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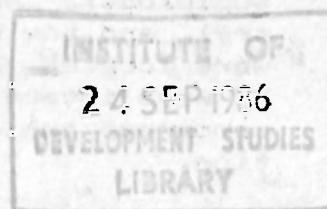
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HUMAN CAPITAL:

THE WEALTH OF NATIONS OR DRAIN ON RESOURCES?

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ABSTRACT

This is a preliminary summary of some of the findings of the University of Nairobi Tracer Study. The Tracer Study began with a sample of approximately 450 graduates from the University of Nairobi, taken randomly from the years 1970, 1975, 1979, and 1983. Subjects were chosen from the Faculty of Arts (primarily Sociology), the Faculty of Science (primarily Maths and Chemistry), and the Faculty of Commerce. Of the nearly 90 percent that were located, 291 responded to a mailed questionnaire. Of those, 27 were interviewed in greater depth. The focus of all questions concerned employment and educational history following graduation.

The results are reported by year, by Faculty, by socio-economic status, by academic performance, and by sex. Under each section some or all of the following six questions are addressed:

- 1) Who employs University of Nairobi graduates?
- 2) To what extent do graduates utilise their University training on the job?
- 3) What is the pattern of job mobility of graduates?
- 4) How much do graduates earn?
- 5) What further formal training do graduates pursue?
- 6) Where do University of Nairobi graduates work?

ACKNOWLEDGEMENTS

The success of this project is greatly indebted to the 291 University of Nairobi graduates that willingly gave of their time to assist in the process of tracing their fellow graduates, to complete an extensive questionnaire, and in some cases, to be interviewed. The general cordialness and high level of interest the author encountered were important impetuses in the push to complete this study. Without their gracious support, this research would not have been possible.

HUMAN CAPITAL: THE WEALTH OF NATIONS OR DRAIN ON RESOURCES? [1]

Human resources -- not capital nor income nor material resources -- constitute the ultimate basis for the wealth of nations. Capital and natural resources are passive factors of production; human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organization and carry forward national development. (Harbison, 1973, p. 3)

The impact of the African university on social and economic development has been an issue of great importance to African policy-makers since well before independence. Although this contribution may occur in a number of ways, the identification and training of a nation's human resources has consistently been named as an area of critical concern (UNESCO, 1963; Yesufu, 1973). This same vision has been shared by the government of Kenya:

Whether the ambitious programme of development expenditure . . . can be achieved depends critically on the availability of trained and experienced manpower . . . In many developing countries otherwise sound plans have foundered because of a shortage of skilled manpower and a failure to take the vigorous steps necessary to alleviate the shortage. (Republic of Kenya, 1966, p. 44)

As a result, the people and government of Kenya have made a phenomenal commitment to the expansion of the educational system since independence. This growth has occurred both at primary and secondary levels as well as at the University of Nairobi. By 1972, nearly 27 percent of the recurrent government expenditure was for education. Between 1961 and 1975 government-aided secondary school enrolment rose from 18,400 to 106,300. In the same period Harambee school enrolment increased from 3,700 to 111,100 (Gachathi, 1976). Similar growth occurred in higher education. In 1961, the total output of locally-trained Kenyan university graduates in East Africa was 99. By 1964, the University of

Nairobi alone received 2,747 graduates.

Any development strategy involves, by necessity, a series of trade-offs. Given limited financial resources, massive levels of expenditure in one area precludes allocation to other areas. Therefore, investment in education has been at the expense of more rapid development of the country's infrastructure, a greater commitment to industrial growth, or expanded support for self-employment. From the manpower development perspective, has this decision to so fully support education been a shrewd investment?

This paper focuses primarily upon the question of the efficiency of university education in Kenya. Equity issues, which are, admittedly, of equal importance in the examination of the 'investment', have not received much attention at this time. [2]

This study attempts to examine the University as a national investment by tracing a sample of graduates of the University of Nairobi through their actual experiences in the Kenyan economy. A total of 470 graduates were randomly selected primarily from Sociology, Maths, Chemistry, and Commerce for the years 1970, 1975, 1979, and 1982 (actually entered the job market in 1983). Graduates were then traced through the permanent addresses they utilized while at the University of Nairobi, through the faculty of the specific departments, and most importantly, through each other. When graduates were successfully located, they were sent a list of their classmates included in the sample and asked to provide any information on the addresses or employers of those individuals. Over 150 replies provided leads that ultimately resulted in the location of over 85 percent of the total sample.

A survey instrument was sent to each member of the sample that had been successfully traced. Questions focused on employment history (the current position, first position after graduation, and all other employment), educational history (formal training leading to a credential acquired after completion of one's undergraduate training), and demographic information. This supplemented data available from institutional records. Thirty interviews were subsequently conducted in a effort to ascertain systematic differences between non-respondents and respondents, to improve the response rate, and to obtain a more detailed understanding of the histories of the graduates.

Since responses continue to be returned and since further analyses will be conducted, the results reported in this paper must be considered preliminary. Although over 75 percent of located sample members have returned their completed instruments, this rate has not been evenly distributed across all cohorts. The response pattern is detailed in Table I.

Non-respondents and non-traced sample members were more likely to be from the earlier cohorts with 1970 having the highest proportion of both. Non-respondents and non-traced individuals tended slightly to have done less well academically and tended to be disproportionately from the Arts Faculty. In addition, Kenyans of Asian ancestry proved to be more difficult to locate and had a substantially poorer response rate than did the overall sample. Based upon the interviews, non-respondents did not have more complex work or educational histories; generally the reason given for non-response was, basically, insufficient time, not resistance to the intents and purposes of the study.

More elaborate detail regarding non-respondents and non-traced sample members is reported in Table I, Appendix I.

TABLE I. BREAKDOWN OF TRACER STUDY RESPONSE

	COMMERCE YEAR OF GRADUATION				TOTAL
	1970	1975	1979	1983	
Located	27	38	36	38	139
Responses	16 (59%)	26 (68%)	24 (67%)	35 (92%)	101
Some Data	0	0	0	0	0
Dead	3	0	0	0	3
Total Sample	36	40	40	40	156

	SCIENCE YEAR OF GRADUATION				TOTAL
	1970	1975	1979	1983	
Located	20	30	34	37	121
Responses	14 (70%)	23 (77%)	30 (88%)	32 (86%)	99
Some Data	0	0	0	0	0
Dead	1	1	1	0	3
Total Sample	24	33	40	47	144

	ARTS YEAR OF GRADUATION				TOTAL
	1970	1975	1979	1983	
Located	26	32	32	36	126
Responses	15 (58%)	20 (63%)	25 (78%)	30 (83%)	90
Some Data	5	1	1	0	7
Dead	1	1	1	0	3
Total Sample	40	39	40	40	159

	COMBINED TOTAL YEAR OF GRADUATION				TOTAL
	1970	1975	1979	1983	
Located	73	100	102	111	386
Responses	45 (62%)	69 (69%)	79 (77%)	97 (87%)	290
Some Data	13	1	1	0	15
Dead	5	2	2	0	9
Total Sample	110	112	120	122	464

PERCENT OF SAMPLE FOR WHICH THERE IS SOME INFORMATION: 88.4%
PERCENT OF THOSE LOCATED THAT RESPONDED: 75.1%

KEY: Located - Number of individuals for whom a confirmed mailing address was obtained.
Responses - Number of actual surveys returned.
Some Data - Number of individuals for whom information on either employment or overseas residence was confirmed.
Total Sample - The sum of located, unlocated, dead, and those for whom there is some information.

RESPONSES

The aggregate responses will be reported in terms of five different variables: year of graduation, field of study, academic performance, social-economic status, and sex. Under each of these five variables, six questions will generally be addressed:

- 1) Who employs University of Nairobi graduates?
- 2) To what extent do graduates utilise their University training on the job?
- 3) What is the pattern of job mobility of graduates?
- 4) How much do graduates earn?
- 5) What further formal training do graduates pursue?
- 6) Where do University of Nairobi graduates work?

These particular questions have been chosen in an effort to provide a representative look into the data generated by this study. They are not the only questions worthy of asking. But, they do serve to provide a useful framework for further analysis. Each section will be concluded with a brief discussion of the implications of these findings.

I. Results by Year

From the outset, it should be acknowledged that virtually all graduates interested in employment are gainfully employed in a wide range of careers. Many are in positions of significant responsibility. Most have remained in Kenya. Within this context there are many trends that provide a more descriptive insight into the role the University of Nairobi plays in the provision of high-level manpower and the actual experiences of graduates in the labour market.

The data reported in this section both underscore trends that reappear elsewhere in the results and establish some important patterns that can be seen from this longitudinal perspec-

tive. [3] They are:

- 1) By 1983, there is some evidence that the saturation of the demand for high level (i.e., professionals, mid and upper level managers, etc.) employment had begun to reach University of Nairobi graduates;
- 2) Throughout the period of the study, the public sector (central, local government, and parastatals) has dominated the employment market;
- 3) Job mobility between parastatals, central government, and the private sector has been limited, but virtually one-way out of the central government;
- 4) Evidence supporting the existence of credential inflation is limited and ambiguous, although a sizeable percentage of graduates perceived their skills and abilities as being underutilised in the work setting;
- 5) The graduates employed by the private sector indicate better remuneration than do their counterparts in both parastatals and the central government, although those in parastatals are significantly better paid than those employed by the central government;
- 6) But, graduates employed by the public sector are the primary beneficiaries of opportunities for further study; and,
- 7) The likelihood that graduates are employed in an urban setting is extremely high.

WHO EMPLOYS UNIVERSITY OF NAIROBI GRADUATES

Without a doubt the largest employer of University of Nairobi graduates is the public sector. Although in 1970 the private sector absorbed 42.5 percent of that cohort, there has been an apparent deterioration in the ability or interest on the part of the private sector to continue to hire such significant proportions of the graduates. At the same time, the public sector has maintained, if not expanded, its role in the employment of graduates. When considering the first permanent employer after graduation, the dominance of the public sector has grown from 57.5 percent in 1970 to 81.2 percent in 1983 [4]. This can be seen in greater detail in Table II.

In the interviews conducted with members of the sample, one issue of self-employment (or lack of) was explored. The lack of capital was frequently cited as a barrier to self-employment, however as one individual noted, "Even if you get the necessary

TABLE II. DOMINATION OF THE PUBLIC SECTOR IN THE EMPLOYMENT OF UNIVERSITY GRADUATES IN KENYA

- 1st Job -

Year	Private	Local Govt.	Parastatal	Central Govt.	Self	Other
1983	23.6%	3.4%	28.1%*	38.2%	2.2%	4.5%
1979	15.7	2.9	10.0	67.1	0	4.3
1975	26.7	1.7	16.7	51.7	0	1.7
1970	42.5	2.5	27.5	27.5	0	0

N = 263

*This figure is inflated by the large number of 1983 graduates employed as untrained teachers. This is a phenomenon that did not occur in the earlier years. It represents about one half of this figure.

- Current Job -

Year	Private	Local Govt.	Parastatal	Central Govt.	Self	Other
1983	17.0%	2.1%	34.0%	45.7%	1.1%	0%
1979	16.1	2.3	23.0	56.6	0	8.0
1975	34.1	2.4	26.2	31.7	0	4.9
1970	33.3	0	40.4	17.5	3.5	5.3

N = 320 (includes data gathered by phone)

capital . . . it is not worth the risk". The more likely scenario involved soliciting limited additional work outside of one's regular job on an after hours basis that utilized skills related to one's training. In several other cases, income was supplemented by part-time business activities unrelated to formal training. This is an area of critical importance and worthy of further exploration.

As would be expected, the areas of the economy where graduates are employed have been changing over time. Although there is often wide variation from year to year, there has been a dramatic decline in the proportion of graduates absorbed by manufacturing, in wholesale and retail activities, and to a

lesser extent in public administration. Concurrent increases have occurred in government services and education. This data is reported in full in the Appendix I (Table II.).

The ease with which a University of Nairobi graduate was once able to secure employment may have deterred consideration of self-employment. This situation is, however, changing. Two findings of this study illustrate the decreasing availability of appropriate employment. When comparing the experiences of the 1979 and 1983 cohorts, the proportion of graduates accepting temporary employment after graduation doubled to 29.2 percent. This is also apparent the increasing length of time required to find employment, as shown in Table III. The extent of the trend is somewhat masked by the high number of temporary positions taken by 1983 graduates. If only first permanent employment is considered, 12.2 percent of the 1983 cohort was employed in the first two months after graduation, 38.9 percent in following four months, another 32.2 percent found permanent work within the first year, and a final 16.7 percent either remain in temporary jobs or found placements after the first year. [5] Support for the decreasing availability of job openings can also be extracted from data regarding the utilisation of graduates in their jobs.

TABLE III. LENGTH OF TIME BETWEEN GRADUATION AND FIRST JOB

YEAR	Length of Time Before First Job			
	0-2 months	3-6 months	7-12 months	1-3 years
1983	23.6%	36.0%	32.6%	7.9%
1979	91.4	5.7	1.4	1.4
1975	83.1	11.9	0	5.1
1970	94.9	2.5	2.6	0

n = 263 DF = 6 Chi-Square = 121.27 p = .0000004

TO WHAT EXTENT DO GRADUATES UTILISE THEIR UNIVERSITY TRAINING ON THE JOB

The data in this section requires careful interpretation. Table IV. shows a rather gradual trend toward a reduced utilisation of knowledge acquired in the University in the first job. Table V., which examines the issue of utilisation from another perspective, contrasts the educational qualifications required and actually necessary to do the first job held by the 1979 and 1983 cohorts. It, like Table IV., suggests the increased under-utilisation of University training, i.e., that graduates are offered positions requiring a university degree but needing less education to do the tasks involved in the job. In addition, more graduates in recent years, have accepted positions unrelated to their field of study. Only 20.4 percent of the 1983 cohort occupied first jobs where the primary tasks were somewhat or highly related to their field of study. The corresponding figures for the 1979 and 1975 samples were 39.1 and 39.3 percent respectively.

TABLE IV. UTILISATION OF KNOWLEDGE ACQUIRED AT THE UNIVERSITY OF NAIROBI IN THE FIRST JOB.

Year of Graduation	Percentage of Knowledge Used (1st Job)		
	0 - 50%	50 - 100%	Total
1983*	60.9	19.1	100.0%
1979	55.7	44.3	100.0%
1975	59.0	41.0	100.0%
1970	65.0	35.0	100.0%

N = 263

* As explained earlier, the characteristics of the current job may be a more accurate indicator of the what is happening to the 1983 cohort. The utilisation of knowledge improves slightly to 75.3 percent and 24.7 percent. The trend still holds, however.

The deterioration in the extent to which University training is used on the job and the concurrent growing mismatch between required and necessary job qualifications has many possible causes. Supported by information derived from the interviews, it seems very plausible that this does indeed represent a growing underutilisation of University of Nairobi graduates. Employers have the opportunity to upgrade the skill level of their work force even though the jobs remain the same. This is the foundation of credential inflation. It may also be an outgrowth of the increased competition for jobs, which has forced graduates to accept work outside their field of study. However, it may also partially represent inflated expectations held by the graduates (The differences over time may be due to the fact that inflated expectations are far less probable for those graduates who are evaluating the needs of their first job from the perspective of six or more years experience in the 'real' world, i.e., the 1970-1979 graduates). Or, it may reflect a deterioration in either the quality or relevance of the instruction at the University.

TABLE V. RELATIONSHIP BETWEEN REQUIRED AND NECESSARY EDUCATIONAL QUALIFICATIONS IN THE FIRST JOB - 1979 and 1983 COHORTS

	'D' Level Req/Neces		'A' Level Req/Neces		Bachelors Req/Neces		Masters Req/Neces	
1983	1	4%	4%	34%	95%	58%	0%	4%
1979	1	8	3	10	93	74	3	8

The information derived from the interviews seemed to consistently suggest that graduates do not utilize the factual information they were taught as extensively as the general ability to think and analyse and the problem-solving skills

acquired through their University training. Education helps "you understand a wider perspective," as one 1975 graduate summarised.

WHAT IS THE PATTERN OF JOB MOBILITY OF THE GRADUATES

The examination of job mobility, at this point, will focus on two aspects of movement. The first is the frequency of movement. The second looks at the movement within and between sectors. There are, however, a multitude of questions that remain to be scrutinised in the course of a more extensive data analysis, e.g., the issues of upward mobility and rationale for job change. These will receive more attention at a later time.

without comparable data from other segments of Kenyan society, it is impossible to assess the relative movement of University of Nairobi graduates between jobs. Table VI. reports only those position changes that involved either a change of firm or ministry or a substantive change of job description or responsibility. Not included are promotions that involve no significant change of responsibilities or duties and temporary positions. The picture that emerges is one of limited, although not restricted movement that varies across major field of study. Subsequent analysis (to be done at a later time) will examine and compare the number of job changes for each cohort over identical

TABLE VI. HOW MANY TIMES HAVE GRADUATES CHANGED JOBS?

Graduation Year	Number of Job Changes in Career							Mean
	0	1	2	3	4	5	6	
1970	7.1%	33.3%	31.6%	16.7%	11.9%	0	0	1.93
1975	26.5	26.5	29.4	11.8	2.9	1.5	1.5	1.49
1979	48.1	39.0	13.0	0	0	0	0	.65
1983	63.9	18.1	1.1	0	0	0	0	.20

N = 284 NA = 3 Missing Data = 2

periods of time (e.g., number of job changes in the first six years after graduation).

Of the 250 job changes that were identified, over one half were made by Commerce graduates. Substantially fewer changes were made by their Arts and Science counterparts. This is detailed in Table VII.

TABLE VII. PROPORTION OF TOTAL JOB CHANGES BY MAJOR FIELD OF STUDY WHEN COMPARED TO THE EXPECTED PROPORTION

	Field of Study		
	Commerce	Arts	Science
Proportion of Total Job Changes (Observed)	.51	.27	.22
Proportion of the Total Sample (Expected)	.36	.31	.33
Ratio of Observed/Expected Proportion	1.42	.87	.67

When within and between sector movement is examined, an even more interesting picture emerges. To simplify the analysis, only movement between and within the central government, parastatals,

TABLE VIII. JOB CHANGE -- WITHIN AND BETWEEN CENTRAL GOVERNMENT, PARASTATALS, AND THE PRIVATE SECTOR

	Central Government	Parastatals	Private Sector
% of Total Within Sector Movement	24.4%	22.7%	52.9%
% of Total Between Sector Movement TO This Sector	12.2%	49.0%	38.8%
% of Total Between Sector Movement FROM This Sector	43.9%	25.5%	30.6%
% of Total Movement	33.2%	24.0%	42.9%
Expected %*	52.3%	20.1%	27.6%

* Expected percentage was weighted on the basis of the proportion of each cohort employed within that sector and the propensity of that cohort to change jobs.

and private sector has been considered. Moves within and between these sectors accounts for 86.8 percent of all job changes. Again, temporary positions have been excluded from this analysis. The findings have been summarised in Table VIII.

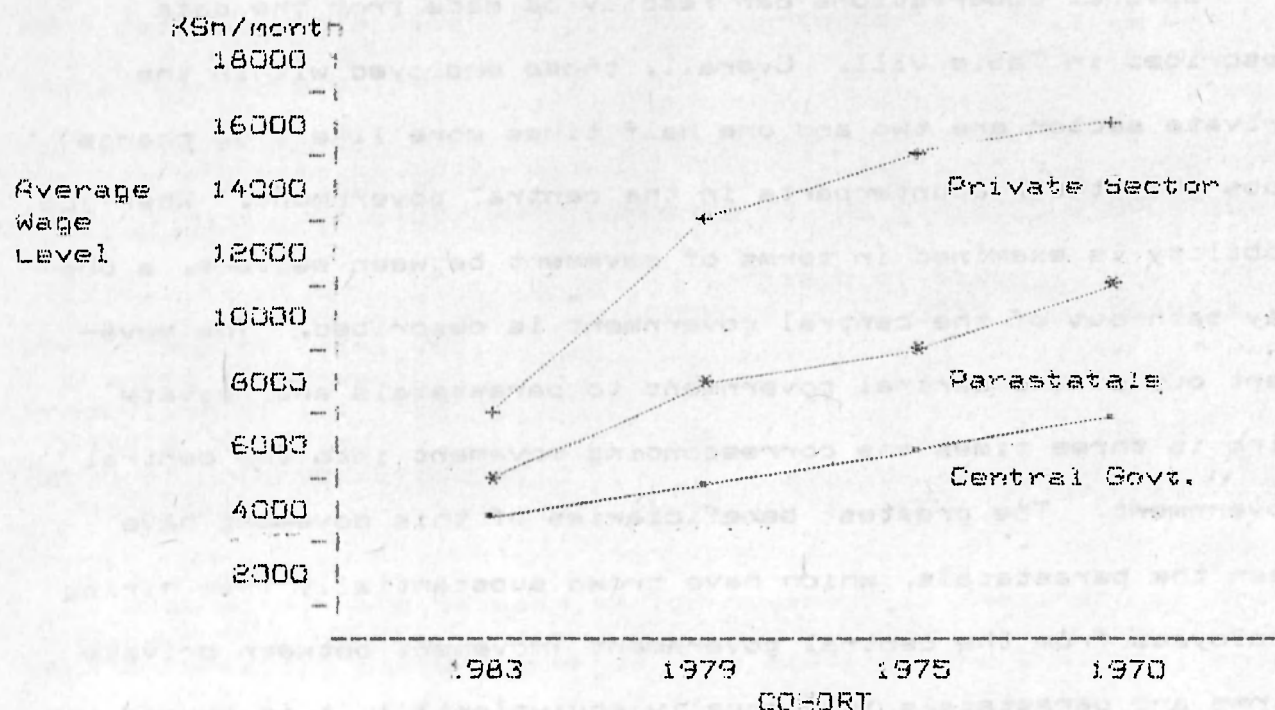
Several observations can readily be made from the data described in Table VIII. Overall, those employed within the private sector are two and one half times more likely to change jobs than their counterparts in the central government. When job mobility is examined in terms of movement between sectors, a one-way path out of the central government is described. The movement out of the central government to parastatals and private firm is three times the corresponding movement into the central government. The greatest beneficiaries of this movement have been the parastatals, which have grown substantially from hiring employees from the central government (movement between private firms and parastatals is virtually equivalent). It is beyond the scope of this data to suggest that the central government loses its most productive employees in this manner, however, it is reasonable to assume that the central government serves as training ground from which parastatals and the private sector have been able to draw. It is a question that warrants additional study.

HOW MUCH DO GRADUATES EARN?

The expected growth of income over time is affirmed by the data generated in this study. It also evidences the rigid upper limits of income in the central government, which certainly is partially responsible for the sectoral movement described in the preceding section. Figure I, which looks at the average wage in each of the four cohorts for those graduates working in the

central government, parastatals, and private firms, gives a rough longitudinal picture of the relative wage growth that one can expect over time.

FIGURE 7. RELATIVE WAGES BY COHORT - CENTRAL GOVERNMENT, PARASTATALS, AND PRIVATE SECTOR COMPARED



	Central Government	Parastatals	Private Sector
1983	4250 KSh/month	4710	5473
1979	4803 KSh/month	8133	12920
1975	5500 KSh/month	8625	14538
1970	6568 KSh/month	11328	16252

NB. THESE ARE NOT EXACT WAGES. THEY ARE OVERESTIMATES DESIGNED TO SHOW ONLY RELATIVE POSITION. See Table XII. in Appendix I. for more exact data.

WHAT FURTHER FORMAL TRAINING DO GRADUATES PURSUE?

It was anticipated that one response to the increased competition in the labour market would be that more recent graduates would pursue advanced education (Hughes and Wahome, 1965; Dore, 1976). Additional credentials would help distinguish a graduate from his/her peers. This trend was not borne out by the data. (See Table III. in Appendix I.)

Undoubtedly, part of the answer lies in the mode of funding further study. With but a few exceptions self-funding comes into play only in the pursuit of professional certification, e.g., as a public accountant (CPA), as a public secretary (CPS), in insurance and in banking. This was the case in over 70 percent of the total number of self-sponsorships. Slightly in excess of 10 percent of all further study was sponsored by private firms of which a majority of this 10 percent was in support of the pursuit of accounting credentials. Sixty-six percent of all further study was support of public sector employees by the government or an international aid agency. An inconsequential proportion of this total funded professional certification. Virtually all international aid agency support was funnelled through the government to public sector employees. This is summarised in Table IX.

TABLE IX. SUPPORT OF FURTHER EDUCATION

Private Sector Support	10.2%
Accounting Credential (58.8%)	
Self-support	23.5%
Professional Credential (71.9%)	
Government Support or International Agency Support Funneled Through the Government	66.3%

Self-sponsorship has been, and continues to be very limited in Kenya. Those interested in further training have, in the interviews, cited the availability of educational opportunity in the public sector as an attractive feature of government employment. At this time, it seems that graduates interested in further education are either able to locate sponsorship, are willing to wait for sponsorship, or accept the lack of further educational opportunities as a trade-off of private sector employment.

WHERE DO UNIVERSITY OF NAIROBI GRADUATES WORK?

Several summary comments can be made concerning the profile that emerges from the current work location of university of Nairobi graduates. Table X. reports the sample data in its entirety. Of the graduates employed in Kenya, 60.3 percent are employed in urban Kenya (70.1 percent in Nairobi alone). However, a disproportionate number of those with urban employment come from the earlier graduates. It is not clear whether the decreasing numbers of graduates who have found employment in the urban centers is a result of the increased competition for jobs or whether there is a rural-urban movement as one gains more work experience.

There is no evidence of a significant "brain-drain" among this sample, with the exception of the 1970 cohort. The dynamics of that exodus is a complicated story that deserves more space than this paper is able to provide. Suffice it to say that those 1970 graduates who have left are primarily Kenyans of Asian ethnic background with degrees in Science. Many found the prospects for upward mobility in Kenya in their fields to be severely limited. It should be noted, however, that many Asian-Kenyan graduates included in the sample remain in Kenya employed in business, in education, and in research.

TABLE X. CURRENT WORK LOCATION - URBAN/RURAL/OVERSEAS

YEAR	URBAN KENYA							Small Towns		TOTAL	(N)
	Nbi	Mbsa	Thika	Nak	Eio	Kis	Rural	Overseas			
1983	59.6%	7.1	-	7.1	-	1.0	24.2	1.0	100.0	(99)	
1979	62.6	1.0	2.0	2.0	2.0	1.0	27.4	2.0	100.0	(102)	
1975	75.5	1.1	1.1	8.4	1.1	-	12.8	2.1	100.1	(94)	
1970	66.3	1.2	-	1.2	-	2.4	7.2	21.7	100.0	(83)	
TOTAL	65.9	2.6	.6	4.2	.8	1.0	18.5	6.1	96.5	(378)	

SUMMARY

This section, which compares the experiences of University of Nairobi graduates on the basis of year of graduation, has illustrated the consistent importance of the public sector as a primary employer. This is a trend that seems untenable in the long term (Hughes and Watome, 1985). There has been an equally consistent lack of self-employment. The evidence of an increasingly competitive job market is most vividly shown by the rise in use of temporary employment, the growing length of time required for recent graduates to locate employment, and the decrease in the utilization of one's formal training on the job (an indicator that graduates are being increasingly underemployed). However, there is no evidence of an unemployment problem.

Job mobility seems to be disproportionately associated with the private sector and with Commerce graduates. The most significant movement, nonetheless, may be the general movement out of the central government and into the parastatals and private sector. Part of the cause of this one-way movement may well be the low ceiling that seems to exist on central government wages. The long-term effect may well be that the central government loses some of its most productive employees to the parastatals and the private sector.

Supported, further study appears to be disproportionately a public sector phenomenon. Self-sponsored study seems to be primarily in pursuit of professional certification. One positive trend that may be an outgrowth of the competitive labour market is that recent graduates have increasingly found positions in the rural areas. Another dimension requires consideration before

drawing too many conclusions, that is, the differential impact of these trends upon graduates from the different faculties sampled.

II. Results by Faculty

The trends of primary interest that emerge from this section are:

- 1) 1563 graduates from the Faculty of Science (Chemistry and Maths) and the Faculty of Arts (Sociology) have very similar experiences in the job market, e.g., relatively long periods of unemployment after graduation, increasingly accepting employment outside the area and emphasis of formal training, and primarily at the mercy of the government for employment;
- 2) Commerce graduates have seemingly benefitted to a much greater degree from continued high demand for their skills, including greater absorption by private firms than their Science or Arts counterparts;
- 3) All Science and Arts graduates sampled are much less likely to change jobs, but more likely to pursue sponsored further study than their Commerce counterparts;
- 4) Science and Arts graduates are less likely to have as lucrative an earnings history as are Commerce graduates; and,
- 5) Science and Arts graduates are more likely to accept employment in a rural setting than a Commerce graduate.

Somewhat responsible for the low level of demand for Chemistry and Maths graduates in recent years must be the nature of industrial development in Kenya (Bernell, 1981). The limited presence and sophistication of corporate research and development operations in Kenya has resulted in limited demand for the skills possessed by these individuals. Although, again, it is not a question of unemployment, general science is not the demanded preferential it once may have been.

Another factor may be that, in recent years, the Faculty of Science has tended to accept, on the average, a lower quality student (based on 'A' level results) than some the other faculties which generally compete for the same students. Since 1975, the minimum points for admission into the Faculty of

Science has ranged between 7 and 9 points (the more points the better the 'A' level performance), while the Faculty of Engineering has required a minimum of between 8 and 14 points, with 11 being the mean, and the Faculty of Medicine has required between 8 and 12, with the mean being 10. Employers have responded to this decrease in quality by reducing their demand. This scenario is purely speculative and without any firm supporting evidence.

WHO EMPLOYS THESE UNIVERSITY OF NAIROBI GRADUATES?

Over the four years sampled, the Science and Arts employment profiles have become increasingly similar as shown in Table XI. Although the 1970 samples are small, there is evidence of a decreasing role for the private sector in the employment of Science graduates. By 1979, the public sector accounted for 85.2 percent

TABLE XI. SECTOR OF EMPLOYMENT BY FACULTY AND YEAR

		First Job				All Other
		Private	Local Govt.	Parastatal	Central Govt.	
COMMERCE:	1983	31.3%	-	28.1	37.5	3.1
	1979	33.3	4.8	4.6	57.1	-
	1975	45.8	4.2	12.5	37.5	-
	1970	62.5	-	31.3	6.3	-
	OVERALL	40.9	2.2	19.4	36.5	1.1
ARTS:	1983	4.0	-	36.0*	60.0	-
	1979	4.5	-	9.1	77.3	9.1
	1975	5.6	-	11.1	77.8	5.6
	1970	7.7	7.7	30.8	53.8	-
	OVERALL	5.1	1.3	21.8	67.9	3.8
SCIENCE:	1983	14.3	7.1	32.1*	39.3	7.1
	1979	11.1	3.7	14.8	66.7	3.7
	1975	29.4	-	29.4	41.2	-
	1970	54.5	-	18.2	27.3	-
	OVERALL	21.7	3.6	24.1	47.0	3.6

*If those employed as teachers by the T.S.C. are not included in these figures, there is a decrease to 10 percent for Arts and 18 percent for Science.

of the employment of the Science sample. The Arts sample has consistently been virtually dependent upon the government for employment. Even though the Commerce sample has also shown a diminishing proportion employed by the private firms, it continues to command a significant demand in that sector.

The increasing tightness of the labour market for all 1983 graduates, but most intensely the Arts and Science sample, can be seen by the length of time required to get the first permanent job. This can be seen in Table XII. In addition, more than one third of the Sociology graduates and 30 percent of the Maths and Chemistry graduates were employed for at least some period of time as untrained graduate teachers. More than half of that number are still working in that capacity. By contrast, only one 1979 graduate sampled worked as an untrained graduate teacher.

TABLE XII. LENGTH OF TIME REQUIRED TO FIND A PERMANENT JOB

	Length of Time After Graduation			
	0-2 months	3-6 months	7-12 months	1-3 years
COMMERCE	32.4%	32.4	32.4	2.9
ARTS	3.4	41.4	6.9	48.3
SCIENCE	13.3	26.7	30.0	30.0
N = 93	DF = 6	Chi Square = 26.766		p = .00016

TO WHAT EXTENT DO THESE GRADUATES UTILISE THEIR UNIVERSITY TRAINING ON THE JOB?

Additional support for the deterioration of the employment market for both the Arts and Science samples is also seen in a comparison of the percentage of knowledge acquired at the University actually used in their first permanent jobs for the 1983 and 1979 cohorts. Although graduates from all faculties were less

likely to utilise their knowledge as fully in 1983 as were their 1979 counterparts, Science and Arts leavers have experienced a more dramatic deterioration of their situations. This is shown in Table XIII. and in more detail in Table IV. in Appendix I.

TABLE XIII. UTILISATION OF KNOWLEDGE BY FACULTY FOR 1979 - 1983 IN THE FIRST PERMANENT POSITION

		Utilisation of Knowledge	
		0 - 50%	50 - 100%
COMMERCE:	1983	63.6%	36.3%
	1979	58.3	41.5
ARTS:	1983	81.4	18.5
	1979	65.2	34.8
SCIENCE:	1983	83.0	20.0
	1979	50.0	50.0

*Current job figures are used for 1983 graduates to adjust for the high proportion of temporary positions this cohort accepted as first jobs.

What does this mean, for example in relation to specific jobs.

Listed below is a breakdown of the 1983 graduates on the basis of knowledge utilisation, faculty, and current job:

	ARTS	SCIENCE	COMMERCE
50 - 100%:	1 Social Development Officer 1 Hostel Supervisor 1 Probation Officer 1 Planning Officer 2 Training and Public Relations Officers	1 Teacher 1 Computer Programmer 2 Agricultural Research Officers 1 Research Assistant/Biological Sciences 1 Chemist	1 Personnel Officer 1 Acct./Private Company 4 Management Trainees 2 Income Tax Assessors 2 Auditors/Professional Firm 1 Management/Insurance 1 Government Auditor
0 - 50%:	1 Prison Rehabilitation Officer 1 Probation Officer 5 Teachers 3 Personnel Officers 4 Supplies Officers 3 Executive Assistants 1 Labour Officer 2 Foreign Affairs Officers 2 Management Trainees - Insurance	2 Chemists 8 Teachers 1 Textile Chemist 3 Planning Officers 3 Computer Programmers 2 Agricultural Research Officers 1 Statistical Officer 1 Soil Chemist 1 Accounts Officer 1 Retail Sales	7 Government Accountants 2 Supplies Officers 1 Bank Officer 1 Statistician 3 Postal Controllers 2 Accts./Private Company 1 Asst. Traffic Supt. 1 Management Trainee 2 Revenue Collectors 1 Administrative Officer 1 Assistant Dept Manager
NA:	1 Unemployed 1 MA Student	3 %Sc Students	1 Unemployed

Interpretation of this information is fraught with difficulties; its value is primarily descriptive at this point. It can be said a fundamental logic seems to exist in the kind of employment that graduates from the three faculties accept. Only teachers (understandably), supplies and personnel officers, and management trainees appear for more than one faculty. On the other hand, as Table V. indicated, the specific responsibilities assigned to many of these graduates could be done by someone with 'A' level education. The 1983 graduates frequently made comments like, "As regards to my current job, it's not challenging but because of lack of other openings, I stick to it." Another observed that, "although I learned a lot at the University, very little of it if any is being used by me in my current job. But, then I am earning a salary and I will continue doing this kind of work until I get a more suitable one [job]." The litany is disillusioned, but not angry. Throughout the interviews, no graduate ever mentioned that they would not have gone to University should they have the opportunity to make that choice again.

HOW MUCH DO THESE GRADUATES EARN?

Not unexpectedly, sample members graduating from the Faculty of Commerce have tended to reap greater financial rewards than the Arts and Science graduates. Commerce graduates start at a higher salary and move upward faster. Table XIV. provides specific detail by year and faculty. These trends are certainly influenced by the higher probability that Commerce graduates will be employed in the private sector, which pays higher wages. It may, however, also be partially attributed to the continued demand for the skills Commerce graduates possess. This is some-

what supported by the higher salaries Commerce graduates tend to be paid in, for example, the central government than are Arts and Science graduates. These figures are detailed in depth in Appendix I., Table VI. They cannot be considered conclusive because of the very small numbers in some of the cells.

TABLE XIV. THE BASIC CURRENT INCOME OF EMPLOYED GRADUATES BY YEAR AND FACULTY

COMMERCE GRADUATES

YEAR	INCOME									N
	0- 2500	2500- 5000	5000- 7500	7500- 10000	10000- 12500	12500- 15000	15000- 17500	17500- 20000	20000-	
1983	12.1%	51.5	21.2	9.1	6.1	-0-	-0-	-0-	-0-	33
1979	-0-	21.7	21.7	13.0	21.7	8.7	4.3	-0-	8.7	23
1975	-0-	8.0	16.0	24.0	20.0	8.0	6.0	4.0	12.0	25
1970	-0-	-0-	12.5	12.5	25.0	6.3	25.0	6.3	12.5	16

ARTS GRADUATES

1983	55.6%	37.0	7.4	-0-	-0-	-0-	-0-	-0-	-0-	27
1979	4.3	78.3	-0-	8.7	-0-	8.7	-0-	-0-	-0-	23
1975	-0-	42.1	25.3	5.3	10.5	5.0	-0-	5.3	5.3	19
1970	-0-	7.7	30.8	7.7	23.1	7.7	7.7	-0-	15.4	13

SCIENCE GRADUATES

1983	33.3%	63.0	3.7	-0-	-0-	-0-	-0-	-0-	-0-	27
1979	-0-	78.6	7.1	7.1	3.6	3.6	-0-	-0-	-0-	23
1975	-0-	36.4	22.7	-0-	22.7	4.5	4.5	-0-	9.1	22
1970	-0-	16.7	8.3	16.7	8.3	8.3	16.7	-0-	25.0	12

WHAT FURTHER FORMAL TRAINING DO THESE GRADUATES PURSUE?

Science and Arts graduates have tended to pursue further formal education to a much greater extent than the Commerce graduates included in the sample. Commerce graduates have, with the exception of the 1970 class, largely limited further study to acquisition of professional credentials. Science and Arts sample members have, perhaps, benefitted by their greater presence in the public sector, which has been the most significant sponsor of further study. The interviews seemed to suggest that the rewards

for further formal training were greater for Arts and Science graduates than Commerce graduates. Added education was generally a prerequisite to upward mobility for those Science and Arts graduates working within their professions. Beyond professional certification, this was not normally the case for Commerce graduates.

WHERE DO THESE UNIVERSITY OF NAIROBI GRADUATES WORK?

Over the years there has been a gradual trend toward increasing proportions of the graduates from the Arts and Science Faculties finding employment in non-urban areas. The extraordinary number of 1979 Arts graduates (53.1 percent) that are employed in rural areas stems directly from the high number of that sample employed by the central government and subsequently assigned to rural posts. Sixty-eight percent of those employed by the central government in 1979 were sent to rural areas. In 1983, only 28.6 percent of those Arts graduates employed by the central government were employed in the rural areas. Of all the graduates in the sample currently employed within the private sector, only 13.3 percent are located in non-urban settings. The predominant occupation for those working in the rural areas has been as District Officer until 1983, when it was surpassed by teacher.

Based on the thirty interviews (all with individuals working in Nairobi), there is limited urban-rural movement. None of those thirty had worked in a rural setting at any time in their careers. It seems likely, however, that there is significantly greater movement from rural to urban areas. This may be able to be extracted from the survey responses at a later time. Represent-

diy, the rural-urban issue was omitted from the questionnaire itself, which would have provided a useful history of rural-urban mobility.

TABLE XV. CURRENT WORK LOCATION - URBAN/RURAL/OVERSEAS BY FACULTY

YEAR	Nbi	Mbsa	URBAN KENYA		COMMERCE		Small Towns		TOTAL	(N)
			Thika	Nak	Eld	Kis	Rural	Overseas		
1963	66.7%	11.1	-	2.8	-	2.8	13.9	2.8	100.1	(36)
1979	72.2	2.8	5.6	2.8	5.6	-	8.3	2.8	100.1	(35)
1975	82.4	-	2.9	5.9	-	-	8.8	-	100.0	(34)
1970	89.9	-	-	3.7	-	-	7.4	-	100.0	(27)
TOTAL	76.7	3.8	2.3	3.8	1.5	.8	9.8	1.5	100.2	(133)
<u>ARTS</u>										
1983	61.3%	6.5	-	3.3	-	-	29.0	-	100.1	(31)
1979	43.8	-	-	-	-	-	53.1	3.1	100.0	(32)
1975	55.4	3.1	-	12.5	-	-	18.8	6.3	100.1	(32)
1970	71.4	3.6	-	-	-	3.6	3.6	17.9	100.1	(28)
TOTAL	58.5	3.3	-	4.1	-	.8	26.8	6.5	100.0	(123)
<u>SCIENCE</u>										
1983	50.0%	3.1	-	15.6	-	-	31.3	-	100.0	(32)
1979	70.6	-	-	2.9	-	2.9	23.5	-	99.9	(34)
1975	85.7	-	-	-	3.6	-	10.7	-	100.1	(28)
1970	39.3	-	-	-	-	3.6	10.7	66.4	100.0	(28)
TOTAL	61.4	.8	-	4.9	.8	1.6	19.7	10.7	99.9	(122)

SUMMARY

The primary message of this section, which has compared the Tracer Study results by Faculty, has been that general science graduates in recent years have encountered increasing difficulties in finding appropriate employment. As with the Arts sample, the public sector has accounted for an ever-increasing proportion of employment of the Science sample and temporary jobs have become a practical response to the longer time required to locate a permanent position. Commerce graduates seem to continue to be

in relative demand.

This greater demand for Commerce graduates may be reflected in the higher salaries they are likely to command, their greater job and inter-sector mobility, and the lower likelihood that they will accept employment in rural locations. This must be a cautious interpretation.

A useful next step to this study would be to examine this apparent slump in demand for general science and arts graduates from the employers' perspective, particularly those within the private sector. How and why do they make decisions to hire or not to hire Science and Arts graduates? Who can they hire instead of graduates to do the same work? Once the graduates are on the job, what is the employer's evaluation of their productivity?

III. Results By Academic Performance

The most distinctive outcome of the analysis on the basis of academic performance is the lack of distinctive outcomes. Based on the importance given to meritocratic advancement within the educational system and the seemingly obvious advantage of hiring those who have proven themselves most capable within the educational system, there seems to be surprisingly little advantage in the 'real world'. Given this, it would be anticipated that another factor, e.g., social economic background, would be superceding academic performance. However, as will be discussed in the next section ("Results By SES"), this does not appear to be the case.

When income, advancement, and the urban/rural breakdown of location of work were examined on the basis of academic performance, no noteworthy trends were discovered. There were two exceptions: the length of time 1983 graduates required to locate a permanent job and the pursuit of further training. As one would expect the opportunity and pursuit of further education is related to academic performance. Certainly, in that context, undergraduate academic performance is a reasonable predictor of the probability of success in further training and of general interest in academic pursuits. The longer length of time those with lower academic performance required to locate their first permanent job in 1983 may be a first sign of differences that may increasingly exist between those with lower and higher marks under competitive conditions in the labour market.

WHO EMPLOYS THESE UNIVERSITY OF NAIROBI GRADUATES?

So, who hires the 'cream' of University of Nairobi graduates? At first blush, it would seem that the sector with the ability to pay the most would be in a position to recruit and employ the best graduates. As can be seen by Table XVI., the private sector has not hired a disproportionate percentage of the top University performers.

TABLE XVI. WHO GETS THE 'CREAM'?

ACADEMIC RANK	Private Firms	FIRST JOB Parastatals	Central Govt.
1st Class and and Upper 2nd	20 (29%)	13 (22%)	41 (31%)
Lower 2nd	38 (55)	30 (52)	73 (55)
Pass	11 (16)	15 (26)	18 (14)
TOTAL	69	58	132

Chi Square = 4.768 DF = 4 Probability = .312

Even if this analysis is taken a step further in order to see whether or not the best Commerce students (since the private sector has shown a preference for Commerce students) are hired by private firms, the results are insignificant. This can be seen in Table XVII.

TABLE XVII. COMMERCE GRADUATES -- ACADEMIC PERFORMANCE BY SECTOR OF EMPLOYER (All Years)

ACADEMIC RANK	FIRST JOB		
	Private Firms	Parastatals	Central Govt.
1st Class and and Upper 2nd	13 (31%)	5 (25%)	5 (15%)
Lower 2nd	21 (50)	11 (55)	22 (65)
Pass	6 (19)	4 (20)	7 (21)
TOTAL	42	20	34

Chi Square = 2.834 DF = 4 Probability = .586

TO WHAT EXTENT DO THESE GRADUATES UTILISE THEIR UNIVERSITY TRAINING ON THE JOB

Preliminary analyses have not indicated any significant differences in the utilisation of knowledge on the job between graduates with lower final marks than those with higher marks. (See Table V. in Appendix I.) This is corroborated by a comparison of the educational level necessary to fulfill the responsibilities in one's first job across various levels of academic performance. Table XVIII. summarises these findings.

TABLE XVIII. LEVEL OF EDUCATION NECESSARY TO FULFILL THE RESPONSIBILITIES OF ONE'S FIRST JOB ACROSS LEVELS OF ACADEMIC PERFORMANCE

	Job Necessitates	Job Necessitates
	Bach. Degree or above	'A' or 'O' Levels
1st Class and Upper 2nd Class	53 (70.7%)	22 (29.3%)
Lower 2nd Class	81 (62.8%)	48 (37.2%)
Pass	33 (63.8%)	17 (36.2%)

Chi Square = 1.357 DF = 2 p = .5073

Perhaps the one notable exception in this examination of utilisation is the academic performance of those 1983 graduates who took first positions as untrained graduate teachers. The differences between the mean academic performance of the entire 1983 Arts and Science sample and the mean academic performance of all 1983 sample members whose first job was as an untrained teacher (only Arts and Science graduates) is significant, as shown in Table XIX. Untrained teachers were more likely to have lower marks than the typical Arts or Science graduate. This may indicate that academic performance will become increasingly important in the employment selection process as the labour market continues to tighten.

TABLE XIX. A COMPARISON OF THE MEAN ACADEMIC PERFORMANCE OF THE ENTIRE ARTS AND SCIENCE SAMPLE WITH THOSE WHOSE FIRST JOB WAS AS AN UNTRAINED TEACHER - 1983.

	1st Class	Upper 2nd	Lower 2nd	Pass	N
Entire Arts/Science 1983 Sample	1	17	34	9	61
Untrained Teachers	-	1	10	7	18
T=-2.7752	Std. Error of Difference=.1792		DF=77	p=.003	

WHAT IS THE PATTERN OF JOB MOBILITY OF THESE GRADUATES?

Two primary points relate to the issue of mobility and academic performance. First, for the 1983 graduates, the only cohort where there is a sizeable spread in the length of time required to find permanent employment, those graduates with higher marks tended to find permanent employment earlier than did those graduates with lower marks. This would tend to indicate that under conditions of increased competition, those students will have an advantage in locating an acceptable first position.

Second, over time there is no significant difference in the advancement graduates, representing different levels of academic achievement, seemed to experience. This may suggest that the skills related to academic success are not the same as the attributes that correlate with upward mobility in the world of work (e.g., ambition). It also may reflect the bias found in advancement toward promotion on the basis of seniority (e.g., schemes of service in the public service). This is a question that could, undoubtedly, be better answered by speaking with employers rather than using undergraduate academic performance as a proxy for productivity and performance.

Table XX. summarises the relationship of academic performance and the length of time 1983 graduates required to locate their first permanent job. Table VII. in Appendix I. provides comparative data on the advancement of 1979 graduates across levels of undergraduate academic performance.

TABLE XX. ACADEMIC PERFORMANCE BY LENGTH OF TIME REQUIRED TO LOCATE THE FIRST PERMANENT JOB - 1983 GRADUATES.

	Length of Time Prior to 1st Permanent Job				N
	0-2 months	3-5 months	7-12 months	1-3 years	
1st Class	3	-	-	-	3
Upper Second	5	7	9	1	22
Lower Second	9	23	13	9	54
Pass	1	1	2	10	14

Chi Square 40.667 DF = 5 p = .00000527

WHAT FURTHER FORMAL TRAINING DO THESE GRADUATES PURSUE?

The pursuit of further education by members of the sample was strongly correlated with academic performance at the undergraduate level. For example, of those that received a 1st Class

for their undergraduate work at the University of Nairobi 83.3 percent continued with some manner of study toward a credential. Of those receiving Upper Second marks as an undergraduate, 56.3 percent undertook further study. For those with Lower Second and Pass results, the proportions were 36.2 percent and 31.7 percent, respectively. The pattern of propensity for further study was also similar when only Masters and PhD's were considered:

1st Class - 50 percent completed a Masters or PhD,
Upper Second - 32.4 percent completed a Masters or PhD,
Lower Second - 15.2 percent completed a Masters or PhD, and,
Pass - 8.5 percent completed a Masters or PhD.

These data are hardly surprising. It appears, however, after this preliminary analysis, that over the years this has been the most substantive benefit one has tended to accrue from superior undergraduate academic performance.

SUMMARY

When the Tracer Study results are examined on the basis of academic performance, a surprising lack of distinction exists between those graduates with higher and lower marks. Although in times characterised by a competitive labour market graduates with higher marks seem to have less difficulty locating permanent employment, there is no evidence to suggest that these jobs are better than the permanent jobs their counterparts ultimately take. However, there are other signs of change. The role of temporary employment as untrained teachers among 1983 Arts and Science sample members with lower marks may be just the beginning of a long-term erosion in the quality of the employment the less academically successful graduates are able to locate.

There is no significant difference in promotion, income, or probability of being hired within the private sector when these

variables are examined in terms of academic performance. Until the tightening of the employment market began to impact the 1983 graduates, the only real benefit of academic success seemed to be a higher probability that there would be more opportunity for further study. As one graduate commented, "It has become very obvious [that] we still do not respect academic achievement. Those who say we do, they are not genuine . . .".

IV. Results By Socio-economic Status

There are many reasons to anticipate that socio-economic status is associated with success in the labour market, particularly under conditions of increasing competition. Ample evidence exists indicating that access to educational opportunity in Kenya is biased in favour of those children from advantaged backgrounds (Dison, 1972; Kinyanjui, 1974); that success within the educational system, holding individual ability constant, is influenced by the quality of school one attends (King, 1974). Based upon these realities, it would seem reasonable to expect that socio-economic status would come into play in the movement from school to job (Prewitt, 1974), particularly under conditions of increasing competition (Hughes and Wahome, 1985).

In this study, each respondent was asked to provide information regarding parents' educational level, parents' occupation, and parents' income. It is, admittedly, an inadequate basis upon which to establish socio-economic status. Nonetheless, it provided a reasonable means with which to distinguish variations in background. Graduates whose parents had a maximum of a primary education, who are unemployed, farmers, unskilled or semi-skilled, and whose family (parents) income was less than 1000 KSh

monthly, were classified as lower socio-economic status. Graduates whose parents had education beyond 'A' level, who were employed as professionals or upper-level managers, or whose family (parents) income was above 10,000 KSh monthly were considered as higher socio-economic status. Those from backgrounds that fit neither of the above were considered in a middle category. The breakdown in each category for each of the four cohorts is as follows:

	1983	1979	1975	1970	N
Low	53.2%	66.2%	52.9%	53.3%	161
Middle	31.9%	26.0%	38.2%	31.1%	90
Upper	14.9%	7.8%	8.8%	15.6%	33.

Since it is not the primary purpose of this project, no examination of equity and access to the University of Nairobi will be conducted at this time.

Based on the preliminary analyses of the data using socio-economic status as the critical variable, few significant differences have emerged. This has been particularly surprising given the competitive job market facing the 1983 cohort and the limited role that academic achievement has already been shown to play. Only a few indicators would tend to even hint that socio-economic status is beginning to play a role. As with the analysis of the results in terms of academic performance, there seemed to be some difference between the high and the low and middle socio-economic groups in terms of length of time between graduation and finding permanent employment and the likelihood that Arts and Science students would, at some time, be employed as an untrained graduate teacher. But, in general, the differences were very limited.

Based on the information in these two sections on academic achievement and socio-economic status, it is not clear what

criteria employers use to make hiring decisions. This, once again, reinforces the desirability of research directed at employers.

WHO EMPLOYS THESE GRADUATES?

There is no discernable trend that emerges from the preliminary examination of the data relating SES and employer, first or current employer. Table XXI reports this information in a collapsed form, that is, results from all four years were combined. No significant trends were apparent in the results for each cohort. Even when, for example, graduates from a specific Faculty were examined -- socio-economic status by employer -- the profile did not differ dramatically (see Table VIII. in Appendix I.).

TABLE XXI. ALL GRADUATES - SES By CURRENT EMPLOYER

SES	FIRST JOB						
	Private	Local Govt.	Parastl.	Cent. Govt.	Self Empld	Other NGC	N
Low	21.2%	4.1	22.3	51.4	-	-	146
Middle	31.2	-	14.3	51.5	-	2.6	77
High	17.2	-	34.5	37.9	-	10.3	29

SES	CURRENT JOB						
	Private	Local Govt.	Parastl.	Cent. Govt.	Self Empld	Other NGC	N
Low	24.3%	2.8	30.6	39.5	-	2.8	144
Middle	26.7	1.3	28.0	37.3	-	5.7	75
High	17.9	-	39.3	21.4	7.1	14.3	28

When the level within an organisation of both first (after graduation) and current positions was examined, no trend was uncovered. This allows some insight into the issue of promotion. Although some significant differences did occur, they were inconsistent from year to year. This data is also summarised in Appendix I (Table XI.). Although respondents were asked in the questionnaire regarding the role of family and personal contacts in furthering their career, the response almost unanimously dis-

vowed any use of contacts. In the interviews, however, many of those questioned had personal knowledge of others who had benefited from contacts. Despite comments like -- "You must know someone who will recommend you" to get into the private sector; I have seen "bright officers twisted around" and "nominal people getting positions so fast" in the public sector -- preliminary scrutiny of these results does not suggest that socio-economic status has played an overly significant role in most careers. The first indications may be appearing in the experiences of the 1983 cohort.

WHAT IS THE PATTERN OF JOB MOBILITY OF THESE GRADUATES?

Socio-economic status did have some effect, for the first time (that is, not in 1970, 1975, or 1979), upon the ability of the 1983 graduates to secure permanent employment. The middle and lower socio-economic groups tended to rely more heavily upon temporary employment following graduation in 1983 than did those classified in the high group. Certainly if connections were to

TABLE XXII. SES BY LENGTH OF TIME BETWEEN GRADUATION AND FIRST PERMANENT JOB - 1983 GRADUATES

SES	Length of Time Between Graduation and 1st Permanent Job				N
	0-2 months	3-6 months	7-12 months	1-3 years	
Low	3 (16%)	13 (27%)	17 (35%)	11 (22%)	44
Middle	4 (14%)	13 (45%)	3 (10%)	9 (31%)	29
High	5 (38%)	5 (38%)	3 (23%)	3	13

ONE-WAY ANOVA

Low SES = (Group Mean) 2.633
 Middle SES = (Group Mean) 2.586
 High SES = (Group Mean) 1.845
 Grand Mean = 2.505

Source	Sum of Squares	DF	Mean Squares	F Ratio	P
Between	6.633	2	3.316	3.239	.0439
Within	90.115	88	1.024		
Total	96.747	90			

play a role it would be in locating employment during a tight labour market. As Table XXII. shows, there is no significant difference between middle and low socio-economic groups; there is, however, significant difference between those two and graduates from a high socio-economic background.

When this variable was examined on the basis of sex by socio-economic status, the results were significant for men and not significant for women (see Table IX. in Appendix I.). It is not clear as to why this distinction would occur.

Socio-economic status, like academic performance, appears to have an influence on which 1983 Arts and Science graduates spend some time working as untrained graduate teachers. See Table XXIII. The inter-relationship of social-economic status with academic performance at the University of Nairobi, particularly with regard to this factor, is not clear. However, when examined over the entire sample, there was no significant difference in academic performance based upon socio-economic status. This is summarised in Table X. in Appendix I.

TABLE XXIII. A COMPARISON OF THE SOCIO-ECONOMIC STATUS OF THE ENTIRE ARTS AND SCIENCE SAMPLE WITH THOSE WHO WERE EMPLOYED AS AN UNTRAINED TEACHER - 1983.

	LOWER SES	MIDDLE SES	HIGHER SES	N
Entire Arts/Science 1983 Sample	35	15	7	57
Untrained Teachers	13	4	0	17

$T=1.9292$ Std. Error of Difference=.2735 DF=72 $p=.003$
(Statistically tested the means of the three groups)

HOW MUCH DO THESE GRADUATES EARN?

Undoubtedly related to the lack of difference in the job levels across socio-economic groups, there is no significant

difference in income levels. Table XXIV. looks at 1975 as a reasonably typical cohort. Because of the small number of graduates coming from a higher socio-economic background graduates, those individuals were combined with graduates whose SES was classified as 'middle level'.

TABLE XXIV. SES By CURRENT JOB INCOME - 1975

SES	2500- 5000	5000- 7500	7500- 10000	10000- 12500	12500- 15000	15000- 17500	17500- 20000	20000+	
Low	9	11	5	6	3	2	-	1	
Mid/ High	9	3	4	6	1	1	2	5	
N (Low) = 37		N (Mid/High) = 31					p. = 1758		

Even if SES and current income are examined by sex, the results are not significant, as Table XXV. affirms. Since a disproportionate number of women attending the University come from advantaged backgrounds (see 'Results By Sex'), any bias in the wages of women could potentially mask a real effect among male graduates. This was not supported in analysis of the 1983 cohort.

TABLE XXV. SES By CURRENT INCOME FOR MALES AND FEMALES - 1983

SES	-MALES-					N
	0- 2500	2500- 5000	5000- 7500	7500- 10000	10000- 12500	
Lower	13	23	1	1	1	39
Middle	5	5	6	1	1	18
Higher	1	2	-	-	-	3
SES	-FEMALES-					N
	0- 2500	2500- 5000	5000- 7500	7500- 10000	10000- 12500	
Lower	4	2	2	-	-	8
Middle	2	5	-	1	-	8
Higher	2	6	1	-	-	9
men: p = .067		women: p = .208				

SUMMARY

Any examination of socio-economic status must be accompanied by a statement of caution. Measuring and categorising socio-economic status is a tenuous process. In the case of this study, some additional measures would have undoubtedly strengthened the validity of the data and the subsequent analysis. Socio-economic status varies over time and location, e.g., a parent who grew up in the colonial era and had a primary school education would be far more unique than the comparable parent fifteen years later. In addition, as the interviews revealed, many graduates have been preceded at University by siblings or close relatives. It is an important facet of one's SES that has not been considered in this study.

For these reasons, there can be less confidence in the findings, or lack of findings, with regard to socio-economic status than most of the other results reported in this document. Nonetheless, several concluding statements can be made, based upon the Tracer Study sample:

- 1) There is no apparent correlation between socio-economic status and academic performance at the University of Nairobi; and,
- 2) SES does not emerge as a factor in either the sector of the economy in which University of Nairobi graduates find employment, the level at which they are employed within the organisation (initially or currently), or the income they make.

It may well be that, because until recently there has been ample opportunity for all comers, the advantages of those from more privileged backgrounds have not been needed. The prognosis for the future may be alluded to by the fact that:

- 3) Those in the 1983 cohort from less advantaged backgrounds were more likely to require longer to locate permanent employment, were more likely to accept temporary positions, and were more likely to be employed, at some point, as untrained graduate teachers.

Results By Sex

This final section is intended to look briefly at the role and status of women who have been included in the Tracer Study sample. Women graduates, based upon this sample, have become productive members of the labour force in jobs and at salaries not significantly different than their male counterparts. Overall, the advancement of the male and female cohorts seems to be similar. Although there were no women as vice-presidents, general managers or chief executive, the number of men serving in these capacities was also limited. It must be kept in mind, however, that on the whole the women who attend University are disproportionately from advantaged backgrounds:

SES	Male	Female
Lower	62.3%	36.8%
Middle	30.0%	35.1%
Higher	7.7%	28.1%
N =	207	57.

Any analysis is further complicated by the fact that the males in the sample tended to have a disproportionate share of the 1st Class, Upper 2nd, and Pass marks, while the females had a higher proportion of the Lower 2nd final results:

	1st Class	Upper 2nd	Lower 2nd	Pass
Males	2.7%	30.4%	50.0%	16.8%
Females	1.8	19.3	70.2	8.8.

It also warrants noting that while there are dramatically increasing numbers of women graduating from the Faculty of Commerce, and reasonably constant proportions completing their degree from the Faculty of Arts, the numbers in the Faculty of Science have dwindled since 1970: 1970 (23.8%) - 1975 (16.4%) - 1979 (6.4%) - 1983 (7.5%). Part of the explanation lies in the diminishing numbers of Kenyans of Asian ethnic background attend-

and the University of Nairobi. However, there has been no corresponding increase in the numbers of Kenyan women of African ethnic background.

WHO EMPLOYS THESE UNIVERSITY OF NAIROBI GRADUATES?

The composition of the public sector in the employment of the overall sample does not differ significantly when considered by sex, either across the four cohorts or en toto. The total breakdown is reported in Table XXVI.

TABLE XXVI. CURRENT EMPLOYMENT - By EMPLOYER AND SEX

Sex	Private	Local Govt.	Parastatal	Cent. Govt.	Self	NGO Int'l Org.	Other	N
Female	19.6%	2.0%	33.3%	33.3%	2.0%	7.8%	2.0%	51
Male	25.4	2.6	30.4	38.1	.5	1.5	2.6	194

WHAT IS THE PATTERN OF JOB MOBILITY OF THESE GRADUATES?

Two factors were examined relating to the issue of mobility. One was the length of time it required males versus females in the 1983 cohort to get their first permanent position. The second was upward career mobility over time.

No significant differences were found in the length of time males and females required to find their first permanent position. When faced with increased competition, as has impacted the 1983 cohort, it would not have been surprising to encounter a differential affect on the basis of sex. However, as Table XXVII shows, this was not the case. In fact, women tended to find permanent jobs earlier than did their male classmates.

Even when upward career mobility was considered, no significant statistical differences were found between the level of

TABLE XXVII. SEX BY LENGTH OF TIME TO FIND THE FIRST PERMANENT JOB AFTER GRADUATION -- 1983 COHORT.

SEX	0-2 months	2-6 months	7-12 months	1-3 years	N
Male	15.9%	31.7	25.4	27.0	63
Female	25.0%	39.3	25.0	10.7	28
Chi-square = 3.524 DF = 3 p = .3177					

positions attained by men and women over time. However, it should be noted, as with salaries, there are no women to accompany the few men that have attained the highest eschelons. Again, the 1975 cohort provides a useful profile as reported in Table XXVIII. In both the 1979 and 1983 cohorts, males and females changed jobs at virtually the same rate. By 1975, ten years after graduation, males had made 25 percent more job changes. This timing would suggest that conflicts with child-rearing commitments come into play in this period.

TABLE XXVIII. CURRENT LEVEL OF POSITION WITHIN THE ORGANISATION - 1975 COHORT By SEX.

SEX	Job Group 'H' or Equivalent	Job Group 'J' or Equivalent	Job Group 'K' or Equivalent	Job Group 'L' or Equivalent	Job Group 'M' or Equivalent	Job Group 'N' or Equivalent	N
Male	3 (5.8%)	7 (13.5%)	23 (44.2%)	14 (26.9%)	1 (1.9%)	4 (7.7%)	52
Female	1 (7.1%)	5 (35.7%)	5 (35.7%)	3 (21.4%)	-	-	14

Chi-square = 4.732 DF = 5 p = .4533

HOW MUCH DO THESE GRADUATES EARN?

Surprisingly, basic incomes for men and women do not show a significant difference either at the entry level or in the current job. It could be that some differences are disguised within the ranges provided (e.g., 2500 - 5000 KSh/month) on the questionnaire. Table XXIX. looks at the beginning salaries of the

1983 cohort and the current salaries of the 1975 cohort on the basis of sex. No woman in the entire sample was earning 20,000 KSh or more, while 13 men were doing so.

TABLE XXIX. BASIC SALARY By SEX -- FIRST JOB (1983 COHORT) AND CURRENT JOB (1975 COHORT)

Basic Income - 1983 Graduates - First Job						
SEX	0-1000	1000-2500	2500-5000	5000-7500	7500-10000	N
Male	5.4%	50.0%	42.9%	1.8%	-	56
Female	-	52.3%	47.8%	-	-	23
Chi-square = 1.749			DF = 3	p = .6261		

Basic Income - 1975 Graduates - Current Job								
SEX	2500-5000	5000-7500	7500-10000	10000-12500	12500-15000	15000-17500	17500-20000	20000+
Male	27.5%	17.6	13.7	19.6	7.8	3.9	2.0	9.8
Female	28.6	28.6	14.3	14.3	-	7.1	7.1	-
N = Male (51); Female (14)			Chi-square = 4.493			DF = 7	p = .72	

One salary-related concern that repeatedly came up in the interviews was the issue of housing or house allowance. In virtually all work settings, if a marriage occurs the woman loses her housing allowance. It is "very unfair not to pay housing allowance," voiced one graduate that typified the female response. Thirty-seven percent of the females in the sample did not receive housing allowance as compared to only 15 percent of the males.

WHAT FURTHER FORMAL TRAINING DO THESE GRADUATES PURSUE?

women included in this sample tended to be less likely, although not to a statistically significant degree, to pursue further training than the men in the sample. Additionally, the women were less likely to be sponsored for a masters or doctor-

ate than were the men in the sample. Several factors may account for this difference: fewer women, proportionately, received 1st Class and Upper Second final results than did the males in the sample; the conflict created by the responsibilities of parenting; less interest in upward career mobility ('fear of success')

WHERE DO THESE UNIVERSITY OF NAIROBI GRADUATES WORK?

Women in the sample were significantly more likely to live in urban Kenya (almost exclusively Nairobi with a few in Mombasa) than were males in the sample. This is reported in Table XXX. Certainly one of the most plausible reasons for this trend is that Nairobi can best accommodate the career needs of dual career families.

TABLE XXX. URBAN-RURAL WORK SETTING By SEX
(of those working in Kenya)

	Urban		Rural	N
Male	79%	1	21%	286
Female	90%	1	10%	70

Chi-square = 3.875 DF = 1 p = .0489

SUMMARY

In this brief examination of the Tracer Study results in terms of female graduates, several patterns emerged:

- 1) women who graduate from the University of Nairobi become active members of the labour force;
- 2) Generally their experience is comparable to that of male graduates in terms of promotion and salary, although there appears to be a lower top end to their range with regard to both variables;
- 3) Female graduates do not seem differentially impacted by the increasing competition for employment;
- 4) Women are slightly less likely to pursue or be sponsored to pursue further education; and,
- 5) Women are more likely to live and work in an urban setting.

The extent to which this profile is influenced by the over-representation of women from advantaged backgrounds is not clear. Although it would be surprising if it did not play some role, the dynamics involved are clearly beyond the scope of this research.

CONCLUSION

This paper has intended to provide a summary of the preliminary findings of the University of Nairobi Tracer Study, a detailed examination of the post-graduation work and educational experiences of a sample of University leavers from 1970, 1975, 1979, and 1983. Although these findings must be considered tentative, they provide a framework for understanding the relationship University of Nairobi graduates have with the labour market for the highly-trained in Kenya.

On the one hand, these graduates do truly constitute the 'wealth of nations'. There has been limited out-migration. There is virtually no unemployment. These graduates are productive members of Kenyan society, represented in virtually every arena critical to national development.

On the other hand, the data generated by this study has also raised some questions about the efficiency of the continued heavily-subsidised expansion of higher education for the provision of manpower. There is evidence of increasing competition for employment and underutilisation of training, a heavy reliance upon the public sector for jobs, and a growing dependence upon employment options unrelated to one's educational preparation.

This paper suggests that one of the basic assumptions underlying the expansion of the the system of higher education has

changed. No longer is there an unconditional need for university-trained graduates in order to fill the basic manpower requirements of the nation. Although higher education will continue to be a desirable (and desired) government service, Kenya is moving into a new era where university training can begin to be treated as a consumer good.

Wealth of nations or drain on resources? Undoubtedly, at this juncture, the highly-trained are indeed a precious resource in Kenya. The real challenge, however, given the incipient trends discussed in this paper, is about to come.

NOTES

1. A special thank you to the Institute for Development Studies for its support of this project. Many individuals deserve recognition for the role they have played in its success. Included in that number are Amy Oyeki, who patiently entered the data produced by the study, and Barbara Gross and John Nordin, without whose gracious access to their printer this project would have been far more arduous.
2. In addition, this discussion has been limited to university education. Given this context, a basic assumption made by this project needs to be acknowledged at this point: the opportunity to pursue a university education is a privilege, not a fundamental right as could effectively be argued regarding education at the primary levels.
3. For a more extensive discussion of these trends and their inter-relationships, see "Higher Education and Employment in Kenya: A Liberal Interpretation of the Literature" by Rees Hughes and James Gituro Wanome, IDS Working Paper 426, June, 1985.
4. When referring to Table II., at first glance it appears that public sector domination has, in fact, decreased since 1979. However, over one quarter of all 1983 graduates took a temporary position as their first job which masks the actual dominance of the public sector. Therefore, current job data is likely to be a more representative of the true situation. In which case, the public sector accounts for 82.8 percent of employment of the 1983 cohort.
5. It also could be argued that this graduating class had, as one 1983 graduate put it, been "tainted" by the attempted coup in August, 1982. As a result, employers were less interested in hiring these graduates. On the other hand, these graduates benefitted from having been preceded by a year in which there were no University of Nairobi graduates unleashed on the job market.

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APPENDIX I.

TABLE I. CHARACTERISTICS OF RESPONDENTS, NON-RESPONDENTS, AND NON-TRACED MEMBERS OF THE SAMPLE

	RESPONDENTS	1970 SAMPLE NON-RESPONDENTS*	NON-TRACED	1970 POPULATION
SEX: Male	41 (91.1%)	34	15	90 (86.8%)
Female	4 (8.9%)	7	4	15 (13.2%)
MARKS: 1st Class	1 (2.2%)	4	-	5 (4.4%)
Upper 2nd	6 (13.3%)	7	-	14 (12.3%)
Lower 2nd	18 (40.0%)	14	7	39 (34.2%)
Pass	20 (44.4%)	15	13	56 (49.1%)
MAJOR: Accounting	7	9	1	22
Banking	5	-	2	11
Marketing	4	2	2	8
Personnel	-	1	-	1
Arts	15	14	10	39
Maths	3	4	2	9
Chemistry	7	8	2	19
Other Science	2	1	1	4

*Non-Respondents includes those about whom specific information has been obtained. For the 1970 sample this involves 13 individuals, a significant proportion of the total number of non-respondents (25%).

	RESPONDENTS	1975 SAMPLE NON-RESPONDENTS	NON-TRACED	1975 POPULATION
SEX: Male	53 (77.9%)	23	7	162 (81.8%)
Female	15 (20.1%)	10	2	36 (18.2%)
MARKS: 1st Class	-	-	-	-
Upper 2nd	11 (16.2%)	4	1	31 (15.7%)
Lower 2nd	41 (60.3%)	23	8	139 (70.2%)
Pass	16 (23.5%)	13	-	28 (14.1%)
MAJOR: Accounting	20	5	1	72
Business Admin.	6	7	1	27
3-1-1 Sociology	1	1	-	6
3-2-2 Sociology	19	13	5	62
Chemistry	13	5	-	18
Chemistry/Maths	1	-	-	1
Maths	6	3	2	11
Other Science	2	-	-	2

	RESPONDENTS	1979 SAMPLE NON-RESPONDENTS	NON-TRACED	1979 POPULATION
SEX: Male	66 (63.5%)	23	9	353 (82.5%)
Female	13 (16.5%)	3	5	75 (17.5%)
MARKS: 1st Class	3 (3.8%)	3	-	24 (5.6%)
Upper 2nd	31 (39.7%)	7	5	119 (27.8%)
Lower 2nd	38 (48.7%)	11	9	237 (56.4%)
Pass	6 (7.7%)	4	-	48 (11.2%)
MAJOR: Accounting	20	11	4	220
Marketing	4	1	-	40
3-1-1 Sociology	5	2	-	16
3-2-2 Sociology	18	8	5	62
Chemistry	14	1	3	58
Maths/Chemistry	1	-	-	3
Maths	15	3	2	36

	RESPONDENTS	1983 SAMPLE NON-RESPONDENTS	NON-TRACED	1983 POPULATION
SEX: Male	68 (70.6%)	10	7	366 (69.8%)
Female	28 (29.2%)	5	4	158 (30.2%)
MARKS: 1st Class	3 (3.2%)	-	-	6 (1.5%)
Upper 2nd	26 (27.7%)	4	2	136 (26.0%)
Lower 2nd	51 (54.3%)	9	7	313 (59.7%)
Pass	14 (14.9%)	2	2	67 (12.8%)
MAJOR: Accounting	21	2	2	133
Marketing	5	-	-	25
Insurance	7	1	-	38
3-1-1 Sociology	3	-	-	14
3-2-2 Sociology	26	6	4	200
Chemistry	11	-	1	44
Chemistry/Maths	6	1	1	27
Maths	15	5	3	56

TABLE II. WHERE DO GRADUATES WORK IN THEIR FIRST JOB?

Area of the Economy	1983	1979	1975	1970
Agriculture	3.4%	0	3.3%	0
Agricultural Services	6.7	8.6	0	0
Mining/Quarrying	3.4	0	0	2.6%
Manufacturing	3.4	4.3	10.0	23.1
Electricity/Water	2.2	7.1	5.0	7.7
Wholesale/Retail	3.4	1.4	15.0	10.3
Transport/Communications	9.0	2.9	3.3	0
Financial Services	13.5	17.1	10.0	12.5
Other Services	3.4	2.9	1.7	0
Public Administration	15.7	32.9	31.7	23.1
Defense	0	1.4	0	0
Education	21.3	1.4	15.0	17.9
Health	3.4	1.4	0	2.6
Government Services	11.2	18.6	5.0	0

TABLE III. FURTHER FORMAL EDUCATION -- BY FIELD OF STUDY AND YEAR

COMMERCE

	PhD	MSc MBA	Post-Grad Diploma	Accounting Credential	Acctg. Cred. In Process	Insurance Complete	Insurance In Process	Banking Complete	Banking In Process	Other Complete	Other In Process
1983	-	-	-	1	5	2	2	-	-	1	1
1979	-	1	1	7	3	1	-	1	1	3	2
1975	-	4	-	5	1	-	-	1	-	4	-
1970	2	2	-	3	-	-	-	2	-	2	-

N=101

SCIENCE

	Phd In Phd Process	MSc In MSc Process	Eng BSc	Educ. Cert. or Dipom	Educ. Dip. In Process	Diploma Diploma	Diploma In Process	Other Complete	Other In Process
1983	-	1	3	-	-	1	-	3	-
1979	-	13	-	-	-	1	-	6	6
1975	-	1	-	1	-	4	-	9	-
1970	3	6	-	1	-	1	-	3	-

N=59

ARTS

	Phd In Phd Process	MS MA	MA/MBA In Process	BPhil	Dip In Educ. In Process	Diploma	Public Sec. Public Sec.	Public Sec. In Process	Other Complete	Other In Process
1983	-	-	1	-	1	-	-	-	1	-
1979	-	6	-	-	-	2	-	3	9	1
1975	-	5	1	-	-	1	1	-	6	-
1970	4	8	-	2	-	1	-	-	4	-

N=89

TABLE IV. UTILIZATION OF KNOWLEDGE IN THE FIRST JOB BY FACULTY AND YEAR

FACULTY		PERCENTAGE OF KNOWLEDGE USED				N
		0 - 25%	25 - 50%	50 - 75%	75 - 100%	
COMMERCE:	1983	21.2	42.4	24.2	12.1	33
	1979	25.0	33.3	33.3	8.3	24
	1975	16.0	48.0	20.0	16.0	25
	1970	29.4	35.3	17.6	17.6	17
ARTS:	1983	48.1	33.3	7.4	11.1	27
	1979	30.4	34.8	17.4	17.4	23
	1975	40.9	13.6	40.9	4.5	22
	1970	26.7	26.7	21.4	21.4	14
SCIENCE:	1983	36.7	43.3	6.7	13.3	30
	1979	23.3	26.7	40.0	10.0	30
	1975	20.0	35.0	30.0	15.0	20
	1970	41.7	33.3	-	25.0	12

NB. Current Job percentages were used for 1983 graduates, while first job percentages were used for the other cohorts. This is to compensate for the large number of temporary jobs confounding the 1983 figures.

TABLE V. UTILISATION OF KNOWLEDGE BY ACADEMIC PERFORMANCE.

ACADEMIC RANK	FIRST JOB - UTILISATION OF KNOWLEDGE								TOTAL	
	1983		1979		1975		1970		0-50%	50-100%
	0-50%	50-100%	0-50%	50-100%	0-50%	50-100%	0-50%	50-100%		
1st Class and and Upper 2nd	22	5	22	14	7	4	2	7	49 (61.3%)	31 (38.7)
Lower 2nd	45	10	21	17	23	17	5	9	94 (53.9)	53 (36.1)
Pass	16	3	4	2	5	7	6	11	29 (55.8)	22 (44.2)

ACADEMIC RANK	CURRENT JOB - UTILISATION OF KNOWLEDGE								TOTAL	
	1983		1979		1975		1970		0-50%	50-100%
	0-50%	50-100%	0-50%	50-100%	0-50%	50-100%	0-50%	50-100%		
1st Class and and Upper 2nd	18	6	13	19	3	8	6	3	40 (52.6%)	35 (47.4)
Lower 2nd	40	12	16	22	14	25	12	7	60 (54.8)	66 (45.2)
Pass	9	5	4	2	5	11	13	6	31 (56.4)	24 (43.6)

TABLE VI. SALARY BY FACULTY FOR THE CENTRAL GOVERNMENT, PARASTATALS, AND THE PRIVATE SECTOR.

1983 GRADUATES EMPLOYED BY THE CENTRAL GOVERNMENT

FACULTY	INCOME									N
	0-2500	2500-5000	5000-7500	7500-10000	10000-12500	12500-15000	15000-17500	17500-20000	20000-	
COMMERCE	33.3%	33.3	-0-	25.0	8.3	-0-	-0-	-0-	-0-	12
SCIENCE	45.5	54.4	-0-	-0-	-0-	-0-	-0-	-0-	-0-	11
ARTS	70.6	23.4	-0-	-0-	-0-	-0-	-0-	-0-	-0-	17

1979 GRADUATES EMPLOYED BY THE CENTRAL GOVERNMENT

COMMERCE	-0-	33.3	33.3	-0-	33.3	-0-	-0-	-0-	-0-	6
SCIENCE	-0-	100.0	-0-	-0-	-0-	-0-	-0-	-0-	-0-	16
ARTS	5.9	94.1	-0-	-0-	-0-	-0-	-0-	-0-	-0-	17

1983 GRADUATES EMPLOYED IN THE PRIVATE SECTOR

FACULTY	INCOME									N
	0-2500	2500-5000	5000-7500	7500-10000	10000-12500	12500-15000	15000-17500	17500-20000	20000-	
COMMERCE	-0-	45.5	45.5	-0-	9.1	-0-	-0-	-0-	-0-	11
SCIENCE	-0-	80.0	20.0	-0-	-0-	-0-	-0-	-0-	-0-	5
ARTS	-0-	-0-	100.0	-0-	-0-	-0-	-0-	-0-	-0-	1

1979 GRADUATES EMPLOYED IN THE PRIVATE SECTOR

COMMERCE	-0-	-0-	18.1	27.3	27.3	-0-	5.1	-0-	18.1	11
SCIENCE	-0-	-0-	-0-	100.0	-0-	-0-	-0-	-0-	-0-	2
ARTS	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	0

1983 GRADUATES EMPLOYED IN A PARASTATAL

FACULTY	0- 2500	INCOME								N
		2500- 5000	5000- 7500	7500- 10000	10000- 12500	12500- 15000	15000- 17500	17500- 20000	20000-	
COMMERCE	-0-	83.5	20.0	-0-	-0-	-0-	-0-	-0-	-0-	10
SCIENCE	42.9	57.1	-0-	-0-	-0-	-0-	-0-	-0-	-0-	7
ARTS	33.3	55.6	11.1	-0-	-0-	-0-	-0-	-0-	-0-	9

1979 GRADUATES EMPLOYED IN A PARASTATAL

COMMERCE	-0-	50.0	25.0	-0-	-0-	25.0	-0-	-0-	-0-	4
SCIENCE	-0-	75.0	12.5	-0-	-0-	12.5	-0-	-0-	-0-	8
ARTS	-0-	25.0	-0-	25.0	-0-	50.0	-0-	-0-	-0-	4

TABLE VII. ADVANCEMENT (As Measured by Current Job Level) BY UNDERGRADUATE ACADEMIC PERFORMANCE - 1979 GRADUATES

ACADEMIC RANK	JOB LEVEL			
	Job Group 'H' or Equivalent	Job Group 'J' or Equivalent	Job Group 'K' or Equivalent	Job Group 'L' or Equivalent
1st Class	-	1	2	-
Upper 2nd	3	11	10	1
Lower 2nd	2	22	8	3
Pass	-	4	1	-

Chi Square = 7.07 DF = 3 p = .0298

- Key: Job Group 'H' or Equivalent: entry level positions such as District Officer III or Assistant Secretary III; trained primary or secondary school teachers; limited supervisory responsibility; no experience generally required.
- Job Group 'J' or Equivalent: District Officer II; entry level for professionally qualified individuals such as Engineers or Lawyers; headmaster of a Harambee School; qualified accountant with 2 years of professional experience; usually has two or three years of professional experience.
- Job Group 'K' or Equivalent: District Officer I; headmaster of a Secondary School with Regional Catchment; Lecturer at the University; Planning Officer with a Masters; Assistant Controller in a Private Firm (supervising 10 or more people); generally involves supervisory responsibilities; probably does not participate in central decision-making unit of organization.
- Job Group 'L' or Equivalent: Senior Assistant Secretary; headmaster of a National School; Senior Economist; Superintending Engineer; Director of Research; Senior Lecturer at the University; generally requires high level of technical expertise, often involves significant supervisory responsibilities of junior staff, and work may deal with planning or execution of projects at a national level.

TABLE VIII. 1983 ARTS AND COMMERCE GRADUATES --
SES By CURRENT EMPLOYER

SES	Arts Graduates					NGO	N
	Private	Local Govt.	Parastat.	Gen. Govt.			
Low	-	-	5	8	-	-	13
Middle	1	-	2	5	-	-	8
High	-	-	2	2	1	-	5
	Commerce Graduates						
Low	3	-	5	7	-	-	15
Middle	5	-	2	5	-	-	12
High	2	-	3	-	1	-	6

TABLE IX. SES By LENGTH OF TIME BETWEEN GRADUATION AND FINDING
PERMANENT EMPLOYMENT - 1983 MALES AND FEMALES

	Males				N
	0-2 months	3-6 months	7-12 months	1-3 years	
Higher SES	1 (33%)	-	2 (67%)	-	3
Middle SES	3 (16%)	9 (47%)	-	7 (37%)	19
Lower SES	6 (15%)	11 (27%)	14 (34%)	10 (24%)	41

Chi-square = 13.010 DF=6 p=.0429

	Females				N
	0-2 months	3-6 months	7-12 months	1-3 years	
Higher SES	4 (40%)	5 (50%)	1 (10%)	-	10
Middle SES	1 (10%)	4 (40%)	3 (30%)	2 (20%)	10
Lower SES	2 (25%)	2 (25%)	3 (38%)	1 (13%)	8

Chi-square = 5.909 DF=6 p=.4335

TABLE X. ACADEMIC PERFORMANCE By SOCIO-ECONOMIC STATUS
1983 SAMPLE

	1st Class	Upper 2nd	Lower 2nd	Pass	N
Lower SES	4%	34%	48%	14%	50
Middle SES	-	14%	75%	11%	28
Higher SES	-	31%	62%	8%	13

Chi-square = 6.917 DF = 6 p = .3265

TABLE XI. SES By EMPLOYER - 1983, 1979, 1975, and 1970

1983 - SES By CURRENT EMPLOYER (N=91)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	8.5%	4.3	35.2	48.5	-	2.1
Middle	34.6	-	19.2	46.2	-	-
High	16.7	-	41.7	25.0	8.3	8.3

1979 - SES By CURRENT EMPLOYER (N=69)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	20.0%	2.2	20.0	53.3	-	4.4
Middle	6.3	6.3	12.5	52.5	-	12.5
High	-	-	50.0	33.3	-	16.7

1979 - SES By FIRST EMPLOYER (N=69)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	17.0%	4.3	10.6	68.1	-	-
Middle	18.8	-	-	68.8	-	12.5
High	-	-	33.3	50.0	-	16.7

1975 - SES By CURRENT EMPLOYER (N=60)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	41.9%	3.2	25.8	25.8	-	3.2
Middle	30.4	4.3	39.1	21.7	-	4.3
High	50.0	-	16.7	16.7	-	16.7

1975 - SES By FIRST EMPLOYER (N=60)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	32.2%	3.2	16.1	48.4	-	-
Middle	26.1	-	17.4	56.5	-	-
High	16.7	-	16.7	50.0	-	16.7

1970 - SES By CURRENT EMPLOYER (N=43)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	42.9%	-	47.6	9.5	-	-
Middle	27.3	-	45.5	9.1	-	18.2
High	-	-	50.0	-	25.0	25.0

1970 - SES By FIRST EMPLOYER (N=43)						
	Private	Local Govt.	Parastatal	Central Govt.	Self	Other NGO
Low	40.9%	4.5	31.8	22.7	-	-
Middle	50.0	-	16.7	33.3	-	-
High	33.3	-	33.3	33.3	-	-

TABLE XII. THE BASIC CURRENT INCOME OF EMPLOYED GRADUATES BY YEAR AND EMPLOYEE
CENTRAL GOVERNMENT

YEAR	INCOME									N
	0- 2500	2500- 5000	5000- 7500	7500- 10000	10000- 12500	12500- 15000	15000- 17500	17500- 20000	20000-	
1983	52.5%	37.5	-0-	7.5	2.5	-0-	-0-	-0-	-0-	40
1979	2.6	86.8	5.3	-0-	-0-	-0-	-0-	-0-	-0-	38
1975	-0-	80.0	20.0	-0-	-0-	-0-	-0-	-0-	-0-	15
1970	-0-	33.3	66.7	-0-	-0-	-0-	-0-	-0-	-0-	3
					PARASTATAL					
1983	23.1%	65.4	11.5	-0-	-0-	-0-	-0-	-0-	-0-	26
1979	-0-	56.3	12.5	6.3	-0-	25.0	-0-	-0-	-0-	16
1975	-0-	20.0	40.0	20.0	15.0	5.0	-0-	-0-	-0-	20
1970	-0-	10.5	21.1	21.1	21.1	10.5	10.5	-0-	5.3	19
					PRIVATE SECTOR					
1983	-0-	52.9	41.2	-0-	5.9	-0-	-0-	-0-	-0-	17
1979	-0-	-0-	15.4	38.5	23.1	-0-	7.7	-0-	15.4	13
1975	-0-	-0-	4.3	13.0	34.8	13.0	13.0	4.3	17.4	23
1970	-0-	-0-	-0-	8.3	25.0	-0-	41.7	8.3	16.7	12