



REPUBLIC OF KENYA

SECOND UNIVERSITY
IN KENYA

Report of the Presidential
Working Party

Chairman:

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Presented to His Excellency the President

Hon. Daniel T. arap Moi, C.G.H., M.P.

SEPTEMBER 1981

Price: K.Sh. 60

PRINTED BY THE GOVERNMENT PRINTER, NAIROBI

THE SECOND UNIVERSITY IN KENYA

THE CHAIRMAN
TO WORKING PARTY
P.O. Box 61518
NAIROBI, KENYA

September, 1981

His Excellency the President
Hon. Daniel T. arap Moi, C.G.H., M.P.
State House, Nairobi

Your Excellency

We were appointed on 21st January, 1981, by your Excellency to prepare detailed plans and recommendations on how the decision of the Government to establish a Second University should be carried out.

This work has been completed and has been guided by the terms of reference given to us. We now have the honour to submit to you our Report which contains both specific recommendations relating to the new University and some reflections on the future of Higher Education in Kenya.

We wish to take this opportunity to express our thanks for the trust and responsibility you have placed on us and to express to your Excellency our loyalty and highest esteem.

Your Excellency's Most Obedient Servants,

DR. COLIN B. MACKAY, <i>Chairman.</i>	PROF. DOUGLAS ODHIAMBO, <i>Deputy Chairman.</i>
PROF. J. M. MUNGAI, <i>Member.</i>	PROF. P. M. MBITHI, <i>Member.</i>
PROF. W. M. SENGA, <i>Member.</i>	PROF. G. SAITOTI, <i>Member.</i>
PROF. P. M. GITHINJI, <i>Member.</i>	PROF. P. L. FRENCH, <i>Member.</i>
PROF. R. S. MUSANGI, <i>Member.</i>	PROF. A. E. WASUNNA, <i>Member.</i>
PROF. D. G. GATEI, <i>Member.</i>	DR. B. E. KIPKORIR, <i>Member.</i>
MR. S. S. MANENO, <i>Member.</i>	MR. J. T. ARAP LETING, <i>Member.</i>
MR. A. K. KANDIE, <i>Member.</i>	MR. H. M. MULE, <i>Member.</i>
MR. Y. F. O. MASAKHALIA, <i>Member.</i>	MR. S. A. WASIKE, <i>Secretary.</i>

ACKNOWLEDGEMENTS

In carrying out the important task of looking into the implications of setting up a new University, individuals from all walks of life were of great assistance in providing information, and in many instances took the time to discuss with us the matters set out in our terms of reference. This has been an original and in many ways a unique approach to the bringing into being of an institution which is of such importance to the development of the nation.

While I am a Canadian and one of my colleagues is an American the other fifteen members of the Working Party were Kenyans. This exercise has therefore been very much a Kenyan effort—they led the discussions, raised the difficult questions and did most of the writing. I wish to take this opportunity to thank all of them for the intense effort which they put into this task, and for the great patience and understanding which they displayed in dealing with a Chairman who was kept busy, while on the job, learning about their fascinating country. They proved to be excellent teachers and turned what might have been a routine assignment into an exciting and rewarding experience, as with them I contemplated the educational needs of Kenya and gave consideration to ways and means of providing more and varied opportunities in higher education for future generations of young Kenyans.

My colleagues join me in thanking all the people who helped in so many ways. In particular we wish to acknowledge the efforts of the officials in the several Ministries who provided much useful background material and who cheerfully went back to secure additional information whenever it was asked for. Thanks must go to all those academics now serving in the University of Nairobi who answered our call for suggestions and advise, and there must be an expression of our gratitude to each and every one of that multitude of citizens who took the trouble to respond in writing to our request that they inform the Working Party as to their views on the topic of the Second University. Then there were the many people who were interviewed, both official and private. Their commentaries proved to be of immense assistance, and the sound advice which we received has made it infinitely easier for us to arrive at what we believe are sound conclusions and recommendations. Their names can be found in Appendix 1.

Special mention must be made of the efforts of the Provincial Commissioners to ensure that our visits to each of the Provinces would accomplish what the Working Party had in mind. They prepared background papers, looked after the organization of all the meetings and arranged tours of a wide range of educational institutions. Members of their staffs attended to such important details as transportation and accommodation while responding quickly to our many requests and to the countless demands which we made of them. If the administration of the Second University can be as

efficiently and effectively organized as are the offices and departments of the eight provincial Headquarters of Kenya, then we would have few fears for its future.

Finally, we are happy to record our sincere appreciation for the efficient manner in which the Secretary to the Working Party, Mr. Simiyu Wasike, and his assistant, Mr. Barnabas Bargoria, always were willing to take on every task which was asked of them. We are equally most grateful to all members of the Secretariat who came together at short notice to form an effective working team.

Lastly, I would like to express a word of personal appreciation to the two drivers who looked after me during my stay in Kenya. They were very much a part of the team, and their cheerful greeting at the start of each new day helped to ensure that much would be accomplished before it came to a close.

C. B. MACKAY,
Chairman.

ESTABLISHMENT OF A SECOND UNIVERSITY IN KENYA

When the University of Nairobi was established in 1970 as a national institution of higher learning, many new hopes and expectations were raised, especially with regard to the need to increase the output of badly needed high level manpower. Since then, the University has expanded to the point where its Nairobi campus has reached its full physical capacity. This expansion, however, has not kept pace with the unending demands made of it in terms of diversified curricula and its capacity to absorb the ever-growing number of Secondary school leavers.

In the light of these problems the Government has decided to establish a Second University in the country during the current Development plan. The new University will be expected to not only ease congestion at the University of Nairobi but also to introduce new areas of learning which would help meet the high level manpower requirements of modern and increasingly technological society.

In order to accelerate the fulfilment of this commitment, His Excellency the President has today appointed a Working Party to prepare detailed plans and recommendations on how this project should be carried out. The Working Party which will submit its report to the Government within six months, will be composed of the following persons:

1. Dr. Colin B. Mackay.
2. Prof. Douglas Odhiambo.
3. Prof. A. E. Wasunna.
4. Prof. P. M. Githinji.
5. Prof. G. Saitoti.
6. Prof. P. French.
7. Prof. R. S. Musangi.
8. Mr. S. S. Maneno.
9. Dr. B. E. Kipkorir.
10. Prof. D. G. Gatei.
11. Prof. W. M. Senga.
12. Prof. J. M. Mungai—Vice-Chancellor, University of Nairobi.
13. Permanent Secretary, Ministry of Higher Education.

14. Permanent Secretary, Office of the Vice-President and Ministry of Finance.
15. Permanent Secretary/Director of Personnel Management.
16. Permanent Secretary, Ministry of Economic Planning and Development.
17. Prof. P. M. Mbithi.

J. G. KIHEREINI,
Office of the President, Nairobi.

21st January, 1981.

TERMS OF REFERENCE OF THE WORKING PARTY

The Working party will be required to make general recommendations on the implementation of Government decision on the establishment of a Second University before the end of the current Development Plan period. The Party will be guided in its work by the following terms of reference.

1. Review generally the present higher education system in relation to development objectives of the country and recommend how the proposed University can best assist in their achievement.
2. Recommend a philosophical framework, concept and objectives within which the University could best serve the interest of the Kenyan society.
3. Examine the relationship of the proposed University with the University of Nairobi including Kenyatta University College and other post-Secondary institutions such as Harambee Institutes of Science and Technology, Polytechnics, Egerton College, Kenya Technical Teachers College, Jomo Kenyatta College of Agriculture and Technology and Kenya Science Teachers College so as to ensure that the proposed University will play a complementary role to that being played by these other institutions.
4. Recommend on the size including student enrolment, structure and disciplinary coverage of the proposed University.
5. Recommend ways in which the proposed University could play a role in programmes of continuing education in the country.
6. Recommend on the necessary staffing of the proposed University bearing in mind the need to ensure rapid Kenyanization of the proposed University, the University of Nairobi, Kenyatta University College, other institutions of research and higher learning, and the Government and the economy as a whole.
7. Give an estimated cost of the development of the proposed University bearing in mind that its recommendations be made in the light of the Government's existing economic policy decisions and suggest possible ways of financing establishment and maintenance of the University.
8. Produce and submit its report within a period of six months from the date of appointment by the President.

SUMMARY

The Working Party has found overwhelming support in the country for the establishment of a University which is technically oriented. The Party is therefore recommending that the Second University should have a bias in Technology. However academic development at the proposed University should include a blending of social-cultural instruction and orientation.

There is also a strong demand for Continuing Education at the University level in the country. In order to meet this demand, the Working Party has recommended the establishment of a College of Continuing Education as part of the Second University.

The Working Party has recommended the lengthening of University education by one year, and has thus made recommendations on necessary consequential restructuring of the education system including the removal of "A" level segment and expansion of other post-secondary training institutions.

In order that Universities and post-secondary education may be adequately co-ordinated in the country, the Working Party has recommended the establishment of a Council on Higher Education.

The Working Party has attempted to make the arguments leading to the above conclusions as clear as possible, and hopes that even if they are not found acceptable the reasoning leading to these conclusions will be understood.

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Lab. Tech.—Laboratory Technology
 K.T.C.—Kenya Technical Teachers College
 K.S.C.—Kenya Science Teachers College
 N.C.S.T.—National Council for Science and Technology

ABBREVIATIONS USED IN THE REPORT

- U.S.A.—United States of America.
- “A” Level—Advanced Level.
- C.P.E.—Certificate of Primary Education. Awarded by the Ministry of Basic Education after seven years of Primary Education.
- K.J.S.E.—Kenya Junior Secondary Examination.
- K.C.E.—Kenya Certificate of Education. It replaced the East African Certificate of Education in 1980.
- K.A.C.E.—Kenya Advanced Certificate of Education. It also replaced the East African Advanced Certificate of Education.
- N.C.E.O.P.—National Committee on Educational Objectives and Policies.
- S.C.C.A.T.—Senior Clerical, Catering, Administrative and Technical.
- G.D.P.—Gross Domestic Products.
- J.K.C.A.T.—Jomo Kenyatta College of Agriculture and Technology.
- H.I.T.—Harambee Institutes of Science and Technology.
- A.H.I.T.I.—Animal Health, Industry and Training Institute.
- U.N.E.P.—United Nations Environment Programme.
- Lab. Tech.—Laboratory Technology.
- K.T.T.C.—Kenya Technical Teachers College.
- K.S.T.C.—Kenya Science Teachers College.
- N.C.S.T.—National Council for Science and Technology.

CHAPTER 1—INTRODUCTION

The Need for a Second University

1. Since the first year of independence in 1963, the Government of Kenya has made a strenuous and continuing effort to provide the necessary planning for education at all levels. In 1964 the Ominde Report attempted to identify how the growing number of "O" level graduates might best be employed in the middle levels of the economic spectrum, and to point out ways which would help to ensure an adequate supply of such graduates. Throughout the 1970's the strengthening and expansion of the University of Nairobi was in part a conscious effort to provide the necessary manpower at various levels of administration and the professions within both the public and private sectors. The National Committee on Educational Objectives and Policies (NCEOP) Report in 1976 was another effort by the Government to assess the relationship between needs, existing facilities and the cost of education. In announcing the appointment of a Working Party to advise on the establishment of a Second University, His Excellency the President recalled that the expansion of the University of Nairobi had not kept pace with the increasing demands made on it in terms of diversified curricula and absorption of the ever-growing number of secondary school leavers. Thus, in 1981, there is once again the need to review the national record in education with regard to the production of increasing numbers of graduates that the development of the country requires.

2. With a population growth in the neighbourhood of 4 per cent a year, and with 1.2 million children starting standard one in 1981, it is all too apparent that the rapid development of all levels must not only be continued but even be intensified at the middle and upper levels of the educational spectrum, if the youth is to be properly prepared to play a meaningful role in an expanding economy. Further it is now recognized that while some areas of the nation are well served in terms of primary and secondary schools, and so have had possibility of greater access to University education, there are sections of the nation particularly the arid and semi-arid areas which have been at a disadvantage in terms of access to education. Attention is now being focussed on ways by which such imbalances of opportunity may be redressed. Also those groups which traditionally did not seek out educational opportunities now have begun to appreciate the need to enrol their sons and daughters in school. All these things will surely increase public demand for more post-secondary and University education in the country.

3. Demand for University education is already high. About 7,000 Kenyans are studying abroad at the present time. This by itself indicates that there is a kind of university of Kenya overseas brought into being in large part by the shortage of places at home. Furthermore, this has tended to lead to establishment of private universities and colleges without relating them to national planning. Clearly, the intention is to have these institutions cater

for those Kenyans who have failed to secure places at the University of Nairobi and who are willing to pay fees for higher education within the country. In this Report the Working Party has identified the need to co-ordinate the establishment of such institutions.

4. Although Kenya's economy is currently predominantly agricultural, the country is now entering a period when its economy will have to be more diversified, and in all probability will be more complicated, sophisticated and more competitive. The demand for manpower in all sectors of the economy will continue to grow. A second university should therefore not only complement the University of Nairobi in the task of providing the nation with trained personnel, but in addition should be able to provide manpower to fill existing and new gaps in the economy.

5. A broadening of opportunity and expansion of places for students could also serve to correct the impression that a university degree can only be the possession of a small educated elite. Increasing numbers of graduates will serve to challenge those already holding degrees. This should be a good thing both for the productive capacity of the individual and for the nation. With two universities, Kenya can begin to achieve that necessary "critical mass" of highly trained and well qualified individuals who will reinforce the ability of Kenyans to manage and solve their own problems.

6. It may be argued that the University of Nairobi should enrol more students. However, the main campus of the University of Nairobi is near capacity in terms of both buildings and academic facilities, and in the number of students which it can accommodate at the undergraduate level. There is, furthermore, a general feeling throughout the country, sometimes articulated but more often with the reasons not clearly defined, that the University of Nairobi is now large enough and with adequate coverage in a sufficient number of important areas. It should concentrate on improving what it is doing in order to do it with increasing effectiveness. At the same time there is need for a Second University with a somewhat different thrust and change of emphasis, and engaged in additional areas of important activity not now being catered for by the first university. This new institution should be established in a part of the country removed and far from the national capital. The Working Party was struck with the force of these arguments, and they have had much to do with the conclusions, recommendations and reflections which have been reached by its members.

Methodology Adopted by the Working Party

7. Shortly after the announcement of their appointment, the members of the Working Party met to give consideration to the possible dimensions of the task which had been assigned to them and to consider how it might best be approached. As a result of these discussions, twelve topics emerged which it was felt encompassed the different areas in need of investigation. These

topics, which are listed in Appendix 2 served to form the headings of twelve background papers prepared by different groups of the Working Party, and subsequently they were used as a guide when the public was invited and encouraged through the Press and over the radio to make their submissions in writing. With only six months in which to examine the problems covered by the terms of reference, it was agreed that no issues should be considered at too great a length or reported on in extensive detail since this would be to the detriment of others. The approach, therefore, in this report has been one of a broad survey of the terms of reference in order to come up with specific recommendations.

8. One early problem which confronted the Working Party was the development of an approach to obtain the necessary information from the public. As indicated above, a request went out through the Press for a period of two weeks and over the radio twice daily for five successive days. Initially, when it was agreed that there should be public hearings, it was thought these might be held only in Nairobi with invitations going out to selected individuals or representatives of certain groups. Subsequently, the decision was taken to visit each province where a small group of five to six members of the Working Party would spend at least two days in each of the provincial headquarters meeting with both officials and members of the general public. Before setting out on these provincial tours a questionnaire was prepared, and it was used as a basis for discussion in all of these interviews. The Press, radio and television gave extensive coverage to these provincial visits. This travel also provided an excellent opportunity for members of the Working Party to visit a variety of educational institutions and to discuss problems of common interest with the individuals who are charged with their administration.

9. Once the visits were concluded, members of the Working Party returned to Nairobi to embark on a series of meetings with Government Ministers, Members of Parliament and senior Government officials, as well as with a wide cross-section of citizens, some representing a variety of organizations while others appearing in their own individual capacity. In retrospect, this approach proved to be one of the key factors in gaining and understanding the very real concerns of the people as well as receiving much good and useful advice from the public. Valuable information was provided to the Working Party, spirited and wide-ranging discussions took place and in a number of instances this was followed up by further written submissions presenting additional details and amplification of points which had been made in the public sessions.

10. This information served the initial purpose of educating members of the Working Party on the feelings of the nation for the new University. On the basis of this information, and after lengthy discussions and debate, the original background papers were reviewed and revised before being used as the core of the chapters which make up the body of this report. The

Working Party considers that for the longer term, and of equal importance, will be the use of this documentation gathered by the Working Party as a guide for those who are selected and appointed to organize and run the Second University. The files in the Working Party Secretariat quite literally are full of ideas which can provide the Ministry of Higher Education with a wealth of material for those first administrators and professors who will be challenged by the exciting task of making the Second University a reality. *The Working Party therefore recommends that this material should be handed over to the administration of the new University when it is formed, to provide a basis of information on the views of the public and its expectations for this new institution.*

11. In spite of being faced with a situation where the Chairman was forced to commute between Canada and Kenya from time to time, nevertheless, and thanks to the early appointment of Prof. Douglas Odhiambo as Deputy Chairman, all decisions were taken and recommendations made within the six-month period allocated for this work, to form the basis of the report. In the succeeding weeks it was edited, refined and made ready for presentation in September of the year in which the Working Party was appointed.

CHAPTER 2—HIGHER EDUCATION SYSTEM AND THE PROPOSED UNIVERSITY

Introduction

12. In this Chapter, there is an examination of the national development and higher educational objectives, and discussion of the secondary school segment of the educational system as it relates to University education. In the light of submissions received by the Working Party, detailed consideration is also given to the role of "A" level education and the requirements for University admission.

National Development Objectives

13. Kenya's national development objectives since independence have been clearly stated in the Constitution, KANU Manifesto, the Sessional Paper No. 10 of 1965 and the National Development Plans. These objectives have been further articulated through the numerous addresses by the late President, Mzee Jomo Kenyatta and His Excellency the President, Hon. Daniel arap Moi. They include political equality, religious freedom, promotion of cultural heritage, social justice, freedom from want, ignorance and disease, human dignity including freedom of conscience, equal opportunity for all citizens, and high and growing *per capita* income equitably distributed.

14. The central theme of the 1979/83 Development Plan is the alleviation of poverty throughout the nation. According to the Integrated Rural Survey of 1977, 41 per cent of families engaged in small-holder agriculture—a group that represents over 80 per cent of Kenya's total population—had incomes, including subsistence production, of less than Sh. 2,000 per family per year in 1975. Another 14 per cent of the families had annual income in the range of Sh. 2,000–Sh. 3,000 per year. The Plan observes that these incomes are inadequate for basic necessities. Consequently in efforts to accomplish its objective of alleviating poverty the Plan has enunciated four inter-dependent strategies, namely, the creation of income earning opportunities, the improvement of expenditure patterns, the provision of basic needs, and institution building.

15. The major ingredients of income earning opportunities strategy include capacity utilization, employment creation, and rural development. The Plan indicates that there is significant under-utilization of resources within the economy. Some of Kenya's land which is of high and medium potential, is under-utilized. In arid and semi-arid areas, the productivity of land can be improved. Much industrial capacity is presently used on one-shift basis when the potential exists for two or even three-shift operations. In addition, careless handling and inadequate maintenance of productive equipment is a serious problem in the industrial sector. It is also estimated that vacancies are up to 10 per cent in training institutions.

16. Approximate orientation in higher education curricula especially in veterinary, agriculture and technology are likely to lead to optimal use of productive land and improved efficiency. In addition, resultant expansion in small scale agriculture and development of rural areas where 80 per cent of the people of Kenya live will increase gainful employment. The development of rural areas will, however, need the creation of necessary infrastructure. *The Working Party therefore recommends that the disciplines in the Second University should be oriented in developing the infra-structure that is necessary for rural development.*

17. The Government plans to develop and expand organizations that are essential for co-ordinating and controlling the economy based on agriculture and industry through national and international trade. Institutions of higher learning should therefore produce people with knowledge and appropriate skills to meet these needs both in the urban and rural areas. Courses in banking, insurance, technology and co-operative management should go a long way in making these organizations viable and functional for the service of the people. The Government also plans to review and improve its own management systems to ensure that all its agencies effectively plan, co-ordinate and implement programmes so that the objectives are fully realized. In this regard the institutions of higher learning should continuously relate their curricula to national problems.

18. The Government has invested heavily in the establishment and development of the University and other institutions of higher learning. In these institutions there now exists a significant concentration of highly trained manpower and specialized scientific and technological resources. However, these institutions have hitherto not been fully utilized in the process of nation building. Therefore, *the Working Party recommends that the nation should make greater use of the Universities and other institutions of higher learning for national planning and implementation of Government programmes.*

Educational Objectives

19. The Government presently considers the following to be the most important objectives of its educational system:

- (a) Education must serve to foster national unity.
- (b) Education must serve the needs of national development.
- (c) Education must prepare and equip the youth of this country with the knowledge, skills and expertise necessary to enable them collectively to play an effective role in the life of the nation whilst ensuring that opportunities are provided for the full development of individual talents and personality.
- (d) Education must promote social justice and morality by instilling the right attitudes necessary for the training in social obligations and responsibilities.

- (e) Education must foster, develop and communicate the rich and varied cultures of Kenya.
- (f) Kenya is a member of the international community and hence its education system must foster positive attitudes and consciousness towards other nations.

20. The institutions of higher education must be used to foster national unity based on adaptations of the rich cultural heritage of the Kenyan people.

21. Higher education can facilitate the needs of national development objectives in a variety of ways. This can be done through production of skilled and high level manpower, dissemination of knowledge, appreciation of national environment and resources, and through research and development of more efficient machinery for the utilization of those resources.

22. Education is aimed at enabling the youth to play a more effective role in the life of the nation by imparting to them the necessary skills and knowledge and inculcating the right attitudes. In practice, however, formal education has tended to concentrate on imparting knowledge for the sake of passing examinations. Higher education institutions should therefore, emphasize the need to relate all the attributes of learning to the real problems of society.

23. The promotion of social justice and morality implies that every person receives basic functional knowledge and skills to enhance the quality of life. It also implies the promotion and practice of socially desirable ethics of society transmitted to youth. It is necessary for educational institutions and society in general to give particular attention to this requirement while providing more educational opportunities. This is of particular importance in higher education but should also apply to all other levels.

"A" Level Segment

24. The Working Party received submissions that the present "A" level segment in our educational system should be done away with. Submissions were also made to the effect that university education should be of at least four years duration. In the light of these submissions the Working Party is satisfied that the time has come when Kenya should re-examine the usefulness of the "A" level segment in the country's educational system.

25. Before stating the reason for this view, it may be useful to note briefly the background to the segment itself. "A" level education was introduced in 1961 as a means of preparing and selecting students for University education. Prior to that, candidates were admitted to the then University College of East Africa, Makerere, at the "O" level. The students were then required to spend two years taking what was known as the Preliminary or Intermediate courses before proceeding to degree programmes. The degree programmes themselves were of two or more years

depending on the faculties and type of degree taken. General Arts and Science courses initially took two years while Honours courses took three years. In the professional disciplines, e.g. Veterinary Medicine and Medicine, the duration was longer.

26. In time when much larger outputs of "A" level leavers had been achieved, leaders began to question its necessity given the fact that university places remained fewer than the number of qualified applicants. The Ominde Commission of inquiry into education (1964) examined "A" level education and proposed that it be retained, but that in addition junior or intermediate colleges be established. A Working Party set up by the Senate of the then University of East Africa recommended its retention as the main requirement for university admission. The recommendation of the Ominde Commission on junior colleges was not implemented. With the passage of time however, the "A" level system has now shown major disabilities and problems which Kenya can no longer afford to ignore.

27. For the "O" level certificate, students take both science and arts subjects. At Form V however, those preparing for the "A" level examination are divided into two separate streams: Arts and Science. The choice as to whether to go for Art or Science subjects is largely made by the students themselves and determined by their "O" level results. It is here that the "A" level programme has caused problems in the Kenya education system. There are more Arts than there are Science students. This is in part a factor of the economics of the "A" level since it is less expensive to set up and run an Arts stream than a Science one. There are never enough teachers and facilities to cater for the Science streams. In addition, the weak preparation in the Science subjects prejudice students against opting for Science at "A" level.

28. As admission to Form V is based on the performance at "O" level, anyone who passes "O" level examinations in Division I is normally offered a place in Form V. However, because of the importance attached to university education, both government and the public have expanded the "A" level facilities in order to prepare as many students as possible for selection to the university. This has resulted in more students, some with weak Division II passes, being admitted into "A" level courses than would be the case if one adhered strictly to the criterion of good "O" level passes. Clearly the "A" level scheme of education now gives false hopes to far too many students regarding their potential capacity for university education.

29. Equally important is the fact that because of environmental, historical and other cultural reasons, there has been unequitable distribution of education opportunities and therefore some parts of the country have not had the full benefit from the "A" level system. However, these areas as well as the rest of the country generally, will be trying to increase the educational facilities, including "A" level streams, and thus the nation can be expected to incur even greater expenditure than at present.

30. Submissions presented to the Working Party indicated that the division of students into the Arts and Science streams at the "A" level results in too early a specialization. At the University, some faculties have found it necessary to cover afresh those parts of the foundation topics which should have been adequately taught at the "A" level. Additionally it was noted that some subjects offered at "O" level are not available at the "A" level. This has made some university faculties take into consideration both "O" and "A" level subjects in prescribing their requirements for admission in the university.

31. A further serious consideration is the fact that national policies are geared towards greater promotion of Science and Science-based subjects and courses both at the university as well as at other post-secondary institutions. The post-secondary opportunities available to the large number of Arts students after "A" level are far fewer than those available for Science students. The Arts "A" level leavers have therefore very few options should they fail to go to university. Indeed, "what next after "A" level" is a real problem for many parents. Until a solution for it is found and implemented, the large number of Arts-based "A" level school leavers will remain a real problem. The only solution to this problem appears to be "University education." If not, then the two years spent pursuing the "A" level courses appear to have been wasted.

32. There are other ways of gaining admission to the university other than through "A" level passes. A small intake is made from the diploma programmes in the country (e.g. Egerton and Kenya Science Teachers College) and through mature age entry. In recent years because of the very large numbers of "A" level leavers qualifying for university admission, these other categories of potential university material could not be catered for by the University.

33. The most recent review of Kenya's education was that carried out by the National Committee on Educational Objectives and Policies (NCEOP) of 1976. Recommendation 121 of the NCEOP Report calls for a 4-year terminal secondary education system encompassing the equivalent of the present Forms 3 to 6 for all secondary schools in the whole country. The Working Party was informed that the full details of the curricula and examination/certificates to be given after such a 4-year programme would have to be worked out. The rationale for the NCEOP's recommendation for restructuring the secondary educational system is debatable. In any case, it is clear that the costs of implementing NCEOP's proposals for secondary education, which would require everyone in secondary education to proceed to Form VI, would be colossal.

34. In the light of the above review of the "A" level segment of the national educational system the Working Party has come to the conclusion that its retention can only create more problems for the country. *The Working Party therefore recommends that the "A" level segment should be scrapped altogether and that the entire educational system be suitably restructured.*

35. Submissions to the Working Party indicated that the present three year period that a student spends in the university is too short. It does not enable the student to be exposed to the necessary training for life which university education is expected to impart and not merely instruct in narrow field of specialization. In addition, coming in with "A" level imposes restrictions on the choice of career which the student could pursue at the university. It was strongly submitted that students should have one year at the university when they are exposed to a wider programme of study, and during which they will also be able to decide what professions they are really interested in pursuing. *The Working Party therefore recommends that university education be at least four years. The first year should be spent on foundation courses for degree training as well as inducting students into university life both socially and intellectually.* The above recommendation regarding the number of academic years exclude any period students spend on the national service.

36. The NCEOP (1976) proposed among other things, a 9-year term basic education system. The recommendation regarding the 9-year programme entails retention of the Certificate of Primary Education (CPE) in a modified form as well as the Kenya Junior Secondary Education Examination (KJSE) both in the Government as well as Harambee schools. When it can be appreciated that there is a need to impart not only numeracy and literacy but also useful basic education to the primary school leavers, it is not clear that two examinations are necessary in a 9-year education programme. The Working Party was informed that the costs of introducing a 9-year programme will be prohibitive. For this and other infrastructural reasons the Working Party was given to understand that it should make whatever recommendations it may deem necessary in the event of proposed changes in the higher educational system.

37. The Working Party has already recommended the restructuring of education system following on the dropping of "A" level segment. It has recommended the lengthening of university education to at least four years. Under the present system, education from primary to University is of at least 16 years duration, and the Working Party considers this to be reasonable and should be retained. The Party appreciated the NCEOP recommendation that primary school leavers should acquire some basic education in addition to numeracy and literacy skills. In order to achieve this, it is considered necessary that the primary school segment should be longer than it is at present. *The Working Party therefore recommends that in order to streamline the education system of the country as a whole the present primary education system be extended from seven (7) to eight (8) years. The 8-year primary education should be restructured to offer:*

(a) Numeracy and literacy skills in the first six years.

(b) Basic education with practical orientation in the last two years recommended by NCEOP.

(c) One examination, a revamped CPE, should be taken at the end of the primary education.

38. In the light of the above recommendations, the present system, and the NCEOP Report, the possible educational structures may be illustrated as follows:

Educationl Level	Mode 1 (Existing)	Mode 2 (Proposed by NCEOP)	Mode 3 (Proposed by the Working Party)
Primary	7 years	9 years	8 years
Secondary	4+2	4	4
University	3	3	4
TOTAL	16	16	16

39. If these recommendations regarding the organization of both primary and higher education are accepted, it will be necessary to institute consequential programmes. To begin with, the University of Nairobi, notwithstanding its present constraints, will have to expand its facilities to be able to take in the resulting increased enrolment. It must be pointed out that this will be cheaper than extending 6th Form to all secondary schools in the country. Special arrangements will have to be made for selecting first year intakes into the university from what would be very large numbers (over 73,000) of secondary school certificate holders. It was however, pointed out to the Working Party that although large numbers of school candidates take the "O" level examination less than 2 per cent of the candidates pass at Division I and less than 10 per cent pass at Divisions I and II. While appreciating that standards should and must improve, it can be taken for granted that the numbers involved in selecting the first year university intake are not going to be as large as might at first appear to be the case.

40. By far the most important consequential step to be taken should be the expansion of other post-secondary training institutions. The savings arising from the abolition of the "A" level segment should be channelled towards this expansion. The chief objective of this would be to increase the national middle level manpower in all spheres. This would certainly be in conformity with the views of the National Council for Science and Technology. Those candidates who would normally have been admitted to Forv V should be able to be absorbed into existing or new post-secondary training institutions to prepare them for useful and practical employment. *The Working Party would therefore recommend that immediate steps be taken to determine the number and range of such post-secondary training institutions.*

University Education

41. University education in East Africa dates back to 1922 when the Makerere College in Uganda was established as a small technical college. This college was eventually expanded to cater for the need for higher education by Africans in the three East African countries of Kenya, Uganda and Tanzania as well as those of Zambia and Malawi. Thus during the late 1940's and early 1950's, Makerere College was the only institution providing University education for the whole of East Africa. The Faculty of Veterinary Medicine was however located at Kabete, Nairobi, except for the pre-clinical departments. These were later transferred to the University of Nairobi.

42. The next stage came when the Royal Technical College of East Africa was established in Kenya and admitted students for the first time in 1951. The College, located in Nairobi, was to offer technical and commercial education for the countries of East Africa by preparing candidates for professional examinations in these areas as well as preparing them for the "A" level course which was not available in high schools at the time. In 1961 the Royal Technical College acquired University College status. It was renamed Royal College, Nairobi, and it entered into special relations with the University of London so that students taking courses in Arts, Science and Engineering could prepare for bachelors degrees of the University of London. However, courses in Architecture, Land and Building Economic and Commerce continued to be offered for the qualifications of the respective British professional bodies.

43. In 1963 the Royal College became the University College, Nairobi following the establishment of the University of East Africa with Makerere, Dar es Salaam and Nairobi as constituent colleges. By 1966 University of London degrees had been phased out. To the college were added the Institute of Adult Studies (1963) and the Institute for Development Studies (1965). The latter institute was to undertake policy oriented social science research on the important issues of economic development in Kenya. The Faculty of Medicine was established in 1967.

44. In 1970 the University of East Africa was dissolved and University College, Nairobi, was renamed the University of Nairobi, after it was established as a national university by an Act of Parliament. In the same year the University was further expanded by the addition of the new Faculty of Agriculture, Education, and Law, the School of Journalism and the Institute of African Studies, the latter having been the Cultural Division of the Institute for Development Studies since 1965. The University of Nairobi Act 1970 also established Kenyatta College as a constituent College of the University of Nairobi. Kenyatta College had developed from 1965 as a Senior Secondary School and Teacher Education College. Between 1965 and 1970 the College was the country's largest institution for producing trained non-graduate secondary school teachers. In 1972 the College enrolled the first students for the degree of the Bachelor of Education (B.Ed.) of the University of Nairobi.

45. According to the University of Nairobi Act 1970, the main objectives and functions of the University are:

- (1) To provide facilities for University education including technological and professional education and to offer facilities for research.
- (2) To assist in the preservation, transmission and increase of knowledge while at the same time helping in the stimulation of the intellectual life and cultural development of Kenya.
- (3) To co-operate with the Government in planning for the development of higher education.

In addition, full authority was granted to the University so that it would determine who may teach and what may be taught and how it may be taught. Secondly, the University was entrusted with the right to conduct examinations and grant certificates, diplomas, degrees and other awards of its own.

46. The Working Party received criticism directed towards the University of Nairobi to the effect that the University has not fulfilled the stated objectives and functions satisfactorily. Some of the critics point out that objectives stated for the University of Nairobi were adopted from the University of London without modification, and therefore they do not relate to the cultural, developmental, social and physical requirements of Kenya's rural areas where 80 per cent of the people live. However, the Working Party subsequently learnt that university and Government committees prepared the objectives as stated in the University of Nairobi Act 1970, having taken into account the higher educational requirements of the country at that time. Since then, however, there has been a dramatic transformation of the Kenyan society by the mixture of varied national and international cultural attitudes and values, and also more attractive employment opportunities in the urban areas compared to the rural areas. Therefore, the criticisms of the University of Nairobi must be viewed in the light of these changed conditions.

47. As may be seen in Table 1, since its establishment as a national university in 1970, the University of Nairobi has produced 11,801 graduates of all categories between 1971 and 1979. It is reasonable to assume that all those graduates have been absorbed into the national economy, either in the public or private sectors, and that most of them are making a significant contribution to the welfare of the nation.

48. From the interviews conducted by the Working Party, it became clear that there is some misconception by the public about the role of University in the production of graduates, its place in the general organization of education and its function in national life. In particular, there was criticism concerning the type of graduate produced by the University of Nairobi—that is, whether university education in Kenya has produced a graduate with motivation, skills, and knowledge that are appropriate to the general development of the nation. However, from the foregoing discussion it is evident that

with the resources available to it, the University has attempted in variety of content and orientation of courses, to produce graduates for national requirements. It must be emphasized, however, that university education does not aim to produce a finished product but hopes to impart skills and knowledge that can be used by the graduate to fit into society and to contribute solutions to problems of national development, given the appropriate tools and working environment. This is an important ingredient if the needs and expectations of society are to be met by the graduate.

49. In so far as the second objective is concerned the Working Party notes with satisfaction that the University had achieved the objective of the preservation, transmission and increase of knowledge. However, with regard to the stimulation of intellectual life and cultural development, the Working Party notes that given the present resources and the prevailing social attitude the University has not found it easy to accomplish this objective with noticeable success. This should not be a cause for disillusionment regarding the education system. Furthermore, as the NCEOP Report observes "the public

TABLE 1—DEGREE AND DIPLOMA AWARDS BY THE UNIVERSITY OF NAIROBI (1971-1979)

	First Degrees and Diplomas	Masters Degrees and Post-graduate diplomas	Doctorate Degrees	Total Number of Awards
1. Faculty of Agriculture	388	67	7	462
2. Faculty of Architecture, Design and Development	782	185	1	968
3. Faculty of Arts	1,887	232	17	2,136
4. Faculty of Commerce	1,060	32	1	1,093
5. Faculty of Education	2,515	178	4	2,697
6. Faculty of Engineering	1,260	32	1	1,293
7. Faculty of Law	391	6	—	397
8. Faculty of Medicine	752	70	12+2 M.D	836
9. Faculty of Science	949	131	29	1,109
10. Faculty of Veterinary Medicine	541	27	11	579
11. Institute of Adult Studies	104	—	—	104
12. School of Journalism	127	—	—	127
GRAND TOTALS	10,756	960	85	11,801

need to understand that apart from measuring the value of University education in terms of productivity and cost-effectiveness, many of its intellectual and cultural benefits may not in fact be immediately visible but will be realized by posterity". Further it must be noted that Kenyan nationals presently account for just over 40 per cent of the academic staff. Given such a staffing pattern, too much must not be expected of the University in stimulating and promoting cultural aspirations among our university students.

50. In so far as the third objective of the University is concerned, it has been shown that as an institution its involvement in the planning of higher education in this country has been negligible. There is evidence that many Government Ministries have not used the University resources as they should. This lack of interaction may in part explain why the University of Nairobi has been referred to as an "ivory tower".

51. The commitment of Kenyans to higher education is exemplified by the number of students studying overseas. Table 2 gives an indication of Kenyans studying overseas. At the moment this number is about 7,000. This figure is probably an underestimate considering that a good number of students do not register with the Kenya Missions abroad. The Working Party was informed that there is now a new policy requiring students going overseas to register with the Ministry of Higher Education.

TABLE 2—APPROXIMATE NUMBERS OF KENYANS STUDYING OVERSEAS ACCORDING TO COUNTRY OF STUDY, 1981

Country	Number	Comments
1. U.S.A. and Canada ..	4,000	The number includes some who are working either on full-time or part-time basis. Most of them privately sponsored.
2. United Kingdom	1,200	120 on full Kenya bursaries. Private registered students are 53.
3. India	1,000	Majority on private scholarships. Seven on Indian Government Scholarships.
4. U.S.S.R.	277	All students on USSR Government Scholarship.
5. Rumania	34	All on Rumania's Government Scholarships.
6. Poland	30	Sponsored by Government of Poland.
7. Bulgaria	15	Sponsored by Government of Bulgaria.
8. Hungary	10	Hungarian Government Scholarship.
9. Australia	13	8 Postgraduates and 5 undergraduates. Australia Government sponsorship and one private.
10. Greece	34	Government of Greece Scholarships.
11. Yugoslavia	23	Yugoslavia's Government Scholarship.
12. Czechoslovakia	3	On Czechoslovakia's Government Scholarship.
13. Democratic Republic of Germany	3	Government of Germany Scholarships.

TABLE 2—APPROXIMATE NUMBER OF KENYANS STUDYING OVERSEAS ACCORDING
COUNTRY OF STUDY, 1981—(Contd.)

Country	Number	Comments
14. Federal Republic of Germany	23	Majority on private sponsorship.
15. France	38	Majority on Government of France Scholarships.
16. Sweden	11	Majority on private scholarship.
17. Denmark/Finland/Norway	10	Privately sponsored.
18. Egypt	26	Egyptian Government Scholarship.
19. Iraq	25	Government of Iraq Scholarship.
20. Sudan	15	Majority pursuing Islamic Studies.
21. Nigeria	22	Majority on scholarships offered by African Scholarship Programme (INTERAF)
22. Ghana	6	Government of Ghana Scholarships.
23. Zambia	3	Government of Zambia Scholarships.
24. Cameroon	6	Privately sponsored.
25. Pakistan	12	Privately sponsored.
26. Phillipines	2	Privately sponsored.
27. Japan	3	Privately sponsored.
TOTAL	6,844	

SOURCE: Ministry of Higher Education.

52. Historically the country has benefitted greatly from overseas University education both at the undergraduate and postgraduate levels. Before Independence and shortly thereafter many Kenyans left for overseas universities due to the scarcity of places at Makerere College and the University College, Nairobi. Most of these students have since returned and are playing an important role in nation building. Because of the nation's educational and manpower needs for the coming decades and the increasing number of school leavers competent to pursue higher education, it is likely that Kenyans will continue to go overseas for study. In addition, courses that are in demand but expensive to run at the local universities shall continue to be pursued overseas.

53. At present there are two private university institutions operating in Kenya. Information was received that several others are being contemplated. The existing institutions are:

(a) *The Seventh Day Adventist College at Baraton, Nandi District.*—The college authorities have established an institution to serve Eastern Africa and it has currently enrolled 90 students. The master plan for the next phase will see enrolment rise to a maximum of 2,000 students. The fees for 1980/81 were K.Sh. 11,000 per year. The college is currently affiliated with a parent institution, Andrews University in the U.S.A. Steps are being taken to have the college established under the Higher Education Act.

(b) *The United States International University.*—This college was established in Kenya in 1970 and it is located in Parklands, Nairobi. The institution enrolls 300 students on a full- or part-time basis. Full-time students pay fees of K.Sh. 37,000 per year. Courses are offered leading to Bachelors and Masters degrees, mainly in Business studies. The primary orientation of the academic programme is business studies. The institution is affiliated with the United States International University of San Diego, California. The College is staffed primarily by staff hired on a part-time basis. The students of this institution make use of University of Nairobi library facilities as well as other academic resources in the city.

54. The Working Party was informed that a Pontifical University of East Africa was expected to be established in Kenya. Another church organization, Daystar Communications, is in the process of starting degree courses in Nairobi.

Relationship between the Second University and the University of Nairobi (including Kenyatta University College)

55. As has been mentioned earlier, Kenyatta University College was established in 1970 as a constituent college of the University of Nairobi. Although established under the University of Nairobi Act 1970, the necessary legal instruments for the administration of the college have yet to be finalized. Furthermore, the University of Nairobi Council is precluded under section 12 (a) of the University of Nairobi Act 1970 from the administration of the property and funds of the constituent college. The Working Party however, notes that the two institutions have co-existed remarkably well on the basis of mutual understanding, primarily because the college offers degrees of the University of Nairobi regulated by the Senate which is the ultimate authority on all academic matters of the University. As both institutions expand it is possible that such an ill-defined relationship could interfere with the organization and optimal output of both institutions. It is important that legislation be drawn up to regularize Kenyatta University College as a constituent college of the University of Nairobi.

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56. The establishment of the Second University will necessitate co-ordination between the two universities. While detailed relationships between the Second University and the University of Nairobi would be worked out at a later date, the Working Party wishes to point out that the University of Nairobi should play an important role in training staff for the Second University. In order for the University to play this very important role it is essential that substantial resources be made available for the training of postgraduate students in a number of areas where capability already exists. Other training programmes overseas will need to be organized as a matter of priority in the relevant disciplines, as outlined later in this report.

57. Kenyatta University College is the only institution that trains graduate teachers in the country at the present time. This institution should be supported and encouraged to continue performing this function. The Working Party is of the view that Kenyatta University College should be expanded to train science and arts graduates of both universities in teaching, especially through postgraduate teaching diplomas for those with basic degrees.

CHAPTER 3—POST "O" LEVEL TRAINING INSTITUTIONS

Introduction

58. The student output from secondary schools has increased significantly as a result of harambee secondary schools, new streams in Government maintained schools and private/commercial schools. This growth is likely to continue. In 1981 the total of maintained and aided secondary schools was 800, and there were 1,042 unaided schools. These schools had a total enrolment of 128,324 (aided) and 191,980 (unaided). The aim of secondary education in the current plan period is to orient the youth towards patterns of employment opportunities in the country. The intent of the Government is the teaching of practical skills so as to facilitate direct employment, self-employment and employment in the informal sector. The number of technical classes will be increased by upgrading facilities and equipment in existing technical schools as well as the construction of new technical schools.

59. The foregoing is in keeping with the KANU Manifesto of 1979 which stated that people's potential skills must be harnessed by creating appropriate opportunities for the Kenyan people wherever they are so as to enhance self-sufficiency in manpower. The Government has a number of post-secondary institutions which are the main productive sources of middle level manpower. The entry requirement is "O" level for these institutions, but most of them receive and consider applications from applicants with "A" levels who are not admitted into the University. These institutions provide training in areas such as education, agriculture, health, commerce, housing, veterinary, administration, secretarial services and technology. The nation has therefore invested heavily in the training of the country's much needed middle level manpower. In view of the importance that the country attaches to these post-secondary training institutions, they are reviewed briefly in the following paragraphs.

Teacher Training Colleges

60. There are eighteen primary teacher training colleges in Kenya. These institutions cater for a population of about 12,500 students. The overall admission requirement is "O" level and the course lasts two years. This implies an output of about 6,000 teachers per year for primary schools. The output per year is low considering that the country requires an output in excess of 10,000 teachers a year to cater for the expansion of education and to offset any losses or replacements. The distribution of enrolment in teacher training colleges is shown in the Appendix 3. The rapid expansion of secondary education during the last twenty years has been catered for by the establishment and expansion of teacher training facilities at the Kenya Science Teachers College (KSTC), Kenyatta University College (KUC), Kenya Technical Teachers College (KTTC) and the University of Nairobi. The KSTC and KTTC have concentrated on Science, Technical and Business Education training respectively. The graduates of these two colleges are utilized in formal and technical schools and in Institutes of Technology.

66. Planned courses by either the operational institutes or those expected to open soon include the following:

- Civil Engineering for Rural Development.
- Dryland Farming.
- Soil and Water Engineering.
- Hotel Catering.
- Environmental Sciences.
- Meteorological Studies.

67. There are 15 registered HIT but only 11 are operational. An additional Institute is being planned for in South Nyanza. Although they are administered by the community, they receive Government support in the form of teachers, student bursaries and through the Government they are also expected to receive international financial and technical support. The entry requirement for the operational programmes is mostly Kenya Certificate of Education (KCE).^{*} The duration is two to four years depending on the courses. However, some students are sponsored by various Ministries on short courses lasting three to six months specially designed to suit the needs of the particular Ministry. For example, the Ministry of Water Development is sponsoring students for water operators courses at the Rift Valley Institute of Science and Technology, Murang'a College of Technology and the Western College of Arts and Applied Sciences. The Ministry of Livestock Development is sponsoring personnel for a livestock training programme at the Sang'alo Institute of Science and Technology.

68. The fees range from K.Sh. 1,500 to K.Sh. 4,000 per annum. However, the 1980/81 *per capita* training cost is estimated at between K.Sh. 15,000 and K.Sh. 20,000. It should be noted that the balance is made up by Government bursaries, given only to those students who pursue courses that are approved by Government, revenue generating activities and contributions from public. Notwithstanding other sources of revenue indicated earlier, the majority of these institutions continue to experience annual shortfalls for both capital and recurrent expenditures. The contribution by these institutes in terms of manpower development dictates that they should receive increased assistance from Government including possible subsidies in the industrial training levy.

69. The annual enrolment in these institutes is shown in Table 4. (The numbers indicated do not include those enrolled for short courses.)

^{*}KCE—This certificate replaced the East African Certificate of Education in 1980.

TABLE 4—HARAMBEE INSTITUTES OF SCIENCE AND TECHNOLOGY (1979/81)

Name	STUDENT POPULATION		
	1979	1980	1981
1. Kiambu Institute of Science and Technology ..	432	456	456
2. Kirinyaga Technical Institute	154	154	174
3. Kimathi Institute of Science and Technology ..	60	84	134
4. Kaimosi Friends College	200	200	200
5. Murang'a College of Technology	106	196	241
6. Ramogi Institute of Advanced Technology ..	13	53	100
7. Western College of Arts and Applied Science ..	98	136	182
8. Rift Valley Institute of Science and Technology	84	168	366
9. Sang'alo Institute of Science and Technology ..	75	75	75
10. Gusii Institute of Science and Technology ..	50	50	120
11. Coast Institute of Technology (Voi Campus) ..	0	0	0
TOTAL	1,272	1,572	2,072

70. Currently these HIT enrol students from all over the Republic. However, in recognition of the contributions made by the local communities where they are established, some preference is given to admitting students from the local areas. Certificates received are based on internal examinations. In addition, the graduates of these institutes may sit for external examinations administered by various organizations and Government bodies. At the present time there is no single co-ordinating examination body.

71. These institutions are likely to play an important role in producing the trained craft and middle level manpower required by the country. They are likely to continue to be the pride of the community and the expression of Harambee spirit that initiated them. In addition, they are likely to continue to receive Government assistance and support of both a financial and technical nature. Consequently, *the Working Party recommends that the institutes should be:*

- (a) *Maintained and supported in recognition of their unique role in manpower development and not incorporated in the new University structure.*
- (b) *Appropriately harmonized and co-ordinated at all levels of course programmes, enrolment, entrance requirements, curricula and syllabi, examinations and certificates awarded.*
- (c) *Expanded so that they may meet challenge of the country's development especially in the rural areas.*
- (d) *Used for continuing education to complement the activities of Extra-mural Adult Education programmes and correspondence courses.*

Adult Education

72. The Government has given an undertaking to try and achieve 100 per cent adult literacy by 1983. To achieve this objective the Government has continued to train adult educators. The training is carried out by the Institute of Adult Education of the University of Nairobi. Admission requirements for the one-year Diploma course in Adult Education is "O" level plus three years field experience in adult education work. The institute also offers correspondence and extra-mural courses. While this effort contributes towards the achievement of adult literacy, it is the view of the Working Party that if the training facilities of this institute were fully utilized, more adult educators would be trained and this would go a long way towards the eradication of illiteracy.

Agricultural and Veterinary Training Colleges and Institutes

73. Agriculture is the cornerstone of Kenya's economy, both as a source of livelihood for the majority of Kenyans and also as a source of foreign exchange earnings. In this regard the Government has established a number of agricultural institutions for the production of middle level manpower in order to man a comprehensive farming sector, and to provide teachers in schools and farmer training institutes. The various agricultural institutions, the courses they offer, the duration and awards, the present and projected intakes in these courses are shown in Appendix 4. Egerton College and Jomo Kenyatta College of Agriculture and Technology (JKCAT) offer three-year diploma courses. Embu, Bukura and the Animal Health and Training Institute (AHITI) at Kabete each offer a two-year certificate course. Minimum entrance requirements for all these institutions is the Kenya Certificate of Education (KCE). However, Egerton College and Jomo Kenyatta College have tended to admit candidates with the Kenya Advanced Certificate of Education (KACE). It should however be noted that according to the Development Plan 1979/83 the additional number required for agriculture/veterinary diplomates and certificate personnel are 1,684 and 8,404 respectively during the Plan period. The efforts of the Ministries of Agriculture and Livestock Development to meet the need for middle level manpower is being undertaken at Egerton, JKCAT and AHITI (Kabete).

Co-operative Development Training College

74. The Government is continuously striving to improve the co-operative movement for national development. However there is a serious shortage of middle level manpower for running the co-operative sector which has expanded rapidly and has a major impact in the rural areas. Submissions received by the Working Party indicate that the annual demand of the co-operative movement for trained personnel is approximately 150 diploma and 500 certificate holders. In view of the high demand for personnel trained in co-operative education, the existing training facilities at the Co-operative

College of Kenya, Nairobi, presently limited to an annual intake of 67 for the two-year diploma and certificate courses, are inadequate. *The Working Party therefore recommends that the facilities at the Co-operative College should be expanded in order to train the required personnel.*

Forestry Training School

75. Kenya's land area that is under forest is less than 3 per cent compared to the world average of 10 per cent. This situation should not be allowed to continue considering that the high price of imported fossil fuel is forcing many Kenyans to continue using wood and charcoal for fuel. Furthermore, the pulp and timber industries require more wood. In order to expand the country's land under forest, the Ministry should immediately embark on a priority programme of establishing new forests, especially in the dry areas. Although the Government continues to train middle level manpower at the Forestry School, Londiani, the total annual enrolment of 82 at the School for the two-year certificate course and an additional one year leading to a diploma, is inadequate. *The Working Party therefore recommends that the forestry school Londiani should expand its training facilities for both certificate and diploma levels.*

Water Development Training School

76. The Government is committed to the plan of providing water in rural areas in order to improve family health, productivity and the quality of life. In this exercise, emphasis will be placed on common water points with provision for individual connections for those willing to pay. In pursuit of this ambitious programme, the Ministry of Water Development was established with the overall responsibility for conservation, development, operation and maintenance of water supplies, waste water disposal and pollution control. The Ministry of Water Development has a staff Training School in Nairobi which offers a wide range of courses for water operators and technicians. However, the need for highly trained manpower at both managerial and technical levels has outstripped the school's output. In this connection the Working Party notes that the Government is planning to expand the water training facilities by establishing a new school at Kajiado.

Medical Training Centre

77. Conscious of the fact that health is one of the human basic requirements, the Ministry of Health has six major programmes whose aim is to develop, sustain and promote a healthy nation. These programmes are preventive medicine and promotive health, curative health, rural health services, health training, medical supplies services and medical research. The training programmes in the Ministry of Health are shown in Table 5. The entry requirement for all these programmes is KCE although more and more of KACE holders are being admitted. According to the 1979-83 Development

Plan there will be a substantial deficit in this level of manpower by the end of the Plan period. *The Working Party recommends that additional training facilities be provided to produce more of middle level health personnel.*

TABLE 5—MEDICAL TRAINING PROGRAMMES

Course	Level of Entry	Level of Course	Duration	Yearly 1980/81	Intake 1981/82
1. Clinical Officers	KCE	Diploma	3 years	140	140
2. Environmental Health	KCE	Diploma*	3 years	30	30
3. Medical Laboratory Technologist	KCE	Certificate*	3 years	26	26
4. Registered Nurses	KCE	K.R.N. Certificate	4 years	200	200
5. Pharmaceutical Technology	KCE	Diploma	3 years	35	35
6. Physiotherapy	KCE	Diploma	3 years	35	35
7. Occupational Therapy	KCE	Diploma	3 years	30	30
8. Dental Technology	KCE	Diploma	3 years	7	7
9. Orthopaedic Technology	KCE	Diploma	3 years	4	4
10. Radiographers	KCE	Diploma	3 years	26	26
11. Medical Records	KCE	Certificate	2 years	40	40
12. Environmental Health Technicians	KCE	Certificate*	2 years	210	210
13. Medical Laboratory Technicians	KCE	Certificate*	2 years	88	88
14. Radiographic Film Processor	KCE	Certificate	2 years	25	25
15. Enrolled Community Nurse	KCE	Certificate	3½ years	596	596
16. Food Technology	KCE	Diploma/Certificate*	9 months	15	15
				1,533	1,533

*Certificates/Diplomas awarded by the University of Nairobi.

Kenya Institute of Mass Communication

78. The Ministry of Information and Broadcasting is responsible for informing and educating as well as providing the public with suitable entertainment. This is singularly important because the majority of people who live in the rural areas need to be appropriately informed of national policies, activities and development. The Ministry has a training programme for its middle level manpower at the Kenya Institute of Mass Communication in Nairobi. The Institute's main training objective is to increase the efficiency of the service in the gathering and dissemination of information. The service is also used for educating the people to learn about national policies and activities of the Government. Details on the Kenya Institute of Mass Communication regarding student numbers and courses offered are contained in Appendix 5. The Working Party formed the impression that the Institute may not be fully utilized. Against this may be considered the requirement of the School of Journalism at the University of Nairobi.

The School, which formerly offered a two-year under-graduate diploma, now offers a one-year post-graduate diploma in mass communication. *The Working Party recommends that consideration be given to the use of any under-utilized capacity at the Institute of Mass Communication by the School of Journalism.*

Utalii College

79. The Ministry of Tourism in its effort to expand and improve its facilities for both local and international tourism has established the Kenya Utalii College for the purpose of training manpower for managerial and operational aspects of hotel and tourism industries. The College offers courses in Hotel Management, Food Production and Travel Operations, among others. The yearly intake, courses offered and awarded are shown in Appendix 6.

Institutions Under the Ministry of Transport and Communications and the Ministry of Works

80. Meteorological and climatological services are vital in the areas of civil aviation, oceanography, agriculture, forestry development, exploitation and utilization of natural resources, water resources, organization and administration of surface and upper air. Middle level training is undertaken at the Institute for Meteorology Training and Research in Nairobi. It is the only one of its kind in Eastern Africa and therefore continues to admit students from outside Kenya. The programmes offered by the Institute include a basic course for World Meteorological organization class IV and an officers course for Class II meteorological personnel. The entrance requirements for these courses are KCE and KACE respectively. The annual intake for the Class IV course is 60 and that of Class II is 20. However, the Institute has tended to produce personnel who see their main work as that of weather forecasting. The country can benefit more from the wide range of training and services that this Institute is capable of offering.

81. Bandari Training College is a new training institution whose programmes are not yet fully worked out although it is currently offering many short in-service courses to Harbours personnel.

82. The Railways Training School in Nairobi trains station clerks, telecommunication technicians, electricians, building and civil engineering technicians and many others including accounts clerks. The entry requirements are KCE and KACE. Yearly intake is around two hundred, and it is currently restricted to serving officers. Certificate courses last for three years but there are also Trade Test Courses which take two years. There appears to be tremendous potential for more students intake into this school because it was initially planned to train for the former East African Community.

83. The Central Training School at Mbagathi carries out training for the Kenya Posts and Telecommunications Corporation. It trains postal personnel, telephonists, telegraphists and clerks. The training lasts for two years and leads

to the award of certificates. The current intake is about 230 students. There is also a Regional Training School run by Posts and Telecommunications which offers a two-year engineering course leading to a certificate. The yearly intake is only 100 students. The entry requirements for both institutions are KCE and KACE. Again there appears to be potential for more student intake at these training institutions.

84. The Civil Aviation Training School in Nairobi offers two-year courses in air traffic control, engineering and telecommunications operations. The entrance requirements for training are KACE and KCE. Successful trainees are awarded certificates. Its annual intake is 66 students.

85. The Ministry of Transport and Communications also operates a Works and Transport Training School in Nairobi for Inspectors of Roads, Materials Assistants and Land Surveyors. This is a two-year certificate training. Entrance requirement is KCE/KACE. The yearly intake is about 50 students.

86. The Ministry of Works has a staff Training School in Nairobi which offers training for Quantity Surveyor Assistants, Inspectors of Building, Architectural and Survey Assistants. Entrance requirements are both KCE and KACE level. The training programme leads to a two-year certificate. The annual intake is approximately 50 students.

Institutions Under the Directorate of Personnel Management

87. The Directorate of Personnel Management in the Office of the President is responsible for personnel administration, management services and manpower development. While its major role in training is seen as that of co-ordinating all civil service training programmes, the following training institutions come directly under it: Kenya Institute of Administration at Kabete, Government Training Institute at Maseno, Government Training Institute in Mombasa, Kenya Government Secretarial College in Nairobi, Matuga District Development Centre in Kwale and the Police Training Centre in Nairobi. The courses offered, types of awards and student intakes are shown in Appendix 7. These institutions also conduct a large number of in-service courses and seminars in order to improve management skills of civil servants, employees of parastatals and other organizations.

Other Training Facilities

88. The Working Party noted that the Office of the Vice-President and Ministry of Finance conducts in-service training programmes in Nairobi and Mombasa for income tax and customs officers in order to improve the efficiency of revenue collection.

Directorate of Industrial Training Centres (Ministry of Labour)

89. The Directorate of Industrial Training in the Ministry of Labour has Centres at Nairobi, Kisumu and Mombasa. These Centres operate craft training courses in civil, electrical, mechanical, automotive and other

engineering disciplines. They also conduct Government Trade Tests in these areas for their own students as well as for external candidates. The entry requirement for these courses is mainly KCE.

Other Training Institutions

90. In certain village polytechnics some "O" level school leavers join the training programmes. Some fourth form leavers also join the National Youth Service where basic courses in farming, typing, motor mechanics, road construction and others are offered. It is acknowledged that a number of other training institutions and agencies do exist in the public and private sectors for training army, naval, airforce, police, banking, airways and other personnel. There are also many private training institutions such as Kianda, Reeswood and Queensway Secretarial Colleges. Some Kenyans do enhance their formal level of training by overseas correspondence courses. Precise figures on these types of training are not readily available. *The Working Party therefore recommends that surveys of public and private sector manpower training be undertaken to analyse and determine the scope and impact of this type of training.*

91. In visiting various institutions of post-secondary education and collecting information in the Provinces, the Working Party became convinced that this country has a fair number of post-secondary training institutions which if well co-ordinated and fully utilized could provide the country with larger numbers of middle level manpower than at present. The need for co-ordination for university education has also been noted in paragraph 56. The Working Party was also presented with information regarding the amount of duplication that is seen to exist in the training of manpower in certain critical areas. It is questioned by the informed public whether there is a need to do a full course of study at each stage, as a student progresses from a lower training institute to a higher one and to university. The Working Party has come to the conclusion that it is necessary to harmonize the curricula of training institutions at various levels so that credit is given by the higher institutions for relevant work done in lower institutions.

92. *The Working Party recommends that a Council on Higher Education be set up. Its principle functions should include accreditation of universities, the financing of university education and research activities, overall planning, staff development, student enrolment, scholarships, university and post-secondary curricula. The Council should also harmonize the examinations and certification of all post-secondary institutions up to and at the university level so that credit is given by the higher institution for relevant work done in lower institutions or when a student transfers from one institution to another. It is anticipated that the Council will take over the functions of the University Grants Committee.*

Use of Existing Facilities for the New University

93. The Working Party has noted the views of the members of the public that existing facilities be used as the basis of the new University. The Working Party acknowledges that such a policy might save on capital costs and promise an early start-up time for the new institution. However, it is also noted that such action would compromise the very important work of manpower development that is presently being done by those institutions which might be taken over. *The Working Party therefore recommends that the new university should not be constituted by taking over of existing institutions.*

Expansion of Post-Secondary Training Institutions

94. In paragraph 40 the Working Party has already highlighted the need for the expansion of post-secondary training facilities. The proposed University is expected to increase university graduates in the technological fields. It will be necessary for the post-secondary technical institutions to also increase their outputs of technicians and craftsmen in order to optimize the operational effectiveness of university graduates. *The Working Party therefore recommends that a thorough review of under-utilized training facilities in the existing government and parastatal institutions be undertaken with a view to expanding the numbers of people being trained.*

Vocational Choice and Manpower Development

95. Any review of post-secondary training institutions must give attention not only to existing training facilities but also to whole new areas of employment that have developed in the past two decades. This must be done for two reasons: firstly, to ensure effective manpower development in these new areas of employment, and secondly, to permit Kenyans to make better choices in selecting programmes of study or training as they prepare for their careers.

96. Since independence, Kenya has developed whole new areas of job opportunities which are being performed without being listed anywhere as new job categories. Without adequate information on all the jobs existing in the economy, it is difficult to determine levels of over- or underemployment in some categories. Therefore, it is necessary to have a comprehensive manpower survey on the basis of a detailed professional and occupational breakdown in the survey, and an effort should be made to determine any specialized training that may be required for each occupational group. The production of up-to-date manpower data and training required for each occupation group would enable career masters in schools to offer better advice to the students and permit young Kenyans to make better career choices in preparing for their future. Students would understand that there are new careers in such areas as information services, graphics, communications, promotion services, marketing and new industries. Consequently this will

result in better deployment of manpower and gains in productivity. *The Working Party therefore recommends that:*

- (a) *Up-to-date data on manpower in all new occupational categories with an indication of training levels required should be compiled.*
- (b) *Programmes of career guidance should be given greater priority and developed in a manner consistent with national needs.*
- (c) *A directory of training facilities listing courses appropriate to job categories be prepared.*
- (d) *Specific categories requiring overseas training or new training facilities should be identified.*

97. This and the previous chapter are concerned with the review of Kenya's higher education system. In the following chapters the Report addresses itself to issues concerning the establishment of a Second University in Kenya.

CHAPTER 4—PHILOSOPHICAL FRAMEWORK, CONCEPTS AND OBJECTIVES OF THE SECOND UNIVERSITY

Introduction

98. In this Chapter the Working Party outlines the philosophical framework and concept which it considers would provide the second university with a firm Kenyan foundation. In doing so, the Working Party was conscious that the proposed University will be the first university to be planned from its inception in Kenya. That the composition of the Party is predominantly Kenyan was taken as a recognition of the availability of expertise in the country that could advise on the establishment of a university which the nation desired. After receiving public submissions as indicated in Chapter the Working Party was convinced that the nation wanted a university that would be continuously adaptive to Kenyan aspirations, drawing upon Kenyan traditional knowledge, to the extent possible, in its programmes of learning and research, and that would also produce a graduate who is competent in his own field.

University as an Institution

99. A historical survey of the development of university education in the world shows that the motivating force behind scholarship in universities has always been the search for truth relating to the major problems of concern to the human society as well as the search for solutions to these problems. Thus, right from the medieval times when religion was a fundamental issue through to recent times when science and technology are the main concerns of human society, the reputation and standing of the universities has depended very much on the scholarly level at which they have responded to these issues.

100. A university must also be viewed as a place where intellectual life is cultivated, a place where the training of rational men and women of good character, with creative minds and strong convictions, as well as critical reasoning abilities, is pursued, and an institution where the general culture of human society including ideas concerning the world, the universe and man is developed, promoted, and radiated. It must also pay attention to the activities which makes claim on the intellectual life of society and cultivate public awareness of its role in society. It should give the individual student a clear and conscious view of his own opinions and eloquence in expressing them. In summary then, an educated person coming out of the university should be one who has mastered specialized skills and who also seeks to know the significance of what he does. He should not only know how to make a better living but also know how to lead a better life.

101. Another major function of a university is to provide professional training of the highest quality in those areas in which it is engaged. It is important that the university should enable all students to master the

professional training and the social dimensions of that training. University training, which includes the production and dissemination of knowledge, should however not be at the expense of imparting adequate skills to, and the shaping of correct attitudes in the students. The university should ensure that appropriate balance is maintained between knowledge, skills and correct attitudes. It must therefore have the capacity in terms of staff and facilities to provide all-round training to students.

102. It is important to identify the major issues of the country before examining the necessary philosophical framework for a university in Kenya. Among the many issues which are of national concern, the second university will need to respond adequately to the development of national cultural values, to population issues, to energy problems, to environmental management and conservation, and to the use of science and technology in solving national development problems under limited national resources.

103. The importance of university institutions in the regeneration of human values and the development and spread of cultural values has been recognized in other parts of the world. It is lamentably true however that the important role of national culture has not been given sufficient prominence in educational systems, including universities, in Africa. In Kenya the national educational policy is that education must respect, foster and develop Kenya's rich and varied cultures. It is realized that during the many years of colonial rule, society was influenced by Western values and ways of life to an extent that Kenyans tended to discard their African traditional values and modes of life. It is important that the social values, beliefs and traditions which are dear to an African society, and which survived the colonial mass media bombardment and the test of time, should effectively be preserved through research programmes and communicated to youth. The establishment of a second university in Kenya comes at a time when this past deficiency in the education system has been more clearly identified. The new university should therefore stand firm on African cultural experiences and produce men and women who will use their academic talents in promoting cultural progress in their society and who should also be intellectually cultured and mannered. The second university should therefore be provided with the means that will enable it to offer richer and more varied cultural experiences to the students than has been hitherto possible in the educational system.

104. Many universities in Africa and elsewhere have been founded in response to the need to train high level manpower that the respective countries require for modern development. Among these are the universities of science and technology which have trained scientists, engineers and other technologists whose contributions to material development of those countries have been perceived as crucial.

105. The Working Party received overwhelming evidence in support of an emphasis on science and technology in the new university. Further, the 1979-83 Development Plan also notes that certain resources such as marine

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resources, arid and semi-arid lands, have been neglected or have not received adequate attention in the past. The Plan indicated that the Second University should mount programmes that will produce the high level manpower required for the development of these resources. On the basis of all this information therefore, the main role of the university should be to train additional professionals and particularly technical professional manpower for the country.

106. Set against this desirable technology bias in the university is the importance of ensuring that the training of the technologists includes sufficient exposure to social and cultural knowledge, and the experience necessary for them to understand and function efficiently in the Kenyan society. This will require that the university must offer courses in these areas as well.

107. Submissions received by the Working Party emphasized the importance of the University being a Kenyan institution, with its own character, fostering national unity, identity and pride as well as a spirit of service to community. It was made clear that the Kenyan public desire a university that is sensitive to the people's needs. It should be an institution in which "Wananchi" have confidence that the kind of values instilled in the students are right, and which will make them become responsible, self-disciplined individuals capable of living and working effectively in their own society.

108. In Kenya today the breakdown of social discipline, arising from the impact of foreign ideas and values on traditional ways of life, is common. In practically all communities in the country, respect for elders was an important social code which created discipline in the society. There were issues which could only be decided on at certain levels of seniority by age. This was not to say that younger people could not let their views be known. These views were listened to and taken into consideration, but the decision was taken at appropriate level. Seniority of age had with it obligation, responsibility and of course recognition for its wisdom, moral and ethical values. It was recognized that today's juniors became tomorrow's seniors. Thus, everyone had the opportunity of playing the role of an elder with the wealth of past experience and tutelage behind him. More recently it has been accepted that land disputes in the rural areas be settled by elders. This is an example of the recognition of the traditional wisdom of the elders in matters of legal and historical knowledge of land ownership in their respective areas. Is it possible to resurrect this kind of gerontological value in today's society in which the credibility of elders has tended to be reduced by the greater access to knowledge by youth through formal education and mass media? That this knowledge cannot replace all the wisdom, moral and ethical values that accumulates with age is not often perceived by youth. Other aspects of traditional knowledge that so far have not been drawn upon, such as mixed cropping in agriculture, use of traditional medicines and traditional skills in technology and craftsmanship, need also to be tapped and be integrated

with formal knowledge. Universities and other institutions of higher learning should create conditions under which such values are restored amongst students and staff, and thus help to change the educational system in this respect and propagate this throughout the country.

The University and the National Ethos

109. A nation's ethos embodies the philosophy and the ideology that guides its people. In Kenya, the national philosophy and ideology is that of mutual social responsibility. This is described in Sessional Paper No. 10 of 1965 as a country where "Men and Women are motivated by a sense of service and not driven by greedy desire for personal gain"; where "the dynamic spirit of hardwork and self-reliance which will motivate the Government to inspire the people throughout the land to great and still greater efforts for the betterment of their own communities". To all this has been added the Nyayo philosophy of peace, love and unity which stresses even more the importance of nationhood and unity. The new University must be in a position to see Kenya's national unity as a springboard and a source of pride for making and producing creative minds capable of speeding up Kenya's development on the basis of this philosophy.

110. The high population growth rate is exerting a lot of pressure on limited national resources. As pressure on resources mounts, and as the number of Kenyans who through education are aware of the possibility of better standard of living increases, so will there be a greater examination of the national philosophy, its goals and implementation. Universities should be prepared to play a constructive and scholarly role in this process of national self examination by providing the necessary intellectual and cultural stability to the society. They should therefore aim at producing graduates who will be recognized and accepted by the society for reflecting the true national philosophy of mutual social responsibility and in the spirit of Nyayo.

111. It is not possible to describe in detail in this report how the proposed university should achieve the above concepts. However, right from its inception the university should foster the kind of scholarly atmosphere that would ensure their achievement. All students should be exposed to common course which contains materials considered necessary in inculcating the above values. Appropriate curricula in the relevant areas must be provided for all students, whether full-time or mature age, pursuing courses of their choice for the sake of advancing their own knowledge. It is also essential that there should be an interaction between the university and society at large in order to enable the students to acquire and develop the general cultural traits of the Kenyan society.

112. One of the major development goals of Kenya today, and in the foreseeable future, is the development of rural areas as part of the overall effort in the alleviation of poverty in the country. Clearly the atmosphere under which professionals work in a city is different from that under which

with formal knowledge. Universities and other institutions of higher learning should create conditions under which such values are restored amongst students and staff, and thus help to change the educational system in this respect and propagate this throughout the country.

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* they would work among rural people. An architect in the city thinks in terms of sky scrapers, beautifully finished maisonettes or houses or flats, whereas the architect in the rural areas will need to consider much more seriously the community that is going to use the buildings, since the users of the buildings are not likely to change as often as those in the city. Therefore, the professional must be sensitized to peculiar problems of rural communities be they in health, education or agriculture. Thus, the high academic level of training to be obtained in the proposed university will have to be much more in tune with the development goals of the rural areas. The university should therefore accept the difficult task of enabling its graduates to be agents of change in the rural areas just as much as in the urban areas.

113. Focus on rural development by the new university should be part of the greater concern and interest in environmental conservation and protection. Increasing emphasis is being laid on environmental management in the country, although this has not received sufficient intellectual and scholarly backing. Kenya is host to the United Nations Environmental Programme (UNEP) and HABITAT which are the two major International Agencies responsible for the environment. More than this, however, the country's own limited resources require management in such a manner that they can be made to last, and so that the fragile ecosystems in the semi-arid lands of the country are not destroyed by the increasing pressure of population demands. It is fitting that the country should strive to be in the forefront in the advancement of environmental knowledge and practice. The proposed university therefore provides Kenya with an opportunity to give environmental studies a planned home. Both in the university's physical setting and academic programmes, concern should be adequately reflected, and the university should be prepared to tap international expertise on environmental issues right from its inception.

* 114. The Working Party received submissions from public interviews that university students must be made to understand and appreciate the importance of providing practical solutions to problems if they are to satisfy the requirement of the society on graduation. The university should therefore aim at producing graduates who are innovative, hard working and in search of opportunities to be practical and productive within their fields of training, and in keeping with the national philosophy of mutual social responsibility. * The University should also be a centre for research on how local problems can be solved. In this way it should contribute to the development of local and the adaption of imported technology in order to reduce reliance on * imported technology.

115. For the university to reflect the national ethos, efforts should be made to ensure that its physical design truly reflects the philosophical concept of the institution. It is also important to underline that the realization of those concepts will be determined in large measure by the initial staff that will be charged with establishing the university. No amount of description on paper,

however good, will make the institution become what it is desired, particularly in establishing a given tradition of scholarship, and an atmosphere which freely invigorates the mind into inquiry for its own sake. This task must inevitably rest on the founding staff of the institution. The establishment of a university requires some idealism on the part of its founders. The leadership of the university must be able to answer such questions as, what has the university to live for and what is the mission of the university? The answers to these questions must be quite clear. The importance of correct leadership for the Second University cannot therefore be overstressed.

116. In summary therefore, *the Working Party recommends that the following be the philosophical and conceptual guidelines for the development of the new University:*

- (a) *The University must plan its teaching programmes in such a way that it is continuously adaptive to Kenyan ideological and pragmatic development aspirations.*
- (b) *The University should be close to "Wananchi" and aim at producing graduates who freely interact with the people, live comfortably in their own society in the rural areas, are effective in serving all and are innovative, hardworking and committed.*
- (c) *The approach to the design of the technical curriculum should be such that a graduate of the professional disciplines should also possess a sound knowledge of his society, an appreciation of the human and management factors as they relate to a profession, and a clear appreciation of Kenya's political and social aspirations. Thus, an appropriate balance should be maintained between knowledge, skills, attitudes and socio-political aspirations.*
- (d) *The University should, through its applied research and field activities, relate to society in such a way that there is continuous and positive dialogue, and that it addresses itself to relevant national problems.*

Objectives of the Second University

117. In the light of the philosophical and conceptual role of the second University discussed in this Report, *the Working Party recommends that the objectives of the second University should be as follows:*

- (i) (a) *To provide advanced education aimed at producing mature and conscientious graduates with the ability and desire to contribute to the well-being, advancement and development of fellow citizens and the country on the basis of the national philosophy of mutual social responsibility.*
- (b) *To provide university level education for national service and development, which reflects the national cultural heritage.*

- (c) *To develop and transmit knowledge and skills through research and training at under-graduate and post-graduate levels either directly or through the medium of connected colleges, schools or institutions.*
- (d) *To foster national consciousness and unity.*
- (e) *To preserve knowledge and stimulate the intellectual life and cultural development of the country.*
- (f) *To conduct examinations and to grant degrees, diplomas, certificates and other awards of the university.*
- (g) *To determine who may teach and what may be taught and how it may be taught in the university.*
- (h) *To play an effective role in the development and expansion of opportunities for Kenyans wishing to continue their education.*
- (ii) *Admission to the university as candidates for degrees, diplomas, certificates or other awards of the university shall be open to all persons accepted as being qualified therefore by the Senate, without distinction of ethnic origin, sect or creed, and no barrier based on any such distinction shall be imposed upon any person as a condition of his becoming, or continuing to be, a professor, lecturer, graduate or student of the university, or of his holding any office therein, nor shall any preference be given to, or advantage be withheld from, any person on the grounds of ethnic origin, sect or creed.*

118. *The Working Party further recommends that these objectives should be incorporated in the legal instruments for the establishment of the University.*

119. *Notwithstanding 117 (ii) above, and in order that 117 (i) (d) may be meaningful in the short run, the Working Party also recommends that the University should ensure through appropriate admission policies that the various communities which make up the Kenya nation are represented to the optimal extent possible in the University.*

CHAPTER 5—DISCIPLINARY COVERAGE, STRUCTURE AND SIZE OF THE SECOND UNIVERSITY

Introduction

120. Before discussing in detail the disciplines that should be covered in the Second University, the Working Party wishes to reiterate the major issues of national concern that should be responded to adequately by the University. These are national cultural values, population issues, energy, environmental management and conservation, the use of science and technology to solve national development problems and the problems of development under limited national resources. Taking into consideration the economy of the country, the Working Party proposes the establishment of a medium sized university with a total enrolment of between 3,200 and 5,000 students. The curricula of the university is to be predominantly agricultural and technological in orientation. However, emphasis is also placed on the importance of socio-cultural studies as the basis for appropriate use of science and technology for social and economic development. Furthermore, the Working Party attaches a great deal of importance to a culturally rich social and intellectual life of the entire university community. Accordingly, the structure proposed for the university is intended to facilitate the fulfilment of such a life. An important component of the proposed university is the provision for continuing education for which there is a great demand in the country. The management structure proposed for the university should reflect a greater harmonization between the academic community and the central administrative services.

Faculties and Disciplines

121. The Working Party took note of the Government's priorities, as listed in the 1979-83 Development Plan, repeated submissions from the public on the need to train more scientific and technological manpower, in such areas as arid and coastal zones; marine science and engineering; chemical engineering; water engineering and mining engineering. Reference was also made to high level manpower supply from the University of Nairobi during the period 1971-1979, Table 1, which indicates that these areas have not received any emphasis. It is against this background that the following faculties and disciplines discussed below are recommended for the Second University.

Faculty of Technology

122. The industrial sector, which ranks second only to agriculture in importance in Kenya's economy, continues to be heavily reliant on imported technology, supplies and management. In 1979, for example, over 50 per cent of the national import bill was for capital and intermediate goods. The major thrust in industrial policy, therefore should be directed towards the development of indigenous technology and adaptation of what is imported, as well as efficient utilization of indigenous resources and the existing spare

capacity of manufacturing units. Closely related to this is the need to develop the means to utilize new and renewable energy resources, to enforce effective energy conservation measures, and to intensify exploration for oil, coal and other mineral resources in the country.

123. In order to meet these objectives, it will be necessary to increase the production of technological manpower at the professional engineer, technician and craft levels. It is proposed therefore, that the increase in supply of engineering graduates be effected by establishing a faculty of Technology at the Second University. The use of the word "Technology" in place of the traditional name "Engineering" is made to signify the increased content of practical work which the Working Party would like to see integrated within the degree programme. It should put more emphasis on such primary needs as water supply, housing, energy, transportation, soil and water conservation, processing of raw materials, minerals prospecting and mining. The increased practical content of the course could be achieved by integrating one year of engineering practice with academic training. It is important to note, however, that the design and implementation of this undergraduate practical training would need to be done in consultation with the engineering profession in the country, for registration purposes.

124. It is proposed that the Faculty should consist of the following departments:

Agricultural Engineering including soil and Water Conservation.

Civil Engineering including Water Engineering.

Mechanical Engineering.

Electrical Engineering.

Process Engineering (traditionally known as Chemical Engineering)—including Sugar Technology.

Geology and Mining.

Textile Technology.

The degree award should reflect its new name and area of specification, e.g. B.Tech. (Mech.), meaning Bachelor of Technology in Mechanical Engineering.

Faculty of Agriculture

125. Kenya is primarily an agricultural country, and the majority of its population live in the rural areas depending upon agriculture for their livelihood. The primary objective in agricultural development, therefore, is to ensure sufficient production of food to satisfy the requirements of a fast growing population. In recent years, however, food production in the country has tended to fall below demand for various reasons including adverse weather conditions. The Working Party noted, however, that the Government had recently formulated a national food policy with the aim of making the country self-sufficient in food production. The second objective in the

development of agriculture is the production of cash-crops, such as coffee, tea and pyrethrum for export. Their contribution to the national foreign exchange earning has been well over 50 per cent in recent years.

126. Despite the country's dependence on agriculture less than 20 per cent of the land is of medium to high potential for which there exists direct competition with human settlement, livestock, wildlife and forestry development. It is imperative therefore that increased use of science and technology be made in order to raise production levels in the high potential areas, to stabilize and increase production in the medium and low potential areas through irrigation and soil and water conservation, and to reclaim water-logged areas. To accomplish this it will be necessary to augment the supply of agricultural and agricultural engineering graduates from the University of Nairobi. It is therefore proposed that a Faculty of Agriculture be established at the Second University and should, among other things, address itself to the problems of small-scale farming, semi-arid and arid areas.

127. It is proposed that the faculty should consist of the following departments:

Animal Science.

Dairy Technology.

Crop Science.

Home Economics and Nutrition.

Agricultural Education and Extension.

Soil Science including Agricultural Chemistry.

Faculty of Veterinary Medicine

128. The national objective is to intensify livestock development so as to make the country self sufficient in animal products and to increase cash incomes of farm households from marketed animal products. Priority should therefore be given to providing sufficient livestock development personnel to cater for the large number of livestock in the range lands and to assist the small-scale farmer in his livestock production needs. It is therefore proposed that a new Faculty of Veterinary Medicine be established at the Second University, consisting of the following departments:

Animal Science including Animal Physiology and Production.

Veterinary Pathology and Microbiology.

Veterinary Anatomy.

Veterinary Medicine.

Reproduction and Obstetrics.

Veterinary Surgery.

Faculty of Forest Resources and Wildlife Management

129. In the light of the discussion in paragraph 75 on the need to train more manpower for forestry development and in order that Forestry may be given the attention that it deserves, *the Working Party recommends that the existing Department of Forestry at the University of Nairobi be transferred to the Second University and be upgraded into a Faculty which should include, among others, the following departments:*

Forestry.

Wood Science and Technology.

Wildlife Conservation and Management.

130. The Working Party considered the desirability of a single Faculty of Agriculture, Forestry and Veterinary Medicine. However its considered opinion is that, because of their respective significance in the development of the country, three separate faculties are preferable. However, there should be an optimal degree of co-ordination and integration among departments. For example one department of Animal Science should be adequate for the Faculties of Agriculture and Veterinary Medicine.

Faculty of Science

131. The country still needs many scientists in several specialized areas. If Kenya has to develop scientifically and technologically, these specialists are needed in industries, Government and private research institutes and also as teachers. The Faculty of Science will also render the necessary service-teaching in the professional faculties in addition to training science graduates. It is proposed that the faculty should consist of the following departments:

Chemistry.

Botany.

Zoology.

Physics.

Mathematics.

Biochemistry.

The need for Geologists is recognized and it is anticipated that science students will take their geology courses in the Faculty of Technology. It is recommended that the new faculty of Science should interact more effectively with industry in order to produce practical scientists.

Faculty of Social, Cultural and Development Studies

132. In response to public demand for the blending of scientific and technological studies with social, cultural and developmental studies, and in recognition of the high level of output of Arts based students under the present school system in the country, the Second University should also have

an Arts based Faculty. The Faculty's main function would be to provide foundation teaching for all undergraduates of the University in Cultural and Development Studies. In addition the faculty would train a relatively small group of undergraduates to degree level and conduct post-graduate research. The interaction between Arts and Science students is also viewed as being mutually beneficial. *The Working Party recommends that a faculty of Social, Cultural and Development Studies be established at the Second University consisting of the following divisions:*

Development Studies division, incorporating the disciplines of Economics, Sociology, Philosophy, Public Administration and others.

Cultural Studies division, incorporating History and Social Anthropology and other cultural disciplines.

African languages division incorporating Kiswahili and other national languages.

133. Kiswahili and Development Studies deserve special mention. Although Kiswahili is the national language, there are many University graduates who cannot communicate in Kiswahili. It is with this in mind that the Working Party recommends that Kiswahili be made a compulsory subject at the Second University. The same argument applies in respect of Development Studies. Future leaders of this country should understand the development strategies of the country irrespective of their areas of specialization.

Faculty of Information Sciences

134. Submissions received indicated that there is a great shortage of personnel qualified in information sciences such as Librarians and Archivists. The Working Party was informed, however, that there is a proposal to establish a Library Studies unit at the University of Nairobi. Furthermore, it was understood that a regional centre for information systems is being considered, for location in Nairobi. *The Working Party recommends that a Faculty of Information Sciences be established at the Second University, with the following departments:*

Library Sciences.

Information Systems.

Archives.

Printing.

School of Graduate Studies

135. Graduate students by the nature of their involvement in research can make a significant contribution towards the solving of national problems. The training of graduates at the M.Sc. and Ph.D. level is important in order

to provide the much needed high-level manpower, not only for University jobs but also for various Government and private research institutes recently established. However, in a University where there is no graduate school, the problems of graduate students, including their financing, tend to be secondary to those of under-graduate students. It is with this in mind that the *Working Party recommends the establishment of a graduate school at the Second University with separate and adequate financing. The school will provide a central co-ordinating service in the University while research will be undertaken in Faculties, Schools and Institutes.*

School of Environmental Studies

136. As discussed in paragraph 112 of this report, the Working Party expects that environmental conservation and protection will be one of the concerns of the Second University. For this purpose the *Working Party recommends that a school of Environmental Studies be established at the Second University.*

Institute of Applied Science and Technology

137. Science and Technology policy should be an integral part of the economic planning process since it can provide guidance in and the acceleration of economic development. In recognition of this, the Government established in 1977 the National Council for Science and Technology whose principal roles include advising Government on science and technology matters related to development, and co-ordination of these activities in the country. In amending the Science and Technology Act, the Government established a number of research institutes and advisory research committees for the purpose of implementing the national scientific and technological objectives. In order to facilitate greater activities in this area, *the Working Party recommends that an Institute of Applied Science and Technology be established at the Second University to undertake amongst other activities, studies in Science and Technology policy, identification of areas of research, development and consulting.* The ultimate aim of this Institute would be the study, collection, adaptation, dissemination and implementation of the scientific and technological knowledge so obtained, both from within and outside the country, for the purpose of economic development. The Institute would therefore be expected to concentrate on the following areas among others:

- (a) The importance of science and technology.
- (b) The role of science and technology policy, for example the identification of factors that inhibit the growth of major industries such as iron and steel, capital goods, electronics, chemical and plastics, and to suggest policy instruments required for their future development.

- (c) The need for science and technology as an integral part of economic planning process.
- (d) How science and technology policy could be made an integral part of economic development.
- (e) Study of indigenous science and technology. This should emphasize the development and adaptation of technology by investigating and proposing solutions to bottlenecks in the development of indigenous technologies and the adaptation and further development of technologies to the point of self-reliance and evolution of Science and Technology as a cultural process.

138. In summary, therefore, the *Working Party recommends that the following Faculties, Schools, and Institutes (with the numbers and percentages of undergraduate students enrolment in each Faculty) should be established at the Second University for the first phase of its development. The figures for each Faculty are however only guidelines. The new University and the Government may vary them in the light of more up-to-date national manpower needs.*

Faculty/School/Institute	Undergraduate Enrolment	
	Numbers	Percentage
1. Faculty of Technology	1,120	35
2. Faculty of Agriculture	800	25
3. Faculty of Science	512	16
4. Faculty of Veterinary Medicine	320	10
5. Faculty of Forest Resources and Wildlife Management	192	6
6. Faculty of Social, Cultural and Development Studies ..	160	5
7. Faculty of Information Sciences	96	3
8. School of Graduate Studies	—	—
9. School of Environmental Studies	—	—
10. Institute of Applied Science and Technology	—	—
TOTAL	3,200	100

The student numbers in the faculties are based on a total enrolment of 3,200. It is assumed that if the University is to enrol 5,000 students then there will be corresponding rise in the number of students in every faculty or other faculties may be established.

Faculty of Health Sciences

139. In order to meet the high level manpower required for the delivery of health services to the people and particularly in the rural areas the proposed university, in its second phase, should establish a faculty of Health Sciences. The term "Health Science" is used to stress the necessity of the curricula to emphasize the promotive and preventive aspects of health. Further, the personnel so trained will be expected to strengthen programmes of disease

prevention, eradication and control by using appropriate and effective preventive, diagnostic, therapeutic and rehabilitative services. In addition, they will be involved in research at the university and at the Kenya Institute of Medical Research. It is anticipated that research at the university will put an emphasis on tropical and traditional medicine.

140. *The Working Party recommends that when the Faculty of Health Sciences is established it should consist of the following departments:*

Anatomy.

Physiology.

Clinical Biochemistry.

Pharmacology.

Microbiology.

Haematology and Blood Transfusion.

Histopathology and Forensic Medicine.

Paediatrics.

Community Health.

Psychiatry.

Obstetrics and Gynaecology.

Traumatology.

Surgery.

Medicine.

The initial segregation of microbiology and haematology departments is necessitated by the significance of infectious diseases and blood disorders as major causes of mortality and morbidity in Kenya. A department of traumatology is included because of the importance of trauma in this country as indicated by the number of motor, domestic and industrial accidents. Clinical biochemistry will be responsible for the teaching of medical biochemistry and chemical pathology.

141. *In view of the financial constraints in the country and the high cost of establishing a Faculty of Health Sciences, the Working Party recommends that the establishment of this Faculty be postponed to the second phase of the University's development. However, the Dean of the Faculty should be appointed in the first phase. The Dean's immediate major responsibility would be to draw up plans for the establishment of the Faculty. Such plans could include the utilization of the basic pre-clinical departments of the University of Nairobi in the initial stages of the faculty's life. In addition the Dean would also plan how provincial hospitals could be utilized by students in the clinical years.*

142. The Working Party also proposes that the training of dentists and pharmacists should not be duplicated at the new university. Rather, the present departments at the University of Nairobi should be expanded and developed.

143. The Working Party noted that there were proposals to train graduates in nursing and medical technology. It is the view of the Working Party that when these proposals materialize, the courses should be mounted at the University of Nairobi as a development of the existing Diploma in Advanced Nursing course.

Curricula

144. In order that the disciplines outlined above produce graduates with not only the required qualifications but also the right skills, the type of curricula given should be those that combine theory with practice. The new university should work closely both with the Government and the private sector with the view to making their facilities available to the university for practical training.

145. The Working Party considered the desirability, or otherwise, of retaining the present structure of four academic terms in the University of Nairobi calendar year, (three terms of 11 weeks duration for all faculties and a fourth term of eight weeks for the professional faculties). In order to reduce the number of short vacations between the terms and in an effort to utilize the time and facilities more efficiently, it is proposed that the academic year be divided into three terms, (two terms of 16 weeks duration for all faculties and a third term of at least eight weeks for the professional faculties). The long vacation should be utilized by academic staff for research, consultancy and service to the College of Continuing Education which is proposed in this report. In addition, some university facilities could be utilized during this period by the proposed College of Continuing Education in mounting its own courses and programmes. The Working Party noted that there was a proposal to shift the academic calendar of the University of Nairobi so that it commences in March/April instead of October. It is understood that the reason for this shift was to avoid, among other things, the long delay in the admission of students after completing their secondary education in November/December. The Working Party agrees with this proposal and accordingly *recommends that it be adopted for the Second University. The Working Party considers that the three-term calendar year is ideal for universities in the country and recommends its adoption.*

Other University Disciplines

Education

146. In view of the recommendation in paragraph 57 on the expansion of Kenyatta University College, *the Working Party recommends that the Second University should not establish a Faculty of Education. However,*

the strengthened and expanded Faculty at Kenyatta University College should include a Department of Special Education.

147. Submissions received from the public suggest that the Kenya Institute of Education (KIE) should be strengthened in order to more adequately fulfil its functions, and that there should be closer collaboration between the KIE and Kenyatta University College through its curriculum development department. The Working Party supports these submissions.

Business Studies

148. The Working Party took note of the inadequate development of business studies at the University of Nairobi. The Party was also informed of the possible establishment of a post-graduate school of management at the University of Nairobi. In the light of these observations, *the Working Party recommends that the Faculty of Commerce at the University of Nairobi—*

(a) be strengthened and expanded so as to produce high level manpower in the following new areas, in addition to the existing programmes:

Banking, Co-operative Development, Insurance.

(b) examines the feasibility of incorporating Part II of professional training and examinations into the University programme in collaboration with the relevant professional bodies such as Banking, Insurance and Accountancy and the proposed College of Continuing Education.

Biochemistry

149. *The Working Party recommends that the award of degrees in Biochemistry as a discipline be restricted to the existing Department of Biochemistry at the University of Nairobi, and that this should not be duplicated at the Second University.*

Marine Sciences

150. Since the University of Nairobi has existing facilities for teaching and research in Marine Sciences, *the Working Party recommends that the discipline of Marine Science be established at the University of Nairobi.*

Nutrition

151. In addition to the establishment of a Department of Home Economics and Nutrition at the Second University, the Working Party proposes that greater emphasis be given to Nutrition at the University of Nairobi where a Department of Food Science and Technology already exists.

Structure and Administration

152. The development of the character of any University depends on its organization and administrative structure as well as on the foundations laid down in the first years by both staff and students. The Working Party gave consideration to various types of physical design for a campus, models of residential life and programmes in relation to the philosophical framework, National ethos, educational objectives and models of administration and management that would enable the University to develop its own unique character.

153. The Working Party considered a variation of two types of models, namely the multi-site and single site concepts. A multi-sited campus approach was widely recommended by members of the public. One of the suggestions was that existing institutions such as Harambee Institutes of Technology be taken over to constitute the various campuses of the new university. In this model there would be one main administrative campus with other campuses located in different parts of the country specially chosen with reference to their disciplinary concerns. For example, a campus could be located at the coast to concern itself with marine and other related sciences, while another campus could be located in the North-Eastern Province to address itself to the arid and semi-arid land problems. A single site model means that the location of the University shall be on one campus so that all of the disciplines and the administration are within the one campus.

154. The Working Party, whilst appreciating the reasons behind the multi-site model, advises against it on three grounds. First there would be duplication of both manpower and facilities in many areas, which would not be cost effective. Each of the campuses would in effect be a college of its own. Secondly, the idea of taking over the existing institutions of higher learning ignores the fact that those institutions are already performing useful functions for which alternative provisions would have to be made. Finally, this model of a university would not achieve the philosophical objectives outlined in Chapter 4 of this Report which are concerned with the development and promotion of the country's ethos by the Second University.

155. A single sited university model is cheaper to set up compared to a multi-sited one. The same facilities can be used to meet the needs of many more faculties/disciplines than would be possible in a multi-sited university. Faculties could be grouped in such a way as to make use of common infrastructures and personnel, and allow for multi-disciplinary inter-action so necessary for university education. It is also proposed that a certain number of courses be taken by all students in order to promote a national consciousness and spirit. These courses will be easier and less expensive to mount in a single sited university. Such a University will give the nation an opportunity to develop and promote the kind of institution of higher learning best suited to the country's needs; one which would also be capable of realizing the nation's ideological and political philosophy.

156. *The Working Party therefore recommends that a single-site second University is more appropriate for Kenya.*

157. The students at the Second University should be encouraged to develop a sense of pride and commitment to the institution. This could best be achieved by accommodating all students on the campus. It would, however, be necessary to pay particular attention to the organization of the residential aspect of University life so that such pride and commitment will be achieved through the fostering of a sense of identity between the individual student and a specific residential facility. It will therefore be essential to develop an administrative machinery for the residential side of the university which will foster this identity and contribute to the development of more mature university students. *The Working Party recommends that the Second University should start on the assumption that all students will be accommodated on the campus.*

158. The administration of any university plays an important role in the development and promotion of its character and traditions. It is important that the administration of a university at all levels serves to foster the primary objectives of the university. Thus a good administrative system is one which serves the institution and is not itself mistaken for the "institution". The system must be sufficiently decentralized so as to enable those for whom it is intended, not only to have a participatory role but also to feel that they participate in their own administration. It is therefore essential to design a system of administration which ensures that decisions affecting important segments of the university are taken at the appropriate levels.

159. The Second University should have the basic legal instruments which any university requires for its establishment. This should include an Act of Parliament granting the university its charter which specifies its rights and privileges. The charter should provide for the Office of Chancellor and Visitor (both to be held by the Head of State), a Council which will be the governing body, the office of the Vice-Chancellor and a Senate which is the highest academic body.

160. The Vice-Chancellor shall be the Chief Executive of the University. In this capacity he shall be answerable to Council, the Minister for Higher Education and the Chancellor of the University as appropriate. He will also be the Chairman of the Senate. He will be assisted in the administration of the University by two principal officials. These are the Chief Administrative Officer and the Chief Academic Officer. All other administrative functions and offices of the University should be organized so that they fall under one or the other of these two Chief Officers.

Chief Administrative Officer

161. He will be the Secretary to Council. He will be responsible for general administration, financial administration, the university plant and estate, planning of the University and recruitment and promotion of non-academic staff.

Chief Academic Officer

162. He will be the Secretary of Senate and will assist the Vice-Chancellor in the administration of the academic matters including faculties and their admissions, examinations and certifications and recruitment and promotion of academic staff.

163. There will be Deans appointed by the Vice-Chancellor who will be Chairmen of the Boards of faculties and who will also be seen and regarded as the academic leaders of the university community. Under the Deans there will be the departments and departmental staff charged with the responsibility of providing academic instruction, development and research.

164. The Working Party also considered the question of the responsibilities and duties of the academic staff. In order to promote the philosophical objectives discussed earlier, it is essential that the academic staff should see their duties as being both academic and extra-mural. While the academic duties are obvious enough the extra-mural duties are usually not well defined. These extra-mural duties include service on university committees, counselling of students, service as wardens/heads of halls of residence and such other duties as may be prescribed by Senate for the promotion and encouragement of the integration of the academic life with the campus life of the institution. It is also expected that all members of the university community whether academic or administrative, will consider it their duty to be of service to the community-at-large in addition to their university duties. *The Working Party recommends that academic staff be involved in the general administration of the university and that individuals among them who are selected for their personal qualities and aptitudes be entrusted with the responsibility of looking after the welfare of the students.*

165. In order to succeed in establishing and moulding a university identity, character and spirit in the Second University, *the Working Party recommends the establishment of a University Cultural Centre.* The purpose of such a centre will be to facilitate cultural activities in addition to others provided in the halls of residence or elsewhere in the university. Properly designed, located and equipped, such a centre should go a long way towards promoting the kind of university identity which is much desired. It is at such a centre that members of the public can readily interact with the university itself through cultural activities.

Size of the New University

166. Given the large number of secondary school leavers deserving university education and taking into account national needs, there is no doubt that the country can do with another university with an intake equal to and possibly more than the combined total of the University of Nairobi and Kenyatta University College. University education is, however, expensive. Both the capital cost of the educational plant and the recurrent expenditure

for university education are higher than any other educational costs in the public sector. The Working Party was charged with the task of designing a university within Kenya's economic means. Recent studies of costs of higher education institutions in other parts of the world provided the following statistical information on optimum size of university institutions:

<i>Size of cost Efficient Institutions (Number of Students)</i>	<i>Size of cost Inefficient Institutions (Number of Students)</i>
550— 750	0— 550
1,500—2,000	750—1,500
3,000—5,000	2,000—3,000
10,000+	5,000—10,000

167. Chapter 9 discusses in some detail the unit costing of university education. Here it is proposed that on the basis of the present resources of the country, a university with a total enrolment of between 3,200 and 5,000 students be established. This total is arrived at on the basis of the faculties recommended in this chapter, and as can be seen from paragraph 167, this total is within one of the optimum size units.

CHAPTER 6—THE ROLE OF THE SECOND UNIVERSITY IN CONTINUING EDUCATION

Introduction

168. Continuing Education is education in which the individual may participate in at any time during his life. It is education that may be taken up after a lapse of years; it is education that may be pursued after work and it is education that one may choose which may be different from the professional training of one's occupation. For example, a doctor could choose to study philosophy while an engineer may wish to take up the study of literature. The important thing is for every Kenyan to know that he or she always can undertake further study and is not cut off from the opportunity to learn. Continuing Education is an alternative to traditional programmes.

169. In Kenya, and in response to public demands, Continuing Education programmes have been in existence for a long time. The establishment of the Adult Studies Department within the Ministry of Culture and Social Services as well as the founding of the Institute of Adult Studies in the University of Nairobi demonstrate the Government's response to these demands. The concept of degree level continuing education was first discussed at the University of Nairobi in the late 1960s. However it was not until 1976 that a report entitled "The First Degrees by External Studies" was prepared. Recommendations of the Report have not been implemented because of financial constraints. A programme for "mature age entry" was maintained at the University until the large number of "A" level students seeking entry forced it to be abandoned. These actions, taken in the past, are an indication that both the Government and the University of Nairobi share the public concern about the importance of continuing education.

170. The growth of Government expenditure for education was approximately double the overall growth rate in the economy during the period 1964-72 and more than fifty per cent higher than the rate of growth in the economy during the 1972-78 period. This performance as shown in Appendices 8a and 8b, is superior to that of nearly all other low and middle income countries. However, despite this Government commitment, the supply of school places has not kept up with demand. This applies to both primary and secondary school education. At university level the number of places has not been adequate, and it is here that continuing education can have a significant impact.

171. The policy in Kenya since independence is that primary level schooling is a fundamental right which should be provided to all children. As the number of primary and secondary school leavers has increased, continuing education programmes assume even greater importance. Without such programmes, young Kenyans completing school would have fewer opportunities for further education. The Institute of Adult Studies for example

has received over 1,000 inquiries from Kenyans with at least one principal pass at "A" level seeking degree level training especially in business administration, commerce, marketing, banking, insurance and law. However the Institute of Adult Studies was not designed to meet this demand for post-secondary continuing education.

172. Public submissions to the Working Party strongly stressed the need for the following programmes of continuing education:

- (a) An Extra-Mural University Degree Programme (after working hours, weekends and vacation study programmes).
- (b) A re-established Mature Age Entry Programme.
- (c) Degree Programmes by Correspondence.
- (d) Study Programmes to provide for Professional up-grading.
- (e) Non-Degree Candidate Study Programmes.

While these interests in post-secondary continuing education should be developed, it is assumed that the work done by the Institute of Adult Studies and the Department of Adult Studies will continue. It is anticipated that the Kenya Institute of Education and other related institutions will look into ways for continuing education programmes to benefit as many Kenyans as possible.

173. The present system of education does not recognize talent that is slow to develop, schooling done under poor conditions, or the ability of the school leaver who through self study and mature experience is suited to further his education. Opportunity should be given to all such potential students.

174. Also, a review of manpower development in both the public and private sectors indicates that the production of high level manpower is short of projected needs. While the precise requirement in each job category cannot be forecast, shortfalls exist in many sectors of the economy. A continuing education programme could assist the nation in meeting the need for "high level" manpower by permitting mature individuals with well-developed skills to return to the classroom, and it could also increase the skill capacities of staff.

175. This kind of education could readily be achieved since such programmes are normally structured so as to provide an opportunity for individuals who are working at regular jobs to use existing educational facilities in the evenings, on weekends and during normal holiday periods. Thus, it can result in cost effective use of facilities.

176. In recognition of all the benefits to be gained from such programme, and the strong public opinion in favour of continuing education, *the Working Party recommends that a College of Continuing Education be established as*

part of the university educational system. The College should be attached to the Second University so as to provide university education to those who otherwise might not have had such an opportunity.

The College of Continuing Education

177. The recommendation of establishing a College of Continuing Education is made after consideration of alternatives such as an "Open University", and the up-grading of the Institute of Adult Studies of the University of Nairobi. An "Open University" depends heavily on the existence of an efficient infrastructure, such as a postal system that can return mail within 24 hours and heavy concentrations of population which are not found in most parts of Kenya. The up-grading of the Institute of Adult Studies would compromise the vital work in adult studies already being undertaken by the Institute.

178. The administrative and academic attachment of the College to the Second University is important for purposes of establishing and ensuring that its standards are consistent with the standards for other degree programmes offered in the universities.

179. Once in operation the College of Continuing Education, should serve the whole country. It should not be an academic research oriented institution serving only a small university community. For many Kenyans who would not otherwise have a chance of furthering their education, it will be "their college". It will deal with many people who are studying in different disciplines, and as such, it will be more than a "department" or "faculty" within the Second University.

180. Because of the courses to be offered, the number of students to be enrolled, the financing of study programmes from tuition revenues to be paid by the student, the College of Continuing Education should have a high degree of operational autonomy within the University. Such autonomy would, however, be only administrative in nature since all academic programmes must be subject to authorization and review by the University Senate.

181. The teaching staff of the College would have to be appointed on a part-time basis from other institutions such as the University of Nairobi and from the public and private sectors. The staff to teach individual courses should be offered formal short-term appointments with remuneration provided over and above the terms of service which they might have in their regular employment.

182. The teaching of non-traditional students requires special teaching skills. Therefore it is proposed that a short course for the Continuing Education College staff be developed to ensure that they will be effective in teaching non-traditional university students.

188. It is proposed that when providing special courses for various Government Ministries, the College be reimbursed for the costs of those courses. Further, the College should explore the possibility of having students sponsored by private companies made eligible for the training levies. Finally, with the approval of the University and the Ministry of Higher Education, the College should be permitted to consider offering courses to other public bodies such as United Nations agencies.

189. The establishment of the College of Continuing Education should require minimum capital investment. However, the College should be eligible for a Government grant, loan or fund arrangement which would be used for "start-up" expenses.

190. The commencement of programmes of study should be possible within one year from the time of the formal authorization of the College. The availability of qualified staff, well developed administrative procedures and facilities makes the implementation of such programmes possible within the 1979-83 Development Plan period.

191. The major steps to be taken in order that the College may begin operations include the legal incorporation of the institution, the appointment of the Principal and administrative staff, the completion of the master plan on course offerings, identification of facilities and the appointment of teaching staff.

CHAPTER 7—STAFFING OF THE UNIVERSITY

192. The primary aim in the recruitment of staff by the Second University should be the appointment of suitably qualified Kenyans. The Working Party received submissions urging that the Second University should have an all or largely Kenyan staff, at an early stage. This however is unlikely to be possible nor would it necessarily be in the best interest of the University. Expatriates with acceptable qualifications and experience should be carefully selected and then appointed in areas where there are no adequately qualified Kenyans. Such appointments should be on contract terms so as to ensure that no competent Kenyan is denied employment. To maintain a creditable academic image both nationally and internationally, all appointments should be given on the basis of merit.

193. Consideration should also be given to offering full-time, part-time and honorary appointments to qualified and experienced people in the public and the private sectors.

194. The Working Party was informed of the many Kenyans either studying or working abroad. Detailed information about these Kenyans should be obtained so that those who have the desired training and experience may be considered for appointment to the Second University.

195. The primary objectives of a university are the development, storage and transmission of knowledge. The fulfilment of these objectives require competent academic, administrative, technical and supporting staff. The terms and conditions of service in the University must therefore be competitive and should be reviewed regularly. In addition, the available facilities should be conducive to productive academic pursuit.

196. Terms of service should include not only competitive salary scales, procedures for promotion, job security and adequate academic facilities, but also the more important aspects of staff welfare. For this reason, there should be an attractive housing policy, comprehensive medical care for staff and immediate family, schooling facilities for staff children within or close to the campus—and also shopping and recreational facilities.

197. Further, these terms of service and facilities should cater sufficiently for proper academic activities and growth of the staff and the University. In this regard provisions should be made for adequate research funds, technical and secretarial staff, and for printing and publishing. There should be adequate study and sabbatical leave opportunities to enable staff to pursue research or further studies either locally or outside the country. The University library should be equipped with up-to-date journals and books, reflecting all the relevant teaching and research areas.

198. The University will be expected to establish a clear staff development programme as a matter of top priority. The programme should include provisions for increasing the efficiency of those already serving as members

of staff, and also create a team of local staff who would take over from expatriate staff members. Since the proposed University will have a strong technological orientation, it is unlikely that adequate numbers of Kenyans with suitable academic backgrounds will be readily available. It will therefore be necessary to plan and establish a comprehensive staff development programme at a very early stage. Such a scheme should include identifying Kenyans and offering them scholarships and fellowships for further relevant training both locally and abroad. Arrangements could also be made with various donor agencies for a package involving secondment of expatriate staff while Kenyans are undergoing training. The staff development programme at the Kenya Technical Teachers College and Egerton College are examples of this kind of donor agency assistance.

199. As is indicated in paragraph 256, Tables 16A and 16B, it is considered that approximately 240 Kenyans will need training to either the Masters or Ph.D. level during the first phase of the new University for a student population of 3,200; or 300 for a student body of 5,000. In accordance with the weightings of the Faculties in the new University, *the Working Party recommends that the following number of Kenyans be trained for each faculty:*

TABLE 6

Faculties	Students No. 3,200 Staff Required	Students No. 5,000 Staff Required
Faculty of Technology	84	105
Faculty of Agriculture	60	75
Faculty of Science	39	48
Faculty of Veterinary Medicine	24	30
Faculty of Forest Resources and Wildlife Management	15	18
Faculty of Social, Cultural and Development Studies	12*	15
Faculty of Information Science	8	9
	<u>242</u>	<u>300</u>

*The staff in this faculty will be teaching in other faculties and therefore this number would change to a higher figure as the University enrolment increases.

200. The staff of any University comprises a large number of some of the most highly qualified people in a country. In a developing country where there is shortage of qualified manpower, the University staff cannot and should not isolate themselves from the rest of the country. Thus the University staff have a national responsibility to transmit their knowledge and expertise to the society for the betterment of all. One of the most effective ways in which the Second University can put its technological, scientific and cultural expertise at the disposal of the whole country for productive purposes is to provide facilities for staff to undertake consultancy work in their own areas

of specialization. This provision would serve several further purposes; it would enable the country to tap the readily available skills and expertise at a relatively lower cost, and such recognition and use of local expertise would have a beneficial effect on the quality of teaching and the morale of staff.

201. Members of the Working Party note with appreciation the greater involvement by the Government of the University of Nairobi staff in various public assignments in more recent years.

CHAPTER 8—RESEARCH AND DEVELOPMENT AND THE ROLE OF THE SECOND UNIVERSITY

Introduction

202. Research is an essential means by which the development of any modern society is facilitated. Kenya needs to intensify its input into research in order to accelerate its development. Research, storage, publication and dissemination of its findings are important functions of any university. The Second University will therefore be expected to develop these functions as soon as possible within the context of national aspirations. The current inadequate research input can be explained in terms of insufficient funding and a critical shortage of qualified researchers. Like many developing countries, Kenya will continue to have a high concentration of qualified researchers in the universities; *the Working Party, therefore, recommends that these research talents should be tapped right from the start of the Second University.*

203. Given the scarce resources and a large number of competing needs, the husbandry of national resources needs to be supported by the most sensitive tool for pin-pointing the optimal direction of research. Indeed this reliance on research is obvious in multi-national corporations and developed nations which allocate a high proportion of their income and Gross Domestic Product (GDP) respectively to research and development. In Kenya, research and development activities in the past have been scattered in many public and private institutions without adequate co-ordination at the national level. Although the allocation of funds for research and development work has been made to these institutions, in 1978/79 it amounted to less than 1 per cent of GDP. With regard to co-ordination of research and development activities, the formation of the National Council for Science and Technology (NCST) in 1977 was a significant step forward taken by the Government to establish a national co-ordination machinery. At the same time the Government indicated its intention to allocate up to 1 per cent of the country's GDP to research and development activities in the future.

The Role of the University System in Research

204. Progress and development in all fields of knowledge have been dependent on the orderly way in which scholars have observed their world. Since ancient times great discoveries have been made not by accident but only where a researcher has mastered the knowledge of his subject so that he can understand the significance of data or facts. Centuries of inquiry have shown the importance of research in the bettering of society and human welfare.

205. This recognition of the cumulative nature of knowledge and the dependency of new ideas on past knowledge, has led governments to create institutions charged with the preservation, transmission and increase of

knowledge and the stimulation of intellectual life. This charge, for example, is one of the five objectives of the University of Nairobi as specified in Section 5 of the University of Nairobi Act.

206. However the University is not the only institution in the country charged with this duty of research and dissemination. The Kenya Government, as long ago as 1903, established centres for applied research outside the University system. These included the Scott Agricultural Research Laboratories (1903), the Coffee Research Services (1908) and the Veterinary Research Laboratories (1910). Much later there followed the regional research centres under the East African Community, the Medical Research Laboratory (1958) and the new Research Institutes under the National Council for Science and Technology Act (1977). These include the Medical Research Institute, Kenya Agricultural Research Institute, Marine and Fisheries Research Institute, Kenya Industrial Research and Development Institute. There are others in the offing. Such developments are based on the firm belief in the impact of research in accelerating national development, an example of which is the technological innovations in agriculture which have enabled Kenya to significantly increase her output of maize, dairy and other agricultural products.

207. The role of the University and the related institutions (including Kenyatta University College, Egerton College, KSTC, KTTC and the Polytechnics), in research and development in Kenya, is still emerging. The University system plays the major role in training scientific manpower in the country. It is obvious that the training of competent researchers needs experienced researchers as teachers. Hence research and training are inseparable functions in any University. By its basic function of training, research and dissemination, the university establishes the scientific climate including the motivation, ethics, attitudes and career structure of the scientific community in the country.

Research Capability and the role of Proposed University

208. The bulk of technology now in use in Kenya is imported. This includes factory machinery, intermediate goods for further processing, consumer goods, such as automobiles and pharmaceuticals as well as patents, production techniques, trade marks and technical manpower. As the 1979-83 Development Plan emphasizes, Kenya should strive to become more technologically self-sufficient. This self-sufficiency will come about through the innovative application of research findings to the production of practical solutions to problems.

209. The National Council for Science and Technology has identified two major constraints which have made it difficult to achieve adequate levels of research and development activities. These include in the first place the

shortage of adequately trained manpower. According to the 1970 and 1975 manpower surveys of the Ministry of Finance and Planning and NCST respectively, the number of scientists and engineers was very small, and those engaged in Research and Development work registered a decline between 1970 and 1975. Furthermore, the ratio between scientists and technicians was about 1:1 implying the possibility that the few available scientists were performing duties which could otherwise be performed by technicians. Therefore, an accelerated programme of training more craftsmen and technicians should be undertaken. Secondly, there is the lack of an institution for the proper adaptation of imported technologies, whether these are in agriculture, industry or other services, to assist in decision making with regard to the kind of technology to be developed, acquired and/or transferred into Kenya. A very large proportion of production techniques used by subsidiaries of multi-national corporations operating in Kenya are adapted with limited attention being given to socio-political aspirations of Kenyans, such as job creation and improvement of the quality of life. In recognition of the above and other related problems, the Fourth Development Plan (1979-83) paragraph 2.139 stated that "an agency will be created to evaluate the technology purchased for all major investment programmes".

210. The NCST has also identified research needs from different sectors of the economy. *The Working Party recommends that the Second University focus its research attention on those areas which are not being adequately catered for by existing institutions.* However, where possible new staff members of the University should be given an opportunity to continue with their research interests. Elsewhere in this Report the Working Party has pointed out some of the issues which are of national concern and that need the attention of the proposed University. These issues include development of national cultural values, population, environmental management and conservation, the use of science and technology in solving national development problems and problems of development under limited natural resources.

211. The National Council for Science and Technology is expected to develop and implement a National Science and Technology policy and specifically link research and experimental development to national development aspirations. This implies a co-ordinatory function to create conditions for maximum consultation among researchers and to avoid expensive duplication. The NCST should also have the capacity to develop, review and guide the implementation of national research policy and to publish information bulletins for scientists. Already, through the Advisory Research Committees representations, the Council co-ordinates research and development activity in various ministries and Government research institutes. Through the research clearance machinery and funding of specific research projects, the Council also co-ordinates research in the University and foreign sponsored research.

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212. A research programme is necessarily a long term activity requiring adequate provision for development of an effective post-secondary training programme, a planned staff development programme, the provision of necessary laboratory equipment and workshop facilities, a clear and relevant research policy and planning capability, an effective publication capability and adequate financing. *The Working Party therefore recommends that the proposed University must have its own research policy and programme which is relevant to national aspirations within the broad framework of the National Research effort.*

213. *The Working Party further recommends that through a combination of fees derived from consultancy that can be put into research, grants from outside agencies and joint venture research with overseas universities, the Second University should establish a viable and well financed machinery for research. This should not depend on a portion of the general University's budget or percentage of GDP. Research and consultancy should be on a realistic and viable basis. Some of the potential sources of financing research at the University should include Government Ministries, the National Council for Science and Technology and the University Research Fund made up of direct grants and consulting fees.*

CHAPTER 9—THE COSTING AND FINANCING OF THE SECOND UNIVERSITY

214. The building and financing of a new and technically oriented university is an expensive undertaking. All the ideas in this report regarding curriculum, staff, administration and design cannot be translated into reality until the required financial resources are provided to meet both the basic capital needs and initial recurrent costs. Today, in Kenya, the assembling of such resources is made more difficult because of a world-wide recession, high inflation, competing pressures for Government expenditure and the rising level of diverse demands from a growing population. In such circumstances every possible resource must be tapped in order to ensure the establishment of the university. Correspondingly, every precaution should be taken to make certain that no resource is wasted.

215. The suggested plan for the new university is in response to public demand. It has been conceived as an institution that will seek greater identification with the peoples' needs and to serve the country. To establish such a university, the responsibility must be shared. All Kenyans should contribute to the resources required in the building of an institution which is for the benefit of current and future generations. For a university of the people to be established, the people should contribute their combined resources to the common goal.

216. The same spirit which has inspired local communities to contribute to primary and secondary education as well as the Harambee Institutes of Technology should be harnessed to the task of funding the new university. The economic conditions in Kenya and the objectives of the new university make this approach most appropriate. It is with this thought of mutual contribution that methods for the costing and financing of this most important venture have been developed.

217. Such requests for public support acknowledge the commitment to education which the Government has made during nearly two decades of independence. However, the capacity to continue and expand that commitment is currently constrained by the sluggish nature of the economy, the rising costs in every sector of Government expenditure and the pressure of rising numbers of students entering the educational system. To the costs of education as presently calculated there is need to assess the pressure of inflation on capital construction which is currently set at 15 per cent per year. Secondly, Kenya has one of the world's highest population growth rates, resulting in 1.2 million entrants into the primary education system in January, 1981.

The Challenge of Inaugurating the Second University

218. The cost of educational institutions recently completed, under construction or planned in Kenya, such as the Kenya Technical Teachers College, Egerton College extension, the Coast Institute of Agriculture,

indicate that it will cost more than K£54 million pounds to build a university for 3,200 students. The Working Party has taken such figures as a basis for proposals that may reduce the overall cost and relieve the financial burden which must be carried by the Government.

219. The recurrent budget is also a subject for effective control of expenditure. As a result, the Working Party has given very careful attention to developing a basis for projecting the recurrent expenditures for the new university during its first five years of operation.

220. In periods of financial constraint, a flexible approach to budgeting is obligatory. The largest number of alternatives should be considered in both the capital cost and recurrent expenditures. In neither case can the Government afford to project lump-sum figures as a basis for development. To do so would deprive the planning team and the new university administration of an opportunity to employ efficient ways of establishing and running the institution.

221. The Government should insist on well defined procedures for monitoring the construction of the new university, comparable to the attention given to the Moi Forces Academy. *For this purpose, the Working Party recommends that a physical planner should be appointed on a full-time basis at a very early point in the planning process.*

222. In accepting designs for buildings at the new University, the terms of reference should require the lowest possible "recurrent maintenance costs." This will mean having designs where locally available materials can be used to repair and maintain buildings, as well as the exercise of care in the actual construction so that the need for maintenance can be held to the minimum. In so far as possible, the new university should set a goal of both establishing and maintaining itself as a model institution.

Capital Development and Finance of the Second University

223. The capital costs of the new university should be placed in different categories that separate the educational plant from the other facilities to be built. These categories should include:

- (a) *Educational Plant.*—Classrooms, laboratories, administrative and teaching staff offices, the cultural centre and farm.
- (b) *Support Facilities.*—Student accommodation, dining facilities, recreational facilities, health clinic, nursery school, primary school.
- (c) *Staff Housing.*—Housing for both senior and junior staff.
- (d) *Site Preparation.*—Utilities, access roads and landscaping.

224. Capital expenditure plans for the new university should also adhere to the principle of "per student place" costing. After a comparative review of costs for institutional construction in Kenya, the Government should establish

a base that will be used as a target by the architectural planners. Too often facilities are constructed without reference to this concept of "per student place" base costs, and Government interests are left unprotected.

225. In the financing of capital expenditure, the Government should anticipate that the project depends on a joint effort. The widest range of sources should be tapped with the interest of keeping direct capital outlay by the Government to the lowest level possible. The sources of funds should include individual donors, local authorities, co-operative societies, corporations and donor agencies.

226. The Government should also make clear its intention to keep costs as low as possible through the provision of the campus site and the direct supply of needed building materials such as timber, sand, cement and stone. In addition, the Government should indicate its willingness to provide labour and professional services from within the pool of labour available in the public sector.

227. The submissions received by the Working Party indicated that the Government should seek assistance from the public and other sources for developing the proposed university. *Therefore, the Working Party recommends that the new university should have a development office responsible for an organized approach to fund-raising. The office should set forth ways to secure funds from private donor sources.* A person or organization giving a designated amount should be assured of appropriate recognition.

228. The Government should also consider inviting service agencies such as the National Christian Council of Kenya, Young Men's Christian Association (YMCA), Young Women's Christian Association (YWCA), Maendeleo Ya Wanawake and others to put up student accommodation on land adjacent to the university campus. It is expected that these agencies would provide good low-cost and well supervised housing.

229. It is considered important that different religious faiths have the opportunity to construct places of worship on the new university campus. *Therefore, the Working Party recommends that land be designated within the campus as sites for a mosque, a protestant chapel and a catholic chapel. Consideration should also be given to the establishment of an inter-faith centre which shall be a place of worship for different faiths and denominations.* By providing the land on the campus where houses of worship may be built, the importance of religious life within the university community



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230. All of this effort by the Government and people of Kenya should be in support of building an institution that meets the highest standards of sensitivity to man and his environmental setting. The cultural and social design aspect of the new university is considered to be of the greatest importance. There should be adequate consultation with students, staff and

administrators of the University of Nairobi to ensure that the design of the institution is a reflection of the African context. Information from the Institute of African Studies and others should contribute at the design stage to produce a product that is socially and culturally consistent.

231. Once agreed that the new university should be environmentally consistent and culturally harmonious, the terms of reference can be drafted for a recommended national design competition to provide the master plan. Such terms of reference should be very precise in stating that the institution should be:

- (a) Cost efficient in terms of capital construction and operational costs.
- (b) Environmentally consistent with its surroundings.
- (c) Culturally consistent with the society.
- (d) Energy efficient.

The Working Party therefore recommends the holding of a national design competition.

232. This university should be a distinctive institution in the field of higher education; an institution unique in the attention given to methods of financing, patterns of institutional design and the importance of curriculum to national development; thus, a truly Kenyan university.

Recurrent Expenditure of the Second University

233. Submissions received from the public supported the idea that the recurrent cost of university education should not be the sole responsibility of the Government. Students should also contribute to the cost of their education. *The Working Party therefore recommends that there be a sharing of the costs for university education. Provisions should however be made so that no academically qualified Kenyans who gains admission to the University is deprived of studying for a degree because he comes from a poor family.*

234. The total recurrent budget should be prepared in such a manner that the range of activities performed are precisely identified and then budgeted for separately in order to maintain better control over the expenditure of funds. These separate budgets should include:

- (a) *Instructional budget.*—Staff salaries, administrative salaries, teaching equipment, staff benefits and research.
- (a) *Library budget.*—Staff, materials and new acquisitions.
- (c) *Staff development budget.*—Costs of training staff to provide needed staff for the University.
- (d) *Student accommodation budget.*—Housing costs, food costs, sports and recreation costs.

235. The most important activity of the University is teaching and research. Therefore, the costs of instruction are the basis for projecting recurrent expenditures. Other expenditures such as administration, library development and, to a lesser degree, student accommodation costs are considered as a function of the primary task which is teaching and research. The Working Party has given careful attention to these facts in developing an approach for calculating the financial needs for recurrent operations in the proposed University. The result is a "per student unit cost" that establishes the basis for estimating the university's financial need for an academic year.

236. The Working Party also proposes that additional consideration be given to the costing of instruction on a course by course basis. It is important to do so to achieve a set of uniform costs between the two universities and for students studying in the College of Continuing Education. Furthermore, such budgeting procedures permit closer monitoring of curriculum and the keeping of the instructional programme on a cost-efficient basis. This cost-efficient approach can be strengthened by well-designed internal budgeting procedures that give close attention to financial transfers within the institutions and which demand adequate justification for all transactions.

237. All of this attention to the details of budgeting for recurrent expenditure is to ensure that the University operates at a high standard. That standard will, in part, be determined by the quality of the teaching staff. It is therefore of utmost importance to provide the necessary financing to permit the appointment and the retention of the best possible members of staff. The current staff shortage at the University of Nairobi confirms that this is a most critical issue, a situation reaffirmed by public submissions to the Working Party.

238. To provide the best terms of service for the teaching staff, the new University should design a realistic "package of benefits" which will be attractive to potential staff. As indicated in paragraph 196, some of the key elements of any such package are: salary, health services, housing, opportunities for research, and schooling (nursery and primary) on the campus for staff children.

239. It is important that a fully equipped health clinic be built on the campus of the new University.

240. In addition to staff housing on the campus, the University should assist members of staff to own their own homes through mortgage financing schemes. This approach to housing will reduce the burden of having it house all members of staff as well as serve to stabilize staff at the University.

241. If the new University is not built close to a major urban centre or close to good primary school facilities, then adequate nursery and primary schooling facilities must be established on the campus.

242. Such measures as those outlined in paragraphs 239, 240 and 241 will assist in recruiting staff. However the planning for the new University must also ensure that a major programme in staff-development is undertaken in order to avoid a situation such as now exists at the University of Nairobi which is only 42 per cent Kenyanized after a decade of existence. The Working Party has worked out costs for staff training on the basis that 60 per cent of the academic staff will need specialized training and much of these will of necessity be done overseas.

243. A special category in the recurrent expenditures of the new University will be continuing education programmes. It is envisaged that these programmes would be financed separately from the general University budget. As far as possible, they should be financed from the fees paid by students enrolled in the various courses. The College of Continuing Education should develop its programmes carefully, offering courses for which there is sufficient demand to justify the cost of engaging teaching staff and the purchase of the needed instructional materials. The College of Continuing Education should be required to operate on a very carefully monitored financial programme in providing its services.

244. The review of recurrent expenditure budgets for the University of Nairobi indicates that annual provision is not made for contingency expenditures. The Working Party believes that it is a sound practice to have a specific amount set aside for contingencies and that such funds will provide needed flexibility to contribute to the effective operation of the new University. Further, it is felt that adequate funds should be supplied for the maintenance of the physical plant and for purchase of needed equipment. *Therefore, the Working Party recommends that in projecting annual budgets for the operation of the new University, an amount equal to 5 per cent of the specific instructional budget be held for contingencies, and an amount equal to 7 per cent of the overall budget for instruction and accommodation be designated for maintenance and equipment purchases.*

Sources of Revenue for Financing the Recurrent Expenditure

245. The basic sources of revenue for the new University will be grants from the Government and fees paid directly by the students. It should be understood, however, that the portion paid by the student will be in the form of loans the student takes from Government as well as personal funds paid from bursaries, wages for work done on the campus and the student's own resources.

246. *The Working Party recommends that the financing of accommodation be done separately from the financing of tuition costs. The student could choose the type of housing he prefers, such as residence halls, or an off-campus residence. The student should then finance his housing costs through a combination of a loan and money paid from his own resources. The Party*

further recommends that the size of the housing loan available to students should not exceed the cost of the least expensive accommodation on the campus.

The Costs of Building and Operating the Second University

247. The preparation of estimated costs for the building of the new university has been done after consultation with groups who have been previously involved in the construction of other educational institutions in the country. All figures in the rest of the chapter have been reviewed with the Ministry of Finance and represent a basis for estimating the total cost of the Second University. Two sets of costings have been prepared. The first is for a University enrolling 3,200 students and the second is for an enrolment of 5,000 students.

248. In forecasting capital costs, it is estimated that a minimum of 5,000 acres of land would be needed. The Working Party believes that 500 acres of this should form the main campus site. The remainder of the land would include the University farm.

249. The capital construction costs forecast are as of July, 1981. The current rate of inflation in capital construction is estimated at 15 per cent annually. In planning for the construction of the new University, the rise in costs due to inflation should be carefully considered. It is estimated that once a formal Government decision is taken to build the new University, it may require 36-40 months before the facility is ready to admit its first intake of students. This planning and implementation period could be of a longer duration if delays are encountered in assembling the resources required to commence building.

250. Once a decision is taken to proceed with the development of the Second University, a master plan will have to be prepared. No precise costs can be set for it since the standard procedure is for such documents to be prepared on a "time basis". The Government would be charged for the actual hours required to complete the plan. This cost should not exceed K£60,000.

251. The professional fees for the detailed planning of the Second University are assumed to be 12 per cent of the projected construction costs. Professional fees include fees for architects, quantity surveyors, and engineers.

252. All listed costs for construction include:

- (a) *Preliminaries*.—The setting up of the site by the contractor.
- (b) *External Costs*.—The connection of services to the building and the immediate landscaping around the buildings.

253. The "services costs" include the cost of preparing the site, access roads

of the construction of the campus site is located
arrangements must be made to bring

254. The total cost of the Second University given in this report could be reduced if less costly options for capital development are adopted.

TABLE 7A—INSTRUCTIONAL AREA FOR 3,200 STUDENTS

- (a) The area of classrooms, laboratories, workshops and other instructional facilities required by faculties will be approximately 31,064 m². The estimated construction cost per m² is K£194.
- (b) The estimated area of four amphitheatre complexes required is approximately 1,656 m². The estimated construction cost per m² is K£224.
- (c) Loose equipment and furniture required is calculated at 30 per cent of the construction costs. The equipment cost here does not include specialized laboratory equipment which each department may require. An indication of the level of such a requirement is the present equipment of the Faculty of Engineering of the University of Nairobi which is valued at K£1.1 million. *The Working Party recommends that estimates of the cost of such equipment be prepared as soon as the Deans of Faculties are appointed.*

INSTRUCTIONAL AREAS (by Faculties):

		Construction £	Equipment £
Technology	10,872.4 m ²	1,625,423.8	487,627
Agriculture	7,766.0 m ²	1,161,017.0	348,305
Science	4,970.2 m ²	743,044.9	222,913
Veterinary Medicine	3,106.4 m ²	464,406.8	139,322
Forest Resources and Wildlife Management	1,863.8 m ²	278,638.1	83,591
Social, Cultural and Development Studies	1,553.2 m ²	232,203.4	69,661
Information Services	932.0 m ²	139,334.0	41,800
		£ 4,644,068	
Professional Fees (12%)		557,288	
Services (15%)		696,610	
		£ 5,897,966	1,393,219
AMPHITHEATRE COMPLEX			
1,656 m ² × £224		370,944	111,283
Professional fees		44,513	
Services		55,641	
		£ 471,098	111,283
Total Construction Costs		6,369,064	
Total Equipment Costs			1,504,502
		£	7,873,566

TABLE 7B—INSTRUCTIONAL AREA FOR 5,000 STUDENTS

- (a) The area of classrooms, laboratories, workshops and other facilities required by the faculties is 45,000 m² (90 m² per student). The estimated construction cost per m² is K£150
- (b) The required space for a large lecture hall, auditorium, cultural centre, teaching amphitheatre is 2,600 m². The estimated construction cost per m² is £225.
- (c) The loose equipment is calculated at 30% of direct construction costs. The equipment costed here does not include specialized laboratory equipment which each department may require. An indication of the level of such requirement is the present equipment of the Faculty of Engineering of the University of Nairobi which is valued at K£1.1 million. The Working Party recommends that estimates of the costs of such equipment be prepared as soon as the Deans of the Faculties are appointed.

<i>Instructional Area</i>			
45,000 m ² × K£150		K£	K£
Professional Fees (12%)		6,750,000	
Services (15%)		810,000	
		1,012,500	
Equipment: 30% of direct construction costs			8,572,500
			2,025,000
<i>Amphitheatre, Lecture Halls and Cultural Centre</i>			
2,600 m ² × K£225		585,000	
Professional Fees (12%)		70,200	
Services (15%)		87,750	
Equipment Costs: 20% of direct costs			742,950
			148,590
TOTAL CONSTRUCTION AND EQUIPMENT COSTS			11,489,040
CONTINGENCY: 10% OF CONSTRUCTION AND EQUIPMENT			1,148,904
<i>GRAND TOTAL: CONSTRUCTION AND TEACHING EQUIPMENT</i>			<i>12,637,944</i>

TABLE 8B—ADMINISTRATION AND FACULTY OFFICES—5,000 STUDENTS

- (a) The required area for the administration block will be 1,740 m². The estimated construction cost per m² is K£150.
- (b) Offices for the teaching staff will require 7,500 m² for an estimated cost of construction at K£150 per m².
- (c) Loose equipment and furniture estimated at 20% of direct construction costs.

Administration Complex

	K£	K£
1,740 m ² × K£150	261,000	
Professional Fees (12%)	31,320	
Services (15%)	39,150	
	331,470	
Equipment (20%)		52,200

Teaching Staff Offices

7,500 m ² × K£150	1,125,000	
Professional Fees (12%)	135,000	
Services (15%)	168,750	
	1,428,750	
Equipment (20%)		225,000

2,037,420

Calculations are based on an administrative staff of 500 for a student body of 5,000.

10% Contingency of 2,037,420	203,742
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2,241,162

TABLE 9—THE LIBRARY COMPLEX—5,000 STUDENTS

- (a) The area required for a library capable of seating 1,000 students will be 8,645 m². The estimated cost of construction per m² is K£195.
- (b) Loose equipment estimated at 20% of construction costs.
- (c) Core library of 100,000 volumes at 20 per student. Costs of a volume, catalogued and shelved is K£20.

Library

	K£	K£
8,645 m ² × K£ 195	1,685,775	
Professional Fees (12%)	202,293	
Services (15%)	252,866	

Library

8,645 m ² × K£ 195	1,685,775
Professional Fees (12%)	202,293
Services (15%)	252,866
Equipment 20% of Construction Costs	528,714

TOTAL
 CONTINGENCY (10%)
 LIBRARY BOOKS
 GRAND TOTAL

TABLE 10—UNIVERSITY FARM BUILDINGS, ESTATES, STORES, GROUNDS AND TRANSPORT—
3,200 STUDENTS

- (a) A building block for the university farm, estates, stores, grounds and transport.
 (b) Loose equipment is 20% of construction costs.
 (c) Does not include farm vehicles.
 (d) Does not include farm animals.

Estimate

Costs derived from estimates made for the extension of Egerton College

Estimates	Construction K£	Equipment K£
Professional Fees (12%)	1,650,003	330,000
Services (15%)	198,000	
	247,500	
	<hr/>	
	2,095,503	
TOTAL CONSTRUCTION AND EQUIPMENT COSTS	.. ..	<u>2,425,503</u>

TABLE 11A—STUDENT ACCOMMODATION—3,200 STUDENTS

Explanation.—(a) The area required for accommodation and common rooms space for 3,200 students will be 38,200 m² and 200 m² respectively, at an estimated construction cost of K£160 per m².

Estimate for Student Accommodation

Estimates	Construction K£	Furniture K£
40,200 m ² × K£160	6,432,000	1,286,400
Professional Fees (12%)	771,840	
Services (15%)	964,800	
	<hr/>	
TOTAL CONSTRUCTION AND EQUIPMENT COSTS	.. ..	<u>9,455,040</u>

TABLE 11B—STUDENT ACCOMMODATION—5,000 STUDENTS

Explanation.—(a) The area required for accommodation and room space for 5,000 students will be 60,000 m², at an estimated construction cost of K£160 per m².

(b) Furniture is estimated at 18% of construction costs.

Student Accommodation

Estimates	K£
60,000 m ² × K£160	9,600,000
Professional Fees (12%)	1,152,000
Services (15%)	1,440,000
	<hr/>

TABLE 12A—KITCHENS, DINING AREAS, LAUNDRY AND BOILER ROOMS—3,200 STUDENTS

Explanation.—(a) A building of two kitchen areas of 3,712 m² each capable of serving 1,600 students (sittings of 800) with dining areas that are sectional. The estimated construction cost per m² is K£318.

- (b) To construct a common set of boiler facilities and a single laundry area*.
 (c) The equipment and furnishings for the areas to be costed at 20% of construction costs.

Estimate

	K£
3,712 m ² × K£ 318	1,180,416
Professional Fees (12%)	141,650
Services (15%)	177,062
	<hr/>
Equipment and Furnishings (20%)	236,083
	<hr/>
	1,499,128
Contingencies (10%)	173,521
	<hr/>
	1,735,211
	<hr/>
	1,908,730

*If boiler facilities on several sites can be constructed at a cost equal to a single set of facilities, this should be done to provide more flexibility in locating dining facilities at dispersed sites.

TABLE 12B—KITCHENS, DINING AREAS, LAUNDRY AND BOILER ROOMS—5,000 STUDENTS

Explanation.—(a) A building of three kitchen areas of 5,800 m² each capable of serving 1,600 students (sittings of 800) with dining areas that are sectional. The estimated construction cost per m² is K£318.

- (b) To construct boiler facilities on either one site or several sites, whichever shall be most cost efficient and consistent with the planning needs of the campus.
 (c) The equipment and furnishings for the areas to be costed at 20% of construction costs.

Estimate

	K£
5,800 m ² × K£318	1,844,400
Professional Fees (12%)	221,328
Services (15%)	276,660
	<hr/>
Equipment and Furnishings (20%) .. .	368,880
	<hr/>
	2,342,388
Contingency 10%	271,127
	<hr/>
	2,711,268
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	2,982,395

TABLE 13A—STAFF HOUSING—3,200 STUDENTS

- Explanation— (a) Twenty Type "B" houses of 168 m² each for the senior academic and administrative staff. The estimated construction cost per m² is K£160.
 (b) 400 Type "C" houses of 141 m² each for academic and administrative staff. The estimated construction cost per m² is K£136.
 (c) 80 Type "D" houses of 72 m² each for academic and administrative staff. The estimated construction cost per m² is K£150.
 (d) 350 Type "E" houses of 57 m² each for junior staff at an estimated construction cost of K£160 per m².
 (e) 350 Type "F" houses of 41 m² each for junior staff at an estimated construction cost of K£160 per m².
 (f) Loose furniture costs are set at 18% of construction costs.

	Construction K£	Equipment K£
20 Type "B" houses	537,600	96,768
Professional Fees	64,512	
Services	80,640	
400 Type "C" houses	7,670,400	1,380,672
Professional Fees	920,448	
Services	1,150,560	
80 Type "D" houses	864,000	155,520
Professional Fees	103,680	
Services	129,600	
350 Type "E" houses	3,192,000	574,560
Professional Fees	383,040	
Services	478,800	
350 Type "F" houses	2,296,000	
Professional Fees	275,520	
Services	344,400	
TOTAL STAFF HOUSING COSTS	18,380,200	2,620,800
		<u>21,001,000</u>

TABLE 13B—STAFF HOUSING—5,000 STUDENTS

1. To Construct— 20 units Type "B" (168 m²) at £160 per m².
 480 units Type "C" (141 m²) at £136 per m².
 120 units Type "D" (72 m²) at £150 per m².
 450 units Type "E" (57 m²) at £160 per m².
 500 units Type "F" (41 m²) at £160 per m².
 2. Loose furniture costs at 18% of construction costs.

Estimate— Type	Construction K£	Fees K£	Services K£	Equipment K£
"B"	537,600	64,512	80,640	96,768
"C"	9,204,480	1,104,537	1,380,672	1,656,806
"D"	1,296,000	155,520	194,400	233,280
"E"	4,104,000	492,480	615,600	738,720
"F"	3,280,000	393,600	492,000	590,400
	18,422,080		2,210,649	3,315,974
TOTAL— CONSTRUCTION COSTS	18,422,080			
FEEES	2,210,649			
SERVICES	2,763,312			
EQUIPMENT	3,315,974			
	26,712,015			
Contingency 10%	2,671,201			
	<u>29,383,216</u>			

TABLE 14A—OTHER CONSTRUCTION COSTS—3,200 STUDENTS

Explanation:

- (a) A combined nursery/primary school of an area of 1,000 m² at an estimated construction cost of £112.5 per m².
- (b) A health clinic of an area of 110 m² at an estimated construction cost of £150 per m².
- (c) Equipment and furniture for an estimated cost of 20% of construction costs.

Estimate:

Primary School and Nursery

				Construction K£	Equipment K£
1,000 m ² × £112.5	..	..	..	112,500	22,500
Professional Fees	..	..	..	13,500	
Services	..	..	..	14,875	

Health Clinic

110 m ² × £150	..	..	..	16,500	4,224
Professional Fees	..	..	..	2,145	
Services	..	..	..	2,475	

				£ 163,995	26,724
Total "other" Construction and Equipment Costs	..	..	..	£ 190,719	

TABLE 14B—OTHER CONSTRUCTION COSTS—5,000 STUDENTS

Explanation:

- (a) A combined nursery and primary school of an area of 1,600 m² at an estimated construction cost of £112 per m².
- (b) A health clinic of an area of 235 m² at an estimated construction cost of £150 per m².
- * (c) Sports complex for 5,000 students at a cost of £425 per student.
- (d) Equipment and furniture for the schools and the health clinic at 20% of the construction costs.

Primary/Nursery School

				Construction K£	Equipment K£
1,600 m ² × K£112	..	..	..	179,200	35,840
Professional Fees	..	..	..	21,504	
Services	..	..	..	26,880	

Health Unit—

235 m ² × K£150	..	..	..	35,250	7,050
Professional Fees	4,320	
Services	5,287	

Sports Facilities—

5,000 × K£425	2,125,000	
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TOTAL CONSTRUCTION AND EQUIPMENT	2,397,441	42,890
Contingency 10%	244,033

£ 2,684,364

*Sports facilities are estimated for 5,000 but not for 3,200 students.

TABLE 15A—SUMMARY OF CONSTRUCTION AND EQUIPMENT COSTS—3,200 STUDENTS

	Construction	Fees	Services	Equipment	Total
A. Instructional Area ..	4,644,068	557,288	696,610	1,393,219	7,291,185
B. Amphitheatre Complex..	370,944	44,513	55,641	111,283	582,381
C. Administration complex and Staff Centre ..	1,131,700	135,804	169,755	226,340	1,663,599
D. Library (Blocks) ..	1,668,485	200,218	250,276	333,697	2,452,503
				(1,280,000)	1,280,000
E. Farm, Estates, Stores, Grounds and Transport	1,650,003	198,000	247,500	330,000	2,425,503
F. Student/Accommodation	1,432,000	771,840	964,800	1,286,400	9,455,040
G. Kitchen, Dining Areas, Laundry, Boiler rooms..	1,180,416	141,650	177,062	236,083	1,735,211
H. Staff Housing ..	14,560,000	1,747,200	2,184,000	2,620,800	21,001,000
I. Recreational Facilities*..	—	—	—	—	1,360,000
J. Other	129,000	15,645	19,350	26,724	190,719
TOTALS ..	31,766,616	3,757,158	4,764,999	7,844,546	49,437,314
CONTINGENCY OF 10% .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	4,943,731
GRAND TOTAL .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	54,381,045

*NOTE— Item 'I'—Recreational Facilities—provides for an initial expenditure of £425 per student or £1,360,000 to be used in first phase of development of sports facilities. Item 'A' excludes specialized equipment.

Costs of Staff Development

255. The Working Party has already emphasized in paragraphs 197, 198, and 242 the need to undertake a major staff development programme. The estimates presented here for the programme anticipate two years of training to complete a masters degree and an additional two years of training to complete a doctoral degree. The costs per year per student are calculated at US\$20,000 for a masters degree candidate and US\$23,000 for a doctoral degree candidate. If training is undertaken in developing countries, e.g. India, Philippines, the costs per year per student may be reduced by as much as one-third. One Kenya £ is estimated as equalling US\$2.25.

256. The estimates have been separated by faculty and do not allow for any wastage, that is, it is anticipated that all Kenyans trained will be available to teach in the new University.

TABLE 16A—COSTS OF STAFF DEVELOPMENT—3,200 STUDENTS

Explanation:

- (a) Staff to be trained (60% of 400 Second University Staff).
- (b) Masters degree training costs: K£8,889 per year.
- (c) Doctoral degree training costs: K£10,222 per year.
- (d) Masters programme is two years.
- (e) Doctoral programme is two years beyond masters degree.
- (f) 50% of staff trained for masters degree will continue in doctoral programme.
 - 240 persons × 2 years masters programme = 480 years.
 - 120 persons × 2 years doctoral programme = 240 years.
 - 480 masters years × K£8,889 = K£4,266,720
 - 240 doctoral years × K£10,222 = K£2,453,280

K£6,720 000

TABLE 16B—COSTS OF STAFF DEVELOPMENT—5,000 STUDENTS

Explanation:

- (a) Staff to be trained 300.
- (b) Masters degree K.£8,889 per year.
- (c) Doctoral degree K.£10,222 per year.
- (d) Masters programme 2 years.
- (e) Doctoral programme 2 years beyond masters.
- (f) 50% of staff trained for masters degree will continue for doctoral degree.
 $300 \text{ persons} \times 2 \text{ years} = 600 \text{ years (masters programme)}$
 $150 \text{ persons} \times 2 \text{ years} = 300 \text{ years (doctoral programme)}$

600 masters years \times £8,889	=K£5,333,400
300 doctoral years \times £10,222	=K£3,066,600
	K£8,400,000

TABLE 17—STAFF DEVELOPMENT COSTS BY FACULTY

A. Technology	2,352,000
B. Agriculture	1,680,000
C. Science	1,075,200
D. Veterinary Medicine	672,000
E. Forestry Resources and Wildlife Management	403,200
F. Development and Cultural Studies	336,000
G. Information Services	201,600
	£ 6,720,000

Estimates of Recurrent Expenditure

257. The recurrent costs estimated for the new University have been developed from costs provided by the University of Nairobi and the Ministry of Finance. Attention was also given to material contained in the University Grants Committee report of 31st March, 1981.

258. Using the information provided, two formulae are applied in estimating instructional costs based on student : staff ratio. The costs for administration and library were considered as a fraction of the teaching needs. The accommodation costs were considered as a fraction of the instructional costs but only with reference to the number of administrative staff required. All costs are estimated in constant 1981 shillings.

259. All costs were calculated at three different ratios. The 8:1 figure is recommended by the Working Party as consistent with expectations in a new University. The 10:1 figure is the recommendation of the University Grants Committee, and the 12:1 figure is considered to be the maximum for a technically oriented University.

260. To understand the tables easily the 8:1 student—staff ratio is called level "A"; the 10:1 student—staff ratio is called level "B" and the 12:1 student—staff ratio is called level "C".

TABLE 18—SECOND UNIVERSITY INSTRUCTIONAL COSTS—UNIT COSTS 3,200 STUDENTS

		Level "A" (8:1)	Level "B" (10:1)	Level "C" (12:1)
Senior Staff, SCCAT: ANC. Staff Benefits:		K£	K£	K£
Housing		913	730	608
Other Costs: Supplies Instructional Material ..		76	76	76
		989	806	687
		Level "A"	Level "B"	Level "C"
Year	No. of Students	K£	K£	K£
1	800	791,200	644,800	547,200
2	1,600	1,582,400	1,289,600	1,094,400
3	2,400	2,373,600	1,934,400	1,641,600
4	3,200	3,164,800	2,579,200	2,188,800
5	3,200	3,164,800	2,579,200	2,188,800
		11,076,800	9,027,200	7,660,800

The calculations are based on the University of Nairobi Draft Estimates 1981/82.

TABLE 19—ADMINISTRATION UNIT COSTS—3,200 STUDENTS

		UNIT COSTS		
Second University		Level "A" (8:1)	Level "B" (10:1)	Level "C" (12:1)
		K£	K£	K£
Senior Staff, SOCAT, ANC. Staff and Administration Housing		168	135	112
Administration Services		110.8	88.66	73.9
General Services		113	90.5	75.5
		391.3	314.6	261.4
		Adm. Costs		
Year	No. of Students	Level "A"	Level "B"	Level "C"
1	800	313,040	251,328	209,120
2	1,600	626,080	502,656	418,240
3	2,400	939,120	753,984	627,360
4	3,200	1,252,160	1,005,312	836,480
5	3,200	1,252,160	1,005,312	836,480
		4,382,560	3,518,592	2,927,680

BASIS OF CALCULATION

- (a) University of Nairobi Draft Estimates 1981/82—Administrative and General Services including 61.5% of amount allocated to housing.
- (b) All administrative costs are calculated as a function of instructional costs derived from variable staff: student ratios.

- (c) A calculation from the University of Nairobi draft estimate indicates that the new university would require about 22 senior administrators, 294 SCCAT staff and 364 ancillary staff. This is derived by reducing University of Nairobi staff by 25% for administration to make it consistent with the 25% unfilled teaching posts in the establishments over the past four years.

TABLE 20—LIBRARY COSTS—SECOND UNIVERSITY—3,200 STUDENTS

		UNIT COSTS		
		Level "A" (8.1)	Level "B" (10.1)	Level "C" (12.1)
Staff		K£ 37	K£ 30	K£ 25
Other: equipment, microfilms, new acquisition and supplies		33.5	26.8	22.3
		60.5	56.8	47.3
Year	No. of Students	Level "A"	Level "B"	Level "C"
		K£	K£	K£
1	800	48,400	45,440	37,840
2	1,600	96,800	90,880	75,680
3	2,400	145,200	136,320	113,520
4	3,200	193,600	181,760	151,360
5	3,200	193,600	181,760	151,360
		677,600	636,160	529,760

TABLE 21—ACCOMMODATION COSTS—SECOND UNIVERSITY—3,200 STUDENTS

		UNIT COSTS		
		Level "A"	Level "B"	Level "C"
Senior Staff, SCCAT, ANC. Staff, Benefits:		K£	K£	K£
Housing		119	95.3	79.4
Other: Food, Supplies		242	242	242
		361	337.3	321.4
Year	No. of Students	Level "A"	Level "B"	Level "C"
1	800	288,800	269,840	257,120
2	1,600	577,600	539,680	514,240
3	2,400	866,400	809,520	771,360
4	3,200	1,155,200	1,079,360	1,028,480
5	3,200	1,155,200	1,079,360	1,028,480
		4,043,200	3,777,760	3,599,680

BASIS OF CALCULATION

- (a) University of Nairobi Draft Estimates 1981/82. This includes estimates for Dean of Students, Games, Tailoring Unit, Residence Halls, Catering and Refectories. It also covers all Senior Staff SCCAT, Ancillary Staff Emoluments, Benefits for these categories. Calculations for housing are based on 38.5% of amount allocated to housing under Administrative and General Services.
- (b) Staff and Housing calculated as a function of teaching staff needs.
- (c) Other costs held constant in relation to University of Nairobi.

TABLE 22—SECOND UNIVERSITY SUMMARY UNIT COSTS—3,200 STUDENTS

UNIT COSTS							
					Level "A" (8:1)	Level "B" (10:1)	Level "C" (12:1)
					K£	K£	K£
Instructional	..	..	..	..	989.0	806.00	684.0
Administrative	..	..	..	..	391.3	314.16	261.4
Library	..	..	..	..	60.5	56.80	47.3
Accommodation	..	..	..	..	361.0	337.30	321.4
K£					1,801.8	1,514.26	1,314.1

TABLE 23A—SUMMARY OF RECURRENT EXPENDITURE FOR FIVE YEARS FOR 3,200 STUDENTS

Year	No. of Students	Level "A"	Level "B"	Level "C"
		K£	K£	K£
1	800	1,441,440	1,211,408	1,051,280
2	1,600	2,882,880	2,422,816	2,102,560
3	2,400	4,324,320	3,634,224	3,153,840
4	3,200	5,765,760	4,845,632	4,205,120
5	3,200	5,765,760	4,845,632	4,205,120
CONTINGENCY—5%		20,180,160 906,343	16,959,712 659,097	14,717,920 555,912
EQUIPMENT SUPPLIES AND MAINTENANCE—7%		1,412,611	1,137,179	1,030,254
K£		22,399,619	18,146,991	16,304,086

TABLE 23B—SUMMARY OF RECURRENT EXPENDITURE FOR FIVE YEARS FOR 5,000 STUDENTS

UNIT COSTS

(a) With 10:1 (Level B from Table 16A) student:staff ratio =K£1,514.

(b) With 12:1 (Level C from Table 16A) student:staff ratio =K£1,314.

SUMMARY

Year	No. of Students	Level "B"	Level "C"
		K£	K£
1	1,500	2,271,000	1,971,000
2	2,700	4,037,300	3,547,800
3	3,900	5,904,600	5,124,600
4	5,000	7,570,000	6,570,000
5	5,000	7,570,000	6,570,000
		27,403,400	23,783,400
Contingency 5%		1,370,170	1,189,170
Equipment Supplies Maintenance		1,918,238	1,664,838
TOTAL		30,691,808	26,637,408

261. The total estimated costs for construction and loose equipment of the new university with 3,200 students are £54,381,045. The staff development costs are estimated at £6,720,000. This provides a total figure of £61,101,045 as the cost of building, equipping and staffing the new university. This does not include the cost of the land on which the university is to be built or other selected items not costed in the estimates, such as vehicles and farm animals.

262. The costings for a university of 5,000 students show capital construction costs of £74,559,929 and staff development costs of £8,400,000. This provides a combined capital construction and staff development cost of £82,959,929.

263. The recurrent costs are set forth for the first five years at 1981 costs. For a university designed for 3,200 students, the expenditure would be £22,399,619, whereas for 5,000 students it would be £30,691,808.

264. In paragraphs 221, 222, 224, 225 and 226 proposals have been made that could substantially reduce the construction and operating costs. The Government should, however, assume the estimates presented as a reasonable basis for proceeding with the development of the Second University.

TABLE 24—COMBINED COST SUMMARIES

Capital Construction Costs	3,200 Students	5,000 Students
	K£	K£
Instructional	7,291,135	11,489,040*
Amphitheatre	582,381	—
Administration	1,663,599	2,241,162
Library	2,452,676	2,478,089
(Books)	1,280,000	2,000,000
Farm, Estates, Stores and Transport	2,425,503	3,739,849
Student Accommodation	9,455,040	13,920,000
Kitchen/Dining	1,735,211	2,711,268
Staff Housing	21,001,000	26,712,015
Recreational	1,360,000	2,125,000
Other	190,719	315,531
Contingency	4,943,731	6,778,175
Staff Development	6,720,000	8,400,000
Recurrent Expenditures for first five years	22,399,619**	30,691,808***
TOTAL	83,500,664	113,651,737

*Combined instructional area and amphitheatre complex.

**Estimates at a student-staff ratio of 8:1.

***Estimates at a student-staff ratio of 10:1.

CHAPTER 10—IMPLEMENTATION

265. In this report the Working Party has attempted to cover all matters related to its terms of reference. All the recommendations made are considered important in the establishment of the Second University. It is recognized, however, that not every recommendation can be implemented at the same time. Some recommendations will require immediate decision and action, while others may have to await the appointment of appropriate University authority. The Working Party has, therefore, deemed it necessary to indicate how it envisages these recommendations being implemented.

266. A decision on the report itself would need to be made as early as possible. Once a decision has been taken then machinery should be set in motion to establish the Second University by an appropriate Act of Parliament. As the site for the University was not one of the terms of reference of the Working Party, no recommendation has been made in this regard. However, selection of the site is an important early step in the implementation of the recommendations of the Working Party. In deciding on this matter, consideration should also be given to the possibility of the University starting in temporary quarters, such as the use of an existing institution, while the building programmes of the University are in progress. In this respect it would be more suitable if the temporary quarters were not too far from the permanent site of the University.

267. Certain key appointments should be made as soon as a decision has been taken to establish the University. These are the appointments of a Council and the Vice-Chancellor who should then set in motion the necessary measures for the building of the University. The University will require an experienced Physical Planner who should also be appointed as soon as the Vice-Chancellor takes up office. It is desirable that the Vice-Chancellor visits other universities early in his term of office so as to obtain more information on university planning.

268. Other appointments which should be made fairly early are those of the Principal of the College of Continuing Education, and the Deans of relevant Faculties. The Working Party sees the College of Continuing Education as an important part of the new University whose programmes can be started much earlier than the faculties of the University. To have this early "start-up" time, the College should be located elsewhere temporarily for example, at the Adult Studies Centre at Kikuyu, and begin to develop its administrative and academic framework there. This should be done with the understanding that the existing programmes of the Centre would be continued and that eventually the administration of the College would be moved to the Second University campus. For their part the founding Deans of the Faculties of the Second University should be appointed either substantively or be designated. This would enable them to be involved in the planning of the University and their Faculties even though they may be serving other institutions.

269. Once the above appointments have been made then selection of staff who will need training and development should start in earnest, as has been described in the report. It is expected, however, that before this gets under way the necessary financing will have been made available and arrangements for training finalized so that it can get under way once the trainees have been identified.

270. Precise timing of the start of the second phase would be determined by the circumstances prevailing after completion of the first phase. It has been recommended in the report that a Faculty of Health Sciences be established in the second phase. Along with it, the Working Party foresees the possibility of adding a Faculty of Business Studies. Although the University, as conceived by the Working Party, has a technology bias, the reality of demand for university education by Arts based students may create pressure for more Arts courses at the University. Thus the possibility of an Arts Faculty being added to the University in the second phase is also envisaged. If this is done then it is hoped that the fundamental concept of the University producing graduates with practical attitudes will be maintained.

CHAPTER 11—REFLECTIONS

271. In compiling this report, the Working Party came to conclusion that there were other important matters which did not directly touch on any of its terms of reference. A few of these issues appeared to be important in the long term development of higher education and of in particular University education. The Working Party therefore thought it best to raise these issues in this chapter as reflections on the future, for the consideration of appropriate authorities in the country.

272. In Chapter 2 of this report, stress has already been placed on the need to expand facilities for post-secondary education. This expansion should include full use of presently underutilized capacity such as appears to exist at the Bandari College, Mombasa, the Railways Training School, Nairobi and the Posts and Telecommunications School at Mbagathi. The Working Party sees the establishment of more such institutions in parallel with, and as the next priority, after the establishment of the Second University. Thus, although in terms of demographic and spatial considerations a case can already be made for a third university, emphasis should be placed on meeting the demand for middle level manpower. The youth of Kenya forms one of the largest resources of the country. It should therefore spare no effort in providing the youth with the necessary skills for productive engagement through the kind of training available in these post-secondary training institutions.

273. The Working Party received a number of submissions suggesting that official links be established between the new University and existing institutions of higher education. The Working Party shares the concern that the different levels of education should not act and operate as if each was in a vacuum. There will therefore be a very real need for closer co-operation in the immediate future, especially between the universities and the middle-level institutions such as Kenya Polytechnic, Egerton College, Kenya Technical Teachers College, Kenya Science Teachers College, Mombasa Polytechnic and the Jomo Kenyatta College of Agriculture and Technology. This will provide for orderly planning and proper development of national higher education.

274. Accordingly, the Working Party suggests that consideration be given to relating such institutions as named above to both universities. What the Party expects to take place would be that the Principal of each institution related to a particular university becomes a member of the Senate of that University. In this way he would come to know what is going on within and being planned for the university, while at the same time he would keep the respective university informed about the activities taking place in the College. This would open up communication between the two levels of higher education and thus facilitate more orderly planning. It should also serve to avoid duplication of effort. The result of such a relationship should be a strengthening of higher education in Kenya.

275. The Working Party received strong submissions urging that Kiswahili and other Kenyan languages be more adequately treated at University level than at the present. The Second University and the University of Nairobi should therefore give serious consideration to this issue. The Working Party is satisfied that a strong department or institute for the study of and research into African languages must be developed in the country.

276. A national examinations system is an essential component of any educational system. Universities are the highest centres of learning in the country. The Working Party notes that the role of the University was left out when the Kenya National Examinations Council was instituted in 1980. This would appear to have been an unfortunate oversight. It is therefore urged that the two universities should play a leading role in the national examinations system for schools.

277. In the past Kenya has admitted many students from other countries into its training institutions either through bilateral agreements or as individuals sponsored by various organizations. The Working Party believes it would be beneficial for the Second University to adopt this practice.

LIST OF MAIN RECOMMENDATIONS

Chapter 1—Introduction

Paragraph 10.—that this material should be handed over to the administration of the new University when it is formed, to provide a basis of information on the views of the public and its expectations for this new institution.

Chapter 2—Higher Education System and the Proposed University

Paragraph 16.—that the disciplines in the Second University should be oriented to developing the infrastructure that is necessary for rural development.

Paragraph 18.—that the nation should make greater use of the Universities and other institutions of higher learning for national planning and implementation of Government programmes.

Paragraph 34.—that the “A” level segment should be scrapped altogether and that the entire educational system be suitably restructured.

Paragraph 35.—that university education be of at least four years. The first year should be spent on inducting students into university life both socially and intellectually as well as to give the foundations for degree training, taking off from school level.

Paragraph 37.—that in order to streamline the education system of the country as a whole the present primary education system be extended from seven (7) to eight (8) years. The eight-year primary education should be restructured to offer:

- (a) Numeracy and literacy skills in the first six years.
- (b) Basic education with practical orientation in the last two years as recommended by the NCEOP.
- (c) One examination, a revamped CPE, should be taken at the end of the primary education.

Paragraph 40.—that immediate steps be taken to determine the number and range of such post-secondary training institutions.

Chapter 3—Post “O” Level Training Institutions

Paragraph 71.—that the Institutes should be—

- (a) maintained and supported in recognition of their unique role in manpower development and not incorporated in the new university structure;
- (b) appropriately harmonized and co-ordinated at all levels of course programmes, enrolment, entrance requirements, curricula and syllabi, examinations and certificates award;

(c) expanded so that they may meet challenges of the country's development especially in the rural areas;

(d) used for continuing education to complement the activities of extra-mural, adult education programmes and correspondence courses.

Paragraph 74.—that the facilities at the Co-operative College should be expanded in order to train the required personnel.

Paragraph 75.—that the Forestry School, Londiani, should expand its training facilities for both certificate and diploma levels.

Paragraph 77.—that additional training facilities be provided to produce more of middle-level health personnel.

Paragraph 78.—that consideration be given to the use of any under-utilized capacity at the Institute of Mass Communication by the School of Journalism.

Paragraph 90.—that surveys of public and private sector manpower training be undertaken to analyse and determine the scope and impact of this type of training.

Paragraph 92.—that a Council on Higher Education be set up. Its principal functions should include accreditation of universities, the financing of university education and research activities, overall planning, staff development, student enrolment, scholarships, university and post-secondary curricula. The Council should also harmonize the examinations and certification of all post-secondary institutions up to and at the university level so that credit is given by the higher institution for relevant work done in lower institutions or when a student transfers from one institution to another. It is anticipated that the Council will take over the functions of the University Grants Committee.

Paragraph 93.—that the new University should not be constituted by taking over of existing institutions.

Paragraph 94.—that a thorough review of under-utilized training facilities in the existing Government and parastatal institutions be undertaken with a view to expanding the numbers of people being trained.

Paragraph 96.—that—

(a) up-to-date data on manpower in all new occupational categories with

a view

Paragraph 96.—that—

(a) up-to-date data on manpower
an indication of training levels required
programmes of career guidance should be given in
a manner consistent with national
listing courses appropriate

Chapter 4—Philosophical Framework, Concept and Objectives of the Second University

Paragraph 116.—that the following be the philosophical and conceptual guidelines for the development of the new University:

- (a) The University must plan its teaching programmes in such a way that it is continuously adaptive to Kenyan ideological and pragmatic development aspirations.
- (b) The University should be close to “Wananchi” and aim at producing graduates who freely interact with the people, live comfortably in their own society in the rural areas, are effective in serving all and are innovative, hardworking and committed.
- (c) The approach to the design of the technical curriculum should be such that a graduate of the professional disciplines should also possess a sound knowledge of his society, an appreciation of the human and management factors as they relate to a profession, and a clear appreciation of Kenya’s political and social aspirations. Thus, an appropriate balance should be maintained between knowledge, skills, attitudes and socio-political aspirations.
- (d) The University should, through its applied research and field activities, relate to society in such a way that there is continuous and positive dialogue, and that it addresses itself to relevant national problems.

Paragraph 117.—that the objectives of the Second University should be as follows:

- (i) (a) To provide advanced education aimed at producing mature and conscientious graduates with the ability and desire to contribute to the well-being, advancement and development of fellow citizens and the country on the basis of the national philosophy of mutual social responsibility.
- (b) To provide university level education for national service and development, which reflects the national cultural heritage.
- (c) To develop, and transmit knowledge and skills through research and training, at under-graduate and post-graduate levels, either directly or through the medium of connected colleges, schools or institutes.
- (d) To foster national consciousness and unity.
- (e) To preserve knowledge and stimulate the intellectual life and cultural development of the country.
- (f) To conduct examinations and to grant degrees, diplomas, certificates and other awards of the university.
- (g) To determine who may teach and what may be taught and how it may be taught in the university.

(h) To play an effective role in the development and expansion of opportunities for Kenyans wishing to continue their education.

(ii) Admission to the university as candidates for degrees, diplomas, certificates or other awards of the university shall be open to all persons accepted as being qualified therefore by the Senate, without distinction of ethnic origin, sect or creed, and no barrier based on any such distinction shall be imposed upon any person as a condition of his becoming, or continuing to be, a professor, lecturer, graduate or student of the university, or of his holding any office therein, nor shall any preference be given to, or advantage be withheld from, any person on the grounds of ethnic origin, sect, or creed.

Paragraph 118.—that these objectives should be incorporated in the legal instruments for the establishment of the University.

Paragraph 119.—that the university should ensure through appropriate admission policies that the various communities which make up the Kenyan nation are represented to the optimal extent possible in the University.

Chapter 5—Disciplinary Coverage Structure and Size of the Second University

Paragraph 129.—that the existing department of Forestry at the University of Nairobi be transferred to the Second University and be upgraded into a Faculty which should include, among others, the following departments:
Forestry.

Wood Science and Technology.

Wildlife Conservation and Management.

Paragraph 132.—that a Faculty of Social, Cultural and Development Studies be established at the Second University consisting of the following divisions:

Development Studies division, incorporating the disciplines of economics, sociology, philosophy, public administration and others.

Cultural Studies division, incorporating History and Social Anthropology and other cultural disciplines.

African languages division incorporating Kiswahili and other national languages.

Paragraph 133.—that Kiswahili be made a compulsory subject at the Second University. The same argument applies in respect of Development Studies. Future leaders of this country should understand the development strategies of the country irrespective of their areas of specialization.

Paragraph 134.—that a Faculty of Information Science be established at the Second University, with the following departments:

- Library Sciences.
- Information Systems.
- Archives.
- Printing.

Paragraph 135.—that the Working Party recommends the establishment of a graduate school at the Second University with separate and adequate financing. The school will provide a central co-ordinating service in the University while research will be undertaken in Faculties, School and Institutes.

Paragraph 136.—that a school of environmental studies be established at the Second University.

Paragraph 137.—that an Institute of Applied Science and Technology be established at the Second University to undertake amongst other activities, studies in Science and Technology policy, identification of areas of research, development and consultancy.

Paragraph 138.—that the following faculties, schools and institutes (with the numbers and percentages of under-graduate students enrolment in each faculty) should be established at the Second University for the first phase of development. The figures for each faculty are however only guidelines. The new University and the Government may vary them in the light of more up-to-date national manpower needs.

Faculty/School/Institute	Undergraduate Enrolments	
	Numbers	Percentage
1. Faculty of Technology	1,120	35
2. Faculty of Agriculture	800	25
3. Faculty of Science	512	16
4. Faculty of Veterinary Medicine	320	10
5. Faculty of Forest Resources and Wildlife Management	192	6
6. Faculty of Social, Cultural and Development Studies	160	5
7. Faculty of Information Sciences	96	3
8. School of Graduate Studies	—	—
9. School of Environment Studies	—	—
10. Institute of Applied Science and Technology	—	—
TOTAL	3,200	100

The student numbers in the faculties are based on a total enrolment of 3,200. It is assumed that if the University is to enrol 5,000 students then there will be corresponding rise in the number of students in every faculty or other faculties may be established.

be colleges
facilities may

Paragraph 140.—that when the Faculty of Health Sciences is established it should consist of the following departments:

- Anatomy.
- Physiology.
- Clinical Biochemistry.
- Pharmacology.
- Microbiology.
- Haematology and Blood Transfusion.
- Histopathology and Forensic Medicine.
- Paediatrics.
- Community Health.
- Psychiatry.
- Obstetrics and Gynaecology.
- Traumatology.
- Surgery.
- Medicine.

Paragraph 141.—that the establishment of this Faculty be postponed to the second phase of the University's development. However, the Dean of the Faculty should be appointed in the first phase.

Paragraph 145.—that it be adopted for the Second University. The Working Party considers that a three-term calendar year is ideal for universities in the country and recommends its adoption.

Paragraph 146.—that the Second University should not establish a Faculty of Education. However, the strengthened and expanded Faculty at Kenyatta University College should include a Department of Special Education.

Paragraph 148.—that the Faculty of Commerce at the University of Nairobi—

(a) be strengthened and expanded so as to produce high level manpower in the following new areas, in addition to the existing programmes:

- Banking.
- Co-operative Development.
- Insurance.

(b) examines the feasibility of incorporating Part II of professional training and examinations into the University programme in collaboration with the relevant professional bodies such as Banking, Insurance and Accountancy and the proposed College of Continuing Education.

Paragraph 149.—that the award of degrees in Biochemistry as a discipline be restricted to the existing Department of Biochemistry at the University of Nairobi, and that this should not be duplicated at the Second University.

Paragraph 150.—that the discipline of Marine Sciences be established at the University of Nairobi.

Paragraph 156.—that a single-site Second University is more appropriate for Kenya.

Paragraph 157.—that the Second University should start on the assumption that all students will be accommodated on the campus.

Paragraph 164.—that academic staff be involved in the general administration of the University and that individuals among them who are selected for their personal qualities and aptitudes be entrusted with the responsibility of looking after the welfare of the students.

Paragraph 165.—the establishment of a University Cultural Centre. The purpose of such a Centre will be to facilitate cultural activities in addition to others provided in the halls of residence or elsewhere in the University.

Chapter 6—The Role of the Second University in Continuing Education

Paragraph 176.—that a College of Continuing Education be established as part of the university educational system. The College should be attached to the Second University so as to provide University education to those who otherwise might not have had such an opportunity.

Paragraph 183.—As a guide to establishing programmes of Continuing Education, the Working Party makes the following recommendations:

- (a) That areas in which courses of study will be offered should include degree work, diploma level work, professional qualifications and non-degree certificates.
- (b) That the programme should provide for enrolment in correspondence courses leading to a degree. The University should, however, reserve the right to require that a portion of any degree programme should be taken in residence.
- (c) That the programmes should provide for courses being conducted outside of normal working hours to permit enrolment for people in employment.
- (d) That attention be given to the need of people living at some distance from major urban centres and that this be accomplished through correspondence courses.
- (e) That the College of Continuing Education should utilize those facilities already in existence to promote distance learning and correspondence programmes, including the Institute of Adult Studies, the Adult Education Department, the Education Media Service, the Primary Teacher Training Colleges, the District Development Centres, the Harambee Institutes of Technology, the Co-operative College of Kenya and the Voice of Kenya. In view of the foregoing, there would be no need to build new facilities to establish programmes in continuing education.

Paragraph 184.—that the College of Continuing Education should be headed by a Principal, assisted by the Deputy Principal and such staff as are required and justified on a cost effective basis.

Chapter 7—Staffing of the University

Paragraph 199.—that the following number of Kenyans be trained for each faculty:

TABLE 6

Faculties	Students No. 3,200 Staff Required	Students No. 5,000 Staff Required
Faculty of Technology	84	105
Faculty of Agriculture	60	75
Faculty of Science	39	48
Faculty of Veterinary Medicine	24	30
Faculty of Forest Resources and Wildlife Management	15	18
Faculty of Social, Cultural and Development Studies	12*	15
Faculty of Information Science	8	9
TOTAL	242	300

*The staff in this faculty will be teaching in other faculties and therefore this number would change to a higher figure as the University enrolment increases.

Chapter 8—Research and Development and the Role of the Second University

Paragraph 202.—that these research talents should be tapped right from the start of the Second University.

Paragraph 210.—that the Second University focuss its research attention on those areas which are not being adequately catered for by existing institutions.

Paragraph 212.—that the proposed University must have its own research policy and programme which is relevant to national aspirations within the broad framework of the national research effort.

Paragraph 213.—that through a combination of fees derived from consultancy that can be put into research, grants from outside agencies and joint venture research with overseas universities, the Second University should establish a viable and well financed machinery for research. This should not depend on a portion of the general university's budget or percentage of GDP. Research and consultancy should be on a realistic and viable basis.

Chapter 9—The Costing and Financing of the Second University

Paragraph 221.—that a physical planner should be appointed on a full-time basis at a very early point in the planning process.

Paragraph 227.—that the new University should have a development office responsible for an organized approach to fund-raising. This office should set forth ways to secure funds from private donor sources. A person or organization giving a designated amount should be assured of appropriate recognition.

Paragraph 229.—that land be designated within the campus as sites for a mosque, a protestant chapel and a catholic chapel. Consideration should also be given to the establishment of an inter-faith centre which shall be a place of worship for different faiths and denominations.

Paragraph 231.—Therefore recommends the holding of national design competition.

Paragraph 233.—that there be a sharing of the costs for university education. Provisions should however be made so that no academically qualified Kenyan who gains admission to the University is deprived of studying for a degree because he comes from a poor family.

Paragraph 244.—that in projecting annual budgets for the operation of the new University, an amount equal to 5 per cent of the specific instructional budget be held for contingencies, and an amount equal to 7 per cent of the overall budget for instruction and accommodation be designated for maintenance and equipment purchases.

Paragraph 246.—that the financing of accommodation be done separately from the financing of tuition costs. The student could choose the type of housing he prefers, such as residence halls or an off-campus residence. The student should then finance his housing costs through a combination of a loan and money paid from his own resources.

That the size of the housing loan available to students should not exceed the cost of the least expensive accommodation on the campus.

**LIST OF PEOPLE INTERVIEWED AND THOSE WHO SENT
WRITTEN MEMORANDA**

- Hon Mwai Kibaki, E.G.H., M.P., Vice-President and Minister for Finance.
 Hon. Dr. R. Ouko, E.G.H., M.P., Minister for Foreign Affairs.
 Hon. J. Kamotho, E.G.H., M.P., Minister for Higher Education.
 Hon. E. W. Mwangale, E.G.H., M.P., Minister for Tourism.
 Hon. R. S. Matano, E.G.H., M.P., Minister for Co-operative Development.
 Hon. Kabeere M'Mbijiwe, E.G.H., M.P., Minister for Agriculture.
 Hon. Prof. J. K. Ng'eno, E.G.H., M.P., Minister for Basic Education.
 Hon. J. J. Nyagah, E.G.H., M.P., Minister for Culture and Social Services.
 Hon. Dr. M. Waiyaki, E.G.H., M.P., Minister for Industry.
 Hon. Dr. J. Ojiambo, M.P., Assistant Minister, Ministry of Basic Education.
 Prof. S. Ominde, University of Nairobi.
 Prof. S. S. Yahya, University of Nairobi.
 Dr. J. A. Nkingangi, University of Nairobi.
 Dr. G. M. Ruigu, University of Nairobi.
 Prof. E. G. Kasili, University of Nairobi.
 Dr. Kibe Githahu, University of Nairobi.
 Prof. H. Odera Oruka, University of Nairobi.
 Mr. John Kiptala Chemweno, Director, Kenya External Telecommunication.
 Mr. Kyale Mwendwa, Egerton College.
 Dr. Hans Burgman, National Christian Council of Kenya.
 Prof. J. K. Maitha, Kenyatta University College.
 Prof. F. Indire, Kenyatta University College.
 Mrs. L. A. Muruli, Kenyatta University College.
 Mr. J. M. Ng'ang'a, Kenyatta University College.
 Dr. G. N. Amayo, Kenyatta University College.
 Mr. J. Omwenga, Riamoni Secondary School, P.O. Gesima, Kisii.
 Mr. D. Makui, P.O. Box 374, Ruiru.
 Mr. J. N. Nguyo, Kenya Airways, P.O. Box 30066, Nairobi.
 Mr. A. A. Ashioya, P.O. Box 13, Lunga Lunga, Mombasa.
 Mr. J. Kotia, Loreto Convent, Matunda, P.O. Box 28, Moi's Bridge.
 Mr. Jacob Obwonya, Resident Magistrate, Nyahururu.
 Mr. K. Wambua, P.O. Box 57157, Nairobi.
 Mr. E. Lumet, P.O. Box 809, Kisumu.
 Prof. C. M. Jacob, University of Nairobi.
 Mr. J. Naiterra, P.O. Box 802, Nyahururu.
 Mr. L. Mwangusi, Busia School, P.O. Box 215, Busia.
 Mr. A. Mwachtenga, P.O. Box 68, Ukunda.
 Mr. O. A. Sumbu, Kitale Day School, P.O. Box 946, Kitale.

Mr. J. K. Odera, P.O. Box 95, Thika.
Mr. S. P. Mungala, D.C., Samburu District, P.O. Box 2, Maralal.
Mr. K. B. Gitobu, Kenya National Chamber of Commerce and Industry, Meru.
Mr. F. A. Muteve, Kenyatta University College.
Mr. Mudogo, Chavakali School, Maragoli.
Mr. L. D. Galgalo, P.C., Coast Province.
Mr. S. T. Mwakisha, P.C., Nairobi Province.
Mr. A. N. Njuguna Ngoro, P.C., Rift Valley Province.
Mr. D. Musila, P.C., Central Province.
Mr. B. Kaaria, P.C., North-Eastern Province.
Mr. C. W. Charles Murage, Deputy P.C., Nyanza Province.
Mr. N. Ngugi, P.C., Western Province.
Mr. J. Mathenge, P.C., Eastern Province.
Provincial Development Committees, all Provinces.
Dr. Maria Mulei, Ministry of Economic Planning and Development.
Dr. J. Muruku Waiguchu, Ph.D., University of Maryland, U.S.A.
Mr. H. J. Nyamu, Kenya Institute of Administration.
Rt. Rev. Philip Sulumeti, Diocese of Kakamega.
Mr. Wanjala Welime, Ministry of Livestock Development.
Mr. L. Odera, Permanent Secretary, Ministry of Basic Education.
Fr. J. Getonga, Murang'a Harambee Development Fund.
Mr. A. Githinji, Permanent Secretary, Office of the President, Defence Department.
Mr. Leonard O. Kibinge, Permanent Secretary, Ministry of Livestock Development.
Dr. R. Nasibi, Kenya Industrial Estates Ltd., Embu.
Mr. K. J. Kipsanai, Permanent Secretary, Ministry of Tourism.
Dr. M. R. Migure, Provincial Medical Officer, Coast Province.
Bishop N. K. Gatimu, Diocese of Mt. Kenya East.
Mr. W. Wambua, Personnel Officer, Ministry of Water Development.
Mr. Andrew Soi of Kericho.
Mr. J. W. Wasike, Government Training Institute, Mombasa.
Mr. P. P. Meyo, Central Stores, Karura.
Mr. David Obure, a teacher in Nairobi.
Mr. Francis Muiruri, Mukurweini.
Mr. R. K. Wanyahoro, Clerk to Council, Nyandarua.
Mr. B. Mukara, Government Food Store, Garissa.
Mr. N. N. Gathecha, Provincial Housing Officer, Coast Province.
Mr. A. S. Douba, Koelel High School, Gilgil.
Mr. M. K. Khan, Lecturer, Shanzu Teachers' College.
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Rev. R. Ward, Garissa Community Church, Garissa.

Mr. P. S. Manyoha, Webuye.
 Mr. S. O. Kefa, Nairobi.
 Hon. Dr. Chibule wa Tsuma, M.P., Kilifi South.
 Sister Brigid O'Brien, Supervisor Trainee Lingalanga.
 Mr. Mwakio P. Tole, University Park, U.S.A.
 Mr. J. C. Mungai, Provincial Adult Education Officer, Coast.
 Prof. S. O. Wandiga, National Centre for Atmospheric Research.
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 Dr. M. S. Abdulla, Kenya Medical Association.
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 Mr. M. O. Nyambogoria, Kenya Railways, Mombasa.
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 Miss M. M. Gitonga, P.O. Box 188603, Mombasa.
 Dr. Yonah Otsyula, P.O. Box 3, Kitale.
 J. K. Tonui, Olenguruone Division, Via Molo.
 Mr. B. O. Keary, P.O. Box 240, Kisii.
 Mr. D. O. Osambo, Nyakuru School, P.O. Box 138, Sare.
 Mr. W. C. A. Odondo, P.O. Box 844, Webuye.
 Mr. M. M. Kagewa, P.O. Box 17, Karatina.
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 Mr. M. K. A. Chelagat, Cherota Highlands, Kapkenda.
 Mr. J. Ndiithi, P.O. Box 292, Thika.
 Mr. M. S. Barasa, P.O. Box 351, Bungoma.
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 Mr. J. Jacobs, Nairobi.
 Mr. J. W. Mangi, P.O. Box 82, Naivasha.
 Mr. M. M. R. Gakui, P.O. Box 56, Mweiga.
 Mr. W. K. Kimalat, Kenya National Examinations Council.
 Dr. C. Fouradoulas, Principal Kenya Utalii College.
 Mr. M. K. Sio, Kenya Utalii College.
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 Mr. M. W. Wamalwa, Gazi School, P.O. Msambweni.
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 Mr. M. S. Massabi, P.O. Box 1058, Bungoma.
 Mr. W. W. W. Njogu, P.O. Box 92, Mukurweini.
 Prof. F. F. Ojany, Department of Geography, University of Nairobi.
 Mr. W. Oolweny, P.O. Box 85, Ndori-Kisumu.
 Dr. Osaga Odak, Department of Culture, Nairobi.
 Dr. P. N. Kariuki, Ministry of Energy, Nairobi.
 Mr. H. M. Orenda, Principal, Kenya School of Aviation.
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 Mr. J. P. Katina, Clerk to the County Council of Pokot.
 Mr. J. S. Mathenge, Permanent Secretary, Ministry of Agriculture.
 Mr. Fred Homes, USAID.
 Mr. J. Maina, USAID.
 Dr. P. Paul, Principal, S.D.A. University, Baraton.
 Mrs. J. Kiano, Maendeleo Ya Wanawake.
 Mr. J. D. Mturi, Kenya Ports Authority.
 Principal and Staff of Kenya Polytechnic.
 Principal and Staff of Mombasa Polytechnic.
 Principal and Staff of Mombasa Government Training Institute.
 Principal and Staff of Industrial Training Centre, Mombasa.
 Principal and Staff of Co-operative College.
 Principal and Staff of Water Engineering Training School.

Principal and Staff of Kenya Technical Teachers College.
 Principal and Staff of Embu Institute of Agriculture.
 Principal and Staff of Egerton College, Njoro.
 Principal and Staff of Ramogi Institute of Advanced Technology.
 Principal and Staff of Sangalo Institute of Science and Technology.
 Dr. Parcey Paul, Director, Baraton University Campus, Kapsabet.
 Mr. J. K. Ingonga, Deputy Provincial Commissioner, North-Eastern Province.
 Mr. Martin Tsuma, Provincial Officer, North-Eastern Province.
 Dr. L. W. Okombo, Provincial Medical Officer, North-Eastern Province.
 Mr. C. O. Okello, Provincial Special Branch Officer, North-Eastern Province.
 Mr. B. N. Momanyi, Representing Provincial Director of Agriculture, North-Eastern Province.
 Mr. O. S. Farah, Provincial Education Officer, North-Eastern, Province.
 Mr. Abdi S. Osman, Education Officer, P.E.O.'s Office, Garissa.
 Mr. R. Muriuki, Provincial Livestock Development Officer, North-Eastern, Province.
 Mr. N. Muturi, Provincial Statistics Officer, Rift Valley.
 Mr. C. K. Mutai, Acting Provincial Adult Education Officer, Rift Valley.
 Mr. S. K. Kabechu, Representative of Provincial Settlement Officer, Rift Valley.
 Mr. J. N. Orumoi, Provincial Game Warden.
 Mr. K. W. Penn, Headmaster, Nakuru High School.
 Prof. R. S. Musangi, Principal, Egerton College.
 Mr. Sam C. Thiongo, Deputy Provincial Information Officer, Rift Valley.
 Mr. N. arap Chebelyon, Chairman, KNUT, Kipsigis.
 Mr. Joseph Chirchir, Executive Secretary, KNUT, Kipsigis.
 Mr. John M. Ogwenoi, Resident Tutor, Nakuru/Rift Valley.
 Mrs. G. A. Okello, Probation Officer, Nakuru.
 Mr. David Kamau, Chairman, KNUT, Nakuru Branch.
 Mr. G. M. Kimatta, Executive Secretary, KNUT, Nakuru Branch.
 Mr. Philip Musungu, Executive Secretary, KNUT, Trans Nzoia.
 Mr. B. J. O. Mak'Osewe, District Commissioner, Nandi.
 Mr. Victor Musoga, Acting D.C., Baringo.
 Mr. I. N. Lukalo, District Commissioner, Turkana.
 Mr. S. Z. Ambuka, District Commissioner, Elgeyo/Marakwet.
 Mr. H. C. Wamubeyi, District Commissioner, Kericho.
 Mr. Anthony Oyier, District Commissioner, Trans Nzoia.
 Mr. Mbuo R. Waganangwa, District Commissioner, West Pokot.
 Mr. B. K. arap Kaiyo, Senior Probation Officer, Rift Valley.
 Mr. E. W. King'oro, Probation Department, Nakuru.
 Mr. W. N. Wambugu, District Commissioner, Kajiado.
 Mr. Peter T. Wetukha, Probation Department, Nakuru.
 Mr. E. N. Njoka, Provincial Higher Education Officer, Rift Valley.
 Dr. Koech, Principal, Rift Valley I.S.T.

Mr. F. W. Lekoolool, District Commissioner, Uasin Gishu.
 Mr. W. Nyaga, District Officer (1), Laikipia.
 Mr. C. F. Mariga, Personal Assistant to P.C., Rift Valley.
 Mr. P. Ngethe Mbugua, Personal Assistant to P.C., Rift Valley.
 Prof. G. Muriuki, Kenya National Academy of Arts and Sciences (KNAAS).
 Prof. Mbaya (Mrs.), K.N.A.A.
 Mr. Koech, Executive Officer, KNAA.
 Mr. J. Runyenje, Provincial Architect, North-Eastern Province.
 Dr. P. M. Gichuki, Provincial Veterinary Officer, North-Eastern Province.
 Mr. P. A. Malova, District Development Officer, Garissa.
 Mr. H. N. Oyugi, Deputy Provincial Commissioner, Rift Valley.
 Mr. S. B. Nyakundi, Deputy P.D.S.S., Rift Valley.
 Mr. W. Nguyo, Registrar, Egerton College.
 Mr. Abel N. Kenyoru, Provincial Planning Assistant, Rift Valley.
 Mr. P. N. Kiilu, D.O. (1), Nakuru.
 Mr. S. O. Akeyo, Sales Tax Inspector, Rift Valley.
 Mr. E. A. Ochieng, Conservator of Forests, Rift Valley.
 Mr. J. Kang'ali, Provincial Basic Education Officer, Rift Valley.
 Mr. S. M. Kubo, Provincial Basic Education Officer, Coast.
 Mr. I. E. Mureithi, Director of Livestock Development.
 Mr. Alfred Nyongesa, P.O. Box 872, Bungoma.
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 Prof. J. G. Wandera, University of Nairobi, Kabete Campus.
 Dr. C. Wanjala, Institute of African Studies, University of Nairobi.
 Dr. Okoth Ogendo, Dean, Faculty of Law, University of Nairobi.
 Dr. K. Kinyanjui, Institute for Development Studies, University of Nairobi.
 Dr. D. N. Ngugi, Dean, Faculty of Agriculture, University of Nairobi.
 Dr. Micere M. G. Mugo, Dean, Faculty of Arts, University of Nairobi.
 Prof. G. M. Mugeru, Dean, Faculty of Veterinary Medicine, University of Nairobi.
 Prof. R. B. Ogendo, University of Nairobi.
 Dr. N. D. Nzomo, University of Nairobi.
 Prof. A. V. Otieno, Dean, Faculty of Engineering, University of Nairobi.
 Prof. N. O. Bwibo, Representing Dean of Medicine, University of Nairobi.
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 Mr. J. K. Kithome, Provincial Basic Education Officer, Nyanza.
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 Mr. Adoyo Japar, P.O. Box 36, Maseno.
 Mr. David Osome, P.O. Box 36, Maseno.
 Mr. Walter Osome, P.O. Box 36, Maseno.

Councillor Abuto Olum, P.O. Box 36, Maseno.
 Mr. Boruke, Planning Officer, Lake Basin Development Authority.
 Mr. James C. Odaga, Acting General Manager, Kisumu Cotton Mills Ltd.
 Mr. J. W. Odundo, Siriba Teachers College.
 Mr. C. C. Agutu, Town Clerk of Kisumu Municipal Council.
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 Mr. M. A. Quaraishy, Supreme Council of Kenya Muslims and the Kisumu Muslims Association.
 Mr. Maqbool Hussai, Supreme Council of Kenya Muslims and the Kisumu Muslims Association.
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 Mr. M. Nyaga wa Mbora, District Commissioner's Office, Laikipia.
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 Mr. Z. M. Bukania, Provincial Works Officer, Western Province.
 Mr. P. I. Muchukuri, A.O.I., P.C.'s Office, Western Province.
 Mr. H. F. N. Mwadime, Provincial Labour Officer.
 Mr. S. K. Namuju, Information Officer, Western Province.
 Mr. James W. Mareha, Provincial Prisons Commander.
 Rev. Kagume and his Staff, Principal, Kagumo Teachers College.
 Mr. M. K. Washika, Principal Friends College, Kaimosi.
 Mr. Siundu, Principal, Western College of Arts and Sciences.
 Mr. T. O. Ogechi, Provincial Commissioner's Office, Nyeri.
 Mr. S. J. M. Kalama, Provincial Hospital Secretary, Kakamega.
 Mr. K. K. Chepsaigutt, Acting Principal of Bukura Institute of Agriculture.
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 Mr. S. E. Oburu, D.C., Narok.
 Mr. F. C. Waiganjo, D.C., Baringo.
 Mr. S. P. Mung'ala, D.C., Samburu.
 Mrs. Alice A. Ngesa, Provincial Nutritionist, Rift Valley.
 Mr. D. T. Ndegwa, Project Manager, F.I.T.C.
 Mr. D. H. Agutu, D.B.E. Officer, Kericho.
 Mr. Maina Kariithi, Provincial Co-operative Office, Rift Valley.
 Mr. H. Okech, Price Control, Rift Valley Province.
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 Mr. M. Njonje, Headmaster, Kitale Girls Secondary School.
 Mr. G. A. Koech, Headmaster; Narok High School.
 Mr. J. R. G. Kiarie, Department of Adult Education, Nakuru.

Mr. L. M. Musyoka, P.W.E., Rift Valley Province
 Mr. B. A. Rotich, E.O., Narok.
 Mr. Wilson K. Koech, Chairman, KNUT, Nandi Branch.
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 Mr. Michael K. Kemboi, Councillor, Eldoret Municipal Council.
 Mr. Amaasi Singara, Advocate, Eldoret Municipal Council.
 Mr. Joseph Cheron, Councillor, Wareng County Council.
 Mr. Lebo K. M. Sigilai, Kanu Chairman, Uasin Gishu.
 Miss A. De Vlas, Headmistress, Moi Girls High School.
 Mr. L. arap Sawe, Headmaster, Kericho High School.
 Mr. Joel N. Ndiangu, Headmaster, Oloolaiser Secondary School.
 Mr. E. O. Makolwal, Education Officer (P.H.E. Office), Nakuru.
 Mr. Joseph A. Mdoe, T.V. Cameraman.
 Mr. N. K. Kiptalam, Education Officer, Iten.
 Mr. J. C. Yego, Executive Secretary, KNUT K/Marakwet.
 Mr. S. B. Kipkeu, Headmaster, Kerio Valley Secondary School.
 Mr. F. F. Onyango Oloo, D.C.'s Office, West Pokot.
 Mr. J. W. Macharia, Provincial Electrical Engineer.
 Mr. E. N. Nyanducha, D.B.E. Officer, Samburu.
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 Mr. A. Subbakrishniah, University of Nairobi.
 Mr. B. O. Okudo, Managing Director, Kenya Extelcoms Co. Ltd.
 Dr. W. N. Masiga, Director, Kenya Agricultural Research Institute.
 Mr. P. E. Kinyanjui, Director, Institute of Adult Studies.
 Mr. E. M. Njiru, Kenyatta University College.
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 Mr. P. M. Nyambala, Kenya Polytechnic.
 Dr. David Court, Rockefeller Foundation.
 Hon. S. A. Echakara, M.P., Busia North Constituency.
 Hon. J. K. Koech, M.P., Chepalungu Constituency.
 Hon. M. C. O. Midika, M.P., Nyando Constituency.
 Hon. (Mrs.) Grace Onyanga, M.P., Kisumu Town Constituency.
 Mr. A. A. Ambrose, E.B.S., General-Secretary, Kenya National Union of Teachers (KNUT).
 Mr. J. Yego, First National Vice-Chairman, KNUT.
 Mr. P. Lubale Lubulela, Senior Executive Officer, KNUT.

Mr. J. K. Karago, Executive Officer, KNUT.
Mrs. P. Shitakha, National Vice-Chairman, Maendeleo Ya Wanawake.
Mrs. D. Ayodo, National Vice-Chairman, Maendeleo Ya Wanawake.
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Mr. T. Jackson, Principal, the Kenya School of Law.
Mr. A. M. Gakuria, Ministry of Higher Education.
Mr. J. D. Mambo, Ministry of Higher Education.
Mr. J. M. Githaiga, JKCAT.
Mr. Okaka, Deputy Principal, KTTC.

TEACHER TRAINING COLLEGES

Name	Student Population	Admission Requirement
1. Shanzu	709	'O' Level
2. Asumbi	650	'O' Level
3. Egoji	670	'O' Level
4. Eregi	815	'O' Level
5. Highridge	337	'O' Level
6. Kagumo	855	'O' Level
7. Kamwenja	760	'O' Level
8. Kaimosi	750	'O' Level
9. Kigari	580	'O' Level
10. Kisii	465	'O' Level
11. Kilimambogo	680	'O' Level
12. Kericho	900	'O' Level
13. Machakos	850	'O' Level
14. Meru	225	'O' Level
15. Mosoriot	1,100	'O' Level
16. Siriba	1,260	'O' Level
17. Thogoto	580	'O' Level
18. Kamagambo	330	'O' Level
TOTAL	12,526	

APPENDIX 4B—JOMO KENYATTA COLLEGE OF AGRICULTURE AND TECHNOLOGY

Course	Level of Entry	Level of Course	Duration of Course	Annual Intake		
				1980/81	1981/82	1982/83
1. General Agriculture	KCE	Diploma	3 years	30	30	30
2. Agricultural Engineering	KCE			20	20	20
3. Food Processing	KCE			20	20	20
4. Building Civil Engineering	KCE			20	20	20
5. Mechanical Engineering	KCE			20	20	20
6. Electrical Engineering	KCE			20	20	20
TOTAL				180	180	180

APPENDIX 4C—ECHO INSTITUTE OF AGRICULTURE

Course	Level of Entry	Level of Course	Duration of Course	Annual Intake		
				1980/81	1981/82	1982/83
1. General Agriculture	KCE	Certificate	2 years	150	150	150

APPENDIX 4D—BUREAU INSTITUTE OF AGRICULTURE

Course	Level of Entry	Level of Course	Duration of Course	Annual Intake		
				1980/81	1981/82	1982/83
1. General	KCE	Certificate	2 years	175	150	200

INSTITUTES OF AGRICULTURE AND ANIMAL HEALTH
MINISTRIES OF AGRICULTURE AND LIVESTOCK DEVELOPMENT)

APPENDIX 4a—EGERTON COLLEGE

COURSE	Level of Entry	Level of Course	Duration of Course	ANNUAL INTAKE		
				1980/81	1981/82	1982/83
FOR ALL COURSES						
1. General Agriculture ..	KCE/KACE	Diploma	3 years	23	22	38
2. Agriculture Education ..				22	34	37
3. Soil and Water Engineering ..				20	23	21
4. Farm and Power Machinery ..				20	19	21
5. Animal Husbandry ..				37	38	45
6. Animal Health ..				19	21	18
7. Horticulture ..				24	25	38
8. Farm Management ..				41	35	44
9. Dairy Technology ..				17	18	20
10. Food Science and Technology ..				17	20	23
11. Range Management ..				23	26	40
12. Agriculture and Home Economics ..				21	29	22
13. Wildlife Management ..				10	17	17
14. Ranch Management ..				8	16	16
TOTAL ..				402	353	400

APPENDIX 4b—JOMO KENYATTA COLLEGE OF AGRICULTURE AND TECHNOLOGY

COURSE	Level of Entry	Level of Course	Duration of Course	ANNUAL INTAKE		
				1980/81	1981/82	1982/83
1. General Agriculture ..	KCE	Diploma	3 years		30	30
2. Agriculture Engineering ..				26	26	
3. Food Processing ..				20	20	
4. Building Civil Engineering ..				44	44	
5. Mechanical Engineering ..				38	38	
6. Electrical Engineering ..				30	30	
TOTAL ..				188	188	

APPENDIX 4c—EMBU INSTITUTE OF AGRICULTURE

COURSE	Level of Entry	Level of Course	Duration of Course	ANNUAL INTAKE		
				1980/81	1981/82	1982/83
1. General Agriculture ..	KCE	Certificate	2 years	150	155	155

APPENDIX 4d—BUKURA INSTITUTE OF AGRICULTURE

COURSE	Level of Entry	Level of Course	Duration of Course	ANNUAL INTAKE		
				1980/81	1981/82	1982/83
1. General	KCE	Certificate	2 years	175	150	200

APPENDIX 4e—A.H.I.T.I

COURSE	Level of Entry	Level of Course	Duration of Course	ANNUAL INTAKE		
				1980/81	1981/82	1982/83
1. Animal Health	KCE	Certificate	2 years	121	180	120
2. Range Management ..	KCE			43	43	43
3. Hides and Skins Improvement				22	22	22
TOTAL				186	245	185

REMARKS—A.H.I.T.I., Ndomba now being built. To have an intake of 300 students.

KENYA INSTITUTE OF MASS COMMUNICATION

COURSE	Level of Entry	Level of Course	Duration of Course	ANNUAL INTAKE		
				1980/81	1981/82	1982/83
1. Senior Technician Trainee	KCE/KACE	Certificate	2 Years	89	90	90
2. Junior technical operators ..	KCE/KACE	Certificate	2 Years	10	12	12
3. Production Asst. T.V. ..	KACE	Certificate	2 Years	6	6	6
4. Production Asst. Radio ..	KACE	Certificate	2 Years	6	6	6
5. Information Asst. Course..	KACE	Certificate	2 Years	15	15	1
6. Film Production Courses;						
Camera	KACE			6	6	
Editing	KACE			6	6	
Sound	KACE			6	6	
Recordists	KACE			6	6	
Laboratory	KACE			6	6	
Technician	KACE			6	6	
TOTAL ..				150	153	115

UTAH COLLEGE

Course	Level of Candidate	Duration	Level of Course	YEARLY INTAKE		
				1980/81	1981/82	1982/83
Management Service (Food and Beverage)	KACE	4 years	Diploma	32	32	32
Front Office Operation	KCE	2 years	Certificate	96	96	96
Food Production	KCE	2 years	Certificate	40	40	40
House-Keeping and Laundry	KCE	2 years	Certificate	30	30	30
Travel Operations	KCE	2 years	Certificate	30	30	30
TOTAL				258	258	258

APPENDIX 7

TRAINING INSTITUTIONS UNDER THE DIRECTORATE OF PERSONNEL MANAGEMENT

Institution	Course	Level of Candidate	Level of Course	YEARLY INTAKE		
				1980/81	1981/82	1982/83
Kenya Institute of Administration, Lower Kabete, (DPM).	1. Social work	KACE	Diploma	22	25	
	2. Probation	KACE	Diploma	20	25	
			TOTAL	42	50	50
Government Training Institute, Mombasa.	1. Pre-Service Copy Typists	Mainly KCE	Certificate	30	30	
	1. Pre-Service Secretarial course.	KCE/KACE	Certificate	180	210	180
Kenya Government Secretarial College, Nairobi.	1. Pre-Service Copy Typists	KCE	KNE Council.	30	30	30
Matuga D.D. Centre, Kwale	1. Telecom. Technicians	KCE	Certificate	9	30	30
	2. Armourers	KCE	Certificate	—	20	20
	3. Mechanics	KCE	Certificate	16	20	20
Police Training Centre				25	70	70

REMARKS.—Prisons will have a share of 15 places each year.

ENROLMENTS IN EDUCATION
TABLE 2

Country	No. Enrolled in Primary School as % of Age Group						No. Enrolled in Sec. School as % of Age Group		No. Enrolled in Higher Educ. as % of Population aged 20-24		Adult Literacy Rate (%)	
	Total		Male		Female		1960	1977	1960	1977	1960	1975
	1960	1977	1960	1977	1960	1977	14W	24W	2W	4W	29W	38W
<i>Low Income Countries</i>	50W	77W	72W	90W	37W	64W	14W	24W	2W	4W	29W	38W
Ethiopia ..	7	26	11	95	3	64	()	8	()	()	28	10
India ..	61	80	80	75	40	50	20	28	3	6	28	36
Malawi ..	63	62	81	79	45	60	1	3	..	()	10	25
Tanzania ..	25	70	33	63	18	44	2	3	..	()	35	66
Uganda ..	49	53	65	47	32	44	3	7	()	1	13	..
Sudan ..	25	41	35	63	14	34	3	13	()	1	20	40
Kenya ..	47	104	64	110	30	98	2	17	()	1	6	10
Senegal ..	27	47	36	57	17	37	3	11	1	2	6	10
<i>Middle Income Countries</i>	81	97	87	100	74	93	17	40	4	11	54	71
Egypt ..	66	72	80	87	52	56	16	46	5	14	25	44
Ghana ..	38	74	52	84	25	64	5	29	()	1	27	30
Liberia ..	31	57	45	74	18	40	2	14	()	2	9	30
Zambia ..	42	95	51	104	34	87	2	16	..	2	68	84
Thailand ..	83	83	88	86	79	49	13	27	2	5	15	..
Nigeria ..	36	..	46	..	27	75	4	..	()	1	49	62
El Salvador ..	80	77	82	79	77	50	13	22	1	8	14	28
Morocco ..	47	68	67	86	27	50	5	17	1	4	14	28
Ivory Coast ..	46	92	68	115	24	69	2	17	()	2	5	20

ENROLMENTS IN EDUCATION—(Contd.)
TABLE 2

Country	No. Enrolled in Primary School as % of Age Group						No. Enrolled in Sec. School as % of Age Group		No. Enrolled in Higher Educ. as % of Population aged 20-24		Adult Literary Rate (%)	
	Total		Male		Female		1960	1977	1960	1976	1960	1975
	1960	1977	1960	1977	1960	1977	1960	1977	1960	1976	1960	1975
<i>Industrialized</i>												
Italy ..	111	105	112	105	109	105	34	73	7	27	91	90
United Kingdom ..	92	105	92	105	92	105	66	82	9	19	..	99
France ..	144	108	144	106	143	110	46	83	10	24	..	99
Canada ..	107	102	108	102	105	102	46	91	16	37	..	98
U.S.A. ..	118	94	..	..	..	..	86	93	32	56	98	99
Sweden ..	96	96	95	96	96	97	55	69	9	30	..	99

KEY: .. Not available.
(.) Less than half.
SOURCE.—World Development Report.

EDUCATIONAL EXPENDITURE—COMPARATIVE FIGURES BY COUNTRY

Country, Year and Currency	Total Expenditure (000)	Current Expenditure Amount (000) as % of Total	Capital Expenditure (000)	Total as % of GND	Total as of Public Expenditure
<i>Low Income Countries</i>					
Ethiopia, 1975 (Birr)	2127,990	112,859	15,131	2.3	—
India, 1970 (Rupee)	11,182,860	10,579,660	603,200	2.8	10.7
Malawi, 1975 (Kwacha)	13,052	11,992	1,060	2.0	9.6
Tanzania 1976 (Shilling)	982,000	727,900	254,100	4.4	15.5
Uganda, 1975 (Shilling)	603,323	4529,014	4439,624	3.2	10.0
Sudan, 1974 (Pound)	68,257	61,157	7,100	5.5	14.8
Kenya, 1974 (Shilling)	1,119,620	1,024,340	95,280	5.7	20.5
Senegal, 1970 (Franc C.F.A.)	9,000,000	8,800,000	200,000	3.9	21.3
<i>Middle Income Countries</i>					
Egypt, 1976 (Pound)	305,031	283,942	21,289	5.4	—
Ghana, 1976 (Cedi)	2380,038	293,102	86,936	4.2	—
Liberia, 1975 (Dollar)	13,866	—	—	2.4	—
Zambia, 1975 (Kwacha)	98,020	75,420	22,600	6.5	11.9
Thailand, 1976, (Baht)	13,175,524	8,732,955	4,442,569	4.1	20.8
Nigeria, 1975 (Naira)	601,795	326,361	275,434	4.3	—
El Salvador, 1975 (Coln)	196,896	182,715	14,181	3.7	23.3
Morocco, 1976 (Dirham)	2,472,914	1,801,546	671,368	6.5	15.6
Ivory Coast ³ (1976) Franc C.F.A.	71,988,000	61,888,000	10,000,000	6.5	15.6
<i>Industrialized Countries</i>					
Italy ⁹ , 1976 (Lira)	7,346,892	6,467,905	878,987	5.1	9.3
United Kingdom ⁹ 1976 (Pound Sterling)	7,849	7,132	717	6.1	14.3
France, 1976 (France C.F.A.)	96,665,000	54,439,300	4,421,300	5.8 ⁶	—
Canada, 1977 (Dollar)	16,721,589	14,994,978	1,726,611	8.0	33.2
U.S.A. ⁹ 1976 (Dollar)	110,700	100,300	10,400	6.0	17.7
Sweden, 1977 (Krona)	30,350,300	26,441,200	3,909,100	8.7	13.1

KEY—2—Not including Expenditure for Universities.

3—Including Foreign Aid.

4—Expenditure of the Ministry of Education only.

6—As % of G.D.P. at Market Prices.

9—Figures in millions.

SOURCE—UNESCO, Statistical Year Book, 1978/79.

PUBLIC NOTICE

The Second University Working Party will be holding public interviews in Nairobi during the first two weeks of May. Individuals, members of organizations, Government Ministries and Departments stated here below in general who are interested in being interviewed should report to the Secretariat's Offices, at Agriculture House (at the junction of Moi and Harambee Avenues) on 7th floor as specified below:

Day	Date	Time	Individual/Organization/Ministries/Depts.
Monday ..	4th May	9.00 a.m. to 12.30 p.m.	The University Community (Faculty members, Deans and the Executive members of the Senior Common Room).
		2.00 p.m. to 3.00 p.m.	University Women Association and the student leaders or their representatives.
Tuesday ..	5th May	9.00 a.m. to 12.30 p.m.	The Kenyatta University Community (Faculty members, Deans and the student leaders).
		2.00 p.m. to 3.30 p.m.	The Post-Secondary Institutions in Nairobi (Kenya Science Teachers College, Kenya Technical Teachers College, Water Training School, Kenya School of Law, etc.).
Wednesday	6th May	9.00 a.m. to 12.30 p.m.	All professional Associations such as the Institute of Engineers, Medical and Dentists Boards, the Law Society, etc.).
		2.00 p.m.	All religious organizations (National Christian Council of Kenya, Catholic Secretariat, Islamic Association, etc.).
Thursday ..	7th May	9.30 a.m. 12.30 p.m.	Government Ministries. Departments.
Friday ..	8th May	9.30 a.m. to 12.30 p.m.	Government Ministries and Departments (Kenya Institute of Administration and Kenya Institute of Education included).
Monday ..	11th May	9.30 a.m. to 12.30 p.m.	Government Ministries and Departments.
		2.00 p.m.	Parastatal Organizations such as Kenya Academy for Advancement of Arts and Sciences, Kenya Agricultural Research, Kenya National Examinations Council, Coffee Board of Kenya, Kenya Tea Development Authority, Cotton Lint and Seed Marketing Board, etc.).
Tuesday ..	12th May	9.30 a.m.	Other organizations (Kenya National Union of Teachers, Federation of Kenya Employers, Kenya National Chamber of Commerce, Kenya Association of Manufacturers, Shell Company, Central Organization of Trade Unions, etc.).
		2.00 p.m. to 3.30 p.m.	Local Government Representatives.
Wednesday	13th May	9.30 a.m. to 12.30 p.m.	Individuals (any other individuals apart from the above).
Thursday	14th May	9.30 a.m. to 12.30 p.m.	Individuals.