

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

	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*	2,000,000.-	1200,000	20,000.00	Centralised	2,955,000.-	Central	
1992/93	300,000.00	840,000.00*	1,400,000.-	1200,000	20,000.00	Centralised	3,905,936.-	Central	
1993/94	300,000.00	840,000.00*	1,400,000.-	1210,000	10,000.00	Centralised	4,374,648.-	Central	
1994/95									
Total									

* There are centralised votes for the whole University College.

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

	Educational Materials	Research	Library Books/Journals	Seminar/Conference	Transport/Travel	Fuel/Energy	Personal Emolument	Miscellaneous	Total
1990/91	1,072,800.00	800,000.00*	2,000,000.-*	-	35,360.00	Centralised	2,641,240.-	Central	
1991/92	340,000.00	840,000.00*	2,000,000.-*	120000.-*	32,520.00	Centralised	3,271,420.-	Central	
1992/93	300,000.00	840,000.00*	1,400,000.-*	120000.-*	20,000.00	Centralised	3,693,093.-	Central	
1993/94	300,000.00	840,000.00*	1,400,000.-*	1210000*	10,000.00	Centralised	4,136,264.-	Central	
1994/95									
Total									

NB * These are centralised votes for the whole University College.

Electrical/Electronics

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	1,072,800.00	800,000.00*	2,000,000.00*	-	70,800.00	Centralised	2,937,280.00	Central	
1991/92	340,000.00	840,000.00*	2,000,000.00*	1,200.00	49,880.00	"	2,941,020.00	"	
1992/93	259,000.00	840,000.00*	1,400,000.00*	1,200,000	20,000.00	"	2,959,110.00	"	
1993/94	250,000.00	840,000.00*	1,400,000.00*	1,210,000	10,000.00	"	3,314,203.00	"	
1994/95									
Total									

NB : * These are centralised votes whole University college.

BIOLOGICAL SCIENCES

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

	Educational Materials	Research	Library Books/Journals	Seminar/Conference	Transport/Travel	Fuel/Energy	Personal Enrolment	Miscellaneous	Total
1980/81	845,900.00	800,000.00*	2,000,000.-	--	129,640.00	Centralised	2,750,000.-	Central	
1981/82	345,820.00	840,000.00*	2,000,000.-	120000.-	112,780.00	Centralised	3,012,300.-	Central	
1982/83	150,000.00	840,000.00*	1,400,000.-	120000.-	20,000.00	Centralised	3,117,012.-	Central	
1983/84	150,000.00	840,000.00*	1,400,000.-	121000.-	10,000.00	Centralised	3,491,055.-	Central	
1984/85									
Total									

* There are centralized votes for the whole University College.

	Educational Materials	Research	Library Books/Journals	Seminar/Conference	Transport/Travel	Fuel/Energy	Personal Enrolment	Miscellaneous	Total
1990/91	-	-	-	-	-	-	-	-	-
1991/92	350,000.00	840,000.00*	2,000,000.-	1000,000	54,000.00	Centralised	2,676,200.-	Central	
1992/93	50,000.00	840,000.00*	1,400,000.-	1200,000	15,000.00	Centralised	3,004,114.-	Central	
1993/94	50,000.00	840,000.00*	1,400,000.-	1200,000	7,500.00	Centralised	3,364,608.-	Central	
1994/95									
Total									

* These are centralized votes for the whole University College.

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

	Educational Materials	Research	Library Books/Journals	Seminar/Conference	Transport/Travel	Fuel/Energy	Personal Emolument	Miscellaneous	Total
1990/91	979,240.00	8,000,000.*	2,000,000*	-	147,120.00	Centralised	3,673,740.-	Central	
1991/92	357,840.00	840,000.-*	2,000,000*	1200000	128,860.00	Centralised	5,012,060.-	Central	
1992/93	200,000.00	840,000.-*	1,400,000*	1200000	20,000.00	Centralised	5,060,808.-	Central	
1993/94	200,000.00	840,000.-*	1,400,000*	1210000	10,000.00	Centralised	5,668,149.-	Central	
1994/95									
Total									

*These are centralised votes for the whole University College.

IGU/PRODUCTION

1. NAME OF UNIT : FARM
2. DESCRIPTION OF ACTIVITIES

The Farm continues, since its inception in 1985 to meet the objectives of tuition; research; production of raw materials for other departments; demonstration and extension; and of late, engaging in income generating activities. The Farm has attempted to make progress and improvements on the existing activities in the light of changing economic conditions and College policy recommendations. Our production activities are to a large extent guided by the above considerations and carried out with the flexibility that will meet those conditions. Along with crop enterprises there is an expanding livestock section. It has been realized that livestock hold great potential for the farm to generate income. This will come in form of increased milk, pork, beef and broiler production from existing enterprises and introduction of planned enterprises such as fish and egg layers. So far this year, (1993), a notable improvement has been made in the dairy enterprise; that of phasing out bulls and acquiring, through JICA assistance, A.I. (Artificial Insemination) equipment. This was followed by the College sending one farm Technician to be trained in A.I. techniques which he successfully undertook between 17th May and 25th June, 1993. We are now successfully breeding our cattle through A.I. here at the Farm and plans are underway to extend the same services to the surrounding farming community. In 1992 we started keeping broiler chicken on a regular basis and towards the end of this year there are plans to introduce layers.

Other notable activities on the farm include extension services to the farming community. We have successfully held two Farmer's Seminars in 1991 and 1993 drawing participants from all over Kenya. We hope to continue and strengthen this activity and make it an annual event on our Calender. We are regular suppliers of quality crop propagation materials which are very popular with Kenyan Farmers. In addition to this we would like to embark on technology transfer to farmers through longer seminars. If possible in conjunction with the JICA Training Department.

3. **STAFF:**

The farm department operates within the Research, Production and Extension (RPE) Division of the University College. The Farm department is currently run by a team of forty-one (41) permanent staff with various duties, headed by a Farm Manager and including one Japanese Expert, Mr. K. Kita. This group is supported by variable number of casual employees hired according to the needs of on going farming activities. Of late the farm has benefited by being offered staff development opportunities in form of scholarships to Japan and other countries. It is hoped that these offers will be continued and increased to benefit more staff members in their professional growth and work efficiency.

4. **INCOME AND EXPENDITURE - 1992-1993**

Although the Farm Department has a large tuition component in its activities the production unit emphasis is being intensified. As such many crops and livestock enterprises are carried out with the objective of generating income for the department and the College. A steady progress is being made in this regard and areas of improvement being identified for future implementation. In 1992 calendar year for instance the farm spent a total of eight hundred and thirty six thousand, three hundred and eight shillings and thirty cents (836,380.30) in the purchase of various production inputs including payment of hired labour. During the same period the farm managed to sell various farm products which generated an income of one million, eighteen thousand three hundred and twenty-seven shillings (Kshs.1,018,327.00) thereby giving a small profit of one hundred and eight-one thousand, nine hundred and forty-six shillings and seventy cents. (181,946.70).

During the first six months of 1993 the farm has spent a total of one hundred and ninety-one thousand, seven hundred and seventy-eight shillings and forty-five cents (Kshs.191,778.45) against an income of two hundred and four thousand, six hundred and seventy-seven shillings (Kshs.204,667.00) thus giving a small profit margin of twelve thousand eight hundred and ninety-eight shillings and fifty-five cents (Kshs.12,898.55)

Staff on the farm are also involved in research and demonstration, For example, eradication of tomato wilt, the irrigation demonstration project and the Agro-Meteorological project. These will be useful both to students and the farming community.

REQUEST FOR EQUIPMENT

1. Request for on-going Project

The Farm since its establishment has continued to enjoyed the kind gesture of JICA donation of technical co-operation equipment.

The Farm would like to request JICA for further assistance in the supply of technical co-operation equipment as we had requested at the beginning of this JKUCAT Project.

These are such as:-

- a. Irrigation Equipment
- b. Spare Parts for Farm Machineries etc.

2. Request for future Project Development

Although the Kenyan Government is willing to purchase new machinery for the farm the economic constraints will make it necessary to request JICA to give assistance in providing these machinery.

REQUEST FOR JICA COUNTERPART TRAINING

We are grateful for the present Counterpart training opportunities given by JICA and we hope that JICA will continue providing opportunities for Counterpart Training for more staff in the Farm.

CONCLUSION

We cannot fail to record our appreciation for the continued support the farm has received in all its activities from JICA through the Japanese Expert at the Farm. We hope to continue getting that support especially in the acquisition of spare parts for farm machinery and irrigation equipment as well as the field of staff training.

REPORT FROM R.P.E. DIVISION ON RESEARCH PROJECTS 1992/93

A. RESEARCH PROJECTS COMPLETED DURING 1992

No.	Department	Research Title	Researcher		Sponsor
			Japanese Side	Kenyan Side	
1.	Horticulture	Ripening Characteristics of Fruits in Kenya (I) for Passion Fruits	S. Shiomi K. Kita	C. K. Ndungu S.G. Agong	JICA
2.	Horticulture	Ripening Characteristics of Fruits in Kenya (2) for Bananas	S. Shiomi K. Kita	C. K. Ndungu S. G. Agong	JICA
3.	Food Science and Post Harvest Technology	Post Harvest handling methods of food crops in Kenya	H. Koaze	F. M. Mathooko	JICA
4.	"	Development of simple modified atmospheric storage of fresh pinneapples in Kenya	H. Koaze	F. M. Mathooko	JICA
5.	"	The effect of wilting on Ascorbic Acid (Vit.C) and Carotene (Vit.A) contents of fresh green leafy vegetables commonly consumed in Kenya	H. Koaze	F. M. Mathooko	JICA
6.	"	Application of Biotechnology to locally available agricultural raw materials (I)	T. Sugiyama	Dr. P. M. Kinuthia C. Omumasaba	JICA
7.	Agricultural Engineering	Development of Wind Turbine for Farm Use (II)	K. Tokida S. Okazaki	J. T. Mailutha	JICA
8.	Agricultural Engineering	Effects of machine mobility on Paddy Production in Kenyan Irrigation Schemes.	K. Tokida	Dr. F. K. Lenga	JICA
9.	Civil Engineering	Studies on Water Resources Management for Economic Development in Kenya	Dr. M. Tsunoda	K. S. Makhanu J. W. Kaluli Dr. F. K. Lenga S. K. Nganga R. K. Matano	JICA
10.	"	Development and effects of Road Traffic Safety measure	Dr. M. Tsunoda	Dr. S. Agoki J. K. Z. Mwateleh Z. C. Abiero-Gary	JICA

11.	"	Studies on Structural use of light weight reinforced concrete with Pumice as a Course Aggregate	T. Eigawa	P. Ngugi H. Mweura W. Oyawa D. Sitandi K. Muiruri G. Hinga	JICA
12.	Architecture	Traditional Architecture in Kenya (I)	T. Eigawa Y. Tazaki Y. Tanishige	Dr. P. G. Ngunjiri F. M. Mburu K. M. Mukono	JICA
13.	Farm	Study on Pineapple Propagation using its stem (II)	K. Kita S. Shiomi	S. G. Muchira B. K. Muriuki	JICA

B. RESEARCH PROJECTS STARTED IN 1992

14.	Horticulture	Distribution of Horticulture crops and their Production potential for Western Province of Kenya	S. Shiomi	L. S. Wamochi E. N. Mugal V. O. Olang G. J. Nduati	JICA
15.	Horticulture and Farm	Study of Horticultural Crops in Juja: (1) Study of Pineapple propagation using its stem (I) (2) Control and Screening of some Tomatoes Varieties for resistance to Bacterial wilt in Kenya.	K. Kita S. Shiomi	Dr. S. A. H. Olemba Dr. S. A. H. Olemba S. G. Muchira	JICA
16.	Food Science and Post Harvest Technology	Effects of Chilling injuries on Chemical Composition of pineapples (Smooth Cayenne grown in Thika area during storage (I))	H. Koaze	S. M. Njoroge	JICA
17.	"	Search for Biologically active substances in natural flora (I)	H. Koaze	Dr. G. M. Kenji	JICA
18.	Architecture	Traditional Architecture in Kenya (II)	T. Eigawa Y. Tazaki Y. Tanishige	Dr. P. G. Ngunjiri F. M. Mburu K. M. Mukono	JICA

19.	Electrical/Electronics Engin.	Study of Metal Semi-Conductor Contacts Simulation of GaAs Scotty - contacts due to metal deposition (I)	Y. Iwami	Mrs. V. Magoha D. B. O. Konditi	JICA
20.	"	Computer aided control Engineering Education (I)	Y. Iwami	Dr. S. M. Kangeethe P. K. Hinga	JICA
21.	"	Assessment and Evaluation of Electrical Machine Drive Utilization in Kenya Industrial and Commerical Sector	Y. Iwami	M. S. Mbogho S. O. Oredo C. Wekesa P. K. Kihato J. K. Ritho P. N. Anangi	JICA

C. RESEARCH PROJECTS STARTED IN 1993

22.	Horticulture	The effect of Nitrogen levels on Oxalate concentration of Spinach and Swisschard	M. Murakami	F. K. Rimberia J. B. M. Njoroge	JICA
23.	"	Micropropagation of Sweet Potato	M. Murakami	E. M. Kahangi D. W. Ondiere	JICA
24.	"	Physiological and Pathological Post-Harvest Behaviour of Passion Fruit	S. Shiomi	L. S. Wamochi S.A.H. Olembo	JICA
25.	"	Identification and Classification of the Indegenous Mushrooms of Kenya	S. Shiomi K. Kita	S.A.H. Olembo	JICA
26.	Food Science and Post Harvest Technology	Application of Biotechnology to locally Available agricultural raw Materials (I)	T. Sugiyama	Dr. P. M. Kutima C. Omumasaba	JICA
27.	"	Search for Biologically active substances in natural flora (I)	H. Koaze	Dr. G. M. Kenji Mrs. E. Omulokoli	JICA
28.	"	Studies on properties and preservation abilities of locally available food materials (I)	H. Koaze	C. A. Onyango E. M. Gatai Dr. G. M. Kenji	JICA
29.	Agricultural Engineering	Performance Evaluation System for Efficient operation and management of Agricultural machinery "Development of Instrumentation Package for Performance Evaluation of Tractor - implement system"	H. Murage K. Yagi	I. K. Inoti C. L. Kanali A.H.O. Anyangu	JICA
30.	"	The effect of Sub-mulching on soil Available Moisture		Dr. F. K. Lenga Caleb Atika	Kenya Government

31.	Electrical/Electronics	Computer Aided Control Engineering Education (I)	Y. Iwami	Dr. S. M. Kangethe P. K. Hinga	JICA
32.		Study of Metal Semi-Conductor contacts - Simulation for degradation of M/S contacts due to metal deposition	Y. Iwami	Mrs. V. Magoha D.B.O. Konditi	JICA
33.	Civil Engineering	Traffic Management for National Development in Kenya	E. Asano M. Tsunoda	J. M. Kinuthia Z.C. Abiero-Gary J.K.Z. Mwatellah S. M. Mulei	JICA
34.		Performance and Hydraulic Characteristics of Stabilization ponds in Kenya (I)	E. Asano M. Tsunoda	A.O. Moyabi R. K. Matano	JICA
35.	Farm, I.E.T. Faculties of Agricultural Engineering and Science	Utilization of Natural Resources for Agriculture and Technology (I)	K. Kita S. Shiomi Y. Iwami M. Murakami	Dr. R. W. Mutua S. G. Muchira Dr. F. K. Njunge E. Oluoch Dr. F. K. Lenga J. B. M. Njoroge F. K. Rimberia Mr. Marete Mr. Ogaba Mr. Sitandi Mr. Mutuku Mr. Mungai	JICA

D. ON-GOING RESEARCH PROJECTS STARTED EARLIER THAN 1992/93

36.	Horticulture	Groundnut (Peanut) Arachis Hypogaea L. Improvement Project	S. Shiomi	S. G. Muchira Okeyo-Obara	Kenya Government
37.	Institute of Post-Graduate Studies	Health and Nutrition Intervention in a Cash Crop area in the Mumias Zone		Prof. R. Oniang'o	Bernard Van Leer Foundation
38.	Institute of Human Resources Development	Sorghum and Millet Programme, its Socio-economic implications on Women farmers in Kitui District (Eastern Kenya)		Mrs. W. N. Karugu (JKUCAT) Mrs. A.O. Oduol (University on Nairobi)	Carnegie Corporation Grant

E. RESEARCH PROJECTS Ph.D AND M.Sc STUDENT PROGRAMMES

39.	Institute of Human Resources Development	Financing Small Scale Enterprises in Kenya	Mr. G. S. Namusonge	Kenya Government
40.	Institute of Bio-technology Studies	Vegetable Seed Production	Mrs. E. M. Kahangi	Kenya Government
41.	Architecture	Energy Supply/Demand analysis - A Case Study of Thika Town	Ms. Mbaari Kinya	Kenya Government

F. COLLABORATIVE RESEARCH

42.	Institute of Human Resources Development	Oil/Fat Industry in Kenya	Dr. H. M. Bwisa (JKUCAT) Egerton University Kenyatta University Ministry of Industry Ministry of Agriculture	Kenya Government
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G. LINKAGES WITH INDUSTRIES

Mostly the Research done at J.K.U.C.A.T. is geared to benefiting the students through teaching. The only linkages with industries has been to get information for the research or to assist while researching but the end results have never been "patented" and sold to interested industries or firms.

JICA