

MINUTES OF DISCUSSIONS  
BETWEEN THE JAPANESE CONSULTATION TEAM

AND

THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE  
REPUBLIC OF KENYA ON THE EXTENSION OF THE TERM OF  
THE JAPANESE TECHNICAL COOPERATION FOR THE JOMO KENYATTA  
COLLEGE OF AGRICULTURE AND TECHNOLOGY PROJECT

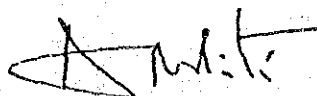
The Japanese Consultation Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Hiroji Nakagawa, Professor of Faculty of Engineering, Kyoto University, visited the Republic of Kenya from 14th November to 21st November, 1984, to follow up the review on the Jomo Kenyatta College of Agriculture and Technology Project (hereinafter referred to as "the Project") made through discussions between the Kenyan Authorities and the Japanese Evaluation Team dispatched to the Republic of Kenya by JICA from 8th July to 21st July, 1984.

During its stay in the Republic of Kenya, the Team exchanged views and had a series of discussions with the Kenyan Authorities for the purpose of working out the details of further cooperation for the project beyond 18th April, 1985, which is the termination date of the Japanese technical cooperation currently being implemented on the basis of the Record of Discussions signed between JICA and the Kenyan Authorities on 19th April, 1980.

As a result of discussions, both sides have come to a common understanding on a number of issues as attached hereto.



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Nairobi, 19th November, 1984

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1. During the extended term of technical cooperation, emphasis should be placed on the planned consolidation in order to attain the anticipated purpose based on the Record of Discussions signed on 19th April, 1980.
2. The annual financial contribution by the Government of Japan will not exceed the current scale of technical cooperation.
3. The Japanese side will be prepared to consider technical cooperation for Production Units, and Research and Development as long as they are within the scope of educational and training objectives of the College contained in the existing Record of Discussions.  
  
The Kenyan side will forward the details of the proposed Production Units, and Research and Development Programmes to JICA.
4. To facilitate the effective transfer of technology, the Kenyan side should make greater efforts to recruit counterparts in all areas, and the progress made in this regard should be communicated to JICA.
5. The time schedule for implementation of the projects listed below, which form part of the Kenya Government's contribution, will be as follows:-
  - (i) The fifth hostel will be constructed during the Fiscal Year 1985/86
  - (ii) Some staff houses will be constructed during the Fiscal Year 1986/87
  - (iii) Students taking part III technician training will be admitted at the beginning of 1985

*L.M.*

*AM.*



## 第7章 資料集

1. JKCAT PROJECT REVIEW
2. 専門家派遣実績
3. 青年海外協力隊員派遣実績
4. JICA 研究員受入実績
5. 文部省国費留学生受入実績
6. 供与機材一覧表
7. 携行機材一覧表（供与分のみ）



1. JKCAT PROJECT REVIEW

JOMO KENYATTA COLLEGE OF AGRICULTURE & TECHNOLOGY  
( JKCAT )

JKCAT PROJECT REVIEW

REPORT PRESENTED TO THE JAPANESE EVALUATION  
MISSION BY THE PERMANENT SECRETARY, MINISTRY  
OF EDUCATION, SCIENCE & TECHNOLOGY.

JULY, 1984



## E R R A T U M

The following should be added to the JKCAT PROJECT REVIEW as indicated:-

1. To TABLE OF CONTENTS add:  
4.4.5. Cooperation After Consolidation Period ..... Page 38
2. To bottom of page 5 add:  
\* Staff Seconded from the Ministry of Agriculture and Livestock Development.
3. To page 16, Section 2.2.8. add:  
(e) Research and Design Activities.
4. At the end of page 25 add:

Expansion of the Library is not premature and will become more evident as more books are purchased. (Recent experiences show that major expansion will be required or a new Library be built - Kenya Polytechnic, Kenyatta University College, Egerton College, The University of Nairobi, and Mombasa Polytechnic have all had to build new libraries in recent years).

### 2.3.5.2. SPACE WASTAGE DUE TO SUN AND RAIN

All along the eastern wall, a wide part of the Library is left empty because of sunshine and rain. Louvres can be fitted to the windows to cut out the sun and to keep rain out.

### 2.3.5.3. SECURITY

It is suspected that a number of books may have disappeared from the Library illegally, particularly at night. The two staff manning the Library at night cannot supervise the entire building and also give services to readers. The inevitable solutions are:-

Wiremesh grills on all the windows will ensure that books can only go out through the official exit.

Turnstiles, or Electrically controlled doors, or an electronic exit control system are urgently required at the In/Out doors.

Security Personnel should man the in/out area to check all readers leaving the library. (Kenyatta University College employs security guards for their exit control).

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JULY, 1984

## P R E F A C E

### JKCAT PROJECT REVIEW

The current Technical Cooperation Agreement between the Governments of Kenya and Japan, for Jomo Kenyatta College of Agriculture and Technology, will come to an end in April, 1985. As had been previously agreed, an Evaluation Mission will soon arrive from Japan, to assess the success of the project implementation, and also make recommendations to both governments on the project and possibilities for further technical cooperation.

This report is aimed at providing the Mission with relevant information on the project implementation to date, so that its task of assessing the project may be completed within the time at its disposal. The report should actually form a good basis for further detailed discussions between the Mission and Kenya Government Officials.

The report has three distinct chapters. Chapter One is introductory, giving a general background to the project with emphasis on history, objectives, organization, and programmes of the College. Chapter Two gives a comprehensive review of implementation of the academic programmes of the College. This includes the review of the Faculty of Agriculture, Faculty of Engineering, College Library, and General Studies Department.

The Third Chapter of the report presents a review of the Administrative Aspects of the project. In this chapter, brief evaluations of General Administration, Estates Department, Halls and Catering, College Dispensary, Student Recreation, and Staff Welfare are attempted.

Chapter Four is a short but very important one indeed. It presents a brief discussion on the FUTURE OF THE COLLEGE, RECOMMENDATIONS FOR FUTURE TECHNICAL COOPERATION, AND FUTURE DIRECTIONS FOR THE COLLEGE'S DEVELOPMENT.

It is hoped that very useful discussions, mutual understanding and agreements will result from the meetings and visits to the Departments, by the Evaluation Mission.

D.M. MBITI  
DIRECTOR, TECHNICAL & HIGHER EDUCATION

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## 1. INTRODUCTION

### 1.1. BRIEF HISTORY

Jomo Kenyatta College of Agriculture and Technology was opened in May, 1981 as an institution of Higher Learning and has joined the ranks of other technical post-secondary Colleges in the task of producing manpower for agriculture and other industries in the Republic. The College was established by the Government of Kenya with a generous technical assistance from the Government and the people of Japan.

The initial plans for the establishment of the College started in 1977. A year later, our Late President, Mzee Jomo Kenyatta, donated two hundred hectares of his farmland for the construction and establishment of the institution.

Actual construction work started in March, 1979, and the foundation stone was laid by His Excellency the President of the Republic of Kenya, the Hon. Daniel Toroitich Arap Moi, C.G.H., M.P., on 30th July, of the same year. Work progressed very rapidly indeed, and by 30th April, 1981, the completed facilities were handed over to the Ministry of Higher Education. Soon after this handing over, on 4th May, 1981, the first intake of students were admitted and classes began promptly. A year later, the College was once again honoured by His Excellency the President when he returned to formally open the College on Wednesday 17th March, 1982.

### 1.2. OBJECTIVES

Jomo Kenyatta College of Agriculture and Technology is a newly established institution of higher learning, offering a practical curriculum in advanced science and technology. The Government of Kenya recognizes the crucial importance of science and technology for national development. Hence, the training programmes at JKCAT place a heavy emphasis on practical skills which are badly needed by the farming and industrial sectors of the economy.

The objectives of the College can be briefly summarized as follows:-

To provide young Kenyans with technical skills and abilities necessary in making them useful citizens;

To prepare young Kenyans for productive employment or self-employment, especially in the rural areas;

To train Kenyans to fill the manpower gaps in both public and private sectors and to ensure rapid development of the national economy; and,

To re-orientate the attitude of youth in Kenya toward productive activities.

### 1.3. ORGANIZATION

The College carries out its functions under the Ministry of Education, Science and Technology in accordance with the requirements of the Education Act, Chapter 211 of the Laws of Kenya. There is a Board of Governors appointed by the Ministry of Education, Science and Technology as provided for in Part III Section 10 of the Education Act (Revised 1980). Major functions of the Board include, among others:-

- ( i ) Guiding the general direction of the College with respect to growth, objectives, academic activities, and overall management of the institution.
- ( ii ) Appointment of staff.
- ( iii ) Administration and control of all staff, including those seconded to the College.
- ( iv ) Presentation of Audited Accounts to the Minister for Education, Science and Technology.

The day-to-day management of the College is co-ordinated by the Principal, who is the Chief Executive of the institution. For effective administration, the Principal is assisted by a Deputy Principal, two Deans of Faculties (Agriculture and Engineering), Heads of Academic Departments, and Heads of Non-Academic Departments.

Academic Departments in the College are as follows:-

#### Faculty of Agriculture:

- ( i ) Agricultural Engineering
- ( ii ) Food Processing
- ( iii ) Horticulture
- ( iv ) Tuition Farm (Pilot Farm)

#### Faculty of Engineering:

- ( i ) Building and Civil Engineering
- ( ii ) Electrical and Electronics Engineering
- ( iii ) Mechanical Engineering

#### Other Departments:

- ( i ) General Studies
- ( ii ) College Library

The Non-Academic Departments include: Finance, Estates and Maintenance, Security, and Students Welfare Services.

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#### 1.4. CURRENT ACADEMIC PROGRAMMES

The College offers 3-year Diplomas in Agricultural Engineering, Food Processing and Horticulture. These programmes are offered by the Faculty of Agriculture. Graduates of these programmes are expected to join the Ministry of Agriculture and Livestock Development as Technical Personnel in the Extension Service. Some of them may be employed in the Parastatal Organizations as well as the private agro-industries.

In the Faculty of Engineering, a total of eight Technician III Certificate programmes are offered, each lasting four years and four months. The programmes are:-

Technician III Certificate in Agriculture Machinery; Architecture; Building Construction; Construction Plant; Electrical Installation; Radio, Television and Electronics; Irrigation; and, Motor Vehicle.

Graduates of these programmes are expected to join the relevant government departments, parastatals and private firms where their specialised skills might be utilized. It is also hoped that these graduates, and those in Agriculture, may become self-employed in the future.

The College considers applications from candidates who have the minimum of a Second Division Kenya Certificate of Education (or equivalent) with Credits in Mathematics, English Language, Biology, Physical Science, or Physics and Chemistry offered separately. For those applying for courses in the Engineering Faculty, Biology is not a requirement.

The majority of students are sponsored by the Directorate of Personnel Management as part of the National Manpower Development. Private sponsorship, by firms, foundations, or individuals, is also welcome. In fact, it is hoped that private sponsorship will become a common feature very soon. However, the cost of maintaining a student at the College is now approximately K.shs.40,000 per year, and individuals contemplating self sponsorship must bear this in mind.

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2. PROJECT IMPLEMENTATION (ACADEMIC)

2.1. FACULTY OF AGRICULTURE

Presented here is a summary of the individual reports compiled by the three departments and the farm.

2.1.1. STUDENT ENROLMENT

The Faculty reached the maximum of three year-groups per department. Student enrolment per year should be:-

Agricultural Engineering	-	36 students
Food Processing	-	20 students
Horticulture	-	30 students
Total . . . . .		<u>86</u> students

Table 1 shows the present student numbers in the Faculty.

Table 1: STUDENT NUMBERS, FACULTY OF AGRICULTURE

<u>Department</u>	<u>1982+</u>	<u>1983+</u>	<u>1984*</u>	<u>Total</u>
Agricultural Engineering	36	31	36	103
Food Processing	20	19	20	59
Horticulture	<u>30</u>	<u>28</u>	<u>30</u>	<u>88</u>
Total . . . . .	<u>86</u>	<u>78</u>	<u>88</u>	<u>250</u>

- \* Some Students left the College for various reasons.
- \* Students have been selected but have not reported.

2.1.2. TRAINING

Although the syllabuses for the three courses were not finalised at the beginning, the theoretical training was quite successful. However practical training experienced a number of problems:-

- (a) The Demonstration Farm was not developed and as a result, the Agricultural Engineering and Horticulture students could not undertake some of the scheduled practicals. Horticulture students did their practicals in small students plots.
- (b) Water was another problem that affected practicals in the farm, and in Food Processing Laboratories and Processing Workshop.

...../5.

- (c) Outside visits were sometimes cancelled due to lack of transport.
- (d) Field attachment program, however, did not suffer much except for the fact that staff were not able to visit the students due to transport problem.

It is hoped that these problems will be solved soon in order to facilitate efficient training programme implementation.

2.1.3. PERFORMANCE IN EXAMINATIONS

A total of 79 students who joined the College in 1981 sat for Diploma Examinations in March, 1984. The analysis of the results is shown on Table 2.

TABLE 2: ANALYSIS OF CANDIDATE PERFORMANCE FOR 1984 DIPLOMA EXAMINATIONS

COURSE	ENTERED	DISTINCTION		CREDIT		PASS		FAIL		REFERRED		CERTIFICATION	
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Ordinary Diploma in Agricultural Engineering	35	-	-	1	2.8	15	44.8	9	25.7	10	28.6	16	45.7
Ordinary Diploma in Food Processing	15	-	-	-	-	5	38.3	2	13.3	8	53.3	5	33.3
Ordinary Diploma in Horticulture	29	-	-	7	24.1	9	31	-	-	13	44.8	16	55.2
O V E R A L L	79	-	-	8	10.1	29	36.7	11	13.9	31	39.2	37	46.8

2.1.4. STAFFING

Recruitment of Kenyan staff has improved a great deal. The current status of Kenyan staff, Japanese staff, and Kenyan Technicians is shown on Tables 3, 4 and 5 respectively.

TABLE 3: KENYAN LECTURERS AS AT JUNE, 1984

Post	Agric. Engin.	Food Processing	Hort.	Total
Dean	1	-	-	1
Sen. Lecturer	-	-	1	1
Lecturer	4 (2 + 2*)	2*	2	8
Asst. Lecturer	5	7	7	19
Total . . . .	10	9	10	29

TABLE 4: JAPANESE EXPERTS AND VOLUNTEERS AS AT JUNE, 1984

	<u>Agric. Enjin.</u>	<u>Food Processing</u>	<u>Horticulture</u>	<u>Total</u>
Experts	3	2	3	3
Volunteers	<u>3</u>	<u>3</u>	<u>3</u>	<u>9</u>
Total . . . . .	<u>6</u>	<u>5</u>	<u>6</u>	<u>17</u>

TABLE 5: KENYAN TECHNICIANS AS AT JUNE, 1984

<u>Job Group</u>	<u>Approved</u>	<u>Recruited</u>	<u>Vacancies</u>
J	1	1	0
H	3	2	1
G	<u>3</u>	<u>2</u>	<u>1</u>
Total . . . . .	<u>7</u>	<u>5</u>	<u>2</u>

Staff in the Demonstration Farm have also increased over the years. Table 6 shows the current position.

TABLE 6: DEMONSTRATION FARM STAFF AS AT JUNE, 1984

<u>Post</u>	<u>Job Group</u>	<u>Approved</u>	<u>Recruited</u>	<u>Vacancies</u>
Farm Manager	K	1	1	0
Asst. Farm Manager	H	1	1	0
Farm Clerk	C	1	1	0
Tractor Drivers	D	3	2	1
Farm Workers	A/B	25	18	7
Pump Attendant	C	2	1	1
Farm Demonstrators	F	<u>10</u>	<u>7</u>	<u>3</u>
Total . . . . .		<u>43</u>	<u>31</u>	<u>12</u>

#### 2.1.5. STAFF DEVELOPMENT

Staff development is a very essential activity in a training institution like ours. This may take the form of promotion, further training, attendance of short courses, seminars and conferences.

##### 2.1.5.1. TRAINING IN JAPAN

According to the RD, the Faculty was allocated a total of 26 Scholarships made of 21 JICA and 5 MONBUSHO for the period 1981 to 1985. The present state is shown on Table 7 below:-

TABLE 7: UP TO DATE UTILIZATION OF JICA AND MONBUSHO SCHOLARSHIPS BY AGRIC. FAC.

	<u>JICA</u>	<u>MONBUSHO</u>	<u>TOTAL</u>
Approved	21	5	26
Selected/Trained	13	4	17
Not taken	8*	1	9

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One JICA trainee selected recently but has not left for Japan.

It is hoped that arrangement will be made to allow the remaining trainees to proceed to Japan soon. (See also discussion under section 2.2.7) on page 15 ).

#### 2.1.5.2. SHORT COURSES

It would be beneficial to arrange for short courses for Technicians to go to Japan to familiarize themselves with machinery and equipment, their operation and maintenance. Such visits may be of duration varying from one month to nine months.

#### 2.1.5.3. STAFF VISITS

It is requested that provision is made for Heads of Departments and Sections to visit Japan to follow up the training programs of their staff and the performance of the trainees. Such visits will help in planning and management of the departments.

#### 2.1.6. TECHNOLOGY TRANSFER

The ultimate goal of the project is to finally transfer technology through theoretical and practical instructions to the students. This objective was planned to take place through:-

- (a) Staff training in Japan
- (b) Japanese Experts and Volunteers
- (c) Kenyan and Japanese interaction

#### 2.1.7. EQUIPMENT AND MACHINERY

The Departments have already prepared lists of extra equipment required to completely equip the various areas. Besides the equipment, the Faculty would like to emphasise again the need for provision of spare parts for equipment/machines already delivered and those extra requested.

#### 2.1.8. EXTRA FACILITIES

The Farm Management Building which will be built under the Pilot Farm Project, will provide room for one general service laboratory and three classrooms. Under the same project, a farm machinery workshop will be built. This will alleviate the existing problem of rooms. However, the following would be requested:-

- |                            |   |                      |        |
|----------------------------|---|----------------------|--------|
| (a) Lecture Theatre        | - | 90 students capacity | 1 No.  |
| (b) Physics/Mechanics Lab. |   | for 40 students      | 1 No.  |
| (c) Staff Offices          |   |                      | 12 No. |
| (d) Drawing Office         | - | 40 students          | 1 No.  |

#### 2.1.9. RECURRENT EXPENDITURE

While the Japanese Government provided the facilities in the College, the Kenya Government has provided funds for the running of the College. These funds have been used to buy consumable materials, tools and light equipment. Transport costs for students outside visits are also met from these funds.

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Funds allocated to the Faculty are as follows (three departments and the farm):-

TABLE 8: FINANCIAL ALLOCATION FROM 1980/81 TO 1984/84

<u>Vote</u>	<u>1980/81</u> <u>KShs.</u>	<u>1981/82</u> <u>KShs.</u>	<u>1982/83</u> <u>KShs.</u>	<u>1983/84</u> <u>KShs.</u>	<u>Total</u> <u>KShs.</u>
Agric. Engineering	18,000	300,000	400,000	692,800	1,410,800
Food Processing	18,00	300,000	400,000	754,800	1,472,800
Horticulture	18,000	300,000	400,000	334,000	1,052,000
Tuition Farm	5,000	150,000	400,000	700,000	1,255,000
Faculty Admin.	1,000	50,000	460,000	118,400	629,400
Office Equipment	- -	- -	160,000	12,000	172,000
<b>Total . . . . .</b>	<b>60,000</b>	<b>1,100,000</b>	<b>2,220,000</b>	<b>2,612,000</b>	<b>5,992,000</b>

NB: The funds for 1984/85 has not been allocated. It is expected that this will be done early in July, 1984.

2.1.10. POSSIBILITIES FOR HORIZONTAL EXPANSION

With time, the Faculty will expand to include either more options within one course or establishment of new courses. Possible suggestions are:-

- (a) Splitting of Agricultural Engineering course into two options:-
  - ( i ) Farm Power and Machinery )
  - ( ii ) Soil and Water Engineering) - these two have been accepted by the KIE.
- (b) Establishment of a new course in Animal Husbandry. The ground work for such a course has already been done.
- (c) Establishment of options in Food Processing course:-
  - ( i ) Food Analysis
  - ( ii ) Food Engineering
  - ( iii ) Milling and Baking Technology

These options may take the form of specialisation during the latter part of 2nd and 3rd year.
- (d) Specialisation (options) within Horticulture course is also planned:-
  - ( i ) Floriculture
  - ( ii ) Pomology
  - (iii) Olericulture
- (e) With the upgrading of Egerton College, some of the courses may be transferred to the College. Some of the courses most likely to be considered for such transfer have been suggested by the Egerton Upgrading Committee.

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2.1.11. POSSIBILITIES FOR VERTICAL EXPANSION

After consolidation of the base for the present courses, the Faculty has plans to start higher courses in:-

- (a) Higher Diploma in Agricultural Engineering
  - ( i ) Farm Power and Machinery Option
  - (ii) Soil and Water Engineering Option
- (b) Higher Diploma in Food Processing

The establishment of more courses and higher courses would call for addition of extra (minimal) equipment and facilities.

2.1.12. FURTHER COOPERATION

It is evident that some of the objectives that were set out in the Record of Discussion may not be achieved by the end of the current agreement period. The College will be in a position to realize such objectives if there was further assistance beyond 1985.

As far as the Faculty of Agriculture is concerned, there are certain areas which need to be considered under such further assistance. They have been mentioned in the body of the report, but could be summarised as follows:-

- 2.1.12.1. Staff training and development (including Short Courses and visits to Japan).
- 2.1.12.2. Additional Equipment and machinery.
- 2.1.12.3. Additional Facilities.
- 2.1.12.4. Japanese Experts and Volunteers (to serve beyond 1985 as indicated):

Agricultural Engineering Department

- ( 1 ) Civil Engineering - surveying, strength of materials, structures - ( 2 - 5 years).
- ( ii ) Soil and Water Engineering ( 2 - 5 years).
- (iii) Farm Machiner - " " "
- ( iv ) Workshop Practice - " " "

Food Processing Department

- ( 1 ) Canning Technology - ( 2 - 5 years)
- (ii) Dairy Technology - " " "
- (iii) Fats and Oils Manufacture " " "
- (iv) Sugar Processing - " " "

Horticulture Department

- ( 1 ) Plant Pathology - ( 2 - 5 years)
- (ii) Floriculture - " " "
- (iii) Pomology - " " "
- ( iv ) Olericulture - " " "

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Demonstration Farm

- ( 1) Farm Planning and Management - including operation of the irrigation system - (2 - 5 years).
- ( ii) \*Research Personnel - (2 - 5 years).
- (iii) Livestock project - establishment of livestock units (cattle, pigs, poultry etc.) - (2 - 5 years).

2.1.13. SUMMARY OF EVALUATIONS AND RECOMMENDATIONS

- 2.1.13.1. The Faculty has managed to recruit the number of students each year as planned.
- 2.1.13.2. The Examination results for the 1981 students were encouraging considering the fact that it was the first time the examinations were offered by the Kenya National Examinations Council.
- 2.1.13.3. While the theoretical training was very successful, the practical training was beset by a number of problems.
- 2.1.13.4. Recruitment of staff has been carried out by Teachers' Service Commission but problems have been experienced in recruitment of staff in Agricultural Engineering department. The recruitment of Technicians and Farm staff has fared much better.
- 2.1.13.5. There are eight training places that have not been taken up. It is hoped that JICA will undertake to send these trainees before April, 1985 in order to meet requirements of Record of Discussion.
- 2.1.13.6. Only one Head of Department has had a chance to visit Japan. It is hoped that the request for more visits will be considered favourably. Also to be considered are short term courses for Technicians.
- 2.1.13.7. While the despatch of Japanese Experts and Volunteers has been very smooth, the Faculty hopes that the Japanese staff requested will be considered after the expiry of the present Project Period. This should include the Demonstration Farm.
- 2.1.13.8. While JICA provided the facilities to the College, the Kenya Government has provided funds for the running of the Faculty totalling to Kshs.6.0 million to date.

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- 2.1.13.9. Further request for equipment and machinery has been forwarded and it is hoped that these will be supplied.
- 2.1.13.10. Only minimal facilities are requested to meet the requirement of the Faculty.
- 2.1.13.11. The Vertical and Lateral expansion of the Faculty will call for some additional equipment, facilities and staff.

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\* Besides the Japanese staff, specialised equipment to carry out the necessary research will be required.

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## 2.2. FACULTY OF ENGINEERING

### 2.2.1. OBJECTIVES

The Faculty of Engineering has been set up to train qualified Technicians to Part III level with sufficient knowledge and skills to meet industrial requirements and demands. Such knowledge and skills should also prepare the Technicians for self employment.

Course work is on a sandwich pattern and all practical work is done in the College. This in-house training places a heavy demand on workshop and laboratory space. There is already a shortage of classroom/laboratory and workshop space in the Faculty.

It should be pointed out that at this stage, it is not possible to make a full evaluation of the Faculty of Engineering because it will not be fully operational until July, 1985, when the first group of students are expected to graduate. Nevertheless, despite certain limitations, the Faculty has started very well and the staff are all optimistic of the future.

### 2.2.2. STUDENT NUMBERS

The Faculty is expected to have a maximum number of 560 students when fully operational. Table 9 shows the present state of affairs.

TABLE 9: ENGINEERING STUDENTS ADMISSION FROM 1981 TO 1985

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>Total</u>
Expected	112	112	112	112	112	560
Recruited	112	112	108	112*	---	444
In Place	104	106	102	112*	---	424

(\* Already recruited but not reported)

The number of students in place is less than the number recruited due to:

- (a) Students failing Part I Examinations, especially 1981 and 1982 groups.
- (b) Students leaving the College to join the University and some who leave for other reasons.

### 2.2.3. STUDENTS PRACTICAL TRAINING

So far, students have undertaken useful projects, including limited research. It is the aim of the Faculty to strengthen project and research aspects of training in future.

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Some comments have been made by Senior Government Officials to the effect that training in the Faculty is too long. The argument is that Technician III Training should not take four years and four months, while diploma training takes three years only. The view of the Faculty is that the new syllabuses being offered cannot be covered in less time than is currently done. However, the College will accept sponsors having their students terminate at Part I or Part II, should they so wish. The matter will be looked into by the College authorities and the sponsors.

#### 2.2.4. PERFORMANCE IN EXAMINATIONS

Two groups of students, 191 and 1982 groups, have so far sat for Kenya National Examinations Council Part I examinations. Table 10 shows the analysis of their performance. It should be noted from the table that the performance in 1983 was much better than that in 1982.

The 1981 group of students is due to sit for Part II Examinations in July this year and Part III (Final Examinations) in July, 1985 when they are due to graduate.

TABLE 10: ANALYSIS OF EXAMINATION PERFORMANCE BY 1981 AND 1982 STUDENTS OF THE FACULTY OF ENGINEERING

C O U R S E	OVERALL GRADE OF PASS											
	NOV/DEC., 1982 RESULTS						NOV/DEC., 1983 RESULTS					
	D	C	P	R	F	T	D	C	P	R	F	T
Agricultural Machinery	0	3	5	4	0	12	0	6	2	4	0	12
Motor Vehicle	0	6	6	1	1	14	0	11	2	1	0	14
Construction Plant	0	4	5	3	0	12	0	4	3	4	1	12
Electrical Installation	1	4	6	2	0	13	0	12	1	1	1	15
Electronics	0	2	8	3	0	13	0	11	4	0	0	15
Building Construction	0	3	8	3	1	15	0	6	8	1	1	16
Architecture	0	7	4	0	0	11	0	6	3	3	0	12
Irrigation Engineering	0	5	8	3	0	16	0	4	5	4	3	16
TOTAL . . . . .	1	34	50	19	2	106	0	60	28	18	6	112
PERCENTAGE TOTAL . . . . .	1%	32%	47%	18%	2%	100%	0%	54%	25%	16%	5%	100%

NB: D = Distinction, C = Credit, P = Pass, R = Referred  
T = Total Number, F = Fail

2.2.5. STAFFING

There has been a continuous increase of Kenyan Staff in the Faculty since the College started. The Faculty has encouraged Senior Technicians to work hard and improve their chances of promotion to teaching positions. A number of such staff have already moved to Assistant Lecturer posts, thereby creating vacancies in Technician positions.

The number of Japanese Experts and Volunteers in the Faculty has never reached the target of 21.

Tables 11, 12 and 13 show the current state of affairs with regard to Kenyan Lecturers, Japanese Staff, and Kenyan Technicians respectively.

TABLE 11: KENYA LECTURERS AS AT JUNE, 1984

	<u>Approved</u>	<u>Recruited</u>	<u>Vacancies</u>
Principal Lecturer	1	1	0
Senior Lecturer	7	6	1
Lecturer	19	15	4
Assistant Lecturer	<u>44</u>	<u>44</u>	<u>0</u>
Total . . . . .	<u>71</u>	<u>66</u>	<u>5</u>

TABLE 12: JAPANESE EXPERTS AND VOLUNTEERS AS AT JUNE, 1984

	<u>EXPECTED AS PER RD</u>	<u>IN POST</u>	<u>VACANCIES</u>
Experts	12	9	3
Volunteers	<u>9</u>	<u>5</u>	<u>4</u>
Total . . . . .	<u>21</u>	<u>14</u>	<u>7</u>

TABLE 13: KENYAN TECHNICIANS AS AT JUNE, 1984

<u>Job Group</u>	<u>Approved</u>	<u>Recruited</u>	<u>Vacancies</u>
J	3	3	0
H	8	6	2
G	8	8	0
F	7	6	1
E	<u>5</u>	<u>5</u>	<u>0</u>
Total . . . . .	<u>31</u>	<u>28</u>	<u>3</u>

2.2.6. STAFF DEVELOPMENT

The ultimate success of the JKCAT Project will partly be determined by the calibre of its staff, both Lecturers and Technicians. It is therefore imperative that staff development be taken seriously. In future, there will be need to train most Lecturers to M.Sc. or Ph.D. level. Possibilities of using Scholarships in different countries (especially Third World Countries) should be explored thoroughly.

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Table 14 shows the up to date utilization of Japanese Scholarships for Staff Development in the Faculty of Engineering.

TABLE 14: UP TO DATE UTILIZATION OF JICA AND MONBUSHO SCHOLARSHIPS BY ENGINEERING FACULTY

	JICA					MONBUSHO				
	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985
Approved (in the RD)	7	10	8	7	7	1	1	1	1	1
Staff already gone for Training	3	9	10	10*	-	1	1	0+	1	-
Staff already returned	3	9	0	-	-	1	0	-	0	-

\* These 10 Lecturers/Assistant Lecturers have been nominated for training in Japan and are currently learning Japanese Language and preparing to leave in the near future.

† The nominee resigned prior to taking the scholarship, hence one place was lost.

As far as the Faculty is concerned, if the 10 staff currently being prepared left for Japan, then the shortfall would be 7 JICA and 1 MONBUSHO training places. It is recommended that these would be implemented by October this year to ensure 100 per cent utilization of training scholarships.

2.2.7. SPECIAL OBSERVATIONS ON KENYAN TRAINEES TO JAPAN

There is need to strengthen the administration of Japanese Training for Kenyan staff. It has been observed that:-

- (a) Some Kenyan Staff have not been too keen to follow practical assignments during their training.
- (b) A number of trainees have tended to engage in business deals (buying cars for instance) instead of concentrating on their training schedules.
- (c) There has been a complete lack of any report on trainees by Japanese Authorities. As such, it has been impossible for the College and the Government to determine what progress the trainees were making.
- (d) At times, important changes affecting training schedules, length of training and area of concentration/specialization have been made without mutual consultation with the College Authorities. It is important that the College is fully involved in such decisions.

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- (e) A number of staff returning from Japan have not demonstrated positively that they acquired appropriate skills and attitudes necessary for performance of their training duties. Some cases of indiscipline have also been dealt with and these have caused concern to both the Japanese and Kenyan Authorities. There is a need to determine the causes of these problems so that proper trainee discipline and commitment could be improved.
- (f) It will be necessary to increase the number of short visits by Senior College Officials (Heads of Departments, Deans, Deputy Principal, and Principal) to Japan to assess and evaluate trainee performance and progress from time to time. Trainees do require regular counselling by both Japanese and Kenyan Authorities. Cases which do not merit continued scholarship could then be determined early to minimize wastage of resources on staff who may not be committed to study and practical work.
- (g) It will be necessary for the College and JICA to arrange short courses for Technicians (May be in Group Training Programmes) in Japan or locally. This would be particularly relevant for skills required in the maintenance and repair of teaching equipment and machinery from Japan.

(The comments above are also applicable to the Faculty of Agriculture).

#### 2.2.8. TRANSFER OF TECHNOLOGY

The Government and the people of Kenya would expect that one measure of success of the project would be to what extent there was effective transfer of technology from Japan to Kenya. Since the inception of the College, the transfer of technology from the Japanese to Kenyans has been effected through:

- (a) Teaching of Students by Japanese Experts and Volunteers.
- (b) Interaction between Japanese Staff and Kenyan Staff.
- (c) Training programmes for Kenyan Staff in Japanese Universities and Industries.
- (d) Supply of Equipment and machinery.

The success achieved thus far in the transfer of technology has been highest in the area of equipment and machinery under number (d) above, as well as in the teaching of students by Japanese Staff. As far as interaction between Japanese and Kenyans is concerned, not much has been achieved mainly because of heavy teaching loads for both groups. With regard to staff training in Japan, the success has been slightly more than 50 per cent. Much more success should be achieved in future if the training programmes are better managed as has been discussed in Section 2.2.7. under Special Observations. It should be pointed out that interaction between Japanese and Kenyan Staff should improve as more Kenyans return from Japan, and as the Japanese Staff teaching load becomes less and less. As their teaching responsibilities are reduced, it is hoped that they will be able to do research and training of their Kenya counterparts.

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In future, it should be possible to recruit some (as the demand in the Faculties may be) Japanese Experts who would only do research and staff training without any teaching duties. But it will be necessary to design a method of ensuring the accountability of such experts.

Working schedules would have to be developed for such experts with definite objectives which they would have to achieve within stated periods of their assignments. Without such schedules, it may be difficult to determine what such experts were doing or achieving. If there is to be continued cooperation into phase II of Technical Assistance, then it would be possible for the Faculties and Departments to determine specific areas for which such non-teaching experts could be recruited.

#### 2.2.9. EQUIPMENT AND MACHINERY FOR PART III TRAINING

It has been stated in previous reports that extra equipment and machinery would be required for Part III Technician Training. A final list of equipment and machinery has been prepared and submitted to JICA, and it is hoped this will be considered favourably.

The process of identification and listing of such equipment and machinery has improved a great deal due to increased consultation between the Kenyan and Japanese staff in the various departments within the Faculty.

A request has also been submitted to JICA for second hand machinery to be used for student practice in maintenance and repairs. It has been found extremely difficult to obtain locally suitable second hand agricultural machinery and construction machinery.

The issue of spares for Japanese equipment and machinery needs to be looked into. This has already been raised several times before, and should be pursued with utmost urgency. The institution could grind to a halt due to lack of spares for teaching equipment and machinery. The College and JICA should explore the possibilities of:-

- (a) Setting up local agent in Nairobi to import and sell spares.
- (b) The College obtaining foreign exchange and ordering, or
- (c) Suitable local companies obtaining foreign exchange, import permits, and the College paying them commission on the imported spares.

#### 2.2.10. FACILITIES FOR PART III TRAINING

As had been mentioned in earlier reports, when the Faculty of Engineering becomes fully operational in May - July 1985, it would be conducting a total of 40 courses. Each September - December period, 16 courses will be undergoing practical training in the College.

The facilities available have been found inadequate, and problems are already being experienced.

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There is therefore need for providing new facilities in addition to extending some of the workshops and laboratories to accommodate more than one class of students.

New facilities, which must be well equipped for teaching purposes, are required as follows:-

<u>FACILITY</u>	<u>SPACE</u>	<u>NUMBER REQUIRED</u>
Classrooms, common for Engineering	120m <sup>2</sup>	21
Lecture Theatre, common for Engineering	for 150 persons	1
Drawing Rooms, for Mechanical Dept.	120m <sup>2</sup>	1
Drawing Rooms, for Building Dept.	120m <sup>2</sup>	2
Digital Electronics Lab, for Electrical Department	200m <sup>2</sup>	1
*Meteorology Lab, for Mechanical Dept.	120m <sup>2</sup>	1
Foundry/Heat treatment workshop for Mechanical Department	200m <sup>2</sup>	1
Timber Kiln with shed, for Building Department	200m <sup>2</sup>	1
Electrical Installation Workshop, for Electrical Dept. (design plan available)	Block	1

\* Accurate teaching of measurement and comparison of measurement can only take place in a measurement laboratory. In such a room, all equipment should be maintained at recommended temperature and always in correct calibrations. The room is to hold electrical, electronic, mechanical, hydraulic, optical comparators and gauges. These are all necessary for present level of training.

Facilities requiring extension are as follows:-

<u>FACILITY</u>	<u>EXTRA SPACE</u>
Motor Vehicle Workshop	240m <sup>2</sup>
Construction Plant Workshop	240m <sup>2</sup>
Agricultural Machinery Workshop	240m <sup>2</sup>
Carpentry Workshop	240m <sup>2</sup>
Plumbing Workshop	240m <sup>2</sup>
*Masonry Workshop	240m <sup>2</sup>
†Mechanical Workshop	-
xPublic Health Laboratory	-

\* Masonry Workshops to include a shed for making and curing green concrete blocks. Existing workshops area require to be roofed so that students can work therein even when it is raining.

† Mechanical workshop space is sufficient but the number of equipment and machines should be increased to cater for a class of 14.

x Public Health Laboratory space is inadequate for a class of 16 students. It is proposed that the adjacent Building Science Laboratory be modified and be equipped with enough laboratory benches with sinks and demonstration bench for dual purpose as a Public Health/Building Science Laboratory.

NB: Electrical workshop is not only inadequate in space but, it is wrongly situated. It is proposed that it be moved into the Engineering workshop area as a block with other Electrical Facilities. A design plan for the proposed Electrical Workshop block is available.

2.2.11. RECURRENT EXPENDITURE FOR THE FACULTY OF ENGINEERING

The Faculty of Engineering has made effective use of recurrent funds provided by the Government to procure light equipment, tools and consumable materials for teaching purposes. Details of financial allocation to the Faculty are given on Table 15.

TABLE 15: ANNUAL FINANCIAL ALLOCATIONS FOR ENGIN. FACULTY FROM 1980/81 TO 1983/84

V O T E	1980/81	1981/82	1982/83	1983/84	Total
Mechanical Engin. Dept.	25,000	430,000	1,140,000	1,450,000	3,045,000
Building & Civil Engin. Department	45,000	320,000	1,000,000	1,200,000	2,565,000
Electrical & Electronics Engineering Department	55,000	250,000	1,090,000	1,150,000	2,545,000
Faculty Administration	15,000	110,000	236,980	300,000	661,980
Permanent Equipment	-	800,000	80,000	497,000	1,377,000
Total . . . . .	140,000	1,930,000	3,546,980	4,597,000	10,193,980

NB: The 1984/85 allocations are expected any time after 1st July, 1984.

2.2.12. POSSIBILITIES FOR HORIZONTAL AND VERTICAL EXPANSION

If facilities, equipment and machinery requested for Part III are provided and if extension of project period is granted, then the Faculty would be able to expand both horizontally and vertically with minimum additional cost. This would also enable the College to play a greater role in acceleration of production of the manpower greatly needed by the Nation.

With facilities requested for the present Technician Part III courses, the Faculty would be able to conveniently mount the following Technician courses up to Part III.

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1. Electrical Engineering Technician
2. Building and Civil Engineering Technician
3. Mechanical Engineering Technician (Plant)
4. Mechanical Engineering Technician (Jig and Tool)
5. Mechanical Engineering Technician (Product design)
6. Mechanical Engineering Technician (Foundry work & Pattern)
7. Ordinary Diploma in Electrical Engineering
8. Ordinary Diploma in Mechanical Engineering

### Higher Courses

The long-range plan of the College is eventually to offer degree courses in the relevant fields.

However, as a short-range plan, and to participate in training of high level manpower required, the Faculty proposes to mount the following Higher National Diploma courses which are not offered anywhere else in the country and which have a direct bearing on the Technician courses now being run.

1. Higher National Diploma in Power Electronics
2. Higher National Diploma in Telecommunications
3. Higher National Diploma in Automotive and Prime Movers
4. Higher National Diploma in Agricultural Engineering
5. Higher National Diploma in Building Construction
6. Higher National Diploma in Architecture
7. Higher National Diploma in Irrigation Engineering.

### 2.2.13. IMPLICATIONS

If facilities, equipment and machinery requested for technician Part III Courses are provided, then the requirements for extra lateral and higher courses would be minimal.

#### Facilities

No extra laboratories and workshops would be required. However, classrooms and accommodation space would be required.

#### Equipment and Machinery

Very few additional specialised equipment and machinery would be required especially for higher courses only.

#### Kenyan Lecturers

Additional Kenyan Lecturers would be required to cope with the extra teaching load.

#### Recurrent Expenditure

Recurrent expenditure would increase in proportion to additional number of classes.

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### Japanese Experts and Volunteers

A number of Experts and Volunteers would be required to assist in transfer of technology to Kenya Students. Areas of specialization and levels of expertise to be determined as appropriate.

The Experts and Volunteers would be required to teach Kenyan Students so as also to facilitate further staff development and effective transfer of technology.

### Staff Development

To realise short-range and long-range plans requires a vigorous staff development programme to meet the requirements of higher level courses - Higher National Diploma and Degree Courses.

The number of JICA and MONBUSHO Scholarships may be based on the following formulae:-

JICA: - 1 per additional lateral course per year. i.e.  $1 \times 8 \times 5$   
= 40 Scholarships.

MONBUSHO: - 1 per Higher Diploma course per year. i.e.  $1 \times 7 \times 5$   
= 35 Scholarships.

### 2.2.14. SUMMARY OF EVALUATION

- 2.2.14.1. The Faculty has endeavoured to meet the project set up goals.
- 2.2.14.2. Students enrolment has been successfully carried out to date.
- 2.2.14.3. Performance at examinations has been good, an indication of satisfactory performance of all faculty staff - Japanese and Kenyans.
- 2.2.14.4. Students practical training is conducted in the College creating gross inadequacy of facilities.
- 2.2.14.5. Faculty staffing position has been satisfactory within the approved establishment.
- 2.2.14.6. The number of Japanese Experts and Volunteers in the Faculty has never reached the planned target.
- 2.2.14.7. All allocated training places in the present project period have not been taken up.
- 2.2.14.8. Failure of constant counselling of trainees whilst in Japan has resulted in poor performance by some of them on return from training.
- 2.2.14.9. Transfer of Technology to Kenyan students is progressing well.
- 2.2.14.10. The Kenya Government has provided funds annually for recurrent expenditure.
- 2.2.14.11. Extra equipment and machinery would be required for successful implementation of the project up to Part III. A final list has been submitted to JICA.

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- 2.2.14.12. The College Library is inadequately stocked.
- 2.2.14.13. Agricultural Machinery and Construction Plant Machinery are difficult to acquire.

2.2.15. RECOMMENDATIONS

- 2.2.15.1. New facilities and extension to existing Workshops requested for effective implementation of the project should be provided.
- 2.2.15.2. The number of Japanese Experts and Volunteers in the Faculty should be increased to reach the planned target.
- 2.2.15.3. Balance of training places within the current project period should be taken up in the current financial year to meet the target.
- 2.2.15.4. Official visits to Japan by Heads of Departments should be intressed to facilitate counselling of College trainees in Japan.
- 2.2.15.5. Short Term training places for Technicians should be provided for.
- 2.2.15.6. Final list of Equipment and Machinery submitted to JICA should be considered favourably for successful implementation of Technician Course to Part III.
- 2.2.15.7. JICA should assist in acquisition of second hand machinery, for Agricultural Machinery and Construction Plant Courses, which are both expensive and difficult to get locally.
- 2.2.15.8. Assistance is required in stocking the College Library with books and also in acquiring text books for students.
- 2.2.15.9. There is need to extend the project period for another five years period particularly since the Faculty will not be fully operational during the present project period.
- 2.2.15.10. There is need to expand the Faculty horizontally and vertically by introducing lateral and higher courses.
- 2.2.15.11. Additional classrooms and Hostel accommodation would be required for the additional courses.
- 2.2.15.12. More JICA Scholarships would be required for the extended project period.
- 2.2.15.13. More MONBUSHO (MOE) Scholarships would be required to prepare for higher courses proposed.
- 2.2.15.14. Higher National Diploma should be accepted for entry into MSC Course.

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- 2.2.15.15. Area of training should be determined each year to cater for the changing priorities.
- 2.2.15.16. Additional Japanese Experts and Volunteers should be required for the extended project period.
- 2.2.15.17. Japanese Experts and Volunteers should continue to be involved in teaching Kenyan students as a faster means of Transfer of Technology, in addition to other functions as in Record of Discussions.
- 2.2.15.18. Source of spare parts should be clearly established to ensure reliability of Japanese equipment and machinery.
- 2.2.15.19. Japanese Staff should be accountable to the College authority and fit within the College administrative set up.
- 2.2.15.20. Provision should be made for supply of additional Japanese equipment and machinery during the extended project period where found necessary.

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### 2.3. THE COLLEGE LIBRARY

#### 2.3.1. INTRODUCTION

The Primary aim of a library in an institution of higher learning like JKCAT is to satisfy the study, teaching and research needs of both students and staff of the institution. For this to be done, a number of requirements must be met. The Library at JKCAT has been acknowledged as a vital academic department on which other academic departments rely heavily to be able to implement their teaching programmes. The library has been able to satisfy only part of the needs of the other teaching departments. This section of the report identifies the achievements, problems, and makes recommendations for the most essential requirements. It is noted that the Library was not included in the original Record of Discussions between the Kenyan and Japanese Governments and now needs to be provided for in exactly the same manner as the departments in the Faculties. It is also noted with appreciation that despite this grave omission, JICA has made some contribution to the department which have been very valuable.

#### 2.3.2. THE LIBRARY SERVICE

Library Services are available from 8.00 a.m. - 10.00 p.m. on weekdays and 8.00 - 12.00 noon on Saturdays, a total of 74 hours weekly. This is satisfactory.

Students, Teaching Staff and non-teaching staff use the Library. Nearly 400 people visit the Library daily.

Over 150 books are borrowed or returned to the Library each day, indicating a healthy book lending service.

Readers' requests and demands rise daily and we are unable to satisfy them mainly because of lack of the required books.

Reference and enquiry services are exploited fully. The Library offers formal lectures to students on Library use and sources of information.

Other major services include:-

- Photocopying
- Duplicating
- Electronic Stencil Cutting
- Loose Binding

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2.3.3. STOCK: BOOKS, PERIODICALS AND AUDIO-VISUALS

Below are some comparative statistics on Libraries at JKCAT and four other institutions:-

<u>COMPARATIVE DATA</u>	<u>BOOK (VOLUMES)</u>	<u>PERIODICALS</u>
<u>INSTITUTION</u>		
Jomo Kenya College of Agr. & Tech.	- 8,000	- 68*
Mombasa Polytechnic	- 10,000	- 120
Kenya Technical Teachers College	- 12,000	- 90
Kenya Science Teachers College	- 35,000	- 120
Kenya Institute of Administration	- 36,000	- 190

(\* paid for and therefore expected soon)

The institutions named all have similar demands on their Library Services. Some have similar student populations to JKCAT. (Student population is less important than the number of different courses and subjects taught in the provision of different titles for each subject).

In all the other institutions named, students own sets of the most essential course textbooks, but at JKCAT, we are forced to buy multiple copies of books since our students have no textbooks of their own. Our current stock has only 2,700 different titles.

2.3.4. CURRENT STAFFING

Post-graduates - 2  
Certificate level - 8 ( 1 in training)

2.3.5. LIBRARY BUILDING

2.3.5.1. SPACE

Currently, space seems to be quite adequate, but it needs to be better organized through the following measures:-

Study Carrels need to be constructed for reader concentration and mainly for staff undertaking research work.

A Library Issue Desk counter needs to be constructed.

A Periodicals area needs to be created by building a dwarf wall at the entrance hall and fitting of grills.

Partitions and a Counter are required in the Resource Centre.

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#### 2.3.5.4. ACOUSTICS

Noise in the Library is a great nuisance to readers and reduces the benefits of using a library. The entire library should be fitted with a carpet. (The Libraries at Kenya Technical Teachers College and Kenya Institute of Education are fully carpeted).

Noise filters from the Audio Visual Room and sound proofing should be used to completely cut out the noise.

Readers are distracted by traffic outside the Library. Light curtains could help to cut out the view.

#### 2.3.6. SUMMARY OF EVALUATION AND RECOMMENDATIONS

##### 2.3.6.1. SERVICE

Services to readers are only curtailed by lack of material detailed under stock.

User education should be provided for in the time-table.

Photocopy services will be improved by the purchase of a larger, faster photocopying machine.

Duplicating services will be improved by each Faculty acquiring their own duplicating machines.

A Bindery is overdue for binding College documents and for repair and maintenance of library books.

Printing should start. One of the components of the printing system never arrived. It is also desirable to acquire machines which can be serviced locally.

Photographic work cannot start until all the equipment have been delivered.

##### 2.3.6.2. RECOMMENDATIONS ON STOCK

A target stock of 25,000 volumes be planned for the next 3 years.

At least 10,000 different titles be purchased during the same period.

A grant could be provided (KITC has a Ksh.5 million grant to spend on books over a number of years. This has been provided by the aid donors, i.e. Canadian Government. Kenya Polytechnic has a continuous book aid programme with the British Government; Egerton is getting substantial book aid from American Government). JICA can purchase the books abroad and ship them to us over a planned period of years. JICA has already given some 1500 volumes of essential textbooks, but more are required.

If JICA undertook the supply of textbooks and Library books, the money from the Ministry could be used to pay for periodicals. Students should be provided with essential textbooks. Some material is only available in audio/visual formats and a non-print section needs to be developed.

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2.3.6.3. RECOMMENDATIONS ON STAFF TRAINING

Certificate level staff be upgraded by academic and professional training in Japan or in the United Kingdom.

Post-graduates be offered short study tours to Japan and other overseas countries.

A Technician to be trained in Japan to undertake the complete development of the Resource Centre.

2.3.6.4. OTHER RECOMMENDATIONS

The library should be included in the Record of Discussion for future technical cooperation.

JICA should consider giving the Library a grant to purchase books so as to raise the stock to 10,000 titles (25,000 volumes) within the next 3 years.

JICA should consider to undertake the supply of periodicals originating from Japan and nearby countries.

Library expansion should be included as an urgent item in future technical cooperation agreement.

2.4. GENERAL STUDIES DEPARTMENT

General Studies is a very important service department within the College. Although it was not included in the initial plans of the College, it has a very important role to play in the training of our students.

There is need to provide training Scholarships for General Studies Staff either in Japan or other Countries which may be considered appropriate. Problems of Office Accommodation, Staffing and Clerical assistance will continue to be handled by the College as funds become available.

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3. PROJECT IMPLEMENTATION (ADMINISTRATION)

3.1. GENERAL ADMINISTRATION

Staffing and Organization of the College General Administration has almost been completed as had been agreed in the Record of Discussions. A few important positions (notably those of Registrar, Administrative Officer, and Games Tutors) have not been filled. It is hoped that these positions would be filled as soon as possible in the near future.

The Board of Governors was appointed and inaugurated on 19th May, 1983, and has continued to guide the operation of the Project as required by the Education Act. The Board has established two Committees, namely:-

- (a) The Finance and General Purposes Committee, and
- (b) The Tuition Farm Sub-Committee.

Recruitment of Board employees is now completed and the total number stands at 257, as can be seen from Table 15.

TABLE 15: SUMMARY OF BOARD OF GOVERNORS STAFF AS AT JKCAT BY JOB GROUP

<u>JOB GROUP</u>	<u>TOTAL NUMBER</u>
A	33
B	71
C	35
D	31
E	17
F	30
G	19
H	10
J	7
K	3
L	1
<b>GRAND TOTAL . . . . .</b>	<b>257</b>

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### 3.2. ESTATES DEPARTMENT

#### 3.2.1. INTRODUCTION

The general arrangement of buildings and facilities has a lot to commend it and makes practical sense in facilitation of movement and operation of utilities. The approach road was well designed and gives a complete panorama of the College. Most of the fittings and finishings are of the highest standards, and the finishing colour on buildings matches the immediate surroundings.

There are, however, several important observations which have been made over the past three years, and which should be brought to the attention of the Review Mission.

#### 3.2.2. TUITION BUILDINGS

- (a) A lot of glazing was used in buildings such as Assembly Hall, Dining Hall, Students Recreation Block. Glass in Kenya is more expensive per square metre than construction (masonry or block wall) complete with finishing.
- (b) Un-coordinated sub-contractors had been used for construction works. This resulted in poor bonding and there are so many major and minor cracks between beams and clocks or columns and blocks.
- (c) Lack of projecting eaves for most buildings has resulted in serious penetration of rain water into these buildings through the walls.
- (d) The PVC gutters which were provided are too small to hold rain water, and they are already losing shape.
- (e) In some cases the Contractor did not question wrong designs but simply went ahead and used such designs. The best example is in Engineering workshops where the walls are 100 mm. thick instead of 150 mm. required by the Kenya Building Code.
- (f) Floor finishings in some buildings were not suitable (or were too expensive) for the type of use made of such floors.
- (g) Some electrical fittings, for instance in the Kitchen, do not have spare parts in Kenya. It would have been ideal if such fittings had spares readily available in the Country.

#### 2.2.3. WATER SUPPLY

The workmanship on the boreholes was poor and as a result one silted completely within one year of operation. Other boreholes have continued to yield far less water than what the design had indicated. It is possible this low yield is due to the fact that gravel packs for silting reduction were omitted. There is need to develop alternative water sources for the College.

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#### 3.2.4. FIRE FIGHTING

The fire hydrants in the buildings can only function when there is water in the elevated tank up the water tower. But there is no water in this tank most of the time, and this renders the hydrants useless.

There is need to provide the hydrants with water from a different source, say raw water from a river.

#### 3.2.5. SEWERAGE

The College Sewerage System appears both crude and expensive. The system uses electricity which is expensive, and anytime there is a breakdown in the pumps and motors the system cannot work.

There is need to explore the possibility of having additional reservoir tanks.

#### 3.2.6. BOILERS

The location of boilers too close to other facilities poses danger if there should be a fault resulting explosion.

It would be desirable to have central boilers feeding hot water to the dormitories instead of the heating cylinders located in the bathrooms.

#### 3.2.7. STAFF HOUSES

Burglar proffing of houses and the provision of adequate Security Lighting is necessary.

#### 3.2.8. ADDITIONAL FACILITIES/EQUIPMENT/TOOLS

The Estates Department still requires the following facilities, equipment and tools:-

- (a) Garage with Vehicle Inspection Yard
- (b) Store for fuel and lubricants
- (c) Store for equipment and spares
- (d) Mowers, workshop tools, tractors and trailers and gardening equipment and tools.

#### 3.2.9. LANDSCAPING

Much landscaping has been done, but a lot of improvement is still required. More trees, shrubs and flowers have to be planted in the near future. If water was available the work of landscaping would proceed much faster.

#### 3.2.10. MAINTENANCE

Maintenance costs have risen from Kshs.65,000/= in 1982 to Kshs. 340,000/= in 1983. This figure does not include motor vehicle maintenance.

There is an urgent need to recruit a Plant Mechanic to take charge of Laundry/Kitchen Equipment and Boilers.

### 3.3. HALLS AND CATERING DEPARTMENT

#### 3.3.1. ADEQUACY OF FACILITIES

The kitchen is a very important facility in any catering unit. It seems that the College kitchen was meant to cater for approximately 200 students. With the increase in students population, the problem of congestion in the kitchen has become quite acute.

There is need for more space and equipment to cater for the increased numbers. Kenyan Technicians do not fully understand all the modern equipment which came from Japan, and as such repairs and maintenance present problems.

The problem of lack of spares has also affected the use of some of the equipment in the kitchen.

#### 3.3.2. ADDITIONAL KITCHEN EQUIPMENT

To be able to cater adequately for 720 students, the following additional equipment will be required:-

- (a) Large Electric Oven
- (b) High Gas Burner
- (c) Food Mixer
- (d) Potato Peeler
- (e) Large Sterilizer Tank

As already mentioned, additional space would be required for installation of such equipment.

#### 3.3.3. DINING HALL

This will also be inadequate to hold large numbers. In addition, there are other shortcomings. These are:-

- (a) Service Counter is extremely small for fast cafeteria service.
- (b) The furniture is not adequate.
- (c) Glass doors are too expensive to clean and are exposed to constant breakage by students and objects.
- (d) Staff serving at the counter can hardly communicate with those being served.

#### 3.3.4. STORAGE SPACE

The storage space is not adequate, bearing in mind the fact that provisions have to be bought all the way from Nairobi. Ventilation in the available stores needs a lot of improvement so as to avoid wastage of fruits and vegetables.

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### 3.3.5. LAUNDRY

The Laundry can hardly cope with the load, especially when students laboratory coats and overalls are received.

There is need for an additional washing machine.

### 3.3.6. HOSTEL

The fifth hostel is badly needed if the student numbers have to go up to 720. There is need for installing some water storage tanks to alleviate the water problems in the hostel when the general water level is low.

## 3.4. COLLEGE DISPENSARY

### 3.4.1. GENERAL

The College Dispensary provides health services to the students and the rest of the community and members of their families. With the next student intake the population catered for will be about 1,500 people.

### 3.4.2. LOCATION

Currently, the Dispensary is located adjacent to the Dining Hall on the way to the hostels. It comprises of several small rooms. The size and layout of the rooms make the facility inadequate to cater for even the present community. There is a room approximately 20' x 12' supposed to be used as a recovery room for the serious sick patients. This room cannot be used to cater for both men, women and children together. It would also need modifications to facilitate fixing necessary equipment. There are no washrooms facilities to cater for those who would be admitted. It would have been probably better to have built the health unit as an isolated block with rooms for expansion next to the students' hostels rather than next to the Dining Hall. Such an ideal facility would include both an out-patient section and a well equipped section to admit those with acute illness.

With a rise in the population of families in the community, a section to cater for Maternal and Child Health would provide both curative and preventive medicine.

### 3.4.3. EQUIPMENT

Life saving equipment are usually simple and inexpensive, but since the beginning of the College, they have never been provided.

### 3.4.4. STAFFING

With the increased demand for this service it would be good for the College to consider hiring the services of a full-time doctor. Also if improvements on the Dispensary are done, more Nurses would be needed.

Currently, the Clinical Officer and Nurses are housed in the staff quarters far from the dispensary. It would have been easier to have the person on night duty housed together with the housekeeper near the hostels.

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### 3.5. STUDENTS RECREATION

The available recreational facilities in the College are far from adequate even before the numbers get to 720.

#### 3.5.1. CANTEEN/ COMMON ROOM

This has seating capacity of 60 and also serves as a Television Room. A bigger Common Room for TV, Indoor Games, and general relaxation is needed.

#### 3.5.2. GYMNASIUM

None available, but would serve a useful purpose in keeping the students population healthy and fit.

#### 3.5.3. SWIMMING POOL

A very expensive item, but if funds are available, this would be ideal for the warm weather in Juja.

#### 3.5.4. PLAYING FIELDS

The landscaping of the fields was very poorly done and as a result, it has been difficult to develop the pitches and athletics tracks.

There is need for the following:-

- (a) A well drained soccer pitch.
- (b) A rugby pitch.
- (c) Two well drained hockey pitches.
- (d) A netball court.
- (e) Four Volleyball courts.
- (f) Four Lawn Tennis courts (Two murrum and two concrete).
- (g) Two Basketball Courts.

Some sections of the field will need additional landscaping works before the above facilities are constructed.

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### 3.5.5. ASSEMBLY HALL

This has become a very useful facility for recreation and also academic purposes. The hall has some wonderful facilities and equipment, particularly for music, film projection, and public address. However, it would be made more useful by additional equipment. Some of these are:-

- (a) T.V. Monitory (for Colour T.V.).
- (b) Video Recorder.
- (c) Coloured Camera.
- (d) Two Turn-tables.
- (e) Disco Light system and Accessories.
- (f) Portable P.A. System.
- (g) Two Cassette Decks.

### 3.5.6. STAFFING

In addition to the above listed equipments and facilities, it would be ideal to have two Games Tutors and two Students Counsellors. These additional staff would help improve the social life of the students in the College.

### 3.6. STAFF WELFARE FACILITIES/SERVICES

The provision of staff welfare services is a crucial factor in the success or failure of an educational project such as this one. Currently, the College staff have almost no welfare facilities on the Campus.

The following items should therefore receive serious attention and consideration now and in the future:-

- (a) Recreational Facilities - sports, canteen, bar, and indoor games.
- (b) Adequate housing to reduce daily trips to Nairobi and other towns.
- (c) Nursery School for Pre-School Children.
- (d) Primary School.
- (e) Churches/Mosque.
- (f) Children's Park and Playing Grounds.
- (g) Shop/Restaurant.
- (h) Secondary School (long range plan?).

As more institutions come up in the country, good staff will tend to move to those Colleges which offer good welfare facilities in addition to remuneration and academic prestige. We at JKCAT must therefore give serious thought to attracting and retaining qualified and dedicated staff.

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#### 4. FUTURE OF THE COLLEGE

##### 4.1. NEED FOR EVALUATION

There is need for evaluation of the College as a project. This is not only to provide the Japanese Government with data for deciding whether or not the project has been a success and what should be done next. It will also provide relevant data for the Government of Kenya to determine the possible and alternative futures for the College. Although the project is only three years old, long range planning requires early decisions on possible directions for a project.

The current evaluation provides a good opportunity for initiating long range as well as short range plans for the growth and development of the College.

##### 4.2. FIVE YEARS BEYOND APRIL, 1985

One very important question which has to be answered fairly soon, probably during the meeting with the Review Mission is this: After the first phase of cooperation agreement, what next? In other words what direction does the College take, and what form of cooperation would be most desirable in order to strengthen the foundations already laid?

The College Authorities and the Board of Governors should provide suitable answers to these issues. There are possible alternatives which might be considered. These are:-

- (a) Using the next five years for consolidation of what has been achieved while completing any aspects of the project not yet completed.
- (b) Consolidation with limited expansion - lateral or vertical.
- (c) Full vertical expansion to HND level in most course areas.
- (d) Full lateral expansion with increase in Technician III and Diploma Courses to make more efficient use of the College.
- (e) Combination of lateral and vertical expansion.

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#### 4.3. ADVANTAGES OF CONSOLIDATION

Consolidation strategy has the following advantages:-

- (a) Provides times for reflection so that necessary changes can be made.
- (b) Provides time and opportunity to complete infra-structural requirements. The important ones here are staff houses, hostels, sports and welfare facilities.
- (c) Provides time for preparing definite plans and acquiring the resources needed for their implementation.
- (d) Provides time and opportunity for carrying out further staff training and development. In our case, we may upgrade most of our Lecturers to M.Sc. level during such a period.

However, manpower training needs of the country may be such that some expansion becomes necessary for the College. Under such circumstances, consolidation must be combined with some form of expansion to meet the training needs of the country. But continuous expansion without consolidation may not be good for an institution.

#### 4.4. PROPOSALS TO THE EVALUATION MISSION

The Ministry of Education, Science and Technology, on behalf of the Government of Kenya, wishes to put forward the following proposals to the Japanese Evaluation Mission for consideration with regard to the JKCAT PROJECT:-

##### 4.4.1. FUTURE COOPERATION BEYOND 1985

- (a) The Government of Japan is requested to consider FURTHER TECHNICAL COOPERATION BEYOND 1985.
- (b) The period of such further cooperation should be FIVE YEARS.
- (c) The Major theme for this period should be PLANNED CONSOLIDATION.
- (d) Consolidation should be aimed at enhancing and strengthening the foundations which have been laid since the inception of the project.

##### 4.4.2. WHAT NEEDS TO BE DONE DURING THE PERIOD OF CONSOLIDATION

The College cannot and should not do consolidation for ever. Consequently, definite steps will have to be taken to achieve effective planned consolidation within the shortest possible time so that new desirable directions of development can be taken at the appropriate time.

It is RECOMMENDED that the following should be carried out during the period of consolidations:-

- (a) Determination of the extent to which original objectives and targets have been achieved with respect to: quality of training; relevance of syllabi to national manpower needs; adequacy of practical training; and the rate of absorption of graduates into gainful employment within the Public and Private Sector. (For example a re-assessment of the Food Processing Course will be necessary to make it appropriate to both Industrial and Rural Food Processing).

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- (b) Determination of inadequacies, overlaps, and wasteful duplications which may become apparent in the syllabi.
- (c) Determination of strategies for coping with the 8-4-4 system of Education when it begins to affect the College academic programmes in 1989 or 1990.
- (d) Diversification of academic programmes to include research, seminars, and conferences within the College.
- (e) Institutionalization of research within the College.
- (f) Incorporation of Production Lines in the College Faculties to be used for practical training and generation of funds.
- (g) Strengthening of course topics which have special significance to the national economy, for instance Horticultural Marketing.
- (h) Systematic introduction into the syllabi, various topics from Humanities which have relevance to social interaction and human management. Such topics could include: Law, Personnel Management, Psychology, Sociology, Industrial Relations, Economics, Commerce and others.
- (i) Determination of strategies for future generation of funds by the College to reduce the fiscal burden on the Exchequer as the College expands.
- (j) Preparation of a MASTER PLAN for the College's future development.

#### 4.4.3. COMPLETION OF CONTRIBUTION TO THE CURRENT PROJECT

- (a) It is noted that some projects agreed for the current cooperation period have not been completed. The Government of Kenya will endeavour to provide funds for some of these projects.
  - (b) It is hoped that the Government of Japan will complete the agreed contribution with respect to:-
    - ( i) Equipment and machinery for Part III Training in Engineering;
    - ( ii) Books and Equipment for the Library;
    - (iii) Experts and Volunteers as had been requested earlier.
  - (c) The Government of Japan is also requested to consider additional assistance as follows:-
    - ( i) Further support to the Library;
    - (ii) Production Units and Research facilities.
- (These requests should be considered for the period of consolidation).

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4.4.4. FUTURE DIRECTION FOR DEVELOPMENT AFTER CONSOLIDATION

It is RECOMMENDED that:-

- (a) The College must provide, before the end of consolidation period, all the necessary justifications for any alternative strategies proposed with regard to vertical or horizontal expansion.
- (b) The final decision on the type of expansion to be undertaken will only be made when all the justifications are available, and will depend on the College's readiness for expansion, based on the calibre of staff, availability of facilities, and the educational needs of the Country.

4.4.5. COOPERATION AFTER CONSOLIDATION PERIOD

Detailed proposals for Technical Cooperation after the period of consolidation will be worked out by mutual consultations between the two Governments, based on the Master Plan for the College's Development.

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GAD/mam

2. 専門家派遣実績

○は現在派遣中

60.3未まで

氏名	指導科目	派遣期間	派遣年月	所属先	出身校
(チームリーダー)					
1 川口龍夫	チームリーダー(電気)	55.10.6-58.10.5	36	新日本技術コンサルタント	京大工学部
2 和田宏	チームリーダー	58.11.1-60.4.20	17		京大農学部農学博士
(アシスタントチームリーダー)					
3 中島行男	アシスタントチームリーダー	55.11.16-58.3.31	29	JICA	法政大法学部
4 中野武隆	アシスタントチームリーダー	58.5.21-61.5.20	22	JICA	名古屋大経済学部
5 杉山隆彦	アシスタントチームリーダー(食加)	55.10.6-62.4.20	-	(JOCV.OB)	京大農学修士
6 木村伸一	アシスタントチームリーダー(建築)	56.3.29-62.4.20	-	(JOCV.OB)	福岡建築
(農学部 園芸)					
154 園芸 Total (内規8)					
7 守屋幡司	園芸学	55.10.24-62.4.18	54	(JOCV.OB)	岡山大学農学部
8 庵原川	野菜(アシスタントチームリーダー)	56.3.29-57.11.11	20	フラーソンサエティ	京大農学部農学博士
9 早川禎	作物学	56.5.22-58.5.21	24	静内農業高校	北大農学部
10 真山滋	植物学	58.2.26-58.4.2	短2	香川大農学部助手	京大農学部農学博士, 南イリノイ大Ph.D.
11 酒井清六	昆虫学	58.2.21-58.3.23	短2	大東文化大教養学部教授	京大農学部農学博士
12 森信	昆蟲学	58.4.1-62.3.31	24	(JOCV.OB)	東京農大農学部
13 森田次	作物学	58.4.9-59.4.8	12	岡山大学農芸生物助手	京大農学博士
14 関益太	作物分類学	58.11.7-59.11.6	12	広島大理学部助手	京大農学博士
15 松原幸八	植物病理学	58.12.22-59.2.16	短2	岡山大学農学部助教授	京大農学部農学博士
16 奥	植物繁殖学	58.12.29-59.2	短2	岡山大学農学部教授	京大農学部農学博士
(農学部 農業工学)					
125 農工 Total (内規4)					
17 中澤宗一	農業機械	56.3.15-58.9.30	31	日本工営	東京農林専門学校
18 釣清	農業土木	56.3.29-60.4.20	48	(JOCV.OB)	岡山大農学部
19 松坂岩	農業機械	57.10.8-59.4.7	18	帯広畜産大	北大農学博士
20 田井崎浩	農業場業	58.7.29-58.8	短1	九州大農学部教授	
21 岩村俊	農業機械	58.10.27-59.1.26	短3	九大農学部農業工学科	
22 木平	農業土木	58.11.1-59.10.31	12	岩手大農学部助手	北大農学博士
23 一範彰	農業土木	58.11.1-59.10.31	12	大阪産業大工学部	大阪工大工学修士
(農学部 食品加工)					
86 食加 Total (内規5)					
24 杉山隆彦	食品加工(アシスタントチームリーダー)	55.10.6-60.4.20	54	(JOCV.OB)	京大農学修士
25 保秀	食品加工	55.12.1-56.1	短2	広島大学生物生産工学教授	北大農学博士
26 浅利	食品加工施設	58.2.26-58.4.2	短2	東京農業大助教授	岡山大農学修士
27 宮本	食品微生物	58.6.16-59.6.15	12	岡山大学農学部助手	岡山大農学修士
27 渡辺	食品加工管理	59.1.21-61.1.20	15	渡辺海外起業	神戸大経済学部

60.3末まで

氏名	指導科目	派遣期間	派遣年月	生年月日	所属先	出身校
<b>(工学部 土木建築)</b>						
186 土建 Total (内短1)						
28 勝田順一郎	水源	55.10.6-57.10.5	24	S.16.11.25	東京都庁	日大工学部
29 俣川哲光	建築材	56.3.1-59.2.28	24		高周波熱線(株)	京大工学部 修士 S.46卒
30 六井英	建築	58.3.7-58.4.3	短1		京大建築学教授	京大工学部 工学博士 S.44卒
31 井上村	建築(アシスタント)	56.3.29-58.6.29	28	S.18.8.27	(JOCV.OB)	日本理工学部 修士
32 木村伸	建築(アシスタント)	56.3.29-62.4.20	49	S.21.2.26		福岡建築
33 岡田依佳	水資源工学	58.3.23-61.3.22	24	S.8.1.28		京大工学部 修士 S.41卒
34 荒井徳	土木	58.4.9-60.8.8	24	S.24.11.6	パトス建築設計室(JOCV.OB)	法大工学部 修士 S.48卒
		59.4.21-62.4.20	12	S.10.3.12		東京都立大修士, 加州立大修士 S.49取得
<b>(工学部 機械工学)</b>						
141 機工 Total (内短4)						
35 田井佳	機械	56.3.29-58.3.28	24	S.21.1.14	国土開発工業	建設大 学校 S.42卒
36 藤井隆	工学	56.3.29-58.9.30	30	T.6.7.30	国際協力サービスセンター	東京商工専門学校 S.23卒
37 鈴木二	機械	56.5.22-59.5.21	36	S.13.7.29	(JOCV.OB)	福岡工業高校 S.33卒
38 藤森英	建設	58.5.21-59.6.2	23	T.8.5.30		東京工大機械工学 S.17卒
39 山田啓	建設	58.12.29-59.4.9	短4	S.19.4.18	マルマ重車輦(株)	北海道自動車短大 S.40卒
40 宮本	建設	59.3.24-62.4.20	12	S.2.3.25	三菱重工業(株)	熊本工専 S.22卒
41 宮本	農業	59.3.-60.3	12	S.14.7.2	帯広畜産大教授	北大農学部 博士 S.54取得
<b>(工学部 電気電子)</b>						
77 電電 Total (内短5)						
1 川口龍夫	電気(チームリーダー)	55.10.6-58.11.5	1	T.8.5.19	新日本技術コンサルタント	京大工学部 S.18卒
42 小野泰	電子	55.12.7-57.12.6	24	S.20.7.3	(JOCV.OB)	九州工大 修士 S.45卒
43 長谷川	電子	58.3.7-58.4.3	短1		京大電子学教授	大阪大 工学博士
44 三浦林	電子	58.4.9-60.4.8	24	S.24.2.9	東京電気工務所(JOCV.OB)	電気通信大 短大 S.46卒
45 小斎康	電子	59.1.15-59.3.15	短2	S.6.4.28	鳥取大工学部教授	大阪府大 工学博士 S.52取得
46 斎藤孝	電子	59.1.15-59.4.18	短2	S.19.9.20	鳥取大電子学助教授	九大 工学博士 S.57取得
47 都築孝志	電子	59.3.5-62.4.20	12	S.14.10.24	JICA 国際協力専門員(JOCV.OB)	大阪大工学部 修士 S.44卒
48 大久保	電気工学	59.3.9-61.4.20	12	T.15.6.7		八幡浜商業学校 S.18卒
<b>(教育学部)</b>						
13						
49 岡田尚美	教育学	59.3.8-61.4.20	13	S.27.6.3	(JOCV.OG)	お茶の水女子大理学修士 S.52卒
886 総計 (内短期27)						

3. 青年海外協力隊員派遣実績

○現在派遣中

No.	氏名	年次	指導課目	派遣期間	派遣月	生年月日	出身校
園芸 Total 115							
〈農学部〉(園芸)							
1	鈴木 二	55 Ⅲ	作物	56. 3. 6 ~ 58. 3. 5	24	S. 32. 12. 25	山形大学
2	中西 建	56 Ⅱ	土壌肥料	56. 10. 7 ~ 58. 10. 6	24	S. 32. 11. 8	大阪府立大
3	井戸 采	56 Ⅱ	植物学	57. 9. 7 ~ 58. 10. 6	13	S. 27. 10. 17	東大理学博士
○ 4	高尾 彦	58 Ⅰ	作物	58. 7. 29 ~ 60. 7. 28	20	S. 34. 6. 29	琉球大 農学部
○ 5	田中 樹	58 Ⅱ	土壌肥料	58. 10. 7 ~ 60. 10. 6	17	S. 35. 7. 5	弘前大 農学部
○ 6	高橋 誠	58 Ⅱ	花卉	58. 10. 7 ~ 60. 10. 6	17	S. 28. 10. 11	東京農大 農学部
農工 Total 89							
〈農工工学〉							
7	高見 順	55 Ⅲ	数学	56. 3. 6 ~ 56. 6	4		(物故)
8	山本 郁	56 Ⅱ	農業機械	56. 10. 7 ~ 59. 5. 6	32	S. 30. 1. 18	北大 農学部
○ 9	伊佐 喜代治	57 Ⅲ	農業土木	58. 1. 21 ~ 60. 1. 20	24	S. 31. 1. 28	東海大 工学部
○ 10	片平 寛	58 Ⅱ	農業機械	58. 10. 7 ~ 60. 10. 6	17	S. 35. 4. 27	岩手大 農学修士
○ 11	松井 秀	58 Ⅳ	農業機械	59. 4. 4 ~ 61. 4. 3	12	S. 34. 3. 2	大阪大 工学修士
食加 Total 90							
〈食品加工〉							
12	小崎 浩	55 Ⅲ	食品加工	56. 3. 6 ~ 59. 5. 5	38	S. 30. 2. 22	帯広畜産大 畜産学修士
○ 13	西山 栄	57 Ⅰ	食品加工代学	57. 7. 30 ~ 60. 7. 29	20	S. 31. 8. 14	帯広畜産大 畜産学部
○ 14	秋本 徹	58 Ⅱ	食品加工	58. 10. 7 ~ 60. 10. 6	17	S. 34. 11. 12	近畿大 農学部
○ 15	古川 隆利	58 Ⅲ	食品加工(肉)	59. 1. 21 ~ 61. 1. 20	15	S. 29. 10. 12	酪農学園大学 農学部
土建 Total 44							
〈工学部〉(土木建築)							
16	村上 正吾	56 Ⅰ	土木水理	56. 7. 29 ~ 58. 7. 28	24	S. 29. 12. 16	京大 工学部修士
○ 17	渡辺 岳志	58 Ⅰ	土木工学	58. 7. 29 ~ 60. 7. 28	20	S. 34. 2. 3	日大 生産工学部
機工 Total 103							
〈機械工学〉							
○ 18	時田 邦	55 Ⅲ	農業機械	56. 3. 6 ~ 59. 9. 6	42	S. 32. 1. 25	岐阜大 農学部
19	高橋 勉	56 Ⅰ	自動車	56. 7. 29 ~ 58. 7. 28	24	S. 26. 3. 3	郡立八王子高等職業訓練校
○ 20	山本 日出樹	58 Ⅰ	自動車工学	58. 7. 29 ~ 60. 7. 28	20	S. 34. 2. 5	兵庫総合高等職業訓練校
○ 21	井上 高司	シニア	農業建設機械	58. 11 ~ 60. 11	17	S. 31. 11. 20	中部日本自動車整備学校
電電 Total 48							
〈電気電子〉							
22	遠藤 晋	55 Ⅲ	電子機器	56. 3. 6 ~ 58. 3. 5	24	S. 30. 12. 23	大阪工大 工学部
○ 23	深田 秀夫	57 Ⅲ	電気工学	58. 1. 21 ~ 60. 1. 20	24	S. 31. 2. 5	千葉工大 工学部
日本語 Total 72							
〈日本語〉							
24	川窪 敏子	55 Ⅳ	日本語	56. 3. 31 ~ 58. 3. 20	24	S. 30. 10. 24	東京外大
○ 25	長瀬 修樹	57 Ⅲ	日本語	58. 1. 21 ~ 60. 1. 20	24	S. 34. 2. 5	上智大 外国語学部
○ 26	中 沢 秀	57 Ⅳ	日本語	58. 4. 1 ~ 60. 3. 31	24	S. 27. 10. 1	上智大 英米文学修士

総計 561

4. JICA 研修員受入実績

55年度 6名 農学部		57年度 14名 農学部		58年度 13名 農学部	
氏名(所属学科)	研修科目	研修期間	受入先	職歴	最終学歴
1 E.M.Gichuki (国)	昆虫学	56. 1. 8-58. 3. 31 (帰国)	岡山大農学部	ナイロビ大学 動物学部技官	ナイロビ大学 動物学 (1975卒)
2 D.O.Sigunga (国)	育種学	56. 2. 11-58. 3. 31 (帰国)	岡山大農学部	農業省農業試験場	ナイロビ大学 農学修士 (1980卒)
3 G.M.Kenji (食)	食品分析	56. 2. 12-57. 12. 27 (帰国)	岡山大農学部	大統領府 食品検査官	ナイロビ大学 理学 (1976卒)
工学部					
4 C.W.Nyukuri (電)	電気設備	56. 2. 11-57. 3. 31 (帰国)	京都大工学部		ナイロビ大学 電気工学
5 P.N.Kamau (土建)	石工	56. 2. 11-57. 3. 31 (帰国)	京都大工学部		ケニヤポリテク 土木建築
6 A. Wanyoike (土建)	木工	56. 1. 9-57. 3. 31 (帰国)	住田金具工・住友建設その他		ケニヤポリテク
( Mr. Litai は日本研修中に物故 )					
57年度 14名 農学部					
7 E.E.Omutere (Miss) (国)	果樹栽培	57. 6. 17-59. 3. 31 (帰国)	岡山大農学部	農業省 地方事務技官	ナイロビ大学 一般農学
8 M.G.Mbugua (国)	蔬菜栽培	57. 6. 17-59. 3. 31 (帰国)	岡山大農学部	農業省 地方事務技官	ナイロビ大学 作物農場管理
9 E.N.Kamotho (農工)	農業土木	57. 6. 17-58. 12 (帰国)	東京農大農学部	高等学校農学教師	ベルント・アメリカン大学農学部
10 R.B.Akenga (農工)	農業機械	57. 6. -59. 1 (帰国)	東京農大農学部	農業省 地方開発担当官	ナイロビ大学 農学部
11 M.C.Kiyukia (食)	食品衛生	57. 6. 17-59. 3. 31 (帰国)	広島大生物生産学部	自然資源環境省 水産技官	ナイロビ大学 生物化学科
工学部					
12 S.M.Njoroge (土建)	配管	57. 6. 24-58. 7. 4 (帰国)	大阪電気暖房		ナイロビ大学 地形学 (他)
13 S.N.Mugera (土建)	水資源工学	57. 10. 5-59. 3. 25 (帰国)	京大工学部	水開発省 地方陸水担当	ナイロビ大学 土木科
14 E.D.Kamara (土建)	土木	57. 10. 5-59. 3. 25 (帰国)	京大工学部	ケニヤ鉄道公社 技術補	ナイロビ大学 建築科
15 A.Akumu (土建)	建築	57. 10. 5-59. 3. 25 (帰国)	福山大工学部	国立住宅公社 技術員	ナイロビ大学 機械科
16 M.F.Oduori (機工)	農業機械	57. 10. 5-59. 3. 25 (帰国)	帯広畜産大 農業工学科	ケニヤ鉄道公社 技術補	
17 S.N.Muiru (機工)	農業機械	57. 6. 24-58. 7. 4 (帰国)	京大工学部		
18 C.Njoroge Ashford (機工)	土木機械	57. 6. 24-58. 11. (帰国)	京大工学部		
19 J.P.Mburu (電)	発電	57. 6. 24-58. 7. 4 (帰国)	京大工学部		
20 S.O.Kaloo (電)	電気施工	57. 8. -58. 4. (帰国)	JICA八王子研修センター (一般集団研修コース枠で実施)		
58年度 13名 農学部					
21 Watako A Onyango (国)	花卉	59. 1. 31-60. 4. 2	岡山大学農学部	農業省 研究官	ナイロビ大学 農学部 (1980卒)
22 J.T.Makanga (農工)	農業機械	59. 1. 31-60. 3. 4	帯広畜産大	農業省 技官	ケニヤポリテク 機械工学 (1981卒)
23 P.N.Kariuki (食)	食品加工機械	58. 6. 23-59. 6. 22	帯広畜産大		

58年度 工学部									
24	D.G.Waweru	(土建)	建設施工	58.11.22-59.12.26	京大 工学部	水資源省 技術補	ケニヤポリテク 構造学科 (1981卒)		
25	M.S.Ibrahim	(土建)	水資源工学	58.11.22-59.12.26	鳥取大 工学部	建設省	ケニヤポリテク 構造工学 (1980卒)		
26	S.M.Maina	(機工)	自動車	58.11.22-59.12.26	大阪産業大 工学部	Hughes Ltd	ケニヤポリテク 機械工学 (1980卒)		
27	A.C.Juma	(機工)	土木機械	58.11.22-59.12.26	京大 工学部	イーストアフリカ電力会社	ケニヤポリテク (1974卒)		
28	A.O.Odawa	(機工)	農業機械	58.11.29-59.12.	京大 農学部		ケニヤテクニカル教員養成大学(1981卒)		
29	G.N.Thoigu	(機工)	数学	58.6.23-59.6.22	大阪工大				
30	J.M.Mwangi	(電)	電気機械	58.11.22-59.12.26	京都大 工学部		ケニヤポリテク 電力学科 (1979卒)		
31	E.W.Mwangi	(電)	電子工学	58.11.22-59.12.26	京都大 工学部		ケニヤポリテク 電子 (1979卒)		
32	E.N.Ndungu	(電)	電子工学	58.11.22-59.12.26	鳥取大 工学部		ケニヤポリテク 電気電子 (1982卒)		
33	E.M.Mwaniki	(電)	電子工学	58.11.22-59.12.26	鳥取大 工学部				
59年度 5.10 現在 3名 (予定13名中)									
工学部									
34	G.C.Walyaro(Mrs)	(食)	食品加工(パン)	59.4.17-59.12.24	日本パン技術研究所		ナイロビ大学 家庭経営 (1974卒)		
35	J.A.Owaka	(農工)	農業機械	59.4.30-60.7.3	岩手大	農業省 技術者	モスクワ大工学部 (1980卒)		
工学部									
36	S.J.Nyaga	(電)	電気通信	59.4.17-60.7.3	電子工学院	情報放送省	ケニヤ警察学校 通信 (1981卒)		

高級及び準高級研修員 12名

年度	No.	氏名	研修期間	所屬先, 身分	研修先
55	1	Wangai	55.12.5-55.12.24	高等教育省 次官	文部省, JICA 岡山大学, 京都大学, その他
	2	Mundara(Miss)	55.12.5-55.12.24	ケニヤポリテク 制度管理学科長	
	3	Weru	55.12.5-55.12.24	エジャートン大 農業工学科	
	4	Nganga	55.12.5-55.12.24	ケニヤポリテク 土木建築学科長	
	5	Kirkwood	55.12.5-55.12.24	ケニヤポリテク	
	6	Maina	55.12.5-55.12.24	ケニヤポリテク 電子電気科長	
57	7	J.T.Arap Leting	57.6.3-57.6.17	高等教育省 次官	文部省, JICA 岡山大学, 京都大学, その他
	8	J.M.Kamunge	57.6.3-57.6.17	高等教育省 高等教育局長	
	9	J.M.Githaiga	57.6.3-57.6.17	JKCAT 学長	
	10	J.N.Mureithi	57.6.3-57.6.17	JKCAT 工学部長	
58	11	Macharia(Mrs)	58.10.24-58.11.18	高等教育省 高等教育局次長	文部省, JICA 広島大学, 京都大学, 帯広畜産大学, その他
	12	E.M.Kahangi(Mrs)	58.10.24-58.11.18	JKCAT 園芸学科長	



5. 文部省国費留学生受入実績

年度	No.	氏名	(所属学科)	研修科目	研修期間	受入先	職歴	最終学歴
56	1	S. Moturi	(食)	食品化学	56. 4 - 58. 3	広農大 農芸化学修士		
	2	I. K. Inoti	(機工)	農業機械	56. 4 - 58. 3	京大 農芸工学修士		
57	3	P. N. Kingori	(園)	植物病理	57. 10 - 60. 4	東京農大 研究生		
	4	S. Mushoki	(電)	電子工学	57. 10 - 60. 10	電通大 研究生		
58	5	M. C. Makokha	(農工)	土壌水理	58. 4 - 61. 3	琉球大 研究生		
59	6	R. G. Omolo	(食)	畜産加工	59. 4 - 62. 4	帯広畜産大		
	7	G. Wanyona	(土建)	建築施工	59. 4 - 62. 4	京大 建築施工		ナイロビ大学 建築設計 (1977 卒)

## 6. 供与機材一覧表

S. 59. 5. 17  
JKCAT PROJECT

年度	船 空荷証券番号	金 額	到着年月日	主 要 品 目	活用状況
		(円)			
55	YHMO-0065	5,185,506	56. 6. 25	マイクロバス 2台	効果的に活用
	8	572,238	56. 7. 1	マイクロバス 部品	"
	20-013	26,551,383	56. 8. 7	キャビネット他	"
	20MO-043	7,315,858	56. 8. 31	プラスチックタンク及び肥料等	"
	20MO-008	27,523,063	56. 11. 4	トラクター	"
56	YHMO-0046	73,387,595	57. 5. 7	スイッチボックス他	"
	YHMO-0050	3,619,290	57. 6. 12	プロセスシュミレーター他	"
57	082-22639772	14,863,569	58. 3. 6	英文技術図書	"
	YHMO-0044	1,357,209	58. 4. 29	英文技術図書	"
	YHMO-0043	13,903,786	58. 4. 29	ホイールローダー他	"
	YHMO-0042	102,837,220	58. 4. 29	フォークリフト他	"
	YHMO-0031	263,000	58. 6. 13	Library Congress	"
	YHMO-0028	14,569,000	58. 6. 13	Spare Parts 他	"
58	YHMO-0106	86,800,251	59. 4. 17	Measuring Apparatus	"
	計	378,708,968			

## 7. 携行機材一覧表 (供与分のみ)

JKCAT Project

年度	船 空荷証券番号	金 額	到着年月日	主 要 品 目	活用状況
56	055-13467462	281,046	56. 6. 9	書籍 (鈴木, 早川)	効果的に活用
	055-13467451	1,089,938	56. 6. 9	書籍 (丑田)	"
	055-13500012	213,905	56. 8. 1	書籍 (庵原, 俵川, 藤井)	"
	055-13500583	108,308	56. 8. 24	書籍 (川口)	"
	074-85601084	1,728,025	56. 10. 12	書籍 (英文テキスト)	"
	055-14907535	710,354	56. 12. 11	コピートナー, マスター	"
	055-14907804	277,979	57. 1. 15	簡易土壌分析器	"
	055-16523135	169,771	57. 3. 4	書籍 (庵原)	"
	131-50219212	183,467	57. 3. 4	書籍 16mmフィルム (中沢, 庵原)	"
	055-16523570	3,018,004	57. 4. 23	オーバーヘッドプロジェクター他	"
57	055-17846010	1,420,912	57. 6. 18	ハロゲンランプ他	"
	055-17846290	10,011,351	57. 7. 30	映画フィルム 5巻	"
	055-17846382	517,969	57. 8. 14	ジョンディアトラクターマニュアル	"
	YHMO-0025	1,821,833	57. 9. 11		"
	055-17846452	37,985	57. 8. 15	スペアパーツ	"

年度	船荷証券番号	金額	到着年月日	主要品目	活用状況	
58	082-22639326	367,481	57. 10. 18	(松田, 藤井)	効果的に活用	(手荷物で Excessに なっていない)
	YHMO-15	613,789	57. 12. 11	(松田, 藤井)	"	
	055-19518505	1,127,612	58. 1. 1	機材修理チーム部品	"	
	20-27	1,086,252	58. 1. 27	英語テキスト	"	
	082-38017066	1,007,921	58. 11. 10	コピー, トナー (杉山)	"	
	125-99852830	506,355	58. 10. 13	VTRテープ, タイプリボン他(三浦)	"	
	Excess	15,000	58. 9. 18	リリーススイッチボックス(杉山)	"	
	055-19547920	65,987	58. 7. 23	文房具 (森次)	"	
	055-20541415	1,751,827	58. 7. 29	アナログレコーダー他(森次)	"	
	082-37831651	1,859,396	58. 9. 24	Incubator 他 (宮本拓)	"	
	055-20541323	420,000	58. 7. 3	シャルビー及び部品 (二宮)	"	
	125-33886090	866,692	58. 11. 20	ソーセージクリップホルダー(杉山)	"	
	125-99852793	410,147	58. 11. 14	英文テキスト (釣田)	"	
	126-99852852	580,887	58. 11. 24	書籍, コンピュータープロッター (和田, 木村俊)	"	
	Excess	290,110	58. 1. 17	プラクトロニクス教材 (斉藤)	"	
	125-33836053	855,324	58. 12. 29	経水製造装置他 (森田)	"	
	082-38017291	347,453	59. 1. 23	書籍, ゲラ刷原稿 (宮本拓, 偉川)	"	
	082-33493265	205,205	59. 1. 28	チーズワックス他 (杉山)	"	
	082-38493781	224,812	59. 3. 3	現地語教科書 (釣田)	"	
	082-37821582	331,130	59. 3. 3	タイプライター文房具 (和田)	"	
	125-32433192	321,215	59. 3. 6	品質管理教材 (渡辺, 森次)	"	
	125-32433225	96,573	59. 3. 12	文房具 (渡辺)	"	
	125-33886366	195,598	59. 3. 12	書籍 (和田)	"	
	125-33886355	285,340	59. 3. 12	テキストブック他 (斉藤)	"	
	214-98331041	1,747,231	59. 3. 22	ライスハラー, 乾燥機他 (木村俊, 関)	"	
	214-98331091	2,079,488	59. 3. 25	マイクロコンピューター, コピーマシン (都築, 岡田, 和田)	"	
	214-98331144	207,014	59. 3. 25	タイプライター他 (平塚)	"	
	125-32433240	1,144,934	59. 4. 1	スライドセット, 書籍 (森田英)	"	
	082-39268331	216,581	59. 3. 26	書籍 (回塚, 岡田尚)	"	
	125-33886230	1,919,146	59. 2. 13	マイクロコンピューター (都築)	"	
125-33886462	1,079,477	59. 3. 26	マニュアル, 書籍, 文具 (森田英)	"		
	計	41,693,900				

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