

## ATTACHMENTS



## ATTACHMENT 1

### TEAM MEMBERS AND TEAM ITINERARY

#### 1. At B/D time

Name	Responsible for	Affiliation
Mr. Kenji Konis	Team leader (geology)	Professor, Department of Geology, Faculty of Science, Kanazawa University
Mr. Eiji Itagaki	scientific education (Bibochemistry)	Associate Professor, Department of Chemistry, Faculty of Science, Kanazawa University
Mr. Satoru Watanabe	Planning and management	Second Basic Design Study Division, Grant and Planning & Survey Department, JICA
Mr. Toshiro Hoshiya		Sozosha Co., Ltd.
Mr. Isao Kaneko		Sozosha Co., Ltd.
Mr. Isao Satake		Sozosha Co., Ltd.
Mr. Yasumichi Doi		Sozosha Co., Ltd.

#### 2. At D/F time

Name	Responsible for	Affiliation
Mr. Kenji Konishi	Team leader (geology)	Professor, Department of Geology, Faculty of Science, Kanazawa University
Mr. Hiroshi Goto	Planning and management	Director, Planning Division, Grant Aid Project Management Department, JICA
Mr. Toshiro Hoshiya		Sozosha Co., Ltd.
Mr. Yasumichi Doi		Sozosha Co., Ltd.

ATTACHMENT 2

STUDY ITINERARY

1. At B/D time

A. Study Period : July 16 to August 9, 1989 (for 25 days)

B. Study Itinerary

July 16 (Sunday)	11:20	Departed by AF-269 from the New Tokyo International Airport.
	19:24	Arrived in Paris.
July 17 (Monday)	09:30	Paid a courtesy visit to Représentant Permanent, JICA France Office.
		Prerarrangements discussed among the team members.
July 18 (Tuesday)	00:02	Departed by AF-481 from Paris.
	08:30	Arrived in Nairobi.
	11:00	Paid a courtesy visit to the Embassy of Japan to Kenya.
	14:00	Paid a courtesy visit to JICA Nairobi Office.
	15:00	Local transportation standing investigated.
July 19 (Wednesday)	14:30	Departed from Nairobi.
	15:30	Arrived in Entebbe.
	17:00	Arrived at a hotel, followed by discussions held among the team members.
July 20 (Thursday)	09:00	A joint meeting held with Makerere University and competent authorities in a Sherlaton Hotel conference room.
	14:20	Visited Makerere University.
		Discussions held among the team members at the hotel.
July 21 (Friday)	09:20	A meeting held with Makerere University.
	14:00	A meeting held with Makerere University.

		Discussions held among the team members at the hotel.
July 22 (Saturday)	09:00	A meeting held with Makerere University.
		Discussions held among the team members at the hotel.
July 23 (Sunday)	10:00	The building construction status investigated in the city of Kampala.
		Discussions held among the team members at the hotel.
July 24 (Monday)	09:00	A meeting held with Makerere University
		Discussions held among the team members at the hotel.
July 25 (Tuesday)	10:00	A meeting held with Makerere University.
		The minutes of discussions signed.
		A luncheon sponsored by Vice Chancellor, Makerere University.
	14:00	Site investigations conducted.
July 26 (Wednesday)	09:00	Team leader Mr. Konishi and Mr. Itagaki left the Republic of Uganda for Japan.
	09:20	Discussions held with Makerere University.
		Discussions held among the team members at the hotel.
July 27 (Thursday)	09:00	Discussions held with Makerere University.
	14:00	Construction materials investigated in the city of Kampala.
		Discussions held among the team members at the hotel.
July 28 (Friday)	09:00	Discussions held with Makerere University.
	14:00	Necessary data collected from Uganda Commercial Bank.
	15:15	Necessary data collected from the Central Post Office.
	15:45	Discussions held with Makerere University.

		Discussions held among the team members at the hotel.
July 29 (Saturday)	09:00	Data necessary for the investigation of building construction status collected from the city of Kampala.
July 30 (Sunday)	09:00	The building construction status investigated in the City of Kampala.
July 31 (Monday)	09:00	Discussions held with Makerere University.
	14:00	Discussions held with Makerere University.
		Discussions held among the team members at the hotel.
August 1 (Tuesday)	09:00	Necessary data collected from the Central Post Office.
	10:00	Discussions held with Makerere University.
	10:30	Discussions held with the Ministry of Foreign Affairs.
	11:30	Discussions held with Makerere University.
	15:30	Building construction status investigated and necessary data collected in the city of Kampala.
		Discussions held among the team members at the hotel.
August 2 (Wednesday)	09:00	Discussions held with Makerere University.
	15:00	Building construction status investigated and necessary data collected.
	16:00	Electrical and mechanical-related matters investigated at site.
	17:00	Discussions held with Makerere University.
		Discussions held among the team members at the hotel.
August 3 (Thursday)	09:00	Visited the EEC Office, followed by discussions, and collection of necessary data.

	09:40	Necessary data collected from the Ministry of Education.
	11:00	Discussions held with Makerere University.
	14:00	Discussions held with the Uganda Electric Board.
	15:00	Discussions held with the National Water & Sewage Cor-Office.
	16:00	Discussions held with Shell Uganda Ltd. (a gas supply firm).
		Discussions held among the team members at the hotel.
August 4 (Friday)	09:00	Visited UNDP, followed by discussions, and collection of necessary data.
	10:00	Discussions held with Makerere University.
	11:00	Visited the Vice Chancellor of Makerere University to inform him that the team would leave the country.
	14:00	Visited USAID, followed by discussions, and collection of necessary data.
	15:00	Necessary data collected from UNDP.
	16:00	Data of building construction status collected from the office of Makerere University at EEC.
August 5 (Saturday)		All data properly consolidated. Discussions held among the team members.
August 6 (Sunday)	11:40	Departed by KQ-411 from Entebbe.
	12:40	Arrived at Nairobi.
	14:00	Arrived at hotel.
August 7 (Monday)	08:30	Visited JICA Nairobi Office where the study results were reported and also the return schedule of the team was conveyed.
	12:00	Visited the Nairobi University.
	14:00	Visited the Jomo Kenyatta College of Agriculture and Technology.

	16:00	Visited the NYS Engineering Institute. Discussions held among the team members at the hotel.
August 8 (Tuesday)	00:50	Departed by BA-054 from Nairobi.
	07:30	Arrived at London.
	10:00	Necessary data collected from the city of London.
	15:30	Departed by BA-007 from London.
August 9 (Wednesday)	11:20	Arrived at the New Tokyo International Airport.



2. At D/F time

A. Study Period : October 15 to 29, 1989 (for 15 days)

B. Study Itinerary

October 15 (Sunday)	13:30	Departed by BA-008 from the New Tokyo International Airport.
		18:00 Arrived in London.
October 16(Monday)	21:00	Departed by BA-005 from London.
October 17 (Tuesday)	07:30	Arrived in Nairobi,
	10:00	Paid a courtesy visit to JICA Nairobi Office.
	11:00	Paid a courtesy visit to the Embassy of Japan to Kenya.
	14:00	Discussions held at the embassy. Discussions held among the team members at the hotel.
October 18 (Wednesday)	09:30	Paid a courtesy visit to the Parliamentary Undersecretary of the Ministry of Finance.
	14:00	Meeting held with Makerere University and the Ministry of Finance. Discussions held among the team members at the hotel.
October 20 (Friday)	09:30	Meeting held with Makerere University.
	10:00	Paid a courtesy visit to the Foreign Minister of state, Foreign Affairs.
	13:00	Investigated construction situations in western Uganda.
	15:30	Discussions held with the Electric Power Ministry.
October 21 (Saturday)	08:00	Investigated construction situations in the city.
	15:00	Investigated construction situations in western Uganda.
October 22 (Sunday)	08:00	Met Mr. Takahashi at Entebbe Airport.
	10:15	Investigated construction situations in western Uganda.

	13:00	Discussions held among the team members. Data arrangement. Discussion held among the team members at the hotel.
October 23 (Monday)	10:00	Meeting held with Makerere University.
	14:00	Signed minutes.
	15:00	Visited the Geological Survey and Mines Department (Entebbe) and investigated data. Discussions held among the team members at the hotel.
October 24 (Tuesday)	09:00	Meeting held with Makerere University.
	10:00	Visited the Land Survey Division (Entebbe) and investigated data.
	13:00	Discussions held with Makerere University.
	14:00	Discussions held with local consultant. Discussions held among the team member at the hotel.
October 25 (Wednesday)	13:20	Departed by KQ-411 from Entebbe.
	14:15	Arrived in Nairobi.
	16:00	Visited JICA Nairobi office where the study results were reported. Discussions held among the team member at the hotel.
October 26 (Thursday)	09:00	Investigated construction situations in Nairobi City.
	15:30	Reported the study result to the Embassy of Japan to Kenya.
October 27 (Friday)	00:35	Departed by BA-054 from Nairobi.
	07:20	Arrived in London.
October 28 (Saturday)	15:30	Departed by BA-007 from London.
October 29 (Sunday)	11:10	Arrive at the New Tokyo International Airport.

## ATTACHMENT 3

### INTERVIEWEES

#### The Republic of Uganda Side

1. Makerere University:

Professor B.George Kirya	Vice Chancellor
Prof. A.J. Lutalo-Bosa	Deputy Vice Chancellor
Rev. Canon David S.N. Sentougo	University Secretary
Prof. Semakula Kiwanuka	Director of Planning and Coordinator
Prof. P.E. Mugambi	Dean of Faculty of Science
Dr. Carasco J.F.	Head, Biochemistry
Mr. Bimenya G.S.	Ag. Head, Biochemistry
Mr. C.J.R. Migisha	Ag. Head, Geology
Mr. Anthony Keraali	University engineer

2. Presidential Office

Mr. Stephen Muyingo	Private secretary to H.E. the President (Economic affairs)
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3. Ministry of Finance

Mr. Abby Kafumbe-Mukasa	Parliamentary Undersecretary
Mr. James Kahoza	Permanent Secretary
Mr. Emmanuel Katwe	Finance Officer

4. Ministry of Education

Rev. Father Pius Tibanyendera	Permanent Secretary
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5. Ministry of Foreign Affairs
  - Dr. T. Kabwegyre Minister of State, Foreign Affairs
  - Mr. Robert K. Kaliisa Senior Assistant Secretary, Japanese Desk
  - Mrs. Samallie Musisi-Mwanje Officer
6. Ministry of Planning and Economic Development
  - Mr. B. Tumusiime Mutebile Permanent Secretary
7. Uganda Commercial Bank
  - Mr. Eldard Kabai Kansilme Senior Manager
8. Uganda Post & Telecommunication Cooperated
  - Mr. Romeo Wandera-san Senior Telecomms Controller
  - Mr. Matovu Frgd Sales Officer
9. Uganda Electric Board
  - Mr. Richard Anyeko District Manager
10. National Water & Sewage Cor-Office
  - Mr. Richard Olovio Area Manager of Kampara
11. National Water & Sewage Plant Office
  - Mr. Luru Rule Sewage Engineer
  - Mr. Sam Kitgum Sewage Maint. Superintendent
12. Shell Uganda Ltd.
  - Mr. John B. Hagma LPG Sales representative
13. Ssentoogo and Partners
  - Mr. W. H. Ssentoogo Architects and Planning Consultant
14. U.N.D.P
  - Mr. Haruna Kyamanywa National Programme Officer
  - Mr. Gaetano Leone Junior Professional Officer
15. EEC
  - Mr. Karl Harbo Delegate

16. USAID

Mr. Kurt Shafer

Program Officer

\*Rev. : Reverend

AG : Acting

Japan Side

Mr. Naohiko Kumagai

Ambassador Extraordinary and  
Plenipotentiary of Japan, Embassy of Japan  
to the Republic of Kenya

Mr. Shisei Karai

Councilor of the Embassy of Japan to Kenya

Mr. Ichiro Nagame

First Secretary, Embassy of Japan to the  
Republic of Kenya (in charge of the project)

Mr. Kenji Kumagishi

Director, JICA Nairobi Office

Mr. Hiroshi Yoshimitsu

Représentant Permanent, JICA France  
Office

Mr. Yoshiyuki Takahashi

JICA Nairobi Office

Mr. Itaru Hamakawa

JICA France Office

ATTACHMENT 4

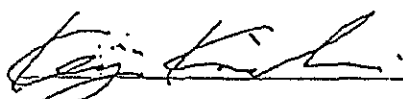
MINUTES OF DISCUSSIONS ON THE PROJECT  
FOR THE EXPANSION OF THE FACULTY OF SCIENCE AT MAKERERE UNIVERSITY  
IN THE REPUBLIC OF UGANDA

In response to the request of the Government of the Republic of Uganda, the Government of Japan decided to conduct a basic design study on the Project for the expansion of the Faculty of Science at Makerere University (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA"). JICA sent to the Republic of Uganda the basic design study team headed by Dr. Kenji Konishi, Professor, Faculty of Science, Kanazawa University, to carry out the study from 19th July to 6th August, 1989.

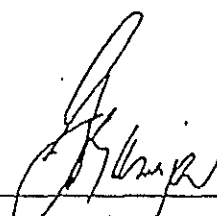
The Japanese team had a series of discussions and exchanged views with the authorities concerned of the Government of the Republic of Uganda.

As a result of the study, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, as attached herewith, should be examined towards the realization of the Project.

Kampala, 25th July, 1989



Prof. Kenji Konishi  
Team Leader,  
Basic Design Study Team,  
JICA



Prof. B. George Kirya  
Vice-Chancellor,  
Makerere University

## ATTACHMENT

### 1. Objective

The objective of the Project is to construct facilities and to supply equipment in order to strengthen the activities of the Faculty of Science, Makerere University, focusing on the educational functions.

### 2. Implementing agency

The implementing agency for the Project is Makerere University.

### 3. Project site

The site of the Project is located at Makerere University as shown in ANNEX 1.

### 4. Summary of recommendable items for the Project

The summary of the recommendable items is shown in ANNEX 2 reflecting the priorities.

### 5. Tentative floor plan

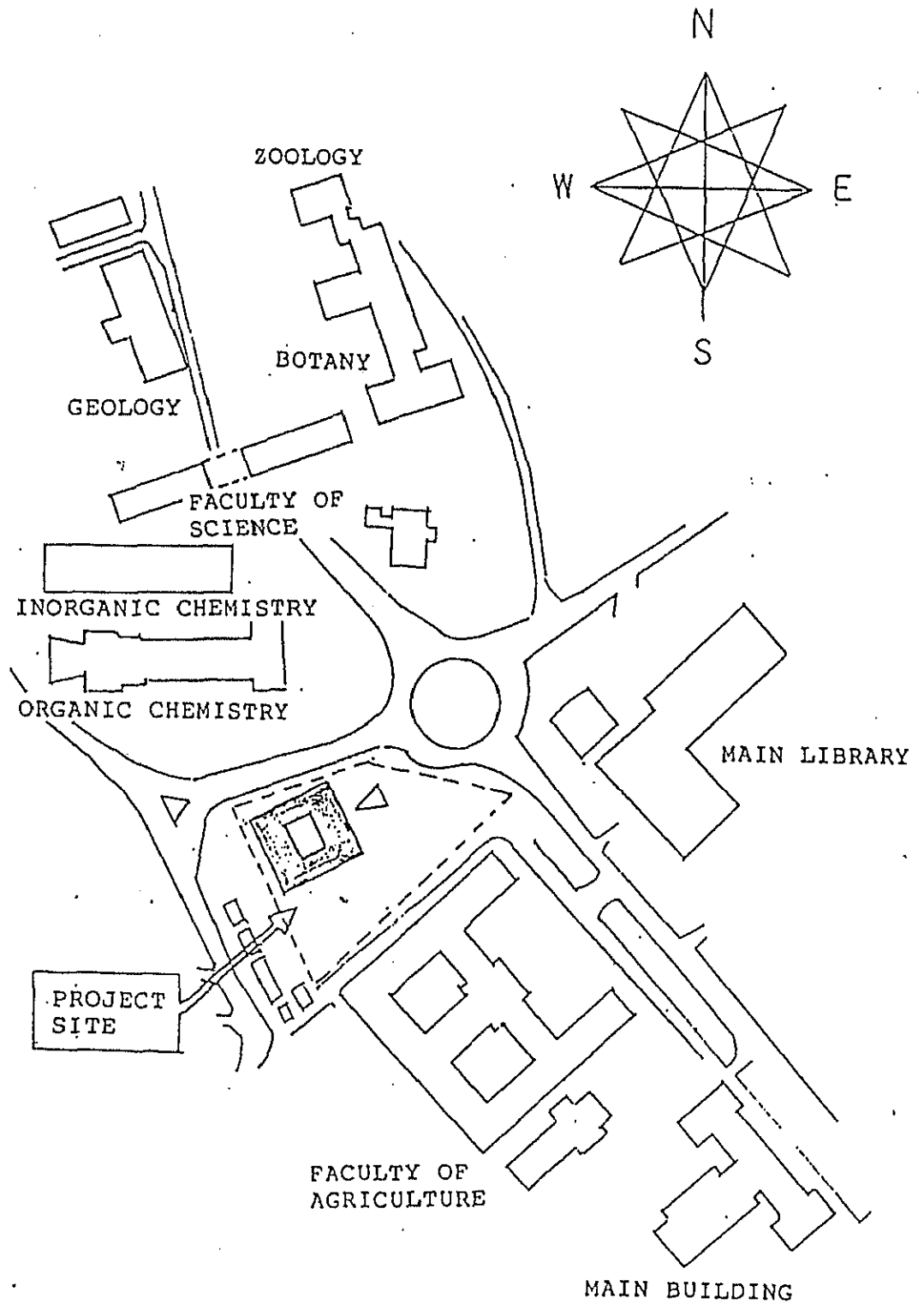
The tentative floor plan of the facilities recommended is shown in ANNEX 3.

### 6. Grant Aid Programme

- 1) The Ugandan side has understood the system of Japan's Grant Aid Programme and the principle for the use of Japanese consulting firm and contractor for the implementation of the Project.
- 2) The team will convey to the Government of Japan the desire of the Government of Uganda that the former takes necessary measures to cooperate in implementing the Project and provides necessary facilities and equipment under the Japan's Grant Aid Programme.
- 3) The Government of Uganda will take the necessary measures as shown in ANNEX 4 on condition that the Grant Aid by the Government of Japan would be extended to the Project.



ANNEX 1 PROJECT SITE



PLOT PLAN

*K.K.*

*[Handwritten signature]*



ANNEX 2 Summary of recommendable items for the Project

The priority of the recommendable items is as follows:

Group A (The first priority);

Department of Geology and necessary equipment

Department of Biochemistry and necessary equipment

Administration Office and necessary equipment

Lecture Rooms and necessary equipment, and

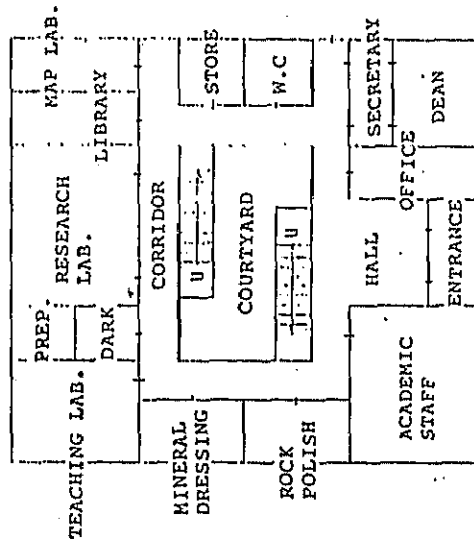
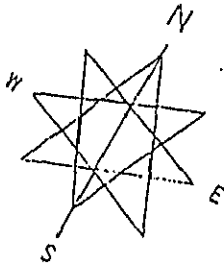
Group B (The second priority);

Outdoor facilities

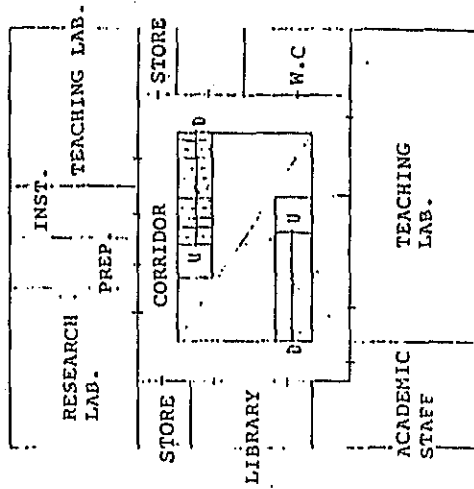
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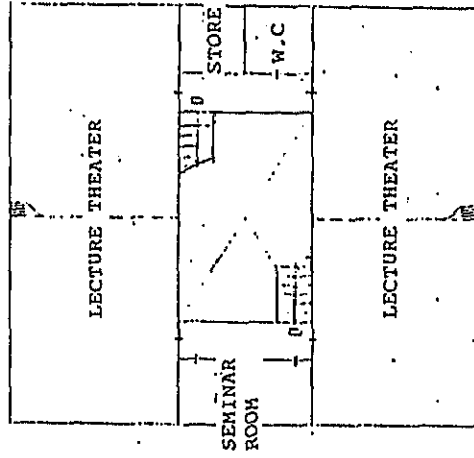
ANNEX 3 TENTATIVE FLOOR PLAN



GF PLAN



1st FL. PLAN



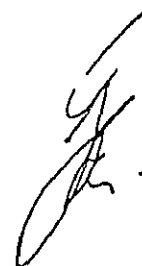
2nd FL. PLAN

K. K.

ANNEX 4 Necessary measures to be taken by the Government of Uganda

1. To secure the site for the Project
2. To clear and reclaim the site prior to the commencement of construction work
3. To provide facilities for distribution of electricity, water supply, telephone, drainage and other incidental works leading and up to the site
4. To ensure prompt unloading tax exemption and customs clearance of the goods for the Project at ports and/or airports of disembarkation
5. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contracts such facilities as may be necessary for their entry into the Republic of Uganda and stay therein for the performance of their work
6. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the Republic of Uganda with respect to the supply of the products and services under the verified contracts
7. To maintain and use properly and effectively all the facilities constructed and all equipment provided under the Grant Aid, and
8. To bear all the expenses other than those to be borne by the Grant Aid, necessary for the execution of the Project

K. K.



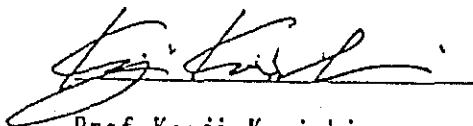
ATTACHMENT 5

MINUTES OF DISCUSSION  
ON  
THE DRAFT FINAL REPORT OF THE BASIC DESIGN STUDY  
OF  
THE EXPANSION OF THE FACULTY OF SCIENCE AT MAKERERE UNIVERSITY  
IN  
THE REPUBLIC OF UGANDA

In response to the request of the Government of Republic of Uganda, the Government of Japan conducted a basic design study on the project for The Expansion of The Faculty of Science at Makerere University and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to the Republic of Uganda the study team headed by Dr. Kenji Konishi, Professor, Faculty of Science, Kanazawa University, from 19th July to 6th August, 1989.

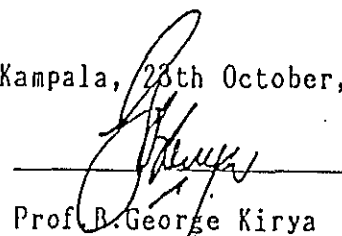
The team had a series of discussions on the Project with the officials of the Government of Republic of Uganda representing Makerere University. As the result of the surveys and discussions, JICA prepared a Draft Final Report on the study and despatched a mission to explain and discuss the report starting from 18th October to 25th October, 1989.

Both parties had a series of discussions on the Report and have agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the project.



Prof. Kenji Konishi  
Team Leader,  
Basic Design Study Team  
JICA

Kampala, 28th October, 1989



Prof. B. George Kirya  
Vice-Chancellor,  
Makerere University

ATTACHMENT

1. The Japanese side explained the Draft Final Report to the Republic of Uganda side and Republic of Uganda side principally agreed with the concept of project but requested to the Japanese side to finalize the report so as to meet Republic of Uganda requirements as in Annex I ; and within the current budgetary provisions for this activity. The rest of Republic of Uganda's views on the consultancy proposal, building contract, supply of equipment contract and other matters will be communicated to the Japanese side as soon as possible.
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of Republic of Uganda by the beginning of January 1990.
3. The Republic of Uganda side noted the system of Japan's Grant Aid programme and confirmed the arrangements to be taken by the Government of Republic of Uganda for the realization of the Project.
4. The Government of Republic of Uganda will facilitate the necessary inputs to the project at the proper time upon the signing and Exchanging of Notes for the Project by both Governments.

ANNEX I Necessary measures to be taken by the Government of Uganda

1. To secure the site for the Project.
2. To clear and reclaim the site prior to the commencement of construction work.
3. To provide facilities for distribution of electricity, water supply, telephone, drainage and other incidental works leading and up to the site.
4. To ensure prompt unloading tax exemption and customs clearance of the goods for the Project at the border of Uganda and prompt internal transportation of the products purchased under the grant.
5. To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contracts such facilities as may be necessary for their entry into the Republic of Uganda and stay therein for the performance of their work.
6. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the Republic of Uganda with respect to the supply of the products and services under the verified contracts.
7. To maintain and use properly and effectively all the facilities constructed and all equipment provided under the Grant Aid, and
8. To bear all the expenses other than those to be borne by the Grant Aid, necessary for the execution of the Project.



ATTACHMENT 6 GDP

GROSS DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRY 1960-1988  
(millions of 1966 Uganda shillings)

INDUSTRY	Peak Between 1966-1988 YEAR	1982	1983	1984	1985	1986	1987	1988	percentage change	
									1987/86	1988/87
<b>MONETARY ECONOMY</b>										
Agriculture	1973	1,401	1,419	1,255	1,262	1,279	1,420	1,541	11.0	8.5
Cotton Ginning, Coffee Curing and Sugar Manufacture	1970	43	40	39	34	33	35	49	6.1	40.0
Forestry, Fishing and Hunting	1988	104	106	128	102	125	102	142	-18.4	39.2
Mining and Quarrying	1970	7	7	7	6	5	6	6	20.0	-
Manufactured Food Products	1972	16	16	15	16	13	16	21	23.1	31.3
Miscellaneous Manufacturing	1971	223	244	238	212	203	237	290	16.7	22.4
Electricity	1987	90	81	93	78	107	129	99	20.6	-23.3
Construction 1/	1988	103	96	81	75	83	168	201	102.4	19.6
Commerce 2/	1971	627	637	582	564	575	655	743	13.9	13.4
Transport and Communications 3/	1974	209	230	247	270	292	313	328	7.2	4.8
General Government	1988	900	909	923	932	941	950	959	1.0	0.9
Miscellaneous Services	1972	319	343	370	398	423	449	481	6.1	7.1
Rents	1988	295	308	321	335	349	364	379	4.3	4.1
<b>Total Monetary Economy</b>	1971	4,337	4,436	4,299	4,284	4,428	4,844	5,239	9.4	8.2
<b>NON-MONETARY ECONOMY</b>										
Agriculture	1983	1,782	1,963	1,665	1,808	1,805	1,904	2,017	5.5	5.9
Forestry, Fishing and Hunting	1988	216	219	226	230	238	243	252	2.1	3.7
Construction	1979	15	15	16	16	17	17	18	-	5.9
Owner Occupied Dwellings	1988	340	350	359	369	360	390	401	2.6	2.8
<b>Total Non-Monetary Economy</b>	1988	2,353	2,547	2,266	2,423	2,440	2,554	2,688	4.7	5.2
<b>GROSS DOMESTIC PRODUCT</b>	1988	6,690	6,983	6,565	6,707	6,868	7,398	7,927	7.7	7.2
GDP per capita (1966 shillings)		496	502	460	457	455	477	497	4.8	4.2

1/ Figures revised from 1981  
2/ Figures revised from 1983  
3/ Figures revised from 1982

Source: Statistics Department,  
Ministry of Planning and Economic Development.

GROSS DOMESTIC PRODUCT at Factor Cost by INDUSTRY : 1982-1988  
(millions of new Uganda Shillings at Current Prices)

INDUSTRY	1982-1988							Change	
	1982	1983	1984	1985	1986	1987	1988	1987/86	1988/87
<b>MONETARY ECONOMY</b>									
Agriculture	857.6	1,315.6	2,870.4	5,911.1	12,680.5	33,804.8	121,386.3	166.6	259.1
Cotton Ginning, Coffee Curing and Sugar Manufacture	20.6	26.9	46.4	92.0	257.6	728.1	1,945.9	182.7	167.3
Forestry, Fishing and Hunting	40.1	50.5	82.8	110.3	317.2	1,479.7	5,498.1	366.4	271.6
Mining and Quarrying	0.3	0.4	0.8	1.4	2.4	3.4	3.5	40.8	4.5
Manufactured Food Products	11.5	17.1	25.2	77.5	146.5	457.1	1,422.1	212.1	211.1
Miscellaneous Manufacturing	211.6	234.3	278.3	556.8	1,629.3	5,760.0	21,189.0	253.5	267.9
Electricity	2.8	2.9	6.1	8.8	33.3	72.0	244.1	116.1	238.9
Construction	12.1	17.8	29.1	60.6	147.8	1,321.1	5,574.5	794.1	322.0
Commerce	274.8	372.7	478.2	1,244.1	3,204.8	10,904.0	36,452.5	240.2	234.3
Transport and Communications	99.6	175.7	257.8	512.1	1,250.5	4,251.6	11,058.7	240.0	160.1
General Government	84.8	124.0	358.1	579.8	680.8	1,714.5	13,217.8	151.8	670.9
Miscellaneous Services	26.8	38.9	141.4	311.8	423.3	1,672.1	5,104.7	295.0	205.3
Rents	99.1	128.3	180.6	450.0	1,299.7	4,587.9	13,535.0	233.0	195.0
<b>Total Monetary Economy</b>	1,741.5	2,505.1	4,755.1	9,916.1	22,073.7	66,756.2	236,632.1	202.4	254.5
<b>NON-MONETARY ECONOMY</b>									
Agriculture	698.1	1,352.4	4,453.2	6,183.0	11,341.4	28,921.8	113,766.6	155.0	293.4
Forestry, Fishing and Hunting	22.1	34.1	48.6	102.1	268.4	691.4	3,323.6	157.6	380.7
Construction	1.6	2.6	5.4	12.0	28.1	124.2	463.7	341.4	273.4
Owner occupied Dwellings	116.0	148.1	205.1	502.2	1,437.6	2,688.1	12,248.1	87.0	353.6
<b>Total Non-Monetary Economy</b>	837.8	1,537.1	4,712.2	6,799.3	13,075.6	32,425.5	129,801.9	148.0	300.3
<b>GROSS DOMESTIC PRODUCT</b>	2,579.3	4,042.2	9,467.3	16,715.4	35,149.3	99,181.7	366,434.0	182.2	269.5
<b>GROSS DOMESTIC PRODUCT PER CAPITA (shillings)</b>	190.9	291.0	663.0	1,138.3	2,330.6	6,394.1	22,980.0	174.4	259.4

Source: Statistics Department,  
Ministry of Planning and Economic Development.



ATTACHMENT 7 Exchange Rate and Prices

Year	Mon.	Exchange rate with \$ (US\$)	Price escalation from the previous month (%) (Low-income class)	Official rate (%)	Money supply (In billions of US\$)	Increased money supply (%)
1987	1	14	24.3	35.0	8.48	
	2	14	18.5			
	3	14	3.4			
	4	14	15.6			
	5	14	9.9			
	6	60	-12.3	32.0	8.82	4
	7	60	- 2.9			
	8	60	2.4			
	9	60	16.2			
	10	60	12.2			
	11	60	14.5			
	12	60	10.0			
1988	1	60	15.8	38.0	23.55	27
	2	60	12.6			
	3	60	9.3			
	4	60	0.9			
	5	60	18.3			
	6	60	4.2			
	7	150	28.3			
	8	150	14.6			
	9	150	- 6.7			
	10	150	- 1.7			
	11	150	7.4			
	12	165	1.3			
1989	1	165	3.2	48.0	50.95	29
	2	165	4.6			
	3	200	5.3			
	4	200	14.1			
	5	200	3.5			
	6	200	4.5			
	7	200				

Source: Background to the Budget

1989 - 1990

Ministry of National Planning and Economic Development

**ATTACHMENT 8 Kampala Cost of Living Index**

Kampala Cost Of Living Index, Low-Income Group  
(August, 1981=100).

		Food	Drink & Tobacco	Fuel & Soap	Household Goods	Clothing	Weighted Average Index	% change on previous year	% change on previous month
Weights		70	11	8	2	9	100		
<b>Monthly</b>									
1986	Jan	-	-	-	-	-	-	-	-
	Feb	1014.8	489.1	639.8	930.4	1136.6	936.2	132.9	-
	Mar	1024.8	670.6	736.3	925.5	1241.4	980.3	131.6	4.7
	Apr	1238.2	617.9	733.3	1216.3	1263.0	1131.4	123.7	15.4
	May	1362.4	653.5	891.6	1365.7	1338.4	1244.7	144.7	10.0
	Jun	1500.9	705.7	875.0	1324.9	1384.2	1349.3	160.9	8.4
	Jul	1307.7	758.1	962.8	1537.5	1508.9	1242.4	142.4	-7.9
	Aug	1361.4	940.8	1058.0	1699.0	1872.6	1343.6	131.4	6.2
	Sep	1590.1	1113.5	1165.6	1899.6	2092.9	1555.2	156.5	15.7
	Oct	1779.7	1217.8	1155.9	2216.9	2624.9	1752.8	130.7	12.7
	Nov	2249.3	1474.8	1159.9	2353.2	2557.9	2106.8	163.2	20.2
	Dec	2446.2	1670.9	1357.7	2525.0	2903.7	2316.6	144.1	10.0
1987	Jan	3065.8	1868.5	2257.8	2932.1	3195.9	2878.5	-	24.3
	Feb	3580.2	1894.8	2590.2	3274.0	4701.2	3410.4	264.3	18.5
	Mar	3680.0	2074.0	2681.5	3377.6	4886.7	3526.0	259.7	3.4
	Apr	4328.5	2168.2	3621.8	3459.9	4979.1	4075.5	260.2	15.6
	May	4822.4	2344.4	4111.8	3459.9	4979.1	4479.8	259.9	9.9
	Jun	4042.1	1959.6	3674.6	4138.6	5640.8	3929.4	191.2	-12.3
	Jul	3917.8	2594.2	2468.1	4480.5	5569.8	3816.2	207.2	-2.9
	Aug	4014.0	2384.4	2434.3	6059.5	5782.3	3908.4	190.9	2.4
	Sep	4485.8	3407.8	2159.8	6955.1	7948.9	4542.2	192.1	16.2
	Oct	5278.3	3377.1	2367.5	7287.4	7723.3	5096.5	190.8	12.2
	Nov	5970.1	4706.6	3517.9	6681.1	8038.3	5835.3	177.0	14.5
	Dec	6608.5	4056.0	4705.6	7535.0	9118.7	6419.9	177.1	10.8
1988	Jan	7058.7	7106.3	4978.9	9169.0	12527.7	7432.0	158.2	15.8
	Feb	8147.2	5968.2	9658.7	9717.7	11572.4	8368.1	145.4	12.6
	Mar	8651.8	6653.5	11839.4	11512.9	13149.3	9149.0	159.5	9.3
	Apr	9939.2	5968.2	11674.6	12237.1	13939.8	9230.0	126.5	0.9
	May	10858.3	5970.7	12562.8	12742.4	15534.8	10915.6	143.7	18.3
	Jun	11373.7	6083.7	13451.1	11944.0	15843.5	11371.7	189.4	4.2
	Jul	14083.9	7729.5	14924.8	14223.3	20472.9	14590.0	282.3	28.3
	Aug	17139.9	9247.3	17280.7	15183.8	22366.9	16714.3	327.6	14.6
	Sep	16976.6	8295.6	14200.2	14175.8	16289.4	15681.7	245.2	-6.7
	Oct	16688.6	8054.4	14200.2	13794.4	15892.3	15410.2	202.4	-1.7
	Nov	18387.5	8225.7	13556.7	14494.8	15629.6	16557.2	183.7	7.4
	Dec	18196.0	8256.1	13672.2	15123.4	19308.7	16779.4	161.4	1.3
1989	Jan	19001.5	9813.2	11328.0	14165.7	19382.1	17314.5	133.0	3.2
	Feb	19653.0	9806.7	13620.5	15234.8	20927.0	18113.6	116.5	4.6
	Mar	20484.4	10808.6	15461.9	16232.2	22036.2	19072.9	108.5	5.3
	Apr	24076.5	11266.4	12747.2	13737.8	26346.2	21758.5	135.7	14.1
	May	25158.0	10921.6	12980.8	17006.9	25885.8	22520.3	106.3	3.5
	Jun	25724.3	11097.7	20244.0	18635.6	25733.2	23536.0	107.0	4.5
<b>Average Price During Year</b>									
	1981	96.2	89.5	87.3	94.2	111.2	96.0	-	-
	1982	121.3	79.7	95.4	123.6	121.3	114.7	19.5	-
	1983	168.0	95.9	121.7	124.3	145.3	153.4	33.7	-
	1984	238.2	130.2	176.3	174.1	202.1	216.8	41.3	-
	1985	654.6	316.2	438.4	479.4	474.7	580.4	167.7	-
	1986	1534.1	937.5	976.0	1635.8	1811.3	1450.8	150.0	-
	1987	4482.8	2736.3	3049.2	4970.1	6047.0	4326.5	198.2	-
	1988	13191.8	7296.3	12666.6	12859.9	16043.9	12683.3	197.6	-
<b>End of Year Prices</b>									
	1981	88.5	89.7	77.1	86.5	96.4	88.4	-	-
	1982	152.6	75.8	113.0	126.6	127.6	138.2	56.4	-
	1983	189.9	100.9	132.6	140.1	164.7	172.3	24.6	-
	1984	393.1	211.8	239.0	266.0	242.5	344.7	100.1	-
	1985	1113.8	465.9	594.7	729.9	622.3	949.1	175.3	-
	1986	2446.2	1670.9	1357.7	2525.0	2903.7	2316.6	144.1	-
	1987	6608.5	4056.0	4705.6	7535.0	9118.7	6419.9	177.1	-
	1988	18196.0	8256.1	13672.2	15123.4	19308.7	16779.4	161.4	-

Source: Statistics Department,  
Ministry of Planning and Economic Development.

Kampala Cost Of Living Index, Middle-Income Group  
(April, 1981=100).

		Food	Drink & Tobacco	Fuel & Lighting	Transport	Clothing	Other Consumer Goods	Other Manufact. Goods	Weighted Average Index	% change on previous year	% change on previous month
Weights		41	17	6	10	14	10	2	100		
Monthly											
1986	Jan	1586.3	958.4	2229.4	1834.7	1343.4	1047.6	1829.2	1460.0	129.6	42.0
	Feb	1426.0	720.5	2229.4	1834.7	1343.4	974.2	1829.2	1346.5	105.3	-7.6
	Mar	1494.4	929.3	2242.9	1834.7	1608.4	1112.2	2127.0	1467.7	123.1	9.0
	Apr	1655.8	850.4	2236.5	1834.7	1618.5	1284.9	2606.7	1548.3	116.9	5.5
	May	1826.9	813.6	2260.1	1834.7	1777.2	1394.9	2597.7	1646.7	123.6	6.4
	Jun	2198.8	1263.3	2256.5	1834.7	1905.3	1457.6	2727.8	1902.2	153.1	15.5
	Jul	1804.8	1101.3	2275.1	1834.7	1918.5	1640.8	2738.1	1734.6	126.4	-8.8
	Aug	1845.4	1596.7	2706.3	2957.0	1997.1	2008.1	2969.5	2025.9	137.6	16.8
	Sep	2231.2	1648.1	4525.5	2957.0	2181.5	2037.5	4225.0	2355.9	172.0	16.3
	Oct	2671.4	1734.5	4522.7	2957.0	3235.8	2069.3	5258.3	2722.3	217.5	15.6
	Nov	2841.5	1693.6	4559.8	2957.0	9945.6	1965.3	5095.8	3713.0	298.2	36.4
	Dec	4655.1	2285.3	4735.5	3917.0	10031.6	2193.9	4704.5	4690.8	356.4	26.3
1987	Jan	4511.9	2508.1	4615.5	3917.0	10665.6	3451.2	5693.4	4897.1	235.4	4.4
	Feb	4841.3	2273.8	4745.2	4020.3	10867.3	3602.8	7837.5	5096.7	278.5	4.1
	Mar	4890.1	2780.8	4846.1	4020.3	10604.6	4330.3	6450.0	5217.1	255.5	2.4
	Apr	5937.0	3005.8	4777.7	4020.3	13804.3	4645.6	7800.0	6187.0	299.6	18.6
	May	6793.7	4404.2	6703.4	4728.3	18112.4	5810.9	6583.4	7657.7	365.0	23.8
	Jun	5111.5	2891.7	6594.9	4728.3	17742.0	5666.1	5166.7	6409.6	237.0	-16.3
	Jul	6035.2	3650.0	6580.6	4728.3	17623.5	3844.5	5166.7	6917.6	298.8	7.9
	Aug	6123.9	3575.0	6313.9	4700.0	17623.5	4335.5	4700.0	6962.2	243.7	0.6
	Sep	7492.9	4358.3	23456.8	4821.6	18985.7	4554.5	4666.7	8909.4	278.2	28.0
	Oct	7700.0	4600.0	23465.3	4821.6	18729.9	4787.9	6500.0	9060.1	232.8	1.7
	Nov	10286.6	4600.0	23741.8	4821.6	19355.9	7185.6	6500.0	10464.6	181.8	15.5
	Dec	12117.7	7100.0	23772.5	4821.6	23467.0	8039.4	7000.0	12313.1	162.5	17.7
1988	Jan	11948.2	8350.0	24453.7	6821.6	28251.6	9614.2	11000.0	13604.3	177.8	10.5
	Feb	13451.1	6100.0	25695.1	6821.6	28981.0	10692.9	11666.7	14135.8	177.4	3.9
	Mar	14000.4	6733.3	24782.2	6821.6	26783.7	12347.4	9000.0	14218.4	172.5	0.6
	Apr	14654.3	5775.0	24782.2	6821.6	35661.2	12063.3	9500.0	15548.0	151.3	9.4
	May	17863.7	5925.0	26457.9	6821.6	43750.4	12063.3	9500.0	18122.4	136.7	16.6
	Jun	21637.6	8191.7	26457.9	6821.6	54516.3	13097.4	13666.7	21749.0	239.3	20.0
	Jul	23811.3	10775.0	29065.3	21821.6	65760.2	15012.4	19000.0	26608.1	284.6	22.3
	Aug	23728.9	10333.3	29065.3	21821.6	63777.8	12660.2	19000.0	25986.5	273.3	-2.3
	Sep	24127.6	9820.8	29065.3	21821.6	62848.8	12882.3	17833.3	25931.7	191.1	-0.2
	Oct	24581.0	9579.2	29065.3	21821.6	60988.9	13010.8	14500.0	25762.3	184.4	-0.7
	Nov	25666.1	9291.7	29065.3	21821.6	62327.9	12582.3	14500.0	26302.9	151.4	2.1
	Dec	25735.9	9366.7	33914.3	21821.6	64892.6	12582.3	15000.0	27004.2	119.3	2.7
1989	Jan	25754.5	10480.0	33914.3	21821.6	68397.4	13261.0	15000.0	27759.7	104.1	2.8
	Feb	27891.7	10363.3	34677.2	21821.6	75481.9	13889.6	15500.0	29726.6	110.0	7.1
	Mar	28494.4	13370.8	118206.1	15821.6	78680.6	15096.4	15500.0	35465.2	149.4	19.3
	Apr	32383.2	13383.3	119477.5	15821.6	80927.1	14889.4	18500.0	37431.8	140.8	5.6
	May	34007.9	14744.2	121419.2	15821.6	82576.2	14731.2	19000.0	38730.8	110.7	3.5
	Jun										
Average Price During Year											
	1982	169.0	118.3	185.4	326.9	347.9	143.8	218.9	200.7	-	
	1983	239.8	128.9	303.4	445.7	331.8	145.5	245.6	248.9	24.1	
	1984	321.4	170.0	822.5	599.7	407.8	180.6	231.4	349.8	40.5	
	1985	877.8	422.9	1577.8	1019.5	720.4	457.3	642.6	787.9	125.2	
	1986	2186.5	1299.6	3065.0	2382.3	3242.2	1598.9	3225.7	2217.8	181.5	
	1987	6820.1	3812.3	11634.5	4512.4	16465.1	4854.5	6172.0	7498.0	255.1	
	1988	20100.5	8353.5	27655.8	14321.6	50032.8	12400.7	13638.9	21270.3	189.0	
End of Year Prices											
	1981	124.2	104.9	120.1	245.2	330.5	124.8	200.3	163.2		
	1982	199.3	123.3	267.7	320.1	354.7	150.2	232.9	220.1	34.8	
	1983	259.4	124.5	385.0	506.0	331.1	143.5	240.0	266.7	21.2	
	1984	522.6	270.3	1669.7	688.7	546.3	275.7	253.4	538.4	101.9	
	1985	1254.4	500.6	1135.5	1154.7	1135.5	636.6	1110.5	1027.8	90.9	
	1986	4655.1	2285.3	4735.5	3917.0	10031.6	2193.9	4704.5	4690.8	356.4	
	1987	12117.7	7100.0	23772.5	4821.6	23467.0	8039.4	7000.0	12313.1	162.5	
	1988	25735.9	9366.7	33914.3	21821.6	64892.6	12582.3	15000.0	27004.2	119.3	

SOURCE: Bank of Uganda

ATTACHMENT 9 Balance of Payments

BALANCE OF PAYMENTS ; 1982-1988  
(US\$ million)

	1982	1983	1984	1985	1986	1987	1988
<b>CURRENT ACCOUNT</b>	-69.9	-72.3	107.1	77.0	6.9	-169.8	-194.0
Trade Balance	-74.9	-60.4	65.7	114.9	-68.5	-300.8	-353.2
Exports f.o.b.	347.1	367.7	407.9	379.0	407.5	333.7	272.9
Imports c.i.f.	-422.0	-428.1	-342.2	-264.1	-476.1	-634.5	-626.1
Services (net)	-102.3	-115.4	-44.0	-98.9	-133.2	-113.6	-126.9
(interest charges) 1/	-26.3	-51.0	-36.8	-21.0	-41.3	-18.3	-24.1
Unrequited Transfers	107.3	103.5	85.4	61.0	208.7	244.6	286.1
<b>CAPITAL ACCOUNT</b>	14.6	27.7	-88.3	-27.4	75.8	142.3	59.5
Medium and Long term (net)	26.2	23.9	32.1	14.6	64.5	135.3	36.7
Inflows	96.8	163.7	120.8	85.6	104.4	239.7	239.1
Disbursements	70.0	112.8	109.7	85.6	104.4	180.0	207.6
Rescheduled maturities 2/	16.8	11.1	-	-	-	9.7	9.7
Rescheduled arrears	10.0	39.8	11.1	-	-	23.9	-
Other	-	-	-	-	-	26.1	21.8
Outflows	-70.6	-139.8	-88.7	-71.0	-39.8	-104.4	-202.4
Amortisation 3/	-43.8	-88.9	-77.6	-71.0	-39.8	-42.1	-39.8
Rescheduled maturities 2/	-16.8	-11.1	-	-	-	-9.7	-9.7
Rescheduled arrears	-10.0	-39.8	-11.1	-	-	-23.9	-
Other	-	-	-	-	-	-28.7	-152.9
Short term (net)	-11.6	3.8	-120.4	-42.0	11.3	7.0	22.8
Commercial Banks (net)	-8.3	-1.0	-23.2	-20.0	-	-	-
Trade Credits (net)	-3.3	4.8	-97.2	-22.0	11.3	7.0	22.8
<b>NET CHANGE IN ARREARS 3/</b>	22.4	8.3	-77.3	17.3	44.3	19.1	142.1
<b>OVERALL BALANCE 3/</b>	-32.9	-36.3	-58.5	66.9	127.1	-8.5	7.6
<b>FINANCING</b>	32.9	36.3	58.5	-66.9	-127.1	8.5	-7.6
Monetary Authorities 4/	-	-	-	-	-	-	-
Change in Gross Reserves 5/	-34.3	-28.2	56.2	29.6	0.8	-19.0	-1.6
I.M.F. (Net) 6/	82.3	85.4	-10.2	-89.5	-108.4	-6.8	5.5
Other (Net) 7/	-15.1	-20.9	12.5	-7.0	-19.5	34.3	-11.5

- Notes: 1/ Some interest payments may be recorded under repayment of principal  
2/ Matching items for rescheduled maturities and arrears appear as capital inflows and capital outflows.  
3/ Arrears included in Overall Balance; (+) increase in net arrears, (-) decrease  
4/ End of period data; (+) increase in net liabilities, (-) decrease  
5/ (+) decrease in gross reserves; (-) increase  
6/ The movement in the net position has been based on end of the period data while the data for purchases and repurchases are shown at the value of the data at which they have taken place; the reconciliation of the latter with the former is accounted for by the fluctuations in the exchange rate for the U.S. dollar which on average appreciated in 1981-1982; the financing flow shown by end of the period data is therefore smaller than the flow which actually took place.  
7/ Includes errors and omissions

SOURCE : Bank of Uganda.

ATTACHMENT 10

SUMMARY OF GOVERNMENT BUDGETARY AND FINANCIAL OPERATIONS: 1982/83-1988/89  
(millions of new Uganda shillings)

BUDGET/FINANCIAL	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
RECURRENT BUDGET:							
Revenue	522.4	902.9	1,620.9	2,843.8	5,005.0	22,262.3	45,290.2
Expenditure	438.7	789.8	1,781.0	4,133.2	8,026.5	27,205.0	58,350.7
Deficit/Surplus	83.7	113.0	(160.1)	(1,289.5)	(3,021.5)	(4,942.7)	(13,060.5)
DEVELOPMENT BUDGET:							
Revenue	5.8	45.0	78.0	384.4	853.0	5,640.0	11,408.4
Expenditure	88.2	160.3	356.3	709.5	2,237.1	16,048.7	29,888.9
Deficit/Surplus	(82.3)	(115.3)	(278.3)	(325.0)	(1,384.1)	(10,408.7)	(18,480.4)
Unallocated Items *	(166.8)	(219.2)	(192.4)	(23.7)	(4,405.6)	9,852.4	17,105.0
TOTAL DEFICIT	(165.4)	(221.5)	(630.8)	(1,638.3)	(8,811.2)	(5,499.1)	(14,436.0)
FINANCING:							
External (net)	36.3	30.1	134.7	474.3	1,362.0	556.1	12,912.0
Domestic	129.0	191.4	496.1	1,164.0	4,195.0	4,943.0	1,524.0
--Bank	113.7	(69.3)	538.9	775.2	2,182.0	4,481.0	978.0
--Nonbank	15.4	260.7	(42.8)	388.8	2,013.0	462.0	546.0
TOTAL FINANCING	165.4	221.5	630.8	1,638.3	5,557.0	5,499.1	14,436.0

\* balancing itea

Source: Ministry of Finance

ATTACHMENT 11

Numbers of postgraduates from schools

	1983	1984	1985	1986	1987
Ordinary secondary school	23,183	27,074	31,797	30,039	32,670
Vocational school	547	649	686	757	1,156
Technical school	599	1,600	1,051	1,286	1,475
Commercial school	1,903	2,045	2,463	2,734	2,686
Teachers' school	2,357	3,536	4,486	6,090	5,255
Professional school	5,424	4,439	3,359	2,300	2,495
Advanced education	2,462	5,004	2,864	2,917	2,394
Others	1,020	1,031	1,025	1,196	1,201
Total	37,495	45,378	47,731	47,319	49,332

Source: "Background to the Budget 1989 ~ 1990" issued by the Labor Force Planning Department, the Planning and Economical Development Ministry.

**ATTACHMENT 12 Development Budget by Ministry**

DEVELOPMENT BUDGET BY MINISTRY 1982/83-1988/89  
(billions of new Uganda shillings)

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	% of estimate	
								1987/88	1988/89
101 President's Office	7.7	8.7	19.8	53.3	63.7	300.2	396.0	33	34
102 Judiciary	0.0	0.2	0.5	0.4	1.0	10.0	28.6	25	49
103 National Assembly	0.5	0.4	1.0	5.9	24.8	29.3	87.5	1	71
104 Audit	0.2	0.3	0.5	1.1	1.1	2.4	13.3	36	81
105 Public Service	0.3	1.3	5.4	10.6	4.4	6.9	67.2	11	39
106 Foreign Affairs	0.9	0.1	1.6	8.1	10.1	18.3	10.3	25	10
107 Justice	0.1	0.1	0.3	0.0	11.2	4.2	53.5	9	256
108 Finance	9.5	45.9	136.2	216.8	417.6	1,457.0	1,526.0	61	106
109 Commerce	0.1	0.1	0.2	0.4	5.4	10.3	12.7	2	20
110 Agriculture	9.8	3.9	9.1	69.1	166.7	151.0	402.3	6	62
111 Animal Industry	3.9	6.2	22.0	39.0	90.3	352.6	604.0	35	89
112 Lands and Surveys	4.7	14.4	34.0	52.7	4.4	25.4	211.4	23	117
113 Education	4.7	6.1	14.4	36.2	205.9	194.9	323.4	13	64
114 Health	4.9	2.9	14.1	5.8	32.3	17.6	293.0	10	54
115 Youth, Culture and Sport	0.2	0.3	13.5	10.6	53.6	23.6	46.1	11	32
116 Works	3.7	13.3	18.2	71.3	264.7	1,147.8	1,242.5	27	132
117 Transport	0.3	3.7	0.8	0.6	1.8	4.1	72.6	2	79
118 Information	0.6	3.0	17.2	8.5	23.3	106.0	117.2	39	52
119 Industry and Technology	0.0	0.3	0.5	0.6	0.9	3.6	4.8	11	10
120 Labour	0.2	0.5	0.2	2.4	6.1	-	13.3	-	37
121 Defence	23.3	25.8	28.5	33.2	400.1	2,229.0	3,800.0	41	152
122 Internal Affairs	5.4	5.1	5.8	15.6	118.4	341.6	407.8	68	108
123 Police	-	-	-	-	-	-	-	-	-
124 Prison	-	-	-	-	-	-	-	-	-
125 Local Government	0.3	7.2	2.8	21.5	40.8	224.8	393.0	20	36
126 Planning	1.6	0.8	1.4	4.2	6.6	106.9	68.8	38	64
127 Co-operatives	-	2.4	5.3	6.7	62.6	52.6	141.4	34	98
128 Tourism	0.1	1.2	1.5	1.2	9.0	4.9	24.1	8	34
129 Regional Co-operation	0.9	1.5	1.0	0.3	1.8	89.4	8.9	42	24
130 Prime Minister's Office	0.1	0.1	1.6	5.9	12.3	10.0	71.3	30	125
131 Environment	-	-	-	-	9.5	11.9	74.2	46	80
132 Rehabilitation	0.3	0.3	0.4	1.2	9.0	0.8	16.9	3	60
Power, Posts & Telecomms	0.0	0.4	0.3	3.1	-	-	-	-	-
133 Energy	-	-	-	-	3.4	67.0	60.9	73	64
134 Mulago Hospital	-	-	-	-	26.4	29.2	153.4	7	61
135 Housing	4.0	8.4	19.5	23.2	96.6	2,221.3	296.1	706	92
136 Water Minerals Development	-	-	-	-	51.5	116.9	169.8	11	113
137 Inspectorate of Government	-	-	-	-	-	7.2	2.3	79	6
138 Makerere University	-	-	-	-	-	-	121.8	-	186
139 Central Purchasing Unit	-	-	-	-	-	-	420.3	-	92
140 Makerere Workshop	-	-	-	-	-	-	200.0	-	161
141 State House	-	-	-	-	-	-	9.2	-	92
142 Constitutional Affairs	-	-	-	-	-	-	19.6	-	23
143 Reconstruction and Devt	-	-	-	-	-	-	12.0	-	75
144 Womens' Development	-	-	-	-	-	-	53.6	-	75
145 Karamoja Development	-	-	-	-	-	-	31.8	-	529
146 Mass Mobilisation	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>88.3</b>	<b>165.0</b>	<b>377.9</b>	<b>709.5</b>	<b>2,237.1</b>	<b>9,358.7</b>	<b>12,072.9</b>	<b>36</b>	<b>82</b>

Note: Includes contributions to international organisations, under Finance

SOURCE: Ministry of Finance

ATTACHMENT 13

RECURRENT EXPENDITURE BY MINISTRY 1982/83-1988/89  
(millions of new Uganda shillings)

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	% of estimate	
								1987/88	1988/89
001 President's Office	20.0	26.6	100.7	172.4	339.1	951.2	1,435.8	85	109
002 Judiciary	1.5	2.2	6.2	10.1	58.3	115.6	208.8	55	116
003 National Assembly	2.4	2.9	5.4	7.2	48.5	112.6	356.9	43	158
004 Audit	0.2	0.5	1.4	1.2	12.4	24.3	44.2	70	144
005 Public Service	5.3	5.4	15.2	32.1	101.9	278.8	898.3	70	138
006 Foreign Affairs	33.3	30.8	50.0	106.4	385.9	655.3	1,822.8	92	146
007 Justice	0.9	1.1	1.9	3.0	19.2	63.6	149.5	85	148
008 Finance	122.3	64.2	561.9	1430.4	1786.0	8,543.2	12,838.8	307	136
009 Commerce	0.7	1.6	2.9	3.4	22.1	39.9	106.2	68	93
010 Agriculture	8.6	13.6	29.9	39.6	168.5	443.0	963.0	54	107
011 Animal Industry	4.5	7.1	23.3	36.0	131.9	258.9	718.5	65	78
012 Lands and Surveys	5.1	8.7	16.8	23.5	33.9	80.4	210.2	42	87
013 Education	67.9	126.3	279.1	527.5	887.8	4,716.9	7,985.1	76	85
014 Health	21.3	27.0	65.9	88.3	180.4	622.0	1,833.5	54	69
015 Youth, Culture and Sport	2.4	3.3	12.9	18.1	47.7	85.6	134.2	50	96
016 Works	6.8	13.5	52.0	135.5	273.9	482.7	976.4	26	61
017 Transport	2.6	3.9	7.0	8.7	43.1	61.5	111.9	32	77
018 Information	3.2	6.8	11.9	20.6	62.0	75.0	232.1	34	68
019 Industry and Technology	0.7	0.8	2.2	3.0	10.9	25.2	71.6	79	103
020 Labour	2.9	4.3	8.9	111.4	25.1	47.1	218.7	38	208
021 Defence	67.9	166.5	356.3	1026.9	2212.4	6,383.1	16,781.4	75	168
022 Internal Affairs	1.5	2.2	3.2	5.5	30.7	93.1	104.9	99	70
023 Police	18.1	23.1	46.1	87.0	287.8	733.7	1,536.5	99	114
024 Prison	12.2	12.8	26.4	45.2	160.5	397.8	843.9	87	129
025 Local Government	13.5	21.6	37.6	46.9	170.1	381.5	1,409.4	97	105
026 Planning	1.3	2.8	3.9	3.7	22.0	26.7	134.9	42	111
027 Co-operatives	1.4	2.4	6.2	8.5	22.2	79.9	208.7	60	125
028 Tourism & Wildlife	1.1	1.7	3.3	5.1	30.8	58.4	174.4	69	134
029 Regional Co-operation	1.5	4.3	10.5	9.0	36.0	128.7	214.8	30	67
030 Prime Minister's Office	0.4	0.9	1.2	5.8	16.0	37.1	93.7	68	102
031 Environment	4.8	7.8	12.3	95.6	7.7	94.1	336.3	22	134
032 Rehabilitation	0.2	0.5	1.0	3.7	242.7	566.5	1,046.5	126	72
033 Energy	0.1	0.1	0.2	0.2	11.1	21.1	76.8	62	118
034 Mulago Hospital	0.0	0.0	0.0	0.0	41.1	216.8	584.8	62	115
035 Housing	2.3	5.7	7.1	11.9	45.3	85.5	215.6	56	103
036 Water Minerals Development	-	-	-	-	51.8	206.1	284.4	68	85
037 Inspectorate of Government	-	-	-	-	-	12.1	53.5	88	135
038 Makerere University	-	-	-	-	-	-	1,224.6	-	93
039 Central Purchasing	-	-	-	-	-	-	432.5	-	31
040 Kawalere Workshop	-	-	-	-	-	-	191.4	-	105
041 State House	-	-	-	-	-	-	778.6	-	278
042 Constitutional Affairs	-	-	-	-	-	-	17.6	-	44
043 Reconstruction & Development	-	-	-	-	-	-	13.0	-	24
044 Women in Development	-	-	-	-	-	-	12.6	-	40
045 Karaxoja Development	-	-	-	-	-	-	8.3	-	69
046 Mass Mobilisation	-	-	-	-	-	-	255.1	-	1394
Total	438.9	602.9	1,771.0	4,133.2	8,026.5	27,205.0	58,350.7	91	76

NOTE: Table includes expenditure on statutory items  
SOURCE: Ministry of Finance

出所: 大蔵省

「Background to the Budget 1989-1990」



ATTACHMENT 14 Time Table, Faculty of Science

FACULTY OF SCIENCE - ROOM ALLOCATION 1988/89

	MS	MS	MS	MS	Phys	Phys	Chem	Chem	M	M	M	LABS
	105	6	203	204	Small	Main	Small	Main	302	303	304	
CAPACITY	70	42	49	30	25	120	70	170	20	25	30	
<b>MON</b>	8		25	BC2		Z1	C3	M2				
	9	ST11	ST2			P3	C2	BC3				
	10	MB	ME	BC3		P2	Z2	MX				
	11	ST11	MC21	ST3			C3	B2				
	12	PR	ST2	BC3	P3	Z1	C2	PA				
	2	MB	ME	ST2		M3	B3	MX				
	3											
	4											
	5											
<b>TUE</b>	8	MB	MC1	ST2	BC2	M3	ME	MX		Z3	ZB	
	9	MB	ME	BC2		B1	B3	MX				
	10		ST2	ST3		P3	Z1	M2				
	11	M3				P2						
	12		25					M2				
	2	ST11		BC3			C2	C1				
	3		ST2	ST3								
	4											
	5											
<b>WED</b>	8	B2	25	ME	BC3	M2	M3	MX				
	9	MB		BC2	BC3		B1	ME	MX			
	10	M3		ST2	PR		Z2	P2	PA			
	11	ST11		BC2		M3		C1				
	12	MB		ME		P3	C2	MY				
	2	MB		ME	ST3		MX		3C			
	3		ST2	ST3				BC				
	4							BC				
	5					M2						
<b>THUR</b>	8			B3		P3	Z2	C3	C1			
	9	Z3	M3	ST2	ST3	PR	PA	C2				
	10	MB	BC21	ME	ST3		B2	M2	MX			
	11	ST11		ST3								
	12	MB	25	ME			M2	MC1	MX			
	2		ST2				M2					
	3	M2						C1				
	4	M3		25			M2					
	5	MC21					Z1	Z2	MX			
<b>FRI</b>	8	M3	PR	B3	M2		PA	B2	B1			
	9	Z3			ST3		M3	M2	BC			
	10		ST2	ST3			P3		BC			
	11			25			M2	C3	25			
	12						M2	BC21				
	2	MB	MC21	M3	ME	25	Z3	M2	MX			
	3	ST11	M3	ST2								
	4		ST2									
	5	ST11										

NOTE: Botany-Zoology Lecture Theatre will be out of use during the 1st and 2nd terms because it will be under repair.

ZB = Zoology Lab.

TIME TABLE

FACULTY OF SCIENCE 5-DAY WORKING WEEK 1988/89

FIRST YEAR

	TIME	MON	TUE	WED	THUR	FRI
	8 AM	ED GL Z	MB MC MX ME	MB MX ME	G C PE	B EC PA PB
	9 AM	ED GL ST B/P	B MB ME MX	MB MX ME B	PA PB B/P	P/P2 Z/P G1/P
	10 AM	B/P MX MB	C/P2 PE G1	G PA PB	MB MX ME B/P	P/P2 Z/P G1/P
	11 AM	ED ST PSY B/P	C/P2 PSY	ST C	ST PSY ED B/P	G1/P P/P2 Z/P ST
	12 NOON	PA PB EC Z	C/P2 G	MB MX ME	MB MC MX ME	EC PE
	2 PM	MB MX ME G/P1	G/P2 ST C PE	MB MX ME B/TUT	PE G GL	MB MX ME G/P3
	3 PM	C/P1 G/P1 P/P1 PE	G/P2 P/P2 Z/P G1/P	PSY/P C/P2	PE C	C/P1 G/P3 P/P1 ST
	4 PM	C/P1 G/P1 P/P1 PE	G/P2 P/P2 Z/P ST G1/P	PSY/P C/P2	PE EC GL	C/P P/ G/P
	5 PM	C/P1 P/P1	P/P2 Z/P G1/P	C/P2 PE PSY	Z, MX	C/P1 P/P1

KEY:

B	=	BOTANY	MB	=	MATHS B
BC	=	BIOCHEMISTRY	MC	=	MATHS FOR CHEMIST
C	=	CHEMISTRY	ME	=	MATHS FOR ECONOMICS
EC	=	ECONOMICS	PA	=	PHYSICS A
ED	=	EDUCATION	PB	=	PHYSICS B
G	=	GEOGRAPHY	MX	=	MATHS X
GL	=	GEOLOGY	ST	=	STATISTICS
PSY	=	PSYCHOLOGY	Z	=	ZOOLOGY
PE	=	PHYSICAL EDUC.	/P	=	PRACTICALS



TIME TABLE

FACULTY OF SCIENCE 5-DAY WORKING WEEK 1988/89

THIRD YEAR

TIME	MON	TUE	WED	THUR	FRI
8 AM	C EC PSY	GL Z EC	BC ED GL PSY	C P	B M
9 AM	BC G P Z/TUT1 PSY	B EC GL	BC ED GL/P PSY	M Z GL ST/P	M ST Z
10 AM	B EC	BC/P G ST P	B/P GL/P M G, ST	C/P G ST/P	EC P ST
11 AM	C G(OPT) ST PSY	BC/P M B/TUT	B/P GL/P M G	C/P ST/P Z/TUT2	C EC G
12 NOON	BC P	BC/P PSY	B/P G P/TUT2	C/P G EC	G PSY
2 PM	GL/P B M	BC EC P/TUT1	P/P C ST G/P	EC Z/P G/P	M Z
3 PM	BC/P GL/P P/P PSY	Z/P ST	G/P C/P P/P ST	Z/P M G/P	B/P PSY ED M
4 PM	BC/P GL/P P/P	Z/P EC	C/P G/P P/P	Z/P M G/P	B/P ED
5 PM	BC/P P/P	Z/P	C/P	C/TUT	B/P

KEY:

B	=	BOTANY	P	=	PHYSICS
BC	=	BIOCHEMISTRY	M	=	MATHEMATICS
C	=	CHEMISTRY	ST	=	STATISTICS
EC	=	ECONOMICS	Z	=	ZOOLOGY
ED	=	EDUCATION	TUT	=	TUTORIAL
G	=	GEOGRAPHY	/P	=	PRACTICALS
GL	=	GEOLOGY			

DEPARTMENT OF GEOLOGY

TEACHING TIME TABLE FIRST TERM 1988/89

23.8.89

COURSE	DAY & TIME	LECTURER/DEMONSTRATOR(S)	ROOM	TECHNICIAN/LAB. ASS.
General Geology	Mon. 8.00-10.00 a.m.	Mr. Barifaijo.	Old Lab.	Mr. J. Wakyaya
General Geology	Tues. 10.00-11.00 a.m.	Mr. Barifaijo.	Old Lab.	Mr. Emodi
Palaeontology	Tues. 3.00-6.00 p.m.	Ms. Nalubwama/Mr. Nyakana	Old Lab.	Mr. J. Wakyaya
Palaeontology	Thurs. 2.00-3.00 p.m.	Ms. Nalubwama	Old Lab.	"
General Geology	Friday 9.00-12.00 noon	Mr. Barifaijo/Ms. Nalubwama	Old Lab.	"
YEAR II				
Structural Geology	Mon. 8.00-9.00 a.m.	Mr. Biryabarema	Room 115	Mr. Kawooya
Optical Mineralogy	Mon. 2.00-5.00 p.m.	Mr. Sinabantu/Nyakana	Room 115	Mr. Gubya
Optical Mineralogy	Tues. 8.00-9.00 a.m.	Mr. Sinabantu	Old Lab.	Mr. Gubya
Hydrogeology	Tues. 9.00-10.00 a.m.	Mr. Biryabarema/Mr. Galimaka	Old Lab.	Mr. Wakyaya
Structural Geology	wed. 9.00-12.00 noon	Mr. Biryabarema/Mr. Galimaka	Old Lab.	Mr. Wakyaya
Geomorphology	Thurs. 11.00-12.00 noon	Mr. Biryabarema	Room 115	Mr. Kawooya
YEAR III				
Project/Seminar	Mon. 2.00-5.00 p.m.	Mr. Migisha*	Old Lab.	Mr. Wakyaya
Economic Geology	Tues. 8.00-10.00 a.m.	Mr. Migisha	Room 115	Mr. Kawooya
Igneous of Met. Petrology	wed. 8.00-12.00 noon	Mr. Barifaijo/Mr. Nyakana	Room 115	Mr. Gubya
Igneous of Met. Petrology	Thurs. 9.00-10.00 a.m.	Mr. Barifaijo/Mr. Nyakana	Room 115	Mr. Wakyaya
Igneous of Met. Petrology	Thurs. 2.00-5.00 p.m.	Mr. Barifaijo/Mr. Nyakana	Room 115	Mr. Gubya

\*And any other available member of staff.

DEPARTMENT OF GEOLOGY

TEACHING TIME TABLE SECOND TERM 1988/89

COURSE	TIME	LECTURER/DEMONSTRATOR(S)	ROOM	TECHNICIAN/LAB LAB. ATT'NT ASST.
YEAR I				
General Geology	Monday	Mr. Barifaijo	Old Lab.	Mr. Wakyaaya Mr. Emodock
Crystallography/Mineralogy	Tuesday	Mr. Migisha/Ms. Nagudi	"	"
Crystallography/Mineralogy	Thursday	Mr. Migisha/Ms. Nagudi	"	"
Crystallography/Mineralogy	"	Mr. Migisha/Ms. Nagudi	"	"
Mineralogy	Friday	Mr. Migisha/Ms. Nagudi	"	"
YEAR II				
Structural Geology	Monday	Mr. Biryabarema	Room 115	Mr. Kawooya Mr. Emodock
Optical Mineralogy	Monday	Mr. Sinabantu/Mr. Nyakana	"	"
Optical Mineralogy	Thursday	Mr. Sinabantu	Old Lab.	Mr. Wakyaaya Mr. Emodock
Geophysics	Tuesday	Mr. Twesigomwo	"	"
Structural Geology	Wednesday	Mr. Biryabarema/Ms. Nagudi	"	"
Geochemistry	Tuesday	Mr. Tiberindwa/Mr. Nyakana	Room 115	Mr. Kawooya Miss Namutebi
YEAR III				
Project	Monday	All available members of staff	O/L	Mr. Wakyaaya Mr. Emodock
Mining Geology	Tuesday	Mr. Sinabantu	Old LAB Room-445	Mr. Kawooya Ms. Namutebi
Economic Geology	Wednesday	Mr. Migisha/Ms. Nalubwama	"	"
Engineering & Environmental	Thursday	Mr. Yuvanga	"	"
"	"	"	"	"
Seminar	Thursday	Mr. Migisha*	"	"

\* And other members of staff

DEPARTMENT OF GEOLOGY

TEACHING TIME TABLE THIRD TERM 1988/89

YEAR I

COURSE	TIME	LECTURER/DEMONSTRATOR(S)	ROOM	TECHNICIAN/LAB.ASS	LAB.ATTEND.
Regional Geol.	Monday	Mr. Tiberindwa	Old Lab.	Mr. Wakyaya	Mr. Emodock
Petrology	Tuesday	Mr. Barifaijo/Mr. Nyakana	Old Lab.	Mr. Wakyaya	Mr. Emodock
Regional Geol.	Thurs.	Mr. Tiberindwa	"	"	"
Regional Geol.	Thurs.	Mr. Tiberindwa	"	"	"
Petrology	Friday	Mr. Barifaijo/Mr. Nyakana	"	"	"

YEAR II

Photogeology & Remote Sensing	Monday	Mr. Biryabarema	Room 115	Mr. Kawooya	Miss Namutebi
Stratigraphy	Monday	Mr. Mwangi	Old Lab.	Mr. Wakyaya	Miss Emodock
Photogeology & Remote Sensing	Tuesday	Mr. Biryabarema/Nalubwama	"	Mr. Wakyaya	Mr. Emodock
Sedimentary Petrology	Wed.	Mr. Barifaijo/Mr. Nyakana	"	"	Mr. Emodock
Field Geology	Thurs.	Mr. Tiberindwa	Room 115	Mr. Kawooya	Miss Namutebi

YEAR III

Sedimentology	Tuesday	Mr. Sinabantu	Room 115	Mr. Kawooya	Miss Namutebi
Regional Geol.	Wed.	Mr. Migisha*	"	"	"
Regional Geol.	Wed.	Mr. Migisha*	"	"	"
Regional Geol.	Thurs.	Mr. Migisha*	"	"	"
Mining Geology	Thurs.	Mr. Sinabantu/Nagudi	"	"	Miss Namutebi

\*Course Co-ordinator

ATTACHMENT 15

ADMINISTRATIVE AND MAINTENANCE EXPENSES

Expenses necessary for maintenance and management of this facility are approximately as follows:

If the values are multiplied by commodity price index, the actual value become vague. So, the values for 1989 to 1992 are all indicated by the value of 1989.

1) Personnel Emoluments

Personnel emoluments for 1990 to 1992 were calculated based on the salary data of officials for fiscal 1988/1989 publicly approved by the Uganda government and on the official increase plan submitted by Makerere University.

Personnel emoluments assumed are as per Table 1.

Table 1 Personnel Emoluments of Office of the Dean, Faculty of Science  
(Monthly amount)

		1989	1990		1991		1992	
Position		Salary (USH/man and month)	Number of official	Salary (USH/month)	Number of official	Salary (USH/month)	Number of official	Salary (USH/month)
Senior Staff	Dean	7,650	1	7,650				
	Assistant Register	6,724	1	6,724		Same as left.		Same as left.
	Administrative Assistant	5,150	1	5,150				
	Senior Personal Secretary	6,076	1	6,076				
Subtotal			4	25,601	4	25,601	4	25,601
Inter-mediate Staff	Technician	4,872	1	4,872				
	Stenographer	4,040	1	4,040		Same as left.		Same as left.
	Custodians	2,738	2	5,476				
Subtotal			4	14,389	4	14,389	4	14,389
Group Employees	Cleaners	1,835	3	5,559				
	Messenger	4,040	1	4,040		Same as left.		Same as left.
	Drivers	3,042	2	6,084				
Subtotal			6	15,683	6	15,683	6	15,683
Total			14	55,673	14	55,673	14	55,673



**Table 2 Personnel Emoluments of the Department of Biochemistry  
(Monthly amount)**

		1989	1990		1991		1992	
Position		Salary (US\$/man and month)	Number of official	Salary (US\$/ month)	Number of official	Salary (US\$/ month)	Number of official	Salary (US\$/ month)
Senior Staff	Professor	7,650	2	15,300	2	15,300	3	22,950
	Associate Professor	7,372	2	14,744	3	22,116	3	22,116
	Senior Lecturers	7,095	4	28,380	5	35,475	5	35,475
	Lecturers	5,998	6	34,788	7	40,586	7	40,586
	Chief Technician	6,724	1	6,724	1	6,724	1	6,724
	Subtotal		15	99,936	18	120,201	19	127,854
Inter- mediate Staff	Principal Technician	5,705	1		1		1	
	Senior Technician	5,335	1		1		1	
	Technicians	4,872	8	Same as left.	8	Same as left.	8	Same as left.
	Secretary	4,780	1	left.	1	left.	1	left.
	Laboratory Assistant	2,403	4		4		4	
	Trainee Technicians	3,000	2		2		2	
	Subtotal		17	26,095	17	26,095	17	26,095
Group Employ- ees	Laboratory Attendants	2,033	3	Same as left.		Same as left.		Same as left.
	Cleaner	1,853	1	left.		left.		left.
	Subtotal		4	3,886	4	3,886	4	3,886
	Total		36	129,917	39	150,182	40	157,832

**Table 3 Personnel Emoluments of the Department of Geology**  
(Monthly amount)

		1989	1990		1991		1992	
Position		Salary (US\$/man and month)	Number of official	Salary (US\$/ month)	Number of official	Salary (US\$/ month)	Number of official	Salary (US\$/ month)
Senior Staff	Professor	7,650	1	7,650			3	
	Associate Professor	7,372	1	7,372			3	
	Senior Lecturers	7,094	2	14,188		Same as left.	5	Same as left.
	Lecturers	5,891	5	29,455			7	
	Chief Technician	6,724	1	6,724			1	
	Subtotal		10	65,389	10	65,389	10	65,389
Inter- mediate Staff	Principal Technician	5,891	1	5,891				
	Senior Technician	5,705	2	11,410				
	Technicians	4,872	2	9,744				
	Secretary	5,335	1	5,335		Same as left.		Same as left.
	Laboratory Assistant I	3,320	1	3,320				
	Laboratory Assistant II	1,868	1	1,868				
	Draughtsman Curator	4,872 4,872	1 1	4,872 4,872				
	Subtotal		10	47,312	10	47,312	10	47,312
Group Employ- ees	Laboratory Attendant	2,033	1	2,033	1	2,033	1	2,033
	Total		21	114,734	21	114,734	21	114,734

Table 4 Personnel Emoluments of Facility

(Unit: USH/Month)

	1990	1991	1992
Office of the Dean	55,673	55,673	55,673
Biochemistry department	129,917	150,182	157,832
Geology department	114,734	114,734	114,734
Total	300,324	320,589	328,239

Therefore, the annual personnel emoluments come to as follows:

Table 5 Personnel Emoluments of Facility

(Unit: USH/Year)

	1990	1991	1992
Office of the Dean	668,076	668,076	668,076
Biochemistry department	1,559,004	1,802,184	1,893,984
Geology department	1,376,808	1,376,808	1,376,808
Total	3,603,888	3,847,068	3,938,868

(Note) These values are based on the personnel emoluments for Fiscal 1989.

Personnel Emoluments for Fiscal 1989

= USH46,186/month

(Personnel Emoluments of the Office of the Dean) × 12 month

+

USH64,620/month

(Personnel Emoluments of the Department of Biochemistry) × 12 month

+

USH73,499/month

(Personnel Emoluments of the Department of Geology) × 12 month

= 184,305 USH/month × 12 month

= 2,211,660 USH/year

2) Electricity

a. Electric Power

For this facility, the electric capacities of electric lamp and socket plug are planned to set to 100kW and that of mechanical equipment to 50kW.

The electricity demand factor for electric lamp and socket plug are supposed to be 0.6, and that of science machinery to be 0.4.

b. Electricity Using Hour

The current timetables (See Table 3-1) of the Biochemistry Department and Geology Department are used to get average lesson hour/day and average after-school hours/day.

Table 6 Average Lesson Hours per Day

(Unit: hour)

Subject	Weekday	Mon.	Tue.	Wed.	Thu.	Fri.	Average/day
Biochemistry (Education Department building, Chemistry building)		4	3	6	1	4	3.6
Geology (Room OB5)		5	5	3	3	3	3.8
" (Room M115)		4	2	4	5	0	3.75
Average lecture hour of the both departments							3.7

Table 7 Average After-school Hours per Day

(Unit: hour)

	Mon.	Tue.	Wed.	Thu.	Fri.	Average/day
After-school hour of the biochemistry department	4	3	1	4	4	3.2
After-school hour of the geology department	1	0	3	1	4	1.8
After-school hour of the both department						2.5

After-school hour is considered the hour to be used for research by teacher and graduate student.

Average electricity using hour/day

$$= (\text{Average lecture hour/day}) + (\text{Average after-school hour/day})$$

$$\therefore 3.7 + 2.5 = 6.2 \Rightarrow 6 \text{ hours}$$

c. Number of Attendance Days

Since Makerere University has two holidays a week, the attendance days can be calculated as follows:

$$\text{Attendance days/month} = 31 \text{ days} - (2 \text{ days} \times 4 \text{ weeks}) = 23$$

d. Electric Rates

$$\begin{aligned} \text{(Electric lamp, plug socket)} \quad & 100\text{kW} \times 0.6 \times 6\text{Hr/day} \times 23\text{days/month} \\ & = 8,280\text{kWh/month} \end{aligned}$$

$$\begin{aligned} \text{(Others)} \quad & 50\text{kW} \times 0.4 \times 6\text{Hr/day} \times 23\text{days/month} \\ & = 2,760\text{kWh/month} \end{aligned}$$

$$\begin{aligned} & 8,280\text{kWh/month} + 2,760\text{kWh/month} \\ & = 11,040\text{kWh/month} \end{aligned}$$

$$1\text{kWh} = \text{USH5}$$

$$\begin{aligned} \therefore \quad & 11,040\text{kWh/month} \times \text{USH5/kWh} \\ & = \text{USH55,200/month} \end{aligned}$$

$$\begin{aligned} \therefore \quad & \text{USH55,200/month} \times 12 \text{ months} \\ & = \text{USH662,400/year} \end{aligned}$$

The university is closed for three weeks from the middle of December to the first week of January, for two weeks from the later part of March to the early part of April, and for 3.5 months from the middle of June to the end of September. Therefore, the rate of closed days in a year is calculated as follows:

$$(3 \text{ weeks} + 2 \text{ weeks} + 11 \text{ weeks})/52 \text{ weeks} = 30.3\% \Rightarrow 30\%$$

So, the rate of attendance days is 70%. From this, the actual electric rates can be calculated as follows:

$$\text{USH}662,400 \times 0.7 = \text{USH}463,680/\text{year}$$

### 3) Water Supply

It is supposed that the maximum number of person who use this facility is 479 (the total capacity of lecture rooms 408 and number of official 71) in a day in 1989.

#### a. Toilet Water

The number of toilet bowl required is calculated as follows from the current male and female student ratio:

	(Bowl)	(Urinal)
(Male)	6 pcs.	12 pcs.
(Female)	6 pcs.	
Total	12 pcs.	12 pcs.

Frequency to use toilet bowls

$$\text{(Male)} \quad 384 \div (6 \text{ pcs.} + 12 \text{ pcs.}) = 21 \text{ times/bowl}$$

$$\text{(Female)} \quad 95 \div 6 \text{ pcs.} = 16 \text{ times/bowl}$$

Quantity of water required a day at toilet

Bowl : 15ℓ/each time

Urinal : 4.5ℓ/each time

Wash faucet: 3ℓ/each time

$$\begin{aligned} \text{(Male)} \quad & (6 \text{ pcs.} \times 21 \text{ times} \times 15\ell/\text{time}) + (12 \text{ pcs.} \times 21 \text{ times} \\ & \times 4.5\ell/\text{each time}) + ((6 + 12) \text{ pcs.} \times 21 \text{ times} \times 3\ell/\text{each time}) \\ & = 1,890\ell + 1,134\ell + 1,134\ell = 4,158\ell/\text{each time} \end{aligned}$$

$$\begin{aligned} \text{(Female)} \quad & (6 \text{ pcs.} \times 16 \text{ times} \times 15\ell/\text{time}) + (6 \text{ pcs.} \times 16 \text{ times} \times 3\ell/\text{time}) \\ & = 1,728\ell \end{aligned}$$

$$4,158\ell/\text{each time} + 1,728\ell/\text{each time} = 5,886\ell/\text{male}\cdot\text{female}\cdot\text{day} \text{ ---- } \textcircled{1}$$

b. Drinking Water

It is supposed that university personnel drink water as follows:

$$71 \text{ person} \times 2\ell/\text{person}\cdot\text{day} = 142\ell/\text{day} \text{ ----- } \textcircled{2}$$

c. Laboratory Water

It is supposed that students use water for experiment in the order of hand washing, experiment and hand washing.

$$\text{Hand wash } 3\ell + \text{Experiment (draining) } 15\ell + \text{Hand wash } 3\ell = 21\ell/\text{person}\cdot\text{day}$$

$$21\ell \times 408 \text{ person} = 8,568\ell/\text{day} \text{ ----- } \textcircled{3}$$

d. Water Charge

$$\text{Water charge} = \text{USH}83/\text{m}^3$$

The quantity of water required for the whole facility in a day

$$= \textcircled{1} + \textcircled{2} + \textcircled{3}$$

$$5,886\ell + 142\ell + 8,568\ell = 14,596\ell$$

Water quantity that a person uses in a day can be calculated as follows:

$$14,596\ell \div 479 \text{ persons} \doteq 30\ell/\text{person}\cdot\text{day}$$

Therefore, water quantity used in a year is as follows:

$$479 \text{ persons} \times 30\ell/\text{day} \times 23\text{days}/\text{month} \times 12 \text{ months} \\ \times 0.7 \text{ (Attendance days/year)} = 2,776,284\ell$$

$$2,776,284\ell \doteq 2,776\text{m}^3/\text{year}$$

$$\text{Water charges for a year} = 2,776\text{m}^3 \times \text{USH}83/\text{m}^3 = \text{USH}230,408/\text{year}$$

Table 8 Water Charges for a Year

	1989	1990	1991	1992	1993
Personnel number of office of the dean	14	14	14	14	14
Personnel number of the department of biochemistry	36	36	39	40	40
Personnel number of the department of geology	21	21	21	21	21
Total capacity of large and medium lecture rooms	408	408	408	408	408
Maximum number of persons supposed to use the facility	479	479	482	483	483
Required water supply (m <sup>3</sup> /year)	2,776m <sup>3</sup>	2,776m <sup>3</sup>	2,794m <sup>3</sup>	2,799m <sup>3</sup>	2,799m <sup>3</sup>
Water charges	USH230,408	USH230,408	USH231,902	USH232,317	USH232,317

(Note) The maximum number of persons supposed to use the facility shall be the total of the total capacity of large and medium lecture rooms and number of university personnel of respective year. For the number of each university personnel, see Table 1 to 3.

4) Gas

- Laboratory using hours (with existing facilities)

It is supposed that gas is mainly used in experiments of the biochemistry department.



Table 9 Laboratory (with existing facilities) Using Hours

	Mon.	Tue.	Wed.	Thu.	Fri.	Total	Average/ day
Laboratory using hours of the department of biochemistry	3	3	4	1	1	12	2.4
Large lecture room using hours	1	0	3	0	3	7	1.4

The large lecture room is used for lecture, and laboratory is used for experiments literally. So, the laboratory is used for 12/19week in a week. From this, laboratory using hours for a month can be calculated as follows:

$$23\text{days/month} \times 12/19 = 14.5 \Rightarrow 15\text{days/month}$$

Supposed that gas is used for a half of experiment hours and for an hour a day, the gas using hour comes to as follows:

$$2.4 \div 2 = 1.2 \Rightarrow 1 \text{ hour}$$

- Gas Consumption

(Gas for experiment)  $0.15\text{kg/H}\cdot\text{place} \times 20 \text{ places} \times 1\text{H/day}$   
 $\times 15\text{days/month} = 45\text{kg/month}$

(Water heater)  $1.25\text{kg/H}\cdot\text{place} \times 2 \text{ places} \times 1\text{H/day}$   
 $\times 23\text{days/month} = 57.5\text{kg/month}$   
 $\approx 58\text{kg/month}$

- Gas Charges

$$(45\text{kg/month} \times 12\text{month} \times 0.7) + (58\text{kg/month} \times 12\text{month}) = 1,074\text{kg/year}$$

$$(1,074\text{kg/month} \div 45\text{kg/CY}) \times \text{USH}9,405/\text{CY} = \text{USH}224,466/\text{year}$$

Table 10 Gas Consumption and Gas Charges

		1990	1991	1992	1993
	Number of biochemistry students	465 persons	485 persons	520 persons	545 persons
	Increase index of biochemistry student	100	104.3	111.8	117.2
	Gas consumption for experiment (monthly)	45kg/month	47kg/month	50kg/month	53kg/month
①	Gas consumption for experiment (annual)	540kg/year	564kg/year	600kg/year	636kg/year
②	① × 0.7 (Number of attendance day)	378kg/year	395kg/year	420kg/year	445kg/year
	Number of university personnel	465 persons	485 persons	520 persons	545 persons
	Increase index of university personnel	100	104.2	105.6	105.6
	Gas consumption for water heater (monthly)	58kg/month	60kg/month	61kg/month	61kg/month
③	Gas consumption for water heater (annual)	696kg/year	720kg/year	732kg/year	732kg/year
	Total gas consumption (② + ③)	1,074kg/year	1,115kg/year	1,152kg/year	1,177kg/year
	Gas charges (annual)	USH224,466	USH233,035	USH240,768	USH245,993

(Note) For the number of biochemistry student, see the subtotal column of the biochemistry (Table 6). For the number of university personnel, see Table 8.

5) Telephone

- Working hour a day = 8 hours
- It is suppose that a city telephone call is made every 30 minutes in the whole facilities
- Charge of city telephone call = USH20/call

a. Number of call

$$(8 \text{ hours} \times 60 \text{ minutes}) \div 30 \text{ minutes} = 16 \text{ times/day}$$

b. Charge of telephone call

16 times/day × 23 days/month × USH20/call = USH7,360/month

∴ Telephone call charge for a year

USH7,360 × 12 months = USH88,320/year

6) Office Expenses and Purchase Charge of Laboratory Apparatus

The following actual value for fiscal 1989 is shown in the Details Personal Emoluments for fiscal 1988/1989 approved by Makerere University and the Ugandan government. The office expenses and purchase charges of laboratory apparatus for this facility were calculated based this standard in proportion to the increase indices of student and university personnel numbers.

Table 11 Increase Rates of Students Who Use This Facility and of University Personnel

	1989	1990	1991	1992	1993
Number of biochemistry students	450	465	485	520	545
Number of geology students	144	144	149	159	179
Total number of biochemistry student and geology students	594	609	634	679	724
Increase index of biochemistry student and geology students	100	102.5	106.7	114.3	121.8
Increase index of university personnel	100	100	104.2	105.6	105.6
Weighted average of increase indices of university personnel and students	100	102.2 <sup>①</sup>	106.4 <sup>②</sup>	113.4 <sup>③</sup>	120.3 <sup>④</sup>

(Note) For the increase index of university personnel, see Table 10.

$$\textcircled{1} \quad \frac{102.5 \times 609 + 100 \times 71}{609 + 71} = \frac{69,522.5}{680} = 102.2$$

$$\textcircled{2} \quad \frac{106.7 \times 634 + 104.2 \times 74}{634 + 74} = \frac{75,358.6}{708} = 106.4$$

$$\textcircled{3} \quad \frac{114.3 \times 679 + 105.6 \times 75}{679 + 75} = \frac{85,529.7}{754} = 113.4$$

$$\textcircled{4} \quad \frac{121.8 \times 724 + 105.6 \times 75}{724 + 75} = \frac{96,103.2}{799} = 120.3$$

- Expenses of Office of the Dean

It is supposed that the expenses of Office of the Dean will be influenced and swell as the number of persons who use this facility increases.

Table 12 Expenses of Office of the Dean

	1989	1990	1991	1992	1993
Increase index of university personnel and student	100	102.2	106.4	113.4	120.3
Office expenses (annual)	USH560,153	USH572,476	USH596,003	USH635,213	USH673,864

(Note) For the increase index of university personnel and student, see Table 11.

- Office Expense of the Department of Biochemistry and Purchase Charges of Laboratory Apparatus

Table 13 Increase Rates of Biochemistry Students and Personnel of the Department of Biochemistry

	1989	1990	1991	1992	1993
Number of biochemistry students	450	465	485	520	545
Number of personnel of the biochemistry department	36	36	39	40	40
Increase index of the biochemistry students	100	103.3	107.8	115.5	121.1
Increase index of personnel of the department of biochemistry	100	100	108.3	111.1	111.1
Weighted average of increase indices of biochemistry students and personnel	100	103 <sup>①</sup>	107.8 <sup>②</sup>	115.2 <sup>③</sup>	120.4 <sup>④</sup>

$$\textcircled{1} \quad \frac{103.3 \times 465 + 100 \times 36}{465 + 36} = \frac{51,634.5}{501} = 103$$

$$\textcircled{2} \quad \frac{107.8 \times 485 + 108.3 \times 39}{485 + 39} = \frac{56,506.7}{524} = 107.8$$

$$\textcircled{3} \quad \frac{115.5 \times 520 + 111.1 \times 40}{520 + 40} = \frac{64,504}{560} = 115.2$$

$$\textcircled{4} \quad \frac{121.1 \times 545 + 111.1 \times 40}{545 + 40} = \frac{70,443.5}{585} = 120.4$$

Table 14 Office Expenses of the Department of Biochemistry and Purchase Charges of Laboratory Apparatus

	1989	1990	1991	1992	1993
Increase index of bio-chemistry students and personnel	100	103	107.8	115.2	120.4
Office expenses	USH702,550	USH723,626	USH757,349	USH809,338	USH845,870
Purchase charges of laboratory apparatus	USH1,275,000	USH1,313,250	USH1,374,450	USH1,468,800	USH1,535,100
Total (annual)	USH1,977,550	USH2,036,876	USH2,131,799	USH2,278,138	USH2,380,970

- Office expenses of the department of geology and purchase charges of laboratory apparatus

Table 15 Increase Rates of Geology Students and Personnel of the Department of Geology

	1989	1990	1991	1992	1993
Number of geology students	144	144	149	159	179
Number of personnel of geology department	21	21	21	21	21
Increase index of geology student	100	100	103.4	110.4	124.3
Increase index of personnel of the department of geology	100	100	100	100	100
Weighted average of increase indices of geology students and personnel	100	100	103 <sup>①</sup>	109.2 <sup>②</sup>	121.7 <sup>③</sup>

$$\textcircled{1} \quad \frac{103.4 \times 149 + 100 \times 21}{149 + 21} = \frac{17,506.6}{170} = 103$$

$$\textcircled{2} \quad \frac{110.4 \times 159 + 100 \times 21}{159 + 21} = \frac{19,653.6}{180} = 109.2$$

$$\textcircled{3} \quad \frac{124.3 \times 179 + 100 \times 21}{179 + 21} = \frac{24,349.7}{200} = 121.7$$

Table 16 Office Expenses of the Department of Geology and Purchase Charges of Laboratory Apparatus

	1989	1990	1991	1992	1993
Increase rate of geology students and personnel	100	100	103	109.2	121.7
Office expenses	USH1,097,500	USH1,097,500	USH1,130,425	USH1,198,470	USH1,335,657
Purchase charges of laboratory apparatus	USH1,275,000	USH1,275,000	USH1,313,250	USH1,392,300	USH1,551,675
Total (annual)	USH2,372,500	USH2,372,500	USH2,443,675	USH2,590,770	USH2,887,332

Table 17 Office Expenses of Office of the Dean, Department of Biochemistry and Department of Geology

	1989	1990	1991	1992	1993
Faculty office	USH560,153	USH572,476	USH596,003	USH635,213	USH673,864
bio-chemistry department	USH702,550	USH723,626	USH757,349	USH809,338	USH845,870
Geology department	USH1,097,500	USH1,097,500	USH1,130,425	USH1,198,470	USH1,335,657
Total (annual)	USH2,360,203	USH2,393,602	USH2,483,777	USH2,643,021	USH2,855,391
Expense increase	0	USH33,399	USH123,574	USH282,818	USH212,370

(Note) Refer to Tables 12, 14 and 16.

Table 18 Purchase Charges of Laboratory Apparatus of Department of Biochemistry and Departments of Geology

	1989	1990	1991	1992	1993
bio-chemistry department	USH1,275,000	USH1,313,250	USH1,374,450	USH1,468,800	USH1,535,100
Geology department	USH1,275,000	USH1,275,000	USH1,313,250	USH1,392,300	USH1,551,675
Total (annual)	USH2,550,000	USH2,588,250	USH2,687,700	USH2,861,100	USH3,086,775
Expense increase	0	USH38,250	USH137,700	USH311,100	USH225,675





Cost of fluorescent lamp:

Price of fluorescent lamp : USH2,000/each

Therefore, the cost of fluorescent lamp can be calculated as follows:

$308 \text{ pcs.} \times 2,000 \text{ (USH/each)} = \text{USH}616,000/2 \text{ years}$

(Water supply and draining)

a. Packing :  $10 \text{ pcs.} \times \text{USH}300/\text{each} = \text{USH}3,000$

Table 19 Building Maintenance Expenses

(Unit: Ugandan Shilling, USH)

	1990	1991	1992	1993
Total expense of equipment parts	12,500	12,500	12,500	12,500
Total expense of expendables	3,000	3,000	3,000	616,000
Total of building maintenance expenses	15,500	15,500	15,500	628,500

8) Replenishing Expenses of Educational Materials

The increase of replenishing expenses of equipments in relation to this equipment supply is considered to be resulted from the purchase charges of spare parts for repair and of expendables. But, since spare parts for three (3) ears are to be included and the reliability of latest equipments is very high, such expense can be considered to be negligible. It is also considered that expendables will not be required in lot in the future, because equipments to be supplied this time are in accordance with the curriculum of the present educational experiment. But some equipments will require special recording papers, and the purchase charges of the following expendables are supposed to increase. Expendables for the first year are to be included in this project, and the university is required to purchase them for the second year and on.

- Laboratory Apparatus

Recording paper, tip for micropipette, filter for water purifying apparatus  
----- USH4,296,000/year

Printer ink, toner for copying machine, paper and type writer ink ribbon,  
etc. ----- USH660,000/year

- Field Survey Equipments

Filter for potable water purifier ----- USH492,000/year

- Audio-visual Equipments

Video tape ----- USH60,000/year

Total : USH5,508,000/year









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