
13.	LECTURER	FOOD ENGINEERING	1*				1	
14.	TEACHING ASSISTANT	FOOD ENGINEERING		1			1	
15.	SENIOR LECTURER	POSTHARVEST TECHNOLOGY		1			1	
17.	LECTURER	POSTHARVEST PERISHABLE TECHNOLOGY				1	1	
18.	ASSISTANT LECTURER	POSTHARVEST PERISHABLE TECHNOLOGY	(1)*				1	
19.	TEACHING ASSISTANT	POSTHARVEST PERISHABLE TECHNOLOGY		1			1	
20.	LECTURER	POSTHARVEST PROCESS ENGINEERING		1			1	
21.	ASSISTANT LECTURER	POSTHARVEST PROCESS ENGINEERING	1				1	
22.	TEACHING ASSISTANT	POSTHARVEST PROCESS ENGINEERING	1	*			1	
23.	SENIOR LECTUER	POSTHARVEST PLANT PHYSIOLOGY	1				1	
24.	LECTURER	POSTHARVEST PLANT PHYSIOLOGY			1		1	
25.	TEACHING ASSISTANT	POSTHARVEST PLANT PHYSIOLOGY				1	1	

* : No. planned should be indicated in a blacket.

REMARKS: * indicates those who have been employed.
( ) indicates those on study leave.

3. STAFF DEVELOPMENT PLAN USING JAPANESE FUND OF DEPARTMENT [DRAFT]

3. 1 University College Council Staff

Period of JICA Technical Cooperation

No	Staff (Qualification)	AREA OF STUDY	TYPE OF STUDY REQUIRED
1	M. SC	FOOD CHEMISTRY	PH. D OKAYAMA
2	M. SC	FOOD HYGIENE	PH. D HIROSHIMA
3	M. SC	POSTHARVEST PLANT PHYSIOLOGY	PH. D OKAYAMA
4	M. SC	CEREAL TECHNOLOGY	PH. D (MALAYSIA, 3rd Country)
5	M. SC	FOOD CHEMISTRY	PH. D (KOCHI- up to 1996)
6	M. SC	MEAT TECHNOLOGY	PH. D (LOCAL, JKUCAT)
7	B. SC	FOOD MICROBIOLOGY	M. SC & PH. D
8	B. SC	PROCESS ENGINEERING	MS. C & PH. D
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

★

2. 2 Technical Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	CHIEF TECHNICIAN	FOOD SCIENCE		1*			1	
2.	SENIOR TECHNICIAN	FOOD CHEMISTRY		1	*		1	
3.	TECHNICIAN A/B/C	FOOD CHEMISTRY	1*				1	
4.	SENIOR TECHNICIAN	MICROBIOLOGY			1		1	
5.	TECHNICIAN A/B/C	MICROBIOLOGY	1*		*		2	
6	SENIOR TECHNICIAN	POSTHARVEST TECHNOLOGY				1	1	
7	TECHNICIAN A/B/C	POSTHARVEST TECHNOLOGY			2		2	
8	SENIOR TECHNICIAN	FOOD PROCESSING		1			1	
9	TECHNICIAN A/B/C	FOOD PROCESSING	4*(1)	-1	1+(2)	1	5	
10	SENIOR TECHNICIAN	FOOD ENGINEERING/ANALYTICAL INSTRUMENTS				1	1	
11	TECHNICIAN A/B/C	FOOD ENGINEERING/ANALYTICAL INSTRUMENTS		1*			1	
12								
		TOTAL	7	4	3	3	17	

* : No. planned should be indicated in a blacket.

REMARKS: * indicates those who have already been recruited.
( ) indicates those who are on study leave.

4. ACADEMIC ACTIVITIES

4.1 RESEARCH POLICY

1. Objectives

The University College has outlined the purpose of research as a means of improving the quality and quantity of products and such research activities should, consequently, be geared to solving the country's problems. Based on this guideline, the department is established as follows:

1. Considering the recent development in agricultural industry, it is necessary to investigate into the appropriate technologies for
2. Products development is another objective of research projects in this department, because it is directly connected to promote the utilization of locally available materials.

2. Areas of priority

1. Improvement of primary and secondary processing of food crops for better presertion and minimizing postharvest losses.
2. Adaption of new technologies into local conditions.

3. Strategies

Through the establishment of appropriate technologies for food processing longer preservation of high quality products will be achieved and, at the same time, postharvest losses of food crops can be reduced to minimum. It is the time to step up to the introduction of new technologies such as Food Biotechnology and to intitiate new development. However, it is necessary to conduct preliminary feasibility studies for such technologies at the earliest stages. In the short term, it is necessary to continue short technical courses such as Applied Food Analysis, Quality Control and Postharvest Technology.

4. Possible research to be undertaken

1. Development of appropriate technologies for postharvest handling of food crops.
2. Application of biotechnology to local processing conditions.
3. Assessment of quality factors for locally processed food products.
4. Utilization of traditional methods and locally available materials for food preservation and processing.
5. Search for bioactive substances in natural flora.

5. Requirements for the implementation

1. Staff development and technical training.
2. Development of research facilities.
3. Availability of funds.
4. Provision of technical information.
5. Close linkage with Ministries and Government institutions concerned.
6. Financial assistance for attending relevant conferences and seminars overseas and publishing in international journals.

4. 2 LIST OF ACADEMIC ACTIVITIES

- Major Accomplishments from April, 1990 up to December, 1991

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED at	DATE
	RESEARCH ACTIVITIES			
1.	F.M. MATHOOKO & H. KOAZE	POSTHARVEST HANDLING METHODS OF FOOD CROPS PART I: SURVAILANCE OF POSTHARVEST HANDLING FOR FOOD CROPS PART II: DEVELOPMENT PF SIMPLE MODIFIED ATOMOSPHERIC STORAGE METHODS FOR PINEAPPLES		MARCH, 1991
2.	L.B.S. MWAJUMWA, E.M. KAHANGI & J.IMUNGI	THE PRIVALANCE AND NUTRITIONAL VALUE OF SOME KENYAN INDIGENOUS	ECOLOGY OF FOOD AND NUTRITION	1991
3.	C.A. ONYANGO, F.M. MATHOOKO & S. M. NJOROGE	POSTHARVEST HANDLING METHODS OF FOOD CROPS IN KENYA	IN-PRINT	MARCH, 1992
4.	G.M. KENJI, H. KOAZE	SEARCH FOR BIOLOGICALLY ACTIVE SUBSTANCES IN NATURAL FLORA PART - I	IN-PRINT	MARCH, 1993
5.	P.M. KUTIMA, T. SUGIYAMA, G.M. KENJI	PURIFICATION, CHARACTERISATION AND ACTIVITIES OF AMYLOLYTIC ENZYMES ON SELECTED STARCHES	IN-PRINT	MARCH, 1993
6.	G.M. KENJI, M. LUNG'AHO	NUTRITIONAL STATUS IN PRE-SCHOOL AGE CHILDREN, SOUTH NYANZA	IN-PRINT	MARCH, 1993
7.	H. KOAZE, S.M. NJOROGE, G.M. KENJI	POSTHARVEST TECHNOLOGY FOR FOOD CROPS IN KENYA	IN-PRINT	MARCH, 1993
8.	S.M. NJOROGE, P.M. KUTIMA, T. SUGIYAMA	EFFECTS OF ENZYMES TREATMENT ON LEVELS OF CARBOHYDRATES, NITROGEN SUBSTANCES AND FLAVOUR OF COFFEE SPENT GROUND	IN-PRINT	MARCH, 1993
	SEMINAR			
1.	G. M. KENJI (DR)	SEARCH FOR BIOLOGICAL ACTIVE SUBSTANCES IN KENYAN PLANTS		5.6.91
2.	Y. SUZUKI (PROF)	APPLICATION BIOTECHNOLOGY FOR BETEER FOOD PRODUCTION		JULY 1991
3.	S. NAKAJIMA (PROF)	APPLIED TECHNOLOGY FOR FOOD ANALYSIS		JULY 1991
4.	FSPT DEPARTMENTT	POSTHARVEST MANAGMENT OF FOOD CROPS	PROCEEDINGS - JKUCAT	MARCH, 1992
5.	W.O. AWINO	THE PROSPECTS OF FOOD IRRIDIATION IN KENYA		APRIL, 1992
6.	K.HIRONAKA (PROF)	VISCOELASTICITY OF CHINESE YAM		DEC. 1992
7.	FSPT	FOOD QUALITY CONTROL SEMINAR		JAN. 1993
8.	FSPT	WORKSHOP FOR POSTHARVEST HANDLINGS OF HORTICULTURAL CROPS		JAN. 1993
9.	FSPT	SEMINAR ON APPLIED FOOD ANALYSIS (3rd COUNTRY TRAINING PROGRAMME)	UNDER PREPARATION	FEB-MARCH. 1993
10.	T. KIMURA (PROF)	TRIALS FOR QUALITY EVALUATION OF FOODS		JUNE, 1993

4. 3 LIST OF CURRENT RESEARCH PROGRAMMES

Page:

From April, 1990 up to December, 1990

NO.	NAME OF RESEARCHER	TITLE OF RESEARCH	PUBLISHED OR NOT	SOURCE OF FUND
1.	C. A. OMUMASABA, T. SUGIYAMA, P. M. KUTIMA	STUDIES ON CELLULOLYTIC AND LIGNINOLYTIC ENZYMES OF THE THERMITE MUSHUROOM - TERMITOMYCES	IN PROGRESS	JICA
2.	P. M. KUTIMA, C. A. OMUMASABA, T. SUGIYAMA,	ACTIVITY OF AMYLOLYTIC ENZYMES ON VARIOUS LOCALLY AVAILABLE RAW STARCHES	IN PROGRESS	JICA
3.	E. M. GATAI, H. KOAZE	FLOW PROPERTIES OF TOMATO CONCENTRAYTES - CAL-J AND M82 CULTIVARS	IN PROGRESS	JICA
4.	H. KOAZE, G. M. KENJI	MATHEMATICAL MODELLING OF RESPIRATION RATES OF FRESH PRODUCES GROWN IN KENYA DURING MODIFIED ATMOSPHERE STORAGE	IN PROGRESS	JICA
5.	C. A. ONYANGO, H. KOAZE	COMBINATION OF ACETIC ACID WITH LACTIC AND/OR ASCORBIC ACID AND STORAGE TEMPERATURE AND THEIR EFFECTS ON COLOUR, TENDERNESS, FALVOUR, OVERALL KEEPING QUALITY ON RED MEAT	IN PROGRESS	JICA
6.	G. M. KENJI, E. OMULOKOLI, H. KOAZE	SEARCH FOR BIOLOGICALLY ACTIVE SUBSTANCES IN NATURAL FLORA PART II	IN PROGRESS	JICA

4. 4 AREA OF RESEARCH INTERESTED BY STAFF IN DEPARTMENT Page:

NO.	FIELD	MAIN TITLE (Long Term Research)	NAME	SUB TITLE
1	FOOD CHEMISTRY	SEARCH FOR BIOLOGICALLY ACTIVE SUBSTANCES IN KENYAN PLANTS	G.M. KENJI	BIOLOGICALLY ACTIVE SUBSTANCES FROMVERNONIA HINDII (ASTERACEAE)
2	FOOD MICROBIOLOGY	UTILIZATION OF BIORESOURCES FOR EFFECTIVE FOOD PRODUCTION	P.M. KUTIMA	PURIFICATION, CHARACTERIZATION AND ACTIVITIES OF AMMYLOLYTIC ENZYMES.
3	POSTHARVEST TECHNOLOGY OF FRUITS AND VEGETABLES	PROCESSING AND PRESERVATION OF FRESH FRUITS AND VEGETABLES	L.B.S. MWAJUMWA	PRESERVATION OF MANGOES AND KALES BY USE OF MODIFIED ATMOSPHERE.
4	FOOD ENGINEERING	RHEOLOGY OF FOODS	E.M. GATAI	FLOW PROPERTIES OF TOMATO CONCENTRATES.
5	FOOD CHEMISTRY	PROPERTIES AND PRESERVATION OF LOCALLY AVAILABLE FOOD MATERIALS	C.A. ONYANGO	EFFECT OF NATURALLY OCCURING ACIDS DURING PRESERVATION, AND COLOUR, TENDERNESS AND FLAVOUR OF RED MEATS>
6	FOOD MICROBIOLOGY	APPLICATION OF ENZYMES ON AGRICULTURAL RAW MATERIALS	C.A. OMUMASABA	STUDIES ON CELLULOLYTIC AND LIGNOLYTIC ENZYMES OF THE TERMITE MUSHROOM - TERMITOMYCES.
7	FOOD MICROBIOLOGY	CHARACTERISATION OF PATHOGENIC MICROORGANISMS IN FOODS	C. KIIYUKIA	EFFECT OF SODIUM CHLORIDE, pH AND ORGANIC NUTRIENTS ON VIBRIO CHOLERAE.

4. 5 Publications and Papers presented out of Research Activities

	No. of Research undertaken	No. of Staff involved			No. of Publications	No. of Papers presented	No. of Research per Staff per Year*
		K	J	Total			
1990/91							
1991/92							
1992/93							
1993/94							
1994/95							
TOTAL							

K : Kenyan staff
J : Japanese staff

* : No. of Research per staff per year is expressed as No. of Research undertaken divided by all academic staff excluding those who are on study leave in a department in that particular year.
No. of Staff involeved may count the same staff repeatedly.

4. 6 Participation of SEMINAR/WORKSHOP/CONFERENCE

	No. of Staff participated			No. of Papers presented	No. of Papers presented per Staff per Year	No. of Papers published out of Seminar/Workshop	No. of Papers published out of Seminar /Workshop per staff per Year	No. of Seminar/Workshop per Staff per Year
	K	J	Total					
1990/91	2	1	3	3	0.20			
1991/92	3	1	4	4	0.20	1	0.10	0.33
1992/93	6	2	8	5	0.42	1	0·083	0.25
1993/94	2	1	3	1				
1994/95								
TOTAL								

4. 7 Total Publications and Papers presented

Page:_____

	No. of Publications	No. of Papers presented	No. of Publications per Staff per Year	No. of Papers presented per Staff per Year
1990/91				
1991/92	1	4	0.1	0.40
1992/93	1	5	0.08	0.42
1993/94				
1994/95				
TOTAL	2	9	0.18	0.82

No. of Publication in 4. 7 is equal to the sum of No. of Publications in 4. 5. and 4. 6.
No. of Papers presented in 4. 7 is equal to the sum of No. of Papers presented in 4. 5. and 4. 6.
No. of Publications per staff per year in 4. 7 is expressed as No. of Publications in 4. 7 divided by total academic staff in a department in that particular year.
No. of Papers presented per staff per year in 4. 7 is expressed as No. of Papers presented in 4. 7 divided by total academic staff in a department in that particular year.

4. 8 Seminar/Workshop/Conference organized by Department

	No. of Seminar/Workshop organized by Department		
	Internal	Public	Total
1990/91	-	3	3
1991/92	1	-	1
1992/93	-	3	3
1993/94			
1994/95			
TOTAL	1	6	7

4. 9 Textbook/Manual published

	No. of Staff involved			No. of Books published	No. of books published per Staff per Year
	K	J	Total		
1990/91					
1991/92					
1992/93	1	1	2	2	0.17
1993/94					
1994/95					
Total	1	1	2	2	0.17

No. of books published per staff per year is expressed as No. of books published divided by total academic staff in taht particular year.

5. STATISTICS OF STUDENT : Planned No. of Student per Class : Degree Programme :_____ Diploma Programme :_____ PAGE :_____

5. 1 Degree Programme

		No. of Students admitted			No. of Students present			No. of Studsents proceeded to the following year			No. of Graduates			Grade of Graduates					No. of Graduates employed/ on the job		
		M	F	Total	M	F	Total	M	F	Total	M	F	Total	A	B*	B	Pass	F	M	F	Total
1990/91	1st 2nd 3rd 4th 5th 6th TOTAL	17	3	20	17	3	20	15	3	18											
1991/92	1st 2nd 3rd 4th 5th 6th TOTAL	20 15	3 2	23 17	19 15	3 2	22 17	18 14	3 2	21 16											
1992/93	1st 2nd 3rd 4th 5th 6th TOTAL	12 18 14	8 3 2	20 21 16	12 18 14	8 3 2	20 21 16														
1993/94	1st 2nd 3rd 4th 5th 6th TOTAL																				
1994/95	1st 2nd 3rd 4th 5th 6th TOTAL																				
TOTAL																					

Pass Rate (%) = No. of students proceeded to the following year divided by No. of students present x 100

5. 2 Diploma Programme

		1990/91	1991/92	1992/93	1993/94	1994/94	Total
	1st 2nd 3rd	23 20 21	20 22 20	25 21 21			
TOTAL							

6. JAPANESE INPUT

6. 1 Despatch of Experts

	Long Term (Man·Month)	Short Term (Man·Month)	Total
1990/91	24	-	24
1991/92	24	2	26
1992/93	24	5	29
1993/94			
1994/95			
Total			

6. 2 Training and Scholarship

	JICA					Japanese Govt. (Mombusho)	Total
	C/P	3rd	Group	Local	Total		
1990/91	1	-		-	1	1+(1)	2
1991/92	2	-		-	2	-	-
1992/93	1	1		-	2	-	-
1993/94	1	1		-	2	1	1
1994/95							
Total	5	2			7	2+(1)	3

No. of staff who are still in Japan should be indicated in bracket.

6. 3 Distribution of degrees awarded

	Degree awarded				
	Ph. D.	M. Sc.	B. Sc.	Others	Total
1990/91	-	1			1
1991/92	1	-			1
1992/93	1	-			1
1993/94					
1994/95					
Total	2	1			3

Experts required for 1994/95

	Area of Specialization	Time and Duration	Nature of Assignment
1.	Dairy Technology*	April - August, 1994	Teaching
2.	Postharvest Graing Technology*	April - August, 1994	Teaching
3.	Postharvest Perishable Tech.*	August - December, 1994	Teaching
4.	Meat Technology*	August, 1994	Supervision of Ph. D. Researc
5.	Food Chemistry	April - March, 1994/95	Teaching and supervision of cc
6.	Food Engineering	April - March, 1994/95	Teaching and supervision of cc

* marks indicate short-term experts. The department requests to deploy them from academi Japanese Universities and also requests them to stay at least one full semester.

5 and 6 are requests for long-term experts.

6. 4 MACHINERY AND EQUIPMENT FOR FISCAL YEAR 1990 - 1994

Page:_____

DEPARTMENT	1990/91 Provided: JY 1,355,000	1991/92 Provided: JY 9,356,000	1992/93 Provided: JY 3,740,000	1993/94 Planned: JY 25,200,000 Requested: JY 26,305,000 Approved: JY 15,700,000	1994/95 Planned: JY 3,000,000 PLUS JY 10,605,000 JY 13,605,000
Equipment provided or to be expected	1. BAKING UNITS 2. BOILER 3. PACKAGING MATERIAL FOR MARKET MILK	1. SAUSAGE STUFFER 2. ICE CREAM MACHINE 3. AUTOCLAVES 4. ANALYTICAL BALANCE 5. DIVIDER UNITS	1. INCUBATORS 2. WATERBATH SHAKERS	1. DISTILLATION UNIT 2. MICROCENTRIFUGE 3. STOCKER 4. AUTO-TITRATER, ETC.	1. HPLC 2. COLUMNS 3. LABORATORY APPARATUS 4. SPARE-PARTS 5. CHEMICALS, ETC.

6. 5 JICA Local Cost (K.Shs.)

	Local Research	Textbook/Manual	Exchange Prog.	Seminar	Others	Total
1990/91	121.052	-		-		121.052
1991/92	139.502	-		121.850		261.352
1992/93	273.600	80.000		100.000		453.600
1993/94	495.000					495.000
1994/95 (planned)						
Total	1.029.154	80.000	-	221.850	-	1.331.004

7. Local Cost by Kenyan Government (K.Shs.)

Page:_____

	Educational Materials	Research	Library Books/Journals	Seminar/ Conference	Transport/ Travel	Fuel/Energy	Personal Emolument	Miscellaneous	Total
1990/91	509.000	72.000	250.000		74.140	41.000	2.256.300	40.000	3.242.400
1991/92	305.400	60.000	150.000		60.160	41.000	2.365.000	50.000	3.039.560
1992/93	250.000				20.000				270.000
1993/94									
1994/95									
Total									

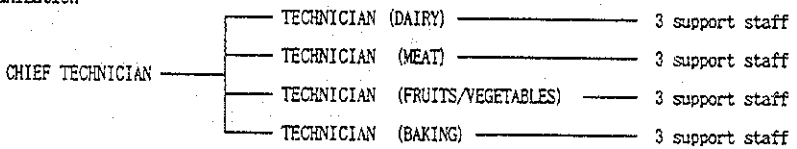
8. IGU/PRODUCTION UNIT

1. Name of Unit : FOOD PROCESSING UNIT

2. Description of Activities :

The Food Processing Unit is involved in the production of dairy, meat, vegetable, fruits and bakery products. It is also used for practicals by students in the Department of Food Science and Postharvest Technology.

3. Staff and Organization



4. Balance Sheet in 1992/93

JULY 1992 TO JUNE 1993 (KSHS)

EXPENDITURE	SALES	PROFIT*
535,498.00	858,428.00	322,930.00

* The department wishes to control sales of its own products, so that maximum profit can be attained. This will help to allocate budget for purchase of materials, spare-parts and repairs.

JOMO KENYATTA UNIVERSITY COLLEGE OF AGRICULTURE AND TECHNOLOGY

(UNDERGRADUATE PROGRAMME) PROJECT

COMPILED INFORMATION FOR INTERIM EVALUATION

FACULTY OF ENGINEERING

DEPARTMENT OF CIVILENGINEERING

JULY 1993

Contents

1. STAFF LIST (as of 31st July, 1993)

1.1 Academic Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS ABLE TO COVER IN SYLLABUS FOR B.Sc.*)	Year/Date of Appointment
1	Raphael Ngumbau N.Mutuku	42 (24/7/51)	B.Sc.,M.Sc.(Nairobi),Ph.D(Colorado State)(1985)	A.Professor	Structural Engineering	EC 2407.2415	12.1992
2	Josphat K.Z.Mwatelah	38 (24/1/55)	B.Sc.(Nairobi),M.Sc.(Tottori)(1988) on Study Leave	Lecturer	Urban & Regional Planning/Surveying	EC 2211.2403.2517	1990('82TSC)
3	Harrison Mutisya Mutua	40 (15/9/53)	H.D.(K.Poly.),M.Sc.(Strathclyde)(1986)	Lecturer	Public Health Engineering	EC 2305.2313	1990
4	Geoffrey Nganga Manguriu	39(25/11/54)	H.D.(K.Poly.),M.Sc.(Strathclyde)(1987)	Lecturer	Structures	EC 2206.2215.2308	1990
5	Robert Kinoti Kirera	39(21/10/54)	B.Sc.(Nairobi),M.Sc.(Birmingham)(1988)	Lecturer	Highway Engineering(Pavement)	EC 2404.2406.2412	1990
6	John Mungai Kinuthia	35 (4/7/58)	B.Sc.(Nairobi),M.Sc.(Birmingham)(1988)	Lecturer (COD)	Highway and Traffic Engineering	EC 2303.2404.2412	7.1990
7	Alfred Oloo Mayabi	37 (4/12/56)	B.Sc.(Nairobi),M.Eng.(McGill)(1989)	Lecturer	Water Engineering/Ag.Engineering	EC 2305.2313	1990
8	Mathew M.O.Winja	44 (23/4/49)	H.D.(Kenya Poly.),M.Sc.(Loughborough)(1986)	Lecturer	Concrete & Design/Harbour Eng.	EC 2213.2502.2510	1990
9	Louis Mugambi Njuki	34 (9/3/59)	M.Sc.(Odessa)(1988)	Lecturer	Structures	EC 2205.2214	1990
10	Moses Karoki Gachari	36 (16/4/57)	B.Sc.(Nairobi),M.Sc.(Oxford)(1985)	Lecturer	Geodesy/Surveying	EC 2306.2314	1990
11	Stephen M.Mulei	43 (25/9/50)	H.D.(K.Poly.),M.Sc.(Strathclyde)(1986)	Lecturer	Highway Engineering	EC 2403.2411	1990
12	George K.Simba	40(12/12/53)	H.D.(K.Poly.),M.Sc.(Strathclyde)(1988)	Lecturer	Structures	EC 2204.2214	1990
13	Abiero-Gariy Zachary C.	31(30/12/62)	B.Sc.(Nairobi),M.A.Planning(1988)	Lecturer	Transportation Planning/Surveying	EC 2202.2411	8.1990
14	C.K.Kabubu	34	B.Sc (UON), M.Sc(Lough)	Lecturer	Structures	EC 2205.2214	6' 1993
15	Khamala S. Makhanu	33(21/12/60)	B.Sc.(Nairobi),M.Sc.(Nairobi)	Assistant Lecturer	Water Resources Engineering	EC 2304.2312.2402.2410	10.1988
16	G.Muturi Thumbi	40 (12/7/53)	H.D.(K.Poly.),M.Sc(Osaka Sangyo)(1991) on Study Leave	Assistant Lecturer	Public Health Engineering	EC 2505.2513	1992('84TSC)
17	S.G.Waweru	34(11/11/59)	H.D.(Kenya Poly.)	Assistant Lecturer	Soil Mechanics	[Diploma Class] (5.'92 TSC から移籍)	
18	J.K.Mwangi	35 (22/4/57)	H.D.(Kenya Poly.)	Assistant Lecturer	Irrigation Engineering	[Diploma Class] (5.'92 TSC から移籍)	
19	G.M.Mbego	37 (17/1/56)	B.Sc.(UON)	Assistant Lecturer	Surveying	[Diploma Class] (5.'92 TSC から移籍)	
20	K.O.Matoke	33	H.D(K.P),B.Sc(Thomes),M.Sc(S.Ham	Assistant Lecturer	Water Resources Engineering	EC 2304.2312.2402.2410	5' 1993
21	Joshua Ramongi Omer	29 (21/6/64)	B.Sc.(Nairobi),M.Sc.(Nairobi)(1988) (1992) on Study Leave(U.K.)	Teaching Assistant	Structures	EC 2315	7.1990
22	Francis Okoth Asunah	30 (1963)	B.Sc.(Nairobi)(1988)	Teaching Assistant	Geology/Hydrology	[Diploma Class]	10.1989

1. 1 Academic Staff (Continued)

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS ABLE TO COVER IN SYLLABUS FOR B.Sc.*)	Year/Date of Appointment
23	Walter Odhiambo Oyawa	28 (23/8/65)	B.Sc. (Nairobi) (1985) on study Leave	Teaching Assistant	Structures. Structural Design	EC 2407.2415	11.1990
24	Maulice Omondi Nyadawa	36 (14/7/57)	H.D. (Kenya Poly.) (1985) on study Leave	Teaching Assistant	Water Resource Engineering	EC 2203.2212.2402.2410	1992('86TSC)
25	Ochieng N. Ambassah	26 (25/5/67)	B.Sc. (Nairobi) on study Leave	Teaching Assistant	Civil Engineering	[Diploma Class]	9.1992
26	A.S.Monda	23 (1/10/69)	B.Sc (UON)	Teaching Assistant	Structures	[Diploma Class]	4' 1993
27	V.S.Muhandiki	23 (29/4/70)	B.Sc (UON)	Teaching Assistant	Water Resources Engineering	[Diploma Class]	5' 1993

1. 2 Established No. of Academic Staff by Designation and No. of Positions filled

	Prof.			Ass. Prof.			S.L.			L.			Asst. L.			Teaching Asst.		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
1990/91	0	0	0	0	0	0	1	0	1	10	10	0	3	3	0	3	3	0
1991/92	0	0	0	1	1	0	1	0	1	3	3	0	2	2	0	3	5	-2
1992/93	0	0	0	0	0	0	2	0	2	2	0	2	2	0	2	0	0	0
1993/94	(1)	(0)	(1)	(1)	(0)	(1)	(4)	(0)	(4)	(7)	(0)	(7)	(3)	(0)	(3)	-	-	-
1994/95	(1)	(0)	(1)	(1)	(0)	(1)	(4)	(0)	(4)	(8)	(0)	(8)	(2)	(0)	(2)	-	-	-
Total*	(2)	(0)	(2)	(3)	(1)	(2)	(12)	(0)	(12)	(30)	(13)	(17)	(12)	(7)	(5)	6	8	-2

*: No. of staff required for the ultimate consolidation of the Department.

1. 3 Teaching Load (%) in Degree programmes

	1st Year						2nd Year						3rd Year						4th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91	88	0	12*	88	0	12*																		
1991/92	100	0	0	100	0	0	88	0	12*	88	0	12*												
1992/93	100	0	0	100	0	0	88	0	12*	88	0	12*	88	0	12	(88	0	(12*						
1993/94	(100	0	0	(100	0	0	(100	0	0	(100	0	0	(88	0	(12*	(88	0	(12*	(88	0	(12*	(88	0	(12*
1994/95	(100	0	0	(100	0	0	(100	0	0	(100	0	0	(100	0	(100	(88	0	(12*	(88	0	(12*	(88	0	(12*

	5th Year						6th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91												
1991/92												
1992/93												
1993/94												
1994/95	(88	0	(12*	(88	0	(12*						

K_F : Full-time Kenyan Staff
K_P : Part-time Kenyan Staff
F : Foreigners including Japanese
* : 12% = {(1 Subject)/(8 Subjects)} X 100%
( ) : Planned

1. 4 Staff Mobility

	Staff appointed	Staff left after 2.5 yrs. service	Staff left after 5 yrs. service
1990/91	21	0	0
1991/92	21	2	2
1992/93	27	(0)	(0)
1993/94	(16)	(0)	(0)
1994/95	(16)	(0)	(0)

1. 5 Technical Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	Remarks required for	Year/Date of Appointment
1	Francis Muiruri Kamami	40 (1/1/53)	Diploma in B.C. (Mombasa Poly.)	Technician	Structural Engineering	(JICA Training)	1981
2	Dishon Opulu Sitandi	31 (22/ 4/62)	PartIII (JKCAT). B.Sc (TUP) (1991)	Technician	Structures/Foundation Engineering	M.Sc.	1986
3	Stanley Kibe Nganga	32 (20/12/61)	PartIII in Irrigation (JKCAT)	Technician	Hydraulics	H.D./B.Sc.	1986
4	Raymond Matano Kalama	28 (28/2/65)	PartIII in Irrigation (JKCAT)	Technician	Hydraulics/Public Health Eng.	H.D./B.Sc.	Jan. 1990
5	Joseph Gathumbi Mwangi	36 (18/12/57)	PartIII in B.Construction (JKCAT)	Technician	Surveying	H.D.	1981
6	Godfrey Niihia Hinga	32 (10/ 9/61)	PartIII in B.Construction (JKCAT)	Technician	Soil Mechanics/Highway Engineering	H.D./B.Sc.	Mar. 1988
7	Doris Karambu Mwongera*	28 (20/8/65)	PartIII in Irrigation (JKCAT)	Technician	Irrigation/Public Health Engineering	H.D./B.Sc.	Dec. 1989

* Staff from RPE (IEET)

1. 6 Established No. of Technical Staff by Designation and No. of Positions filled

	Principal Technologist			Chief Technician			Senior Technician			Technician			Supporting staff		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
1990/91	0	0	0	0	0	0	0	0	0	5	5	0	1	1	0
1991/92	0	0	0	0	0	0	0	0	0	2	2	0	0	1	-1
1992/93	0	0	0	1	0	1	4	0	4	7	0	7	2	0	2
1993/94	(0)	(0)	(0)	(1)	(0)	(1)	(4)	(0)	(4)	(8)	(0)	(8)	(2)	(0)	(2)
1994/95	(1)	(0)	(1)	(1)	(0)	(1)	(4)	(0)	(4)	(8)	(0)	(8)	(1)	(0)	(1)
Total*	(1)	(0)	(1)	(3)	(0)	(3)	(12)	0	(12)	(30)	(7)	(23)	(6)	2	(4)

* : No. of staff required for the ultimate consolidation of the Deaprtment

2. STAFF RECRUITMENT PLAN

2. 2 Academic Staff

No.	DESIGNATION	SPECIALITY	1990/91 Implemented	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	Professor	Civil Engineering (General)	0	0	0	(1)	(1)	(2)	Difficult
2.	Associate Professor	Civil Engineering (General)	0	1	0	(1)	(1)	(3)	Difficult
3.	Senior Lecturer	Soil Mechanics, Foundation Engineering, Structural Engineering, Water Resources Engineering, Highway & Transportation Engineering, P.H.E, Geotechnical Engineering, Hydraulics.	1	1	2	(4)	(4)	(12)	Difficult
4.	Lecturer		10	3	2	(7)	(8)	(30)	Difficult
5.	Assistant Lecturer		3	2	2	(3)	(2)	(12)	Difficult
6.	Teaching Assistant		3	3	0	(0)	(0)	(6)	Difficult
			17	10	6	(16)	(16)	(65)	

* : No. planned should be indicated in a blacket.

2. 2 Technical Staff

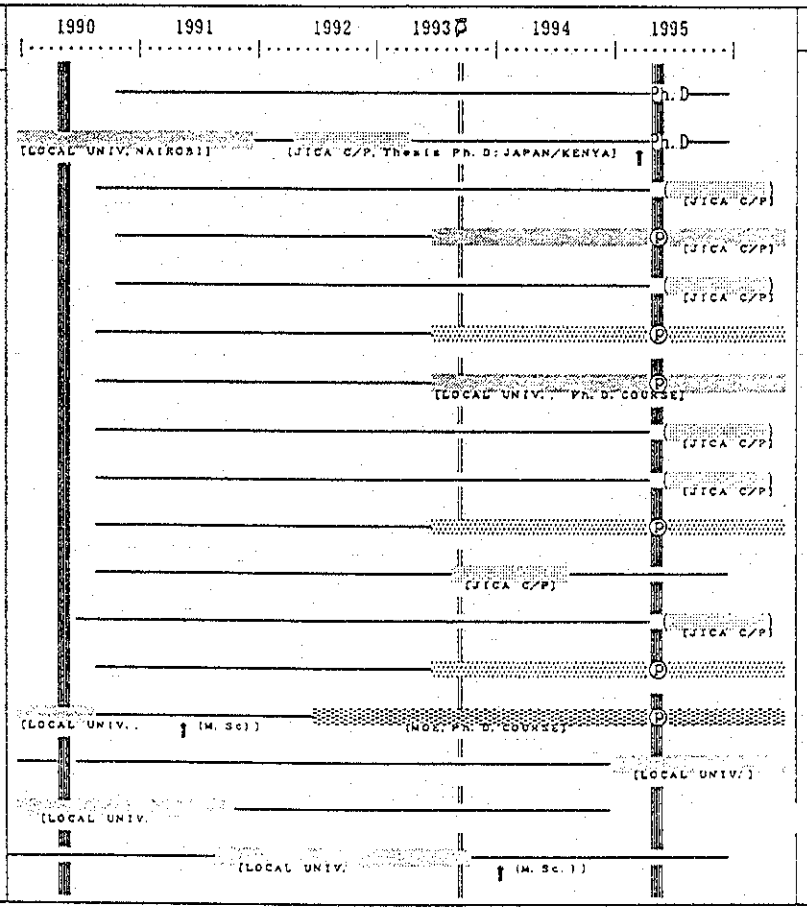
No.	DESIGNATION	SPECIALITY	1990/91 Implemented	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	Principal Technologi	Civil Engineering (General)	0	0	0	(0)	(1)	(1)	Not Easy
2.	C.Technician	Soil Mechanics, Foundation Engineering, Structural Engineering, Water Resources Engineering, Highway & Transportation Engineering, P.H.E, Geotechnical Engineering, Hydraulics.	0	0	1	(1)	(1)	(3)	Not Easy
3.	S.Technician		0	0	4	(4)	(4)	(12)	Easy (JKUCAT Graduates)
4.	Technician		5	2	7	(8)	(8)	(30)	Easy (JKUCAT Graduates)
5.	J.Technician								
	TOTAL		5	2	12	(13)	(14)	(46)	

* : No. planned should be indicated in a blacket.

3. STAFF (ACADEMIC AND TECHNICAL) DEVELOPMENT PLAN USING JAPANESE FUND AND OTHER SOURCES

Period of JICA Technical Cooperation

No	Staff (Qualification)	AREA OF STUDY	TYPE OF STUDY REQUIRED
1	A (Ph.D.)	②Structures	[Study Exchange. Research Linkage]
2	B (M.Sc.)	①Transportation Engineering	JICA C/P. (Thesis Ph.D at Kyoto Univ)
3	C (M.Sc.)	④Public Health Engineering	(JICA C/P)
4	D (M.Sc.)	②Structures	LOCAL UNIVERSITY (Ph.D.)
5	E (M.Sc.)	③Highway Engineering	(JICA C/P)
6	F (M.Sc.)	③Highway Engineering	U.K (Ph.D.)
7	G (M.Sc.)	④Water Eng., Agricultural Eng.	LOCAL UNIVERSITY (Ph.D.)
8	H (M.Sc.)	②Structures	(JICA C/P)
9	I (M.Sc.)	②Structures	(JICA C/P)
10	J (M.Sc.)	⑤Geodesy/Surveying	U.K (Ph.D.)
11	K (M.Sc.)	③Highway Engineering	JICA C/P
12	L (M.Sc.)	②Structures	(JICA C/P)
13	M (M.Sc.)	①Transportation Engineering	W.G (Ph.D.)
14	N (M.Sc.)	④Water Resourses Engineering	MOE (Ph.D. at Kyoto University)
15	O (B.Sc.)	②Structures	[M.Phil.Study (Glamorgan.U.K.)]
16	P (B.Sc.)	③Geology (and Hydrology)	LOCAL UNIVERSITY (M.Sc. at UON)
17	R (B.Sc.)	②Structures	LOCAL UNIVERSITY (M.Sc. at UON)

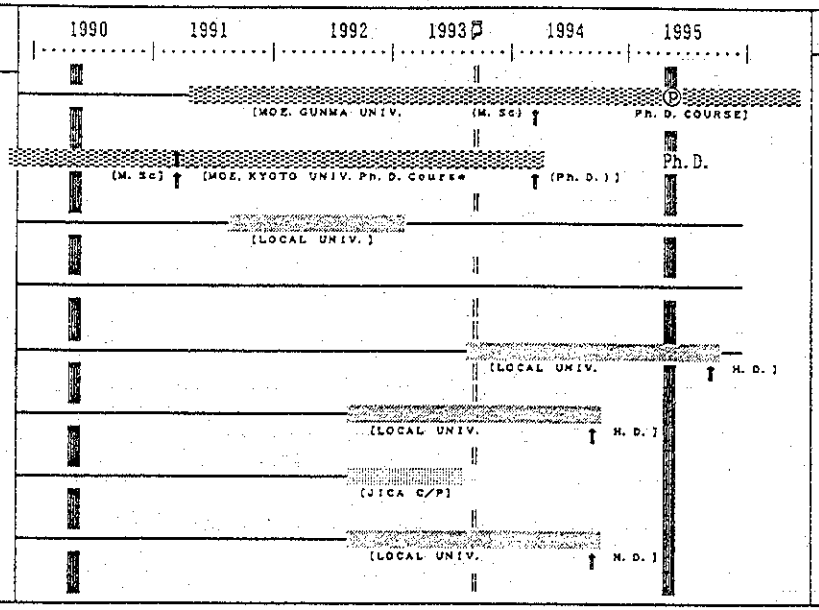


Ⓟ = Attending Ph.D. Course in April. 1995 [Estimated]

STAFF (ACADEMIC AND TECHNICAL) DEVELOPMENT PLAN USING JAPANESE FUND AND OTHER SOURCES

Period of JICA Technical Cooperation

No	Name (Qualification)	AREA OF STUDY	TYPE OF STUDY REQUIRED
18	S (H.D.)	④Water Resources Engineering	MOE (M.Sc., Ph.D. at Gunma Univ.)
19	T (M.Sc.)	④Public Health Engineering	MOE (Ph.D. at Kyoto University)
20	U (B.Sc.)	②Structures	LOCAL UNIVERSITY (M.Sc. at UON)
21	V (Diploma)	②Structures	
22	W (Part III)	④Water Resources Engineering/ Public Health Engineering	LOCAL UNIVERSITY (H.D.)
23	X (Part III)	④Water Resources Engineering/ Public Health Engineering	LOCAL UNIVERSITY (H.D.)
24	Y (Part III)	⑤Geodesy/Surveying	JICA C/P TRAINING
25	Z (Part III)	②Structures	LOCAL UNIVERSITY (H.D.)



① TRANSPORTATION PLANNING AND TRAFFIC ENGINEERING
[Transportation Engineering. Traffic Engineering. (Engineering Management. Operations Research)]

② STRUCTURAL ENGINEERING
[Material Science. Strength of Materials. Construction Materials. Concrete Technology. Theory of Structures. Design. (Drawing)]

③ FOUNDATION ENGINEERING AND HIGHWAY ENGINEERING
[Soil Mechanics. Geology. Geotechnical Engineering. Foundation Engineering. Highway Engineering]

④ ENVIRONMENTAL ENGINEERING AND WATER RESOURCES ENGINEERING
[Fluid Mechanics. Hydraulics. Hydrology. Public Health Engineering. Irrigation Engineering. Water Resources Engineering)
Harbour Engineering. Global Environmental Engineering]

⑤ OTHERS
[Workshop Practice. Surveying. Drawing)

4.1 Research Policy

1. Objectives
   - 1.1 To carry out basic and applied research in Civil Engineering and related areas.
   - 1.2 To carry out research for Governments, business, commerce, industry, educational and scientific institutions as well as other research bodies.
   - 1.3 To strengthen teaching and training through research.
   - 1.4 To direct research activities towards the application of research and development to definite problems in order to improve the social and economic conditions of Kenya.
   - 1.5 To transfer as well as to develop appropriate technology.

2. Areas of Priority
   - 2.1 Problems relating to Civil Engineering education content, teaching and training.
   - 2.2 Problems relating to the environment, transportation, settlements, housing, disasters, resource utilization.
   - 2.3 Reclamation of arid, semi-arid areas and wastelands.

3. Strategies
   - 3.1 Financial Resources
     1. International donor agencies such as JICA, CIDA, SIDA, World Bank, UNESCO, etc.
     2. National organisations such as the National Council for Research & Technology.
     3. Contract research from Governments, businesses, educational and scientific institutions and other research bodies.
     4. JKUCAT research funding.
     5. Other donors.
   - 3.2 Personnel Resources
     1. Teaching and technical staff.
     2. Students at diploma, undergraduate and postgraduate levels.
     3. Collaborators including visiting researchers.
   - 3.3 Time Scale
     To combine short term research directed towards applied research and long term research directed towards basic research.
   - 3.4 Collaboration
     To collaborate with other departments and institutes within JKUCAT and others outside JKUCAT for mutual benifit.
   - 3.5 Research Training
     To utilize local and external research facilities for training in research in various areas of interest to the department.

4. Possible research to be undertaken
   See Chap. 4.3-4.

5. Requirements for the implementation
   - 5.1 Setting up of laboratories for areas in Structural Engineering, Highways and Traffic Engineering, Public Health Engineering and Environmental Engineering and strengthening of existing laboratories (Concrete, Soil Mechanics and Hydrualics).
   - 5.2 Equipment and materials for the laboratories.
   - 5.3 Research training.
   - 5.4 Vehicles to provide transport for research projects.
   - 5.5 Computer hardware and software.
   - 5.6 Research funds for data collection, analysis, typing, printing and publication, documentation, etc.
   - 5.7 Funds for seminar.

6. Others
   Research should be carried out which will be appropriate for Kenya.

4. 2 LIST OF ACADEMIC ACTIVITIES

- Major Accomplishments from April.1990 up to July.1993

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED at	DATE
	RESEARCH ACTIVITIES			
1.	Messrs. Nyadawa, Makhanu, Mwangi, Tsunoda, Odhiambo (AE*) and Kaluli (AE*)	STUDIES ON WATER RESOURCES MANAGEMENT FOR ECONOMIC DEVELOPMENT IN KENYA (1)	JICA Research Report	March. 1991
2.	Mr. K. S. Makhanu	A PHYSICAL MODEL STUDY OF CATCHMENT PROCESSES (M. Sc. Thesis Paper done between September, 1989 and September, 1990 at JKUCAT)	Postgraduate Students' Seminar at UON	22/June/1990
3.	Mr. J. K. Z. Mwatelah	Systems Analysis of Transportation Planning in Metropolitan Regions - Case Study of Nairobi -	On-going Research	(JICA LOCAL SCHOLARSHIP)
4.	Messrs. Makhanu, Tsunoda, Kaluli (AE*), Lenga (AE*) Kibe and Matano	STUDIES ON WATER RESOURCES MANAGEMENT FOR ECONOMIC DEVELOPMENT IN KENYA (2)	JICA Research Report	March. 1992
5.	Messrs. Abiero-Gary, Mwatelah Tsunoda and Agoki	DEVELOPMENT AND EFFECTS OF ROAD TRAFFIC SAFETY MEASURES	JICA Research Report	March. 1992
6.	Messrs. Kibe, Matano, (Nojoroge, Muni), Tsunoda and Kita (Farm)	BASIC STUDY ON SMALL SCALE IRRIGATION SCHEME OF JKUCAT FARM	JKUCAT Research Report	March. 1993
7.	Messrs. Kinuthia, Abiero-Gary, Mwatelah Mulei, Asano	TRAFFIC MANAGEMENT FOR NATIONAL DEVELOPMENT IN KENYA	On-going Research	March. 1994
8.	Messrs. Mayabi, Matano, Asano	PERFORMANCE AND HYDRAULIC CHARACTERISTICS OF STABILIZATION POUNDS IN KENYA	On-going Research	March. 1994

* AE = Agricultural Engineering Department

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED at	DATE
	SEMINAR			
1.	Mr. K. S. Makhanu	STUDY ON SIMULATED CATCHMENT HYDROLOGY	An Annual Seminar on Engineering for Rural Development. KSAE at Kabete	1-3/Aug./1990
2.	Messrs. Tsunoda and Makhanu	POLICY AND LAW IN THE ADMINISTRATION OF WATER RESOURCES IN KENYA	The Environment 2000' Conference at UNEP	23-27/Oct./1990
3.	Mr. K. S. Makhanu	SWABBING OF LARGE DIAMETER PIPELINES: Ruiru and Sasumua Pipelines for Nairobi Water Supply	A National Seminar on Technological Solution for Economic Development in Kenya at JKUCAT	13-14/March/1991
4.	Dr. G. S. Agoki	TECHNOLOGICAL SOLUTIONS FOR ROAD CARNAGE IN KENYA	A National Seminar on Technological Solution for Economic Development in Kenya at JKUCAT	13-14/March/1991

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED at	DATE
SEMINAR (Continued)				
5.	Messrs. Tsunoda and Makhanu	Paper 1:CRITICAL VEGETATION COVER FOR MINIMUM SOIL LOSS Paper 2:THE EFFECT OF STORM MOVEMENT ON THE TIME OF CONCENTRATION	International Congress on Alleviation of Natural Disasters at Arusha,Tanzania	23-27/Sep./1991
6.	Mr.K.S.Makhanu	DISTRIBUTION OF SEDIMENT CONCENTRATION IN RUNOFF HYDROGRAPH	A National Seminar on Engineering the Environment at JKUCAT(AES)	7-9/Aug./1991
7.	Messrs. Makhanu and Kibe	A SYSTEMATIC APPROACH TO LOCAL PROJECT APPRAISAL	WEDC Conference on Infrastructure,Environment, Water and People at UNEP	19-23/Aug./1991
8.	Messrs. Tsunoda and Makhanu	TRAINING CURRICULUM FOR WATER SPECIALISTS	A National Seminar on Water,Sanitation and the Environment at KEWI	25-29/Nov./1991
9.	Messrs. Kibe,Tsunoda and Matano	INTAKE SEDIMENTATION - JKUCAT Case Study -	4th National Workshop on Land and Water Management at UON/SAREC	15-19/Feb./1993
SEMINAR organised by Civil Engineering Department				
10.	Dr.M.Tsunoda	GUIDELINES FOR PREPARATION OF PROJECT PROPOSALS	Department Seminar	14/Nov./1990
11.	All Staff of Civil Engineering Dept.	THE CIVIL ENGINEERING DEPARTMENT WE WANT IN THE YEAR 2000	Department Seminar	21/Nov./1990
12.	Mr.S.V.Obiero (University of Nairobi)	TRANSPORTATION IN A METROPOLITAN REGION	Department Seminar	13/Dec./1990
13.	Dr.M.Tsunoda	NATURAL DISASTERS IN KENYA AND JAPAN	Department Seminar	6/Feb./1991
14.	Mr.J.Kinuthia	DRY COMPACTION METHOD OF ROAD CONSTRUCTION	Department Seminar	2/May/1991
15.	Prof.H.Tsukaguchi (Kyoto University)	TRANSPORTATION ENGINEERING IN JAPAN	Department Seminar	7/May/1991
16.	Dr.D.U.Hewa (Kenyatta University)	A CASE STUDY OF KANO PLAIN FLOOD DISASTER	Department Seminar	23/May/1991
17.	Mr.A.Wakyendo	HIGHWAY PAVEMENT PERFORMANCES	Department Seminar	6/June/1991
18.	All Staff of Civil Engineering Dept.	TECHNOLOGICAL SOLUTIONS FOR ECONOMIC DEVELOPMENT IN KENYA NOW & 21ST CENTURY	National Seminar at JKUCAT	13-14/March/1991
19.	Some Staff of Civil Engineering Dept.	WOMEN IN SCIENCE AND TECHNOLOGY	National Seminar at JKUCAT	7/July/1991
20.	Prof.Y.Ohnishi (Kyoto University)	HIGHLIGHTS OF TECHNOLOGY IN JAPAN	Faculty(Eng.) Seminar	17/Sep./1992

4.3 LIST OF CURRENT RESEARCH PROGRAMMES

From April,1991 up to July,1993

NO.	NAME OF RESEARCHER	TITLE OF RESEARCH	PUBLISHED OR NOT	SOURCE OF FUND
1.	Messrs. Tsunoda, Kibe and Matano	Experiment on slope erosion and soil conservation in Kenya	on-going Research	Dept.of C.E.
2.	Messrs. Mayabi and Tsunoda	Performance evaluation of the college waste stabilization pond system	Project	Dept.of C.E.
3.	Mr. Mutua	Rain water harvesting to alleviate water shortage in the college		
4.	Messrs. Waweru and Mulei	Design of an earthen dam on river Thiririka		
5.	Messrs. Mwangi	Investigation of the most ideal method of irrigation in the college farm		
6.	Messrs. Simba and Manguriu	Effect of grading and fibre reinforcement on the strength of concrete		
7.	Messrs. Kinuthia and Njuki	Stability of using soil cement stabilized blocks		

4 AREA OF RESEARCH INTERESTED BY STAFF

NO.	FIELD	MAIN TITLE(Long Term Research)	NAME	SUB TITLE
1.	Transportation Engineering and Urban Planning	TRAFFIC MANAGEMENT FOR NATIONAL DEVELOPMENT IN KENYA	Mr.J.M.Kinuthia	Use and Improvement of Tropical Road Surfacing Materials
2.			Mr.J.K.Z.Mwatelah	Estimating Origin-Destination(O.D.) Matrix from Traffic Counts
3.			Mr.Abiero-Gariy Z.C.	Analysis of Factors affecting Traffic Flow
4.	Water Resources Engineering	WATER RESOURCES PLANNING AND MANAGEMENT	Mr.K.S.Makhanu	Field Survey and Outdoor Experiment on Soil Erosion and Its Control
5.			Mr.Kibe and Mr.Matano	Roof Catchment Technique of Rain Water in JKUCAT Campus
6.	Structures and Foundation Engineering / Materials	SOILS AND FOUNDATION ENGINEERING / BUILDING MATERIALS	Prof. Mutuku	Potential of Murran as a Traditional Building Materials in Bungoma District
7.			Mr.M.O.Winja	Work Study and Productivity of Plant
8.			Mr.D.O.Sitandi	Pre-stressed Concrete
9.			Mr.L.M.Njuki	Soil Cement for Construction Materials
10.			Mr.W.O.Oyawa	Reinforced Concrete
11.	Public Health Engineering	WATER AND WASTEWATER MANAGEMENT	Mr.A.O.Mayabi	Performance and Hydraulic Characteristics of Stabilization Ponds
12.			Mr.G.M.Thumbi	Anaerobic Treatment of Wastewater using Fixed Bed Filter at Low Temperature
13.	Highway Engineering	SURFACE WATER DRAINAGE	Mr.S.M.Mulei	Surface Water and Its Control on Kenya Roads(Rural and Urban Areas)

4. 5 Publications and Papers presented out of Research Activities

	No. of Research undertaken	No. of Staff involved			No. of Publications	No. of Papers presented	No. of Research per Staff per Year
		K	J	Total			
1990/91	3	7	1	8	3	3	0.14
1991/92	2	8	2	10	2	2	0.10
1992/93	3	6	2	8	3	1	0.11
1993/94	-	-	-	-	-	-	
1994/95	-	-	-	-	-	-	
TOTAL	8	21	7	26	8	6	0.12

K : Kenyan staff
J : Japanese staff

No. of Research per staff per year is expressed as No. of Research undertaken divided by all academic staff in a department in that particularyear.
No. of Staff involeved may count the same staff repeatedly.

4. 6 Participation of SEMINAR/WORKSHOP/CONFERENCE

	No. of Staff participated			No. of Papers presented	No. of Papers presented per Staff per Year	No. of Papers published out of Seminar/Workshop	No. of Papers published out of Seminar /Workshop per staff per Year	No. of Seminar/Workshop per Staff per Year
	K	J	Total					
1990/91	35	4	39	6	0.28	3	0.14	1.85
1991/92	31	5	36	6	0.28	2	0.10	1.71
1992/93	30	2	32	1	0.10	1	0.10	0.10
1993/94								
1994/95								
TOTAL	96	11	107	13	0.22	6	0.11	1.22

4. 7 Total Publications and Papers presented

	No. of Publications	No. of Papers presented	No. of Publications per Staff per Year	No. of Papers presented per Staff per Year
1990/91	7	10	0.30	0.47
1991/92	7	11	0.30	0.52
1992/93	9	7	0.33	0.25
1993/94				
1994/95				
TOTAL	23	28	0.31	0.41

No. of Publication in 4. 7 is equal to the sum of No. of Publications in 4. 5, and 4. 6.
No. of Papers presented in 4. 7 is equal to the sum of No. of Papers presented in 4. 5, and 4. 6.
No. of Publications per staff per year in 4. 7 is expressed as No. of Publications in 4. 7 divided by total academic staff in a department in that particular year.
No. of Papers presented per staff per year in 4. 7 is expressed as No. of Papers presented in 4. 7 divided by total academic staff in a department in that particular year.

4. 8 Seminar/Workshop organized by Department

	No. of Seminar/Workshop organized by Department		
	Internal	Public	Total
1990/91	3	1	4
1991/92	2	4	6
1992/93	1	1	2
1993/94			
1994/95			
TOTAL	6	6	12

4. 9 Textbook/Manual printed

	No. of Staff involved			No. of Books printed	No. of books printed per Staff per Year
	K	J	Total		
1990/91	0	0	0	0	0
1991/92	0	0	0	0	0
1992/93	0	0	0	0	0
1993/94					
1994/95					
Total	0	0	0	0	0

No. of books printed per staff per year is expressed as No. of books printed divided by total academic staff in taht particular year.

5. STATISTICS OF STUDENT :

		No. of Students admitted			No. of Students present			No. of Studsents proceeded to the following year			No. of Graduates			Grade of Graduates					No. of Graduates employed/ on the job		
		M	F	Total	M	F	Total	M	F	Total	M	F	Total	A	B*	B	Pass	F	M	F	Total
1990/91	1st	25	3	28	25	3	28	24	3	27											
	2nd																				
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL	25	3	28	25	3	28	24	3	27											
1991/92	1st	27	1	28	23	1	24	23	1	24											
	2nd	24	3	27	24	3	27	22	3	25											
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL	51	4	55	47	4	51	45	4	49											
1992/93	1st	22	1	23	22	1	23														
	2nd	25	1	26	24	1	25														
	3rd	22	3	25	22	3	25														
	4th																				
	5th																				
	6th																				
	TOTAL	69	5	74	68	5	73														
1993/94	1st																				
	2nd																				
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL																				
1994/95	1st																				
	2nd																				
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL																				
TOTAL		145	12	157	140	12	152														

Pass Rate (%) = No. of students proceeded to the following year orNo. of students present in the following year / No. of students present x 100

6. JAPANESE INPUT

6. 1 Despatch of Experts

	Long Term (Man-Month)	Short Term (Man-Month)	Total
1990/91	1 (12)	0	1 (12)
1991/92	1 (12)	1 (0.5)	2 (12.5)
1992/93	1 (12)	1 (2)	2 (14)
1993/94	-	-	-
1994/95	-	-	-
Total	3 (36)	2 (2.5)	5 (38.5)

6. 2 Training and Scholarship

	JICA					Japanese Govt. (Mombusho)	Total
	C/P	3rd	Group	Local	Total		
1990/91	0	0	0	2	2	0	2
1991/92	1	0	0	2	3	1	4
1992/93	1	0	0	1	2	1	3
1993/94	-	-	-	-	-	-	-
1994/95	-	-	-	-	-	-	-
Total	2	0	0	5	7	2	9

No. of staff who are still in Japan should be indicated in bracket.

6. 3 Distribution of degrees awarded

	Degree awarded				
	Ph.D.	M.Sc.	B.Sc.	Others	Total
1990/91	0	1	0	0	1
1991/92	0	1	0	0	1
1992/93	0	1	0	0	1
1993/94	-	-	-	-	-
1994/95	-	-	-	-	-
Total	0	3	0	0	3

Experts required for 1994/95

Area of Specialization	Time and Duration	Nature of Assignment
1. Structural Engineering	12/1993: 3 months	Strengthening up Laboratory. Research
2. Transportation Engineering	12/1993: 1 month	Strengthening up Laboratory. Research
3. Foundation Engineering	12/1993: 2 months	Strengthening up Laboratory. Research
4.		
5.		

DEPARTMENT	1990/91	1991/92	1992/93	1993/94	1994/95
Civil Engineering Equipment provided or to be expected	Simple Pressure Proof Tester	Surveying Equipment: ·Theodolide ·Nylon Coated Tape ·Brunton Type Pocket Tran- ·Pocket Compas sit ·Tripod for Pocket Compas ·Plane Table Set ·Aluminum Staffs ·Planix ·Binocular ·Echo Mate Strain Meter Apparatus Pachometer Tnternal Bibrator Electric Jig Saw	Autoclave Porous Stones Hand Sieves Shaker Asphalt Test Sieves Sets Liquid Limit Device Cone type Liquid Limit Apparatus Current Meter Sensor Water Distillation Apparatus Rota Flow Meter Automatic Weater Station (Joint Investiment)	pH Meter D O Meter Jar Tester Turbidity Meter Filtration Apparatus Electric Reading Balance Steam Bath Hot Plate Stirrer Pippet Stand Desiccators Electrode of ION Meter Lamp for Microscope Microprossesor Thermometer Memberane for D O Meter Electrode pH Meter Colony Counter Stop Watch Personal Computer Set Automatic Platform Scale Direct Reading Balance Manometer Set Sieving Machine	Spareparts: ·Soil Mechanics ·Transportation Engineering ·Measuring Equipment ·Hydraulics Experiment ·Construction Materials Exp Degital Thermometer Handy Pump Roller Compactor Wheel Tracking Testing Apparatus Water Lab(Public Health Lab) Fixtures
			Soil Compaction Test. Stone Meter. Falling Head Permeter. Mixing Bowl and Spoon. Platform Scale. Hot-Plate. Blain Fineness Tester. Sample Pan. Enamelled Tray. Large Electric Oven. Asphalt Permeability Apparatus. HVEEM Cohesiometer. HVEEM Stabilometer. CBR Field Testing Apparatus. Marshall Test Appatrtus. Marshall Automatic Compaction Apparatus.		

6. 5 JICA Local Cost* (K.Shs.)

	Local Research	Printing	Exchange Prog.	Seminar	Public Re.
1990/91	448.900/00	-	374.000/00	471.165/00	423.409/00
1991/92	1.461.000/00	18.600/00	595.413/80	349.915/00	125.950/00
1992/93	996.500/00	-	395.368/81	648.399/30	-
1993/94					
1994/95					
Total					

* : Excluding financial support on general affairs such as purchase of stationary. repair work etc.

7. Local Cost by Kenyan Government (K.Shs.)

	Educational Materials	Research	Library Books/Journals	Seminar/ Conference	Transport/ Travel	Fuel/Energy	Personal Emolument	Miscellaneous	Total
1990/91									
1991/92									
1992/93									
1993/94									
1994/95									
Total									

8. IGU/PRODUCTION UNIT

1. Name of Unit : _____

2. Description of Activities :

3. Staff and Organization

4. Balance Sheet in 1992/93

JOMO KENYATTA UNIVERSITY COLLEGE OF AGRICULTURE AND TECHNOLOGY

(UNDERGRADUATE PROGRAMME) PROJECT

COMPILED INFORMATION FOR JICA MISSION

FACULTY OF ENGINEERING

DEPARTMENT OF ARCHITECTURE

JULY, 1993

Contents

Page

1. STAFF LIST (as of 31st July, 1993)

1.1 Academic Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS TO BE COVERED IN SYLLABUS FOR B.Sc.*)	Year/Date of Appointment	Year/Date of Resignation
1	DR. NGUNJIRI, P.G.	41	B.Arch.(UON,1979),M.LA., Ph.D(Berkeley 1987)MAAK(LA,A)	Snr. LECTURER	ENVIRONEMNTAL DESIGN	ARCH. DESIGN/LAND-SCAPE DESIGN	1990	
2	MR. BW'ONGERI, T.G.	43	B.A(Arch.Studies,UON 1974) M.Arch.(Vienna 1986)	LECTURER	PUBLIC BUILDINGS	ARCH. DESIGN	1990	
3	MR. WANYONA, G.	40	B.A.(Build.Econ)UON, M.ENG. MAAK(QS)	LECTURER	CONSTRUCTION MANAGEMENT	CONSTRUCTION MANAG. BUILDING ECONOMICS	1990	-
4	MR. WAMWANGI, J.M.	32	B.Arch.(UON,1986)M.Arch. (Helsinki,1990)MAAK(A)	LECTURER	ARCHITECTURAL DESIGN	ARCH. DESIGN CONSTRUCTION TECH.	22/2/91	-
	MR. MISIANI,C.A.O.	34	B.Arch(UON,1985),M.Arch (Helsinki,1990),MAAK(A)	LECTURER	URBAN DESIGN	ARCH. DESIGN,HISTORY OF ARCH.	15/3/91	-
6	MR. KIGONDU, S.	32	B.Arch(UON,1987) M.Arch.(Helsinki,1990)	LECTURER	ARCH. DESIGN	ARCH. DESIGN	26/2/91	-
7	MR. GATUHI, P.M.	37	M.Sc. (STRUC.ENG.) (U.K 1987)	LECTURER	STRUCTURES,MATERIALS	STRUCTURES	5/5/92	-
8	MS. KIBUE, S.N.	29	B.Arch.(UON,1988)(M.A.(Housing Stud.(Newcastle	LECTURER	ARCH. DESIGN	ARCH. DESIGN	19/5/92	-
			Upon-Tyne, 1991)			HISTORY OF ARCH.		
9	MR. WAKABA, J.K.	40	B.A(BLD.Econ)UON,1976, MAAK(QS)	LECTURER	QUANTITY SURVEYING	BLDG. ECONOMICS	1/5/92	-
10	MR. MBURU, F.M.	32	B.Arch(UON,1988)M.A.(PLAN.) UON (1991)	LECTURER	URBAN DESIGN& PLANNING	ARCH. STUDIO,URBAN PLAN. &DESIGN,HUM.SET.	1990	-
11	MR. MARINGA, P.M.	33	B.Arch(UON)1986)M.A.(PLAN. UON 1992)	LECTURER	"	"	1992	-
12	MS. KINYA, M. +	39	M.A.(PLAN.UON,1988)Cert. Energy Tech.(Univ. of Florida,					
			1982)B.Sc(Pharm.)Univ. of Coun. U.S.A.,1974)	LECTURER	PLANNING	URBAN PLANNING HUMAN SETTLEMENT	1990	-
13	MR. NGURU,K.	44	M.ED.(Voc.ED)B.Ed(Ind.Arts, Univ.of New Brimswick,1987, 1978)	LECTURER	TECHNICAL DRAWING. WORKSHOP TECHNOLOGY		1992	-

1.2 Established No. of Academic Staff by Designation and No. of Positions filled

	Prof.			Ass. Prof.			S.L.			L.			Asst. L.			Teaching Asst.		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
1990/91	!																	
1991/92				1	0	1	4	0	4	6	3	3						
1992/93	1	0	1	1	0	1	1	0	1	2	0	2	4	0	4			
1993/94							1	0	1	2	0	2						
1994/95				1	0	1							4	0	4			
Total*	2	-	-	4	-	-	10	-	-	18	-	-	8	-	-	0	-	-

*: No. of staff required for the ultimate consolidation of the Department.

!: JOINT ESTABLISHMENTS FOR DEPARTMENTS OF ARCHITECTURE AND CIVIL ENGINEERING

+ ON STUDY LEAVE

1. STAFF LIST (as of 31st July, 1993)

1.1 Academic Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS TO BE COVERED IN SYLLABUS FOR B.Sc.*)	Year/Date of Appointment	Year/Date of Resignation
14	MR. MBOGUA, E.N.	43	M.Sc.(Con.Manag.& Econ.) Univ.of Aston,1982)B.A,	LECTURER	CONSTRUCTION MANAGEMENT	ENTREPRENEURSHIP	1992	
"			(Arch. Studies 1974)		ENTIREPRENEURSHIP			
15	MR. NJERU M.	32	M.Arch.(Helsinki,1992) B.Arch.(UON,1987)	LECTURER	ARCH. DESIGN	ARCH. DESIGN	1992	-
16	MR. AWUOR, W.O.	34	M.Arch.B.A.(Arch)(Columbia Univ.1985,1981	LECTURER	ARCH. DESIGN	ARCH. DESIGN	1992	-
17	MR. WANDERI,P.M.	40	HND(CON.)Kenya Poly,1982 B.Env. Sc. Furayan Un. 1988	Asst.LECTURER	BUILDING SCIENCE	-	1992	
18	MR. OTOKI,B.M. +	29	B.Arch.(UON,1991)MAAK(A)	Asst.LECTURER	ARCH. DESIGN	ARCH. DESIGN	1992	
19	MR. OGOLI, D.M.	30	B.Arch.(UON,1988)MAAK(A)	Asst.LECTURER	ARCH. DESIGN	ARCH. DESIGN	1992	
20	MR. SAIVA,D.M.	40	B.Eng.(Bld,Serv.Eng.) Newcastle Upon Tyne,1989)	Asst. LECTURER	BLD. SERVICES,PLUMBING	BLD. SERVICES	1993	
21	MR. NGUNJIRI,F.K.	30	B.ARCH.(UON,1991)	TUTORIAL FELLOW	ARCH. DESIGN	ARCH. DESIGN	1991	-
22	MR. MUKONO, K.M. +	31	B.Arch.(UON,1988)MAAK(A)	"	ARCH. DESIGN	ARCH. DESIGN	1991	
23	MR. MUNGAI,C.M. +	31	B.Sc.(Arch.)Philippine,1991)	Asst.LECTURER	ARCH. DESIGN	ARCH. DESIGN	1991	-
24	MR. OCHIENG, C.C. +	34	B.Arch.(UON,1987)	Asst. LECTURER	ARCH. DESIGN	ARCH. DESIGN	1990	-
25	MR. THWAIRI,J.M. +	34	HND(MOMBASA,POLY)	Asst. LECTURER	TECHNICAL DRAWING	-	1992	-
26	MR. TAMAI, T.	42	M.P.A.U.R.P.(Princeton Unv. ME. (Kyoto Univ.)	JAPANESE EXPERT			1992	-

1.2 Established No. of Academic Staff by Designation and No. of Positions filled

	Prof.			Ass. Prof.			S.L.			L.			Asst. L.			Teaching Asst.		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
19-	1																	
19-				1	0	1	4	0	4	6	3	3						
199-	1	0	1	1	0	1	1	0	1	2	0	2	4	0	4			
199-							1	0	1	2	0	2						
199-				1	0	1							4	0	4			
Tot-	2	-	-	4	-	-	10	-	-	18	-	-	8	-	-	0	-	-

*) ... of staff required for the ultimate consolidation of the Department. !: JOINT ESTABLISHMENT FOR DEPARTMENTS OF ARCHITECTURE AND CIVIL ENGINEERING

+ ON STUDY LEAVE

.. 3 Teaching Load (%) in Degree programmes

	1st Year						2nd Year						3rd Year						4th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91																								
1991/92	77	10	13				57	25	18				86	14										
1992/93	85	12	3				82	18	-				100	-	-									
/94																								
1994/95																								

K_F : Full-time Kenyan Staff
K_P : Part-time Kenyan Staff
F : Foreigners including Japanese

	5th Year						6th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91												
1991/92												
1992/93												
1993/94												
1994/95												

1. 4 Staff Mobility

	Staff appointed	Staff left after 2.5 yrs. service	Staff left after 5 yrs. service
1990/91	11	-	-
1991/92	8	-	-
1992/93	6	-	-
1993/94	1	-	-
1994/95	(5)		

( ) PLANNED

1. 5 Technical Staff

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	REMARKS/REQUIRED FOR
1	MR. MUIRU, A.K.	40	FINAL CRAFT	TECHNICIAN	MASONRY & BLOCKLAYING	MASONRY WORKSHOP
2	MR. NGUGI, J.K.	40	TRADE TEST GRADE I	"	CARPENTRY & JOINERY	WOOD WORKSHOP
3	MR. OGETO, R.N.	37	FINAL PROFICIENCY	"	MASONRY	MASONRY WORKSHOP
4	MR. MURUGA, P.K.	35	FINAL CRAFT CERTIFICATE	"	PLUMBING & WATER SUPPLY	PLUMBING WORKSHOP
5	MR. KIMANI J.M.	36	FINAL CRAFT CERTIFICATE	"	CARPENTRY & JOINERY	WOOD WORKSHOP
6	MR. KINUTHIA, J.W.	29	TECHNICIAN III	"	ARCHITECTURAL DRAWING	DRAWING OFFICE
7	MR. KENDUIWA, S.E.	32	TECHNICIAN III	"	BUILDING CONSTRUCTION	ENVIRONMENTAL LAB.
8	MR. M'MUTHAMIA, D.M.	40	HND CONSTRUCTION	SENIOR TECH.	MASONRY	MASONRY WORKSHOP
9	OTHERS					
10	MISS KUNGU, R.W.			SECRETARY		
11	MS KIMANI, M.W.+			CLEANER MESSENGER		
12	MS GATHIGA, E.W.			CLEANER MESSENGER		
13	MR. J. M. WAMBUGU			WORKSHOP ATTENDANT		
14	MR. C. SAKWA +			WORKSHOP ATTENDANT		
15						

1. 6 Established No. of Technical Staff by Designation and No. of Positions filled

	Chief Technician			Senior Technician			Technician			Subordinate staff		
	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance	Est.No	No.fill.	Balance
1990/91												
1991/92				1	1	0						
1992/93	1	0	1	1	0	1	4	0	4			
1993/94							5	0	5			
1994/95							2	0	2			
Total*	1	—	—	2	—	—	19	—	—	10	—	—

* : No. of staff required for the ultimate consolidation of the Deaprtment

NB. 1. Principal Chief Technician to be recruited in 1994/95.
2. Copy typist to be recruited in 1994/95.
3. + Casual Employees.

2. STAFF RECRUITMENT PLAN

1. Academic Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1	PROF.	ARCH. DESIGN/URBAN DESIGN/LANDSCAPE DESIGN	-	(1) 0			(1)	OUTSIDE KENYA
2.	ASS. PROF.	ARCHITECTURAL DESIGN	(1) 0				(1)	UNIVERSITY OR OUTSIDE COUNTRY
3.	"	URBAN DESIGN				(1)	(1)	OUTSIDE KENYA
4.	"	LANDSCAPE DESIGN		(1) 0			(1)	UNIVERSITY OR OUTSIDE KENYA
5.	SENIOR LECTURER	ARCHITECTURAL DESIGN	(1) 0				(1)	UNIVERSITY OR OUTSIDE KENYA
6.	"	BUILDING ENVIRONMENT SCIENCE	(1) 0				(1)	UNIVERSITY OR OUTSIDE KENYA
7.	"	URBAN DESIGN	(1) 0				(1)	UNIVERSITY OR OUTSIDE KENYA
8.	"	MATERIALS & CONSTRUCTION TECHNOLOGY	(1) 0				(1)	UNIVERSITY OR OUTSIDE
9.	"	HISTORY & THEORY OF ARCHITECTURE		(1) 0			(1)	OUTSIDE KENYA
10.	"	STRUCTURES DESIGN			(1)		(1)	UNIVERSITY
11.	LECTURER	ARCHITECTURAL DESIGN	3				3	UNIVERSITY
12.	"	BUILDING TECHNOLOGY & SERVICES		(1) 0			(1)	UNIVERSITY
13.	"	MATERIALS & CONSTRUCTION TECHNOLOGY	(2)		(1)		(3)	UNIVERSITY

* : No. planned should be indicated in a blacket.

2. STAFF RECRUITMENT PLAN

2. 1 Academic Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
14.	LECTURER	FINE ART IN ARCHITECTURE	(1) 0				(1)	UNIVERSITY
15	"	CAD			(1)		(1)	OUTSIDE KENYA OR TRAINING
16	"	BUILDING ENVIRONMENT SCIENCE		(1) 0			(1)	UNIVERSITY OR TRAINING
17	ASS. LECTURER	BUILDING TECHNOLOGY & SERVICES		(1) 0			(1)	UNIVERSITY
18	"	ARCHITECTURAL DESIGN		(1) 0			(1)	UNIVERSITY
19	"	STRUCTURAL DESIGN		(1) 0			(1)	UNIVERSITY
20	"	FINE ART IN ARCHITECTURE		(1) 0			(1)	UNIVERSITY
21	"	MATERIALS & CONSTRUCTION TECH.				(1)	(1)	UNIVERSITY
22	"	WORKSHOP TECHNOLOGY				(3)	(3)	PUBLIC/PRIVATE SECTORS

* : No. planned should be indicated in e bleaver.

2. 2 Technical Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	PRINCIPAL CHIEF TECHNICIAN	ARCHITECTURAL DESIGN				(1)	(1)	
2.	CHIEF TECHNICIAN	ARCHITECTURAL DESIGN		(1) O			(1)	PRIVATE SECTOR OR PUBLIC SECTOR
3.	SENIOR TECHNICIAN	MATERIALS & CONSTRUCTION TECHNOLOGY.		(1) O			(1)	PUBLIC SECTOR
4.	SENIOR TECHNICIAN	BUILDING SERVICES & SCIENCE	1				1	PUBLIC & PRIVATE SECTOR
5.	TECHNICIAN	CONSTRUCTION/BUILDING TECHNOLOGY		(1) O	(1)		(2)	PRIVATE OR PUBLIC SECTORS
6	TECHNICIAN	BUILDING ENVIRONMENT SCIENCE	1		(1)		(1)	PUBLIC & PRIVATE SECTOR
7	TECHNICIAN	DRAWING OFFICE			(1)		(1)	PRIVATE SECTOR
8	TECHNICIAN	PLUMBING WORKSHOP		(1) O			(1)	PRIVATE OR PUBLIC SECTORS
9	TECHNICIAN	SIMULATION LABORATORY		(1) O		(1)	(2)	PRIVATE OR PUBLIC SECTORS
10	TECHNICIAN	LANDSCAPE & HOTICULTURAL PLANTS			(1)		(1)	PRIVATE OR PUBLIC SECTORS
11	TECHNICIAN	CAD	(1) O		(1)		(2)	UNIVERSITY OR PRIVATE SECTORS
12	TECHNICIAN	MODEL-MAKING		(1) O		(1) O	(2)	PRIVATE SECTOR
		TOTAL						

* : No. planned should be indicated in a blacket.

3. STAFF (ACADEMIC AND TECHNICAL) DEVELOPMENT PLAN USING JAPANESE FUND AND OTHER SOURCES

Ⅲ ------ Period of JICA Technical Cooperation ------ Ⅲ

No	Staff (Qualification)	AREA OF STUDY	1990	1991	1992	1993	1994	1995	TYPE OF STUDY REQUIRED
			Ⅲ	Ⅱ				Ⅲ	
1	TEACHING STAFF								
	M. ARCH.	ARCH. DESIGN					———	———	Ph.D
2	M. ARCH.	URBAN DESIGN				———	———	———	Ph.D
3	M.Sc. or M.ARCH.	MATERIALS & CONSTRUCTION TECH.				———	———	———	Ph.D
4	B. ARCH.	BUILDING ENVIRONMENT SCIENCE					———	———	MASTERS DEGREE
5	B. ARCH.	BUILDING TECH. & SERVICES						———	MASTERS DEGREE
6	B. ARCH.	HISTORY & THEORY OF ARCH.						———	MASTERS DEGREE
7	B. ARCH.	C. A. D.						———	COUNTER PART TRAINEE
8	TECHNICAL STAFF END	MATERIALS & CONST. TECH.				———			COUNTERPART TRAINEE
9	ND	BUILDING ENV. SCIENCE					———		COUNTERPART TRAINEE
10	ND	PHOTOGRAPHY & SIMULATION ARCH. MODELS.						———	COUNTERPART TRAINEE
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

4.1 RESEARCH POLICY

1. Objectives
   1. To develop and transfer appropriate materials and Technology.
   2. To evolve appropriate design solutions, especially in low-income housing and improve the quality of life through Environmental design.
   3. To Establish and strengthen field extension in Areas where development agencies or Institutions are involved with respect to our research areas.
   4. To Establish better understanding of factors that contribute to the environmental conflict with an aim of reinforcing the need for environmental design.
   5. To build up Local reference Materials for both academic and professionals.

2. Areas of Priority
   1. Environmental Design
   2. Environmental STudies/Technologies
   3. Architectural Design
   4. Construction Technology
   5. Landscape Design
   6. Urban Design
   7. STructures

3. Strategies
   1. Through Community participation and utilization of available skills
   2. Through the Erection of full scale Models (case studies)
   3. To liaise with interested organisations to ensure applicability of our research findings.
   4. To liaise with developers in order to apply our research findings.
   5. To disseminate research findings through mass media, exhibitions, conferences/workshops, and publications
   6. Use both interdisciplinary and multidisciplinary approaches.

4. Possible research to be undertaken
   1. Acoustic characteristics of African Drama
   2. Evolution of Environmental control systems in African Traditional Architecture.
   3. Study of urban centrers, and historical buildings.
   4. Role of Traditional Architecture in Evolving Contemporary Architecture.

5. Requirements for the implementation
   1. Laboratories
   2. Workshops
   3. Research Assistants
   4. Technicians
   5. Land to put-up demonstration units
   6. Funds and particularly for full scale models.

4. 2 LIST OF ACADEMIC ACTIVITIES

- Major Accomplishments from April.1990 up to JULY 1993

* PLANNED

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED at	DATE
	RESEARCH ACTIVITIES			
1.	DR. P. G. NGUNJIRI	TRADITIONAL ARCHITECTURE IN KENYA	FIRST PHASE REPORT, JKUCAT SECOND PHASE " "	APRIL, 1992 APRIL, 1993
2.	MR. T. EIGAWA	STUDIES ON THE STRUCTURAL USE OF LIGHTWEIGHT REINFORCED CONCRETE WITH PUMICE AS COARSE AGGREGATE.	REPORT, JKUCAT	MARCH, 1992
3.	DR. P. G. NGUNJIRI	A REPORT ON PROFESSIONAL EDUCATION FOR ARCHITECTS PREPARED FOR INTERNALTIONAL UNION OF ARCHITECTS (UIA) - CURRICULUM.	UIA, PARIS - FRANCE	25/5/1992
	S E M I N A R			
1.	DEPARTMENT	EXHIBITION 1992: "ARCHITECTURE IN THE FORMATIVE YEARS"	HELD AT JKUCAT	26-29/6/1992
2.	DEPARTMENT	EXHIBITION FOR COMMONWEALTH ASSOCIATION OF ARCHITECTS (CAA)	HELD AT JKUCAT	2/2/1993
3.	PROF. KATO	ARCHITECTURE EXPRESSION	HELD AT JKUCAT	22/7/1992
4.	DEPARTMENT	WORKSHOP ON THE PROPOSED FACULTY OF ARCHITECTURE AND BUILDING SCIENCES AT JKUCAT.	HELD AT THE PROFESSIONAL CENTRE (NAIROBI)	21/5/1993
5.	DEPARTMENT	DESIGN COMPETITION OF "A FLAT OF 100m. sq." & "A COFFEE TABLE".	HELD AT JKUCAT	21-31/5/1993
6.	ASS	A SYMPOSIUM OF JKUCAT ARCH. STUDENTS	HELD AT JKUCAT	23/10/92
7.	PROF. H. YOSHIDA	BUILDING ENVIRONMENTAL PHYSICS AND ARCHITECTURAL DESIGN.	AUDIO VISUAL AIDS ROOM, JKUCAT	19/5/1993
8.	PROF. H. YOSHIDA	RECENT DEVELOPMENT IN BUILDING ENVIRONMENTAL DESIGN	AUDIO VISUAL AIDS ROOM, JKUCAT	3/6/1993
9	DR. P. G. NGUNJIRI	AFRICAN HEADS OF SCHOOLS CONFERENCE	HELD IN LAGOS	7-8/3/1991
10.	MR. C.A.O. MISIANI	INTRODUCTION TO ARCHITECTURAL EDUCATION - PRESENTED TO SECONDARY SCHOOLS.	HELD AT JKUCAT	28/6/1992
11	MS. S. N. KIBUE	INTROUDCTION TO ARCHITECTURAL EDUCATION PRESENTED TO SECONDARY SCHOOLS.	HELD AT JKUCAT	27/6/1992
12.	DEPARTMENT	CAA ADVISORY VISIT	CAA HEADQUARTERS, LONDON	2/2/1993
13	DEPARTMENT	EXHIBITION OF STUDENTS' WORK*	TO BE HELD AT JKUCAT	SEPT. 1993
14	DEPARTMENT	SEMINAR ON "TRADITIONAL ARCHITECTURE, IN KENYA"*	TO BE HELD AT JKUCAT	SEPT. 1993

1.3 LIST OF CURRENT RESEARCH PROGRAMMES

NO.	NAME OF RESEARCHER	TITLE OF RESEARCH	PUBLISHED OR NOT	SOURCE OF FUND
1.	MR. TAMAI, T. & MR. MARINGA, P.M.	INTEGRATED DEVELOPMENT PLAN FOR JKUCAT	ONGOINC	(JICA)
2.				
3.				
4.				
5.				

( ) PLANNED

1. 4 AREA OF RESEARCH INTERESTED BY STAFF

NO.	FIELD	MAIN TITLE (Long Term Research)	NAME	SUB TITLE
	ARCHITECTURAL DESIGN LANDSCAPE ARCHITECTURE	1. Tourist Architecture in Kenya 1. Different Landscapes in Kenya and their design Management Principles. 2. Architectural Design	Mr. Bw'Ongeri, T.G. DR. NGUNJIRI, P.G.	
	ARCHITECTURAL SCIENCE	1. Evolution of Environmental control systems in African traditional Architecture 2. Acoustic characteristics of African Drama and Dance. 3. Design for Energy Conservation based on passive 'Sun lighting'.	MR. KIGONDU, S MR. NGUNJIRI, F.K. MR. WANDERI, P.M.	
	HUMAN SETTLEMENTS	1. Human Settlement and habitation with special emphasis to planning design and search for appropriate Technology. 1. A study and evaluation of women and their contribution to shelter provision in the developing world. Nairobi, Kenya Case study.	MR. WAMWANGI, J.M. MS. KIBUE, S.N.	
	BUILDING ECONOMICS	1. A study of the relationship between land value and supply of housing	MR. WAKABA, J.K.	
	URBAN DESIGN	1. Study of Local Urban Historical buildings 2. Urban open spaces in Kenya Distribution, design and use. 3. Qualitative aspects of house:	MR. C.A.O. MISIANI MS. KIBUE, S.N. "	
		synthesis of contemporary/ traditional architypes. 4. Urban form and Environmental pollution; Thika town, Kenya Case Study. 5. Land use, Urban Economy and urban environmental quality. 6. Effective Management and Design (space standards) of Urban housing schemes of Thika town, Kenya, case study 7. NGO's and Local Authorities and Management of urban systems. 8. (Cont.)	MR. MARINGA, P.M. "	

4.4. AREA OF RESEARCH INTERESTED BY STAFF

NO.	FIELD	MAIN TITLE (LONG TERM RESEARCH)	NAME	SUB TITLE
		8. Community participation in neighbourhood operations and sustainance; Thika town, kenya case study	MR. MARINGA P.M.	
	HISTORY AND THEORY OF ARCHITECTURE	1. Role of Traditional Architecture in evolving contemporary Architecture	MR. MUKONO, M.K.	
	BUILDING CONSTRUCTION AND TECHNOLOGY	1. Formulation of Construction Techniques and building to match local skills	Mr. WANYONA, G.	
		2. System building; use of local materials, and prefabricated industrial systems.	MR. GATUHI, P.M.	
		3. Production of affordable Local building materials.	MR. M'MUTHAMIA, D.M.	

4. 5 Publications and Papers presented out of Research Activities

	No. of Research undertaken	No. of Staff involved			No. of Publications	No. of Papers presented	No. of Research per Staff per Year
		K	J	Total			
1990/91	2	5	3	8	2	-	0.7
1991/92	1	3	3	6	1	-	0.5
1992/93							
1993/94	1	2	1	3	ON GOING	-	0.05
1994/95							
TOTAL	4	10	7	17	3	0	

K : Kenyan staff
J : Japanese staff

No. of Research per staff per year is expressed as No. of Research undertaken divided by all academic staff excluding those who are on study leave in a department in that particular year.
No. of Staff involeved may count the same staff repeatedly.

4. 6 Participation of SEMINAR/WORKSHOP/CONFERENCE

	No. of Staff participated			No. of Papers presented	No. of Papers presented per Staff per Year	No. of Papers published out of Seminar/Workshop	No. of Papers published out of Seminar /Workshop per staff per Year	No. of Seminar/Workshop per Staff per Year
	K	J	Total					
1990/91	0	0	0	0	0			0
1991/92	15	3	18	5*	0.22			0.17
1992/93								
1993/94	16	1	17	4	0.2			0.3
1994/95								
TOTAL				9		0	0	

* ONE PAPER BY STUDENTS

4. 7 Total Publications and Papers presented

	No. of Publications	No. of Papers presented	No. of Publications per Staff per Year	No. of Papers presented per Staff per Year
1990/91	2	0		
1991/92	1	5+	0.06	0.22
1992/93				
1993/94		4	0	0.2
1994/95				
TOTAL	3	9		

+ One presented by students

No. of Publication in 4. 7 is equal to the sum of No. of Publications in 4. 5, and 4. 6.
No. of Papers presented in 4. 7 is equal to the sum of No. of Papers presented in 4. 5, and 4. 6.
No. of Publications per staff per year in 4. 7 is expressed as No. of Publications in 4. 7 divided by total academic staff in a department in that particular year.
No. of Papers presented per staff per year in 4. 7 is expressed as No. of Papers presented in 4. 7 divided by total academic staff in a department in that particular year.

4. 8 Seminar/Workshop/Conference organized by Department

	No. of Seminar/Workshop organized by Department		
	Internal	Public	Total
1990/91	0	0	0
1991/92	1*	2	3
1992/93			
1993/94	1	4	5
1994/95			
TOTAL	2	6	8

* ORGANISED BY STUDENTS

4. 9 Textbook/Manual published

	No. of Staff involved			No. of Books published	No. of books published per Staff per Year
	K	J	Total		
1990/91				-	-
1991/92				-	-
1992/93					
1993/94				-	-
1994/95					
Total				0	0

No. of books published per staff per year is expressed as No. of books published divided by total academic staff in taht particular year.

5. STATISTICS OF STUDENT : Planned No. of Student per Class : Degree Programme : 20 Diploma Programme : 40

5. 1 Degree Programme

		No. of Students admitted			No. of Students present			No. of Studsents proceeded to the following year			No. of Graduates			Grade of Graduates					No. of Graduates employed/ on the job		
		M	F	Total	M	F	Total	M	F	Total	M	F	Total	A	B*	B	Pass	F	M	F	Total
1990/91	1st	19	3	22	18	3	21	18	3	21											
	2nd																				
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL																				
1991/92	1st	23	1	24	21	1	22	19	1	20											
	2nd	18	3	21	18	3	21	18	3	21											
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL																				
1992/93	1st																				
	2nd																				
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL																				
1993/94	1st	19	2	21	20	2	22														
	2nd	19	1	20	19	1	20														
	3rd	18	3	21	18	3	21														
	4th																				
	5th																				
	6th																				
	TOTAL																				
1994/95	1st																				
	2nd																				
	3rd																				
	4th																				
	5th																				
	6th																				
	TOTAL																				
TOTAL																					

Pass Rate (%) = No. of students proceeded to the following year divided by No. of students present x 100

5. 2 Diploma Programme

	1990/91	1991/92	1992/93	1993/94	1994/94	Total
1st	37	32		41		110
2nd	27	37		33		97
3rd	27	27		35		89
TOTAL	91	96		109		296

6. JAPANESE INPUT

6. 1 Despatch of Experts

	Long Term (Man·Month)	Short Term (Man·Month)	Total
1990/91	11	0	11
1991/92	25.5	1.5	27
1992/93	29	0.5	29.5
1993/94	18.5	6.5	25
1994/95	24	11	35
Total	108	19.5	

Experts required for 1994/95

	Area of Specialization	Time and Duration	Nature of Assignment
1.	THEORY OF ARCH.	1 - 2 months	Give lecturers & establish section.
2.	MATERIALS & CONSTRUCTION TECHNOLOGY	3 months	Establish section & carry out experiments
3.	BUILDING ENV. SCIENCE (ACOUSTICS)	3 months	"
4.	RESEARCH METHODOLOGY (FOR DESIGNERS)	3 months	Give lectures & review staff proposals.
5.			

6. 2 Training and Scholarship

	JICA					Japanese Govt. (Mombusho)	Total
	C/P	3rd	Group	Local	Total		
1990/91							
1991/92	1			1	2		2
1992/93							
1993/94	1			2	3	1*	4
1994/95	3			2	5	4	9
Total	5			5	10	5	15

* NOT FROM THE JICA PROGRAMME

No. of staff who are still in Japan should be indicated in bracket.

6. 3 Distribution of degrees awarded

	Degree awarded				
	Ph.D.	M.Sc.	B.Sc.	Others	Total
1990/91					
1991/92				1	1
1992/93		2*			2
1993/94		2*		1	3
1994/95	2*	1		3	6
Total	2	5		5	

*Include Candidates not sponsored by JICA

6. 4 MACHINERY AND EQUIPMENT FOR FISCAL YEAR 1990 - 1994

ARCHITECTURE DEPARTMENT	1990/91	1991/92	1992/93	1993/94	1994/95
Equipment provided or to be expected COMPUTER LAB. 1. Complete set of AutoCAD computer 2. AO Plotter 3. Laser Printer DRAWING ROOMS 1. Complete Drawing Board Set. BUILDING SC. LAB. 1. Thermometer 2. Thermocouple 3. 1/3 Octave Band analyzer 4. Environment Test kit 5. Level recorder 6. Cabinet		2 1 1	4 sets 5 sets 1 set 3 sets 1 set 6 sets	2 59 2. Map case 3. Slide Projector 7. Tapping machine 8. Precision sound level meter. 9. Albedometer set. 10. Precision Pyheliometer set	4 50 1. Slide storage facility. 1. Artificial sky. 2. Wind tunnel 3. Thermal performance of solar collectors testing equipment 4. Guarded hot box apparatus.
SIMULATION LAB.				1. Photo enlarger 2. Developer 3. Timer	1. Camera for filming Interior of models.
BUILDING TECH. LABORATORY					1. Materials Testing Equp. 2. Mixer 3. Table Vibrators 4. Post-tensioning & Precasting equipment. 5. Hydraulic pressing machine. 6. Fire tests equipment 7. Structural analysis model equipment.

6. 5 JICA Local Cost (K.Shs.)

	Local Research	Textbook/Manual	Exchange Prog.	Seminar	Others	Total
1990/91						
1991/92						
1992/93						
1993/94						
1994/95 (planned)						
Total						

7. Local Cost by Kenyan Government (K.Shs.)

	Educational Materials	Research	Library Books/Journals	Seminar/ Conference	Transport/ Travel	Fuel/Energy	Personal Emolument	Miscellaneous	Total
1990/91	!								
1991/92	220,000.00	840,000.00*	2million*	1.2m*	8,000.00	*Central	37.44m*	60.35m*	
1992/93	300,000.00	840,000.00*	1.4m*	1.2m*	25,000.00	*Central	56.34m*	44.34m*	
1993/94	300,000.00	840,000.00*	1.4m*	1.21m*	12,500.00	*Central	63.10m*	44.34*	
1994/95									
Total									

! Departments of Architecture and Civil Engineering used same Vote.

* Are gross allocations for the whole College

8. IGU/PRODUCTION UNIT

1. Name of Unit : _____

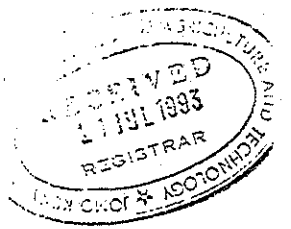
2. Description of Activities :

3. Staff and Organization

4. Balance Sheet in 1992/93

JOMO KENYATTA UNVERSITY COLLEGE OF AGRICULTURE AND TECHNOLOGY

(UNDERGRADUATE PROGRAMME) PROJECT



COMPILED INFORMATION FOR JICA MISSION

FACULTY OF ENGINEERING

DEPARTMENT OF ELECTRICAL & ELECTRONIC

JULY, 1993

Contents

1. STAFF LIST (as of 31st, 1993)

1. 1 Academic Staff

No	NAME		AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	SUBJECTS ABLE TO COVER IN SYLLABUS FOR B.Sc.*)	Year/Date of Appointment	Year/Date of Resignation
1	M.S.Mboghо	23/3/49	44	M.Sc (USSR)	S.L./ C.O.D	Power system. Electrical Mchine	Electrical Machine, Power systems	13/12/1990	
2	Dr.D.Murage	20/2/52	41	Ph.D. (USSR)	S.L.	Power Elecronics	Power Systems	3/ 8/1992	
3	Dr.S.M.Kangethe	29/9/54	38	Ph.D. (UK)	S.L.	Power Electronics, Machine Control	Control Eng., Elect. Measurements	31/12/1990	
4	P.K.Hinga	15/6/53	40	M.Sc. (UK) C/P. on leave	L.	Power Electronics	Power Electronics, Machine Cont.	3/ 9/1990	
5	D.Ogaba	3/ 7/52	41	M.Sc. (UK)	L.	Power Electronics	Analogue Electro., Circuit Theory	3/ 9/1990	
6	D.Omingo	27/12/53	39	B.Ed., P.D.G. (UK)	L.	Digital Electronics, Physical Elect	Digital Electro., Physical Electr	2/ 5/1990	1/ 2/1993
7	J.K.Riitho	6/ 7/49	44	M.Sc. (UK)	L.	Electrical Machines, Power Systems	Power Systems, Electrical Machine	18/ 7/1991	
8	P.O.Anangi	9/ 8/56	36	M.Sc. (USSR)	L. (1991. from A.L.)	Electrical Machines	Electrical Machines, Power System	6/ 7/1990	
9	L.M.Ngoo	16/12/59	33	M.Sc. (USSR) Canada. on leave	L.	Control Engineering	Control Eng., Elect. Measurements	2/ 7/1990	
10	E.N.Ndung'u	27/10/57	35	M.Sc. (JAPAN. Tottori)	L. (1992. from A.L.)	Electrical Filters	Electrical Filter, Digital Filter	1/11/1990	
11	D.O.Konditi	22/ 7/50	43	M.Sc. (JAPAN. Tottori)	L. (1993. from A.L.)	Electromagnetism, Telecomunications	Electromagnetism, Telecomunicat.	1/ 4/1992	
12	V.Magoha (Mrs.)	22/ 2/56	37	M.Sc. (USSR)	L. (1992. from A.L.)	Electronics	Physical Electronics	2/ 7/1990	
13	V.Darmathikary	24/ 7/48	45	M.Sc. (INDIA)	L.	Electronics	Digital Electronics	31/ 3/1993	
14	F.G.Nalwa	/12/40	51	B.Sc.	L.	Power Systems, Electrical Machines	Workshop Practice	29/ 4/1992	
15	H.O.Absalom	23/ 1/65	38	M.Sc. (AUSTRALIA)	A.L.	Telecommunication	Telecommunication	19/10/1992	
16	F.Nyongesa	1/ 8/58	34	M.Sc. (UK)	A.L.	Telecommunication	Transmission Lines, Microwaves	27/ 8/1990	28/ 5/1993
17	M.O.Kebasso	2/ 2/60	32	M.Sc. (UK)	A.L.	Communication Systems	Signal & Com., Microprocessor	27/ 9/1990	21/ 9/1992
18	P.K.Kihato	16/12/59	33	M.Sc. (Japan. Tottori)	A.L.	Power Electronics, Electrical Mach.	Power Electronics, Machine Drive	29/ 4/1992	
19	F.Mumba	9/ 8/65	26	B.Tec. (on study leave. Ehime)	T.A.	Computor Engineering, Digital Elect	Digital Electronics	26/10/1990	
20	C.Wekesa	2/ 8/69	23	B.Sc. (Nairobi)	T.A.	Electrical Machines	Electrical Machines	29/ 4/1992	
21	E.Weke	14/ 5/67	25	B.Sc. (Moi)	T.A.	Electronics	Microprocessors	29/ 4/1992	
22	K.K.Ndungu	29/ 7/70	23	B.Sc. (Nairobi)	T.A.	Electrical	High-Voltage Technology	26/ 4/1993	
23	G.Okello	10/10/70	22	B.Sc. (Moi)	T.A.	Microwaves and Antenna	Antenna and Propagation	29/ 4/1993	
24	J.Okello	10/ 8/70	22	B.Sc. (Moi)	T.A.	Signal Processing	Signal and Communication	30/ 4/1993	

1. 2 Established No. of Academic Staff by Designation and No. of Positions filled

	Prof.			Asoc. Prof.			S.L.			L.			Asst. L.			Teaching Asst.		
	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance
1990/91	0	0	0	0	0	0	2	2	0	4	4	0	5	5	0	1	1	0
1991/92	1	0	1	0	0	0	0	0	0	3	1 (1)	2	2	1	1	2	0	2
1992/93	1	0	1	0	0	0	2	1	1	2	1 (2)	1	1	1 (1)	0	2	2	0
1993/94	0	0	0	1	0	1	1	0	1	1	1 (1)	0	0	0	0	3	3	0
1994/95	0	-	0	1	-	1	1	-	1	1	-	1	1	-	1	2	-	2
Total*	2	0	2	2	0	2	6	3	3	11	7 (4)	4	9	7 (1)	2	10	6	4

* : No. of satff required for the ultimate consolidation of the Department.

( ) denotes internal promotion

1. 3 Teaching Load (%) in Degree programmes

	1st Year						2nd Year						3rd Year						4th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91	0.74	0.26	0	0.74	0.26	0																		
1991/92	---	---	--	--	---	--	---	---	---	---	---	---												
1992/93	0.74	0.26	0	0.63	0.23	0	0.63	0.23	0.13	0.63	0.23	0.13												
1993/94	0.50	0.50	0				0.50	0.38	0.12				0.87	0.13	0									
1994/95																								

K_F : Full-time Kenyan Staff
K_P : Part-time Kenyan Staff
F : Foreigners including Japanese

	5th Year						6th Year					
	1st Semester			2nd Semester			1st Semester			2nd Semester		
	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F	K_F	K_P	F
1990/91												
1991/92												
1992/93												
1993/94												
1994/95												

1. 4 Staff Mobility

	Staff appointed	Staff left within 2.5 yrs. service	Staff left within 5 yrs. service
1990/91	12	0	3
1991/92	1	0	-
1992/93	7	0	-
1993/94	4	0	-
1994/95	-	-	-

1. 5 Technical Staff under University Council

No	NAME	AGE	QUALIFICATIONS	DESIGNATION	SPECIALITIES	TASKS/REQUIRED FOR DATE OF APPOINTMENT	
1	E.W.Mwangi /12/49	43	HND	Chief Technician	Television	1/ 4/1992	
2	J.N.Gachoki 1/ 5/50	43	Technician Part III	T.	Telecommunication	2/ 3/1982	
3	J.M.Mwangi 2/12/49	43	Technician Part II	T.	Electrical Engineering	1/ 7/1984	
4	G.Kibunja 30/10/52	40	Technician Part III	T.	Digital Communication	1/ 8/1983	
5	J.M.Kini 28/ 3/54	39	Technician Part II	T.	Electrical Power System Control	21/ 1/1983	
6	A.M.Githaiga 1/ 8/59	33	Technician Part III	T.	Electronics	2/ 2/1982	
7	J.M.Mithi 5/ 3/61	32	Technician Part III	T.	Radio and Television	20/ 5/1987	
8	P.N.Waruhari 20/ 8/65	27	Technician Part III	T.	Radio and T.V. Microcomputor	2/12/1989	
9	M.W.Wanjau 16/ 7/68	25	Technician Part III	T.	Radio and Telecommunication	1/12/1989	5/1993 resigned
10	H.Osieli 16/ 4/66	27	Technician Part III	T.	High Voltage Technology	1/12/1989	
11	A.N.Okioma 11/ 2/67	26	Graduate Diploma	T.	Electrical Machines	1/12/1989	
12	I.N.Ireri 2/ 1/59	34	Higher Diploma	T.	Electrical Machines	12/ 1/1993	
13	J.M.Kahindi 7/ 7/60	33	Diploma (JKUCAT)	T.	Electronics	1/ 2/1988	8/1991 resigned
14	J.M.Masudi 1/ 2/65	28	Diploma (JKUCAT)	T.	Electronics	6/1990	10/1991 resigned
15							

1. 6 Established No. of Technical Staff by Designation and No. of Positions filled

	Chief Technician			Senior Technician			Technician			Suport staff		
	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance	Est.No	No.Occp.	Balance
1990/91	0	0	0	0	0	0	12	12	0	4	4	0
1991/92	0	0	0	1	0	1	0	0 (-2)	2	0	0	0
1992/93	1	1	0	2	0	2	0	0	0	2	0	2
1993/94	0	0	0	2	0	2	1	1 (-1)	1	2	2 (-2)	2
1994/95	0	-	0	1	-	1	0	-	0	2	-	2
Total*	1	1	0	6	0	6	13	13 (-3)	3	10	6 (-2)	6

* : No. of staff required for ultimate consolidation of the Department ( ) : No. of those who resigned

2. STAFF RECRUITMENT PLAN

2. 1 Academic Staff

No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	PROFESSOR	Electrical (Heavy Current)	0 (1)	0 (0)	0 (0)	- (0)	0 (1)	Possible from abroad
2.	PROFESSOR	Electronics (Light current)	0 (0)	0 (1)	0 (0)	- (0)	0 (1)	Possible from abroad
3.	ASSOCIATE PROFESSOR	Electrical (Heavy Current)	0 (0)	0 (0)	0 (1)	- (0)	0 (1)	Possible from abroad
4	ASSOCIATE PROFESSOR	Electronics (Light current)	0 (0)	0 (0)	0 (0)	- (1)	0 (1)	Possible from Universities
5	SENIOR LECTURER	Electrical (Heavy Current)	0 (0)	1 (1)	0 (1)	- (0)	1 (1)	Possible from Universities
6	SENIOR LECTURER	Electronics (Light current)	0 (0)	0 (1)	0 (0)	- (1)	0 (2)	Possible from Universities
7	LECTURER	Electrical (Heavy Current)	1 (2)	1 (1)	0 (0)	- (0)	2 (3)	Possible from Universities
8	LECTURER	Electronics (Light current)	0 (1)	0 (1)	1 (1)	- (1)	1 (3)	Possible from Universities
9	ASSISTANT LECTURER	Electrical (Heavy Current)	0 (1)	0 (0)	0 (0)	- (1)	0 (2)	Possible from Universities
10	ASSISTANT LECTURER	Electronics (Light current)	1 (1)	1 (1)	0 (0)	- (0)	2 (2)	Possible from Universities
11	TEACHING ASSISTANT	Electrical (Heavy Current)	0 (1)	1 (1)	1 (1)	- (1)	2 (3)	Possible from Universities
12	TEACHING ASSISTANT	Electronics (Light current)	0 (1)	1 (1)	2 (2)	- (1)	3 (5)	Possible from Universities
		TOTAL	2 (8)	5 (8)	4 (6)	- (6)	11 (28)	

* : No. of planned should be indicated in a bracket.

2. 2 Technical Staff

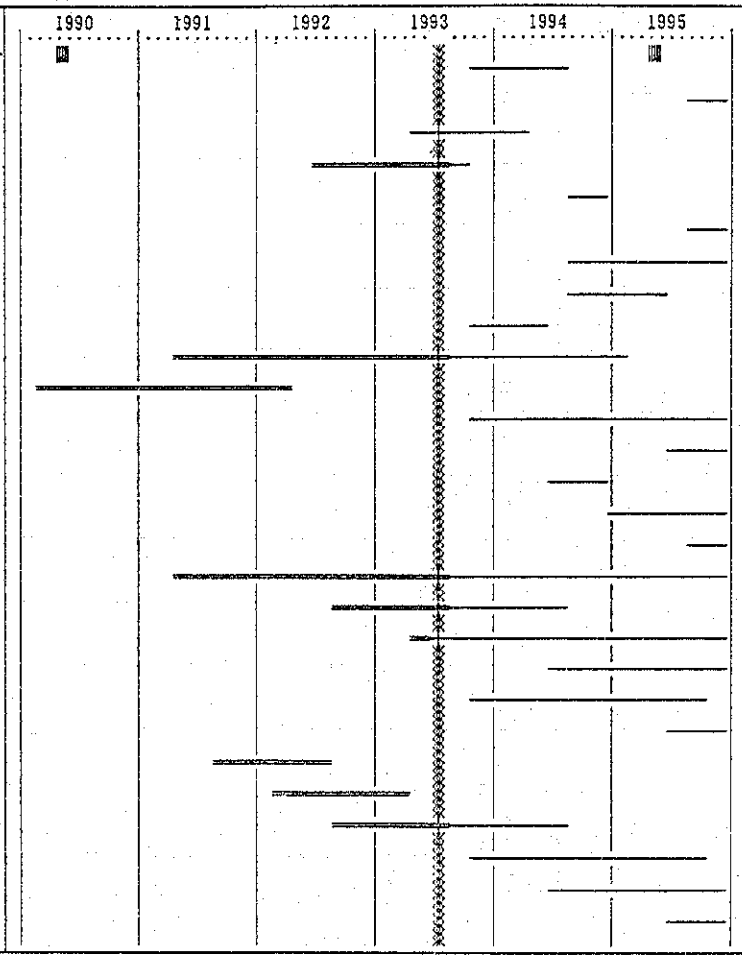
No.	DESIGNATION	SPECIALITY	1991/92 Implemented	1992/93 Implemented	1993/94 Planned	1994/95 Planned	Total*	POSSIBLE PLACES FOR RECRUITMENT (University, Private sector, etc.)
1.	CHIEF TECHNICIAN	Electronics/Power Systems/Electrical Maachines	0 (0)	1 (1)	0 (0)	- (0)	1 (1)	
2.	SENIOR TECHNICIAN	Electrical (Heavy Current)	0 (1)	0 (1)	0 (1)	- (0)	0 (3)	University and Private sector
3.	SENIOR TECHNICIAN	Electronics (Light current)	0 (0)	0 (1)	0 (1)	- (1)	0 (3)	University and Private sector
4.	TECHNICIAN	Electrical (Heavy Current)	0 (0)	0 (0)	1 (1)	- (0)	1 (1)	University and Private sector
5.	TECHNICIAN	Electronics (Light current)	0 (0)	0 (0)	0 (0)	- (0)	0 (0)	University and Private sector
6	JUNIOR TECHNICIAN	Electrical (Heavy Current)	0 (0)	0 (1)	0 (0)	- (1)	0 (2)	University and Private sector
7	JUNIOR TECHNICIAN	Electronics (Light current)	0 (0)	0 (1)	0 (0)	- (1)	0 (2)	University and Private sector
8	STORE KEEPER		0 (0)	0 (0)	0 (2)	- (0)	0 (2)	University and Private sector
9	COPY TYPIST		0 (0)	0 (0)	0 (0)	- (0)	0 (0)	
10	MESSENGER		0 (0)	0 (0)	0 (0)	- (0)	0 (0)	
11								
12								
		TOTAL	0 (1)	1 (5)	1 (5)	- (3)	2 (14)	

* : No. Planned should be indicated in a bracket.

3. STAFF (ACADEMIC AND TECHNICAL) DEVELOPMENT PLAN USING JAPANESE FUND AND OTHER SOURCES

Period of JICA Technical Cooperation

No	Staff (Qualification)	AREA OF STUDY	TYPE OF STUDY REQUIRED
1	A	Electrical Machines	Ph.D (Exchange Program/JICA C/P)
2	B	Power Electronics, Machine Control	Post Ph.D.
3	C	Control and Measurement	Post Ph.D (JICA C/P)
4	P.K.Hinga	Power Electronics	Ph.D (JICA C/P)
5	D	Electronic Circuit	Ph.D. (Exchange Program)
6	E	Electrical Power System	Ph.D (Exchange Program)
7	F	Electromagnetics	Ph.D (3rd. Country)
8	G	Physical Electronics	Ph.D (JICA C/P)
9	H	Electrical Machines	Ph.D (Exchange Program)
10	L.M.Ngoo	Control Systems	Ph.D. (Canada)
11	P.K.Kihato	Electrical Machines	M.Sc. (MOMBUSHO)
12	I	Electrical Filters	Ph.D (3rd. Country)
13	J	Digital Electronics	Ph.D. (Exchange Program)
14	K	Telecommunications	Ph.D (Exchange Program)
15	L	Telecommunications	Ph.D (3rd. Country)
16	M	Power Electronics	Ph.D (3rd. Country)
17	F.Mumba	Computor Engineering	Ph.D. (Ehime Univ.)
18	C.Wekesa	Electrical Machines	M.Sc. (JICA Local Scholarship)
19	E.Weke	Quantum Electronics	M.Sc.& Ph.D. (MOMBUSHO)
20	N	Signal Processing	M.Sc. (MOMBUSHO)
21	O	Communications	M.Sc. (JICA Local Scholarship)
22	P	Electrical Machines / High Voltage	M.Sc. (MOMBUSHO)
23	H.Osieli	High Voltage	Technician (JICA C/P)
24	J.M.Mwangi	High Voltage	Technician (JICA C/P)
25	P.Waruhari	Electronics	Technician (JICA Local Scholar)
26	Q	Electronics/Electrical	Technician (JICA Local Scholar)
27	R	Electrical Machine	Technician (JICA C/P)
28	S	Communication	Technician (JICA C/P)



4.1 RESEARCH POLICY

1. Objectives

1.1 To give members of staff and students an opportunity to broaden their experience through practical work assignments or advanced studies.

1.2 To build scientific competence of the department and its staff in order to solve national problems.

1.3 To stimulate scientific and technical research by developing closer links with local industries, government institutions etc..

1.4 To design research activities that will enhance skills of entrepreneurs in a range of technical endeavours that will create employment opportunities.

2. Areas of Priority

2.1 Development of appropriate technology

2.2 Energy studies

2.3 Environmental protection

2.4 Semiconductor development

2.5 Industrial process control

2.6 High-Voltage Technology

3. Strategies

3.1 Funding

3.1.1 JKUCAT research funds

3.1.2 National council of science and technology funds

3.1.3 Private sector funds

3.1.4 JICA, UNDP, UNESCO, ILO etc. research funds

3.2 Selection

3.2.1 The research committee shall receive and evaluate research proposals

3.2.2 The research committee shall be responsible for providing the necessary material requirments and assessing progress reports.

3.2.3 The research committee shall approve the proposed budgets.

4. Possible research to be undertaken

4.1 As shown in page 8,9,10

5. Requirements for the implementation

5.1 Laboratories for modelling and testing

5.2 Equipments, apparatus and materials

5.3 Transport facilities

5.4 Computers, software and laser printers

5.5 Finance for seminars, workshops and conferences

5.6 Acquisation of Journals e.g. IEE, IEEE etc.

4. 2 LIST OF ACADEMIC ACTIVITIES

- Major Accomplishments from April,1990 up to 31st June, 1993

NO.	NAME OF RESEARCHER	TITLE	PUBLISHED at	DATE
	RESEARCH ACTIVITIES			
1.	D.O.Konditi, V.Magoha(Mrs.), Y.Iwami	Study of Metal/Semiconductor Contacts: Simulation for Degradation of GaAs Schottky Contacts due to Metal Deposition	JICA Research Report	March, 1993
2.	Dr.S.M.Kang'ethe, P.K.Hinga, Y.Iwami	Computer Aided Control Engineering Education	JICA Research Report AFRICON'92, IEEE (Swaziland), 1992	March, 1993 September,1992
3.				
	SEMINAR			
1	S.M.Mbogho	The Roll of Telecommunications in Economic Development	TECHNOLOGICAL SOLUTIONS FOR ECONOMIC DEVELOPMENT IN KENYA , Nairobi at JKUCAT	14~15th Mar.'91
2	S.M.Mbogho	Reflections on The Current Trends in Telecommunication		
3	Dr.S.M.Kang'the	Detection of Faults in Dynamic System		
4	F.C.Nyongesa	Engineering Method in Economic Development		
5	D.O.Konditi	Magnetic Properties of Bent Amorphous Ribbons	A Conference on Electromagnetism and Electrical Circuit at JKUKAT (1st JEEES)	7 th August 1991
6	E.N.Ndung'u	Realization of Floating Inductance Using Three Operational Transconductance Amplifiers		
7	Dr.S.M.Kang'ethe, P.K.Hinga, Y.Iwami	Software Design Issues for a Control System Using Classical Technique	2nd Annual Conference of JKUCAT Electrical and Electronic Engineering Seminar (JEEES)	4th August 1992
8	P.K.Hinga	Harmonic Reduction on Power System Lines Supplying		
9	Y.Iwami, D.O.Konditi, V. Magoha(Mrs.)	A Study of Metal/Semiconductor Contact by Simulation for Degradation		
10	P.K.Kihato	DC Miniature Speed Control Using Digital Signal		
11	Porfessor K.Hirai	1. System Engineering 2. Chaos in Dynamical System	Departmental Seminar	16th Dec. 1992
12	D.O.Konditi, V.Magoha(Mrs), Y.Iwami	Estimation of Induced Defect Densities in Schottky Contacts Fablicated by Various Deposition Techniques	General Conference of the Kenya National Association Physics (KNAP) at UON	21-25th Sep. 1992
13	Dr.S.M.Kang'ethe, P.K.Hinga, Y.Iwami	Paper 1: Modeling and Simulation of Engineering Problems Paper 2: Development Computer Aided Engineering Package	Africon' 92 IEEE Africa Session, Region 8	22-24th Sep. 1992
14				

4.3 LIST OF CURRENT RESEARCH PROGRAMMES

NO.	NAME OF RESEARCHER	TITLE OF RESEARCH	PUBLISHED OR NOT	SOURCE OF FUND
1.	V.Magoha (Mrs.) D.O.Konditi Y.Iwami	A study of metal/semiconductor contact	JICA RESEARCH REPORT. March. 1993	JICA
2.	Dr.S.M.Kange'the P.K.Hinga Y.Iwami	Computer aided control engineering education	Proceeding. " AFRICON'92 ".Sep..1992 JICA RESEARCH REPORT. March. 1993	JICA
3.	D.Ogaba M.S.Mbogho Y.Iwami	Utilization of Solar Energy for Local Communities	not	JICA
4.				
5.				

4. 4 AREA OF RESEARCH INTEREST BY STAFF IN ELECTRICAL AND ELECTRONIC DEPARTMENT

NO.	FIELD	MAIN TITLE(Long Term Research)	NAME	SUB TITLE
1	ELECTRONICS	SEMICONDUCTOR	v.Magoha. Y.Iwami D.O.Konditi	Simulation for degradation of GaAs Schottky contacts due to metal deposition
		Active Filters	E.N.Ndung'u V.Darmathikary D.Ogaba	Simulation of Floating Imittances using OTAs and CCIIs
2	CONTROL ENGINEERING	Control Systems	Dr.S.M.Kangethe P.K.Hinga Y.Iwami	Computer Aided Control Engineering Education
3	ELECTROMAGNETIC ENGINEERING	Electromagnetics	D.O.Konditi Y.Iwami	
4	ELECTRICAL MACHINES	Electrical Machine Drives	P.K.Kihato P.O.Anangi S.M.Kangethe C.Wekesa J.K.Riitho	
5	TELECOMMUNICATION ENGINEERING	Communication Engineering	A.H.Ouma G.Okello	Timer Server Implimentation in Computer Communication Protocols
		Antenna and Propagation		
6	POWER SYSTEM ENGINEERING	Power System Analysis	Dr.Murage	Determination of Steady-State Stability Boundaries and Transfer Capability
7	ELECTRICAL ENERGY STUDIES	Energy Studies	M.S.Mbogho D.Dgaba Dr.S.M.Kang'ethe Y.Iwami	Utilization of Solar Energies for Rural Communities
8	HIGH-VOLTAGE ENGINEERING	Material Studies	Dr.D.Murage J.K.Riitho P.K.Kihato K.K.Gitundu	