

10. THE EDUCATION AND EMPLOYMENT

The 8:4:4 system was expected to provide different opportunities to students graduating at various levels. After KCPE examinations which are taken on completion of standard 8, the candidates have the option of continuing to secondary school or going into employment such as craft apprenticeship become artisans.

For those who join secondary school, upon graduation they could either proceed to the university for an undergraduate degree, join diploma colleges or other colleges offering professional courses or seek employment. Those graduating from the university could opt for employment or further education. (See Chart IV).

Basic education generally prepares the youth for employment or self-employment in so far as it equips them with the literacy, numeracy and problem solving skills. The basic cognitive, communication and social skills that they acquire in school are essential as a minimum preparation for full participation in society. Primary and secondary education also provide a foundation upon which further education and training can be built. Traditional crafts and trades, are also based on such a foundation. The primary tasks of basic education i.e. primary and secondary education should therefore be to prepare students for post-school occupational training.

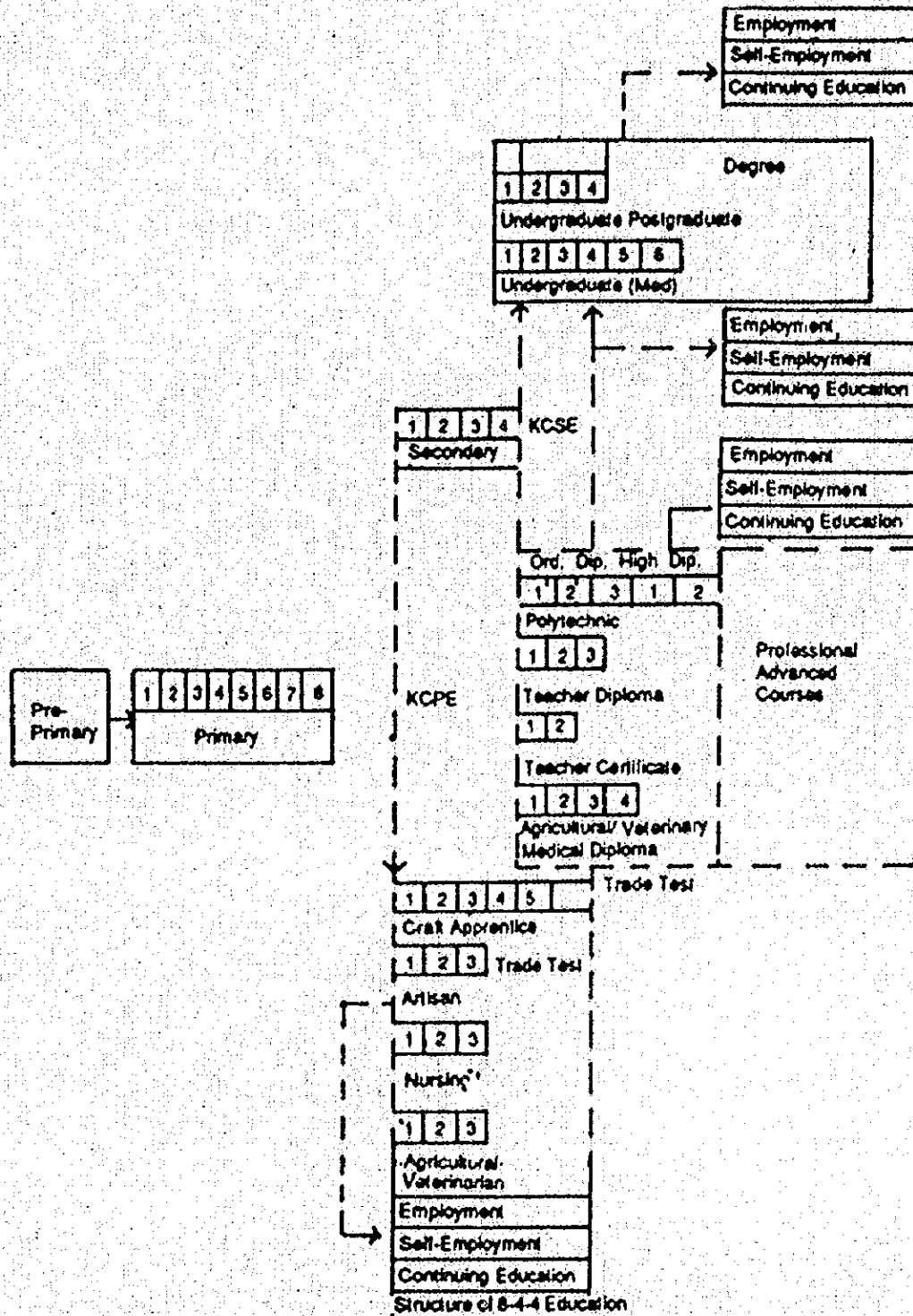
The 8:4:4 education system is supposed to lay emphasis on technical and vocational education. It is also aimed at ensuring that the students graduating at every level have some scientific and practical knowledge that can be utilised for either self employment, salaried employment or further training.

Prior to the introduction of the 8:4:4 system, the country had launched a number of vocational/technical programmes intended to prepare students for the world of work. These included the former technical secondary schools, the agricultural principles and practices course in secondary schools, industrial education and related courses. Evaluations carried out on these programmes seemed to conclude that they were very expensive, not cost-effective, and were not serving the purposes for which they were created. The assumption that prevocational skills taught at school would improve the employability of school leavers could not be established.

These findings were supported by, for instance the report of the National Committee on Educational Objectives and Policies (NCEOP) of 1976. The report notes that although the objective of introducing agriculture was to motivate young people towards agricultural activities in view of the heavily agricultural nature of Kenya's economy, it had become increasingly evident that the study of agriculture had come to be regarded, by the students, as being a purely academic exercise for obtaining a certificate rather than as having anything to do with preparation in agricultural skills and motivation towards agricultural activities. Students' attitudes have not changed and they still perceive white

CHART (IV)

The Structure of the 8-4-4 System of 1985



Source: Ministry of Education, Science and Technology, 8-4-4 system of Education, Nairobi, Government Printer, 1 December, 1984.

collar jobs as more lucrative or more financially rewarding occupations than working on farms.

During our survey, 58% of the heads of schools however rated the 8:4:4 system as being effective in preparing pupils for formal employment. The main reason advanced for this was that the system equipped the student with enough "theory" to apply at work. However, they also noted that the students needed a lot of on-the-job training and maturing to work effectively.

Research on the employability of school leavers from the 8:4:4 system is not quite extensive, but what has been carried out so far seems to reach similar conclusions. Although we only received questionnaires from a very small sample of employers, over 60% of the respondents felt that the 8:4:4 has not met the self-employment, formal employment or further education objectives. The respondents felt that the curricula was too wide and allowed little time for students to understand concepts. As a result, most students passed the examination by merely memorising various concepts. Secondly they felt that the shortage of facilities has meant that the practical subjects are taught "theoretically" with little relevance to practical applications. As a result students graduating at any one level were not well equipped for formal employment or self employment.

EVALUATION OF THE JOCV PROGRAMME

11. EVALUATION OF THE JOCV PROGRAMME

11.1. Introduction

Our terms of reference required us to evaluate the JOCV programme. The objective of the JOCV programme is to promote and assist the overseas activities of youth whose primary purpose is to cooperate in unity with the people of developing areas in economic and social development of those areas.

The JOCV programme has been active in Kenya since 1966 and covers many sectors including education, agriculture, manufacturing, health, culture and sports, among others. In this report, we only deal with the JOCV programme which provides science and mathematics teachers to schools. Currently there are 15 volunteers who are spread throughout Kenya.

We visited and interviewed a sample of JOCVs teaching science and mathematics in secondary schools. For the others who were not visited, we sent questionnaires to them to complete. In addition, heads of schools, which had JOCVs as well as some teachers and students were interviewed during the visits. It should be noted that of all the volunteers who were contacted, only two had been in the country for more than 3 months.

11.2. Programme Benefits

The JOCV programme was rated as a beneficial programme. The heads of schools with JOCVs appreciated the programme. They all felt that the volunteers were technically qualified in their subject areas and had the ability to quickly fit in the Kenyan system. The students were appreciative of the fact that they had a teacher while the other teachers were happy that their workload had been reduced by the participation of the JOCVs.

The heads of schools interviewed also felt that the JOCV programme fits in well with the current government objective of providing teachers to all schools. As there is a definite shortage of science and mathematics teachers countrywide, the JOCV is meeting a need. It will also take some time for the government to close the gap between demand and supply of science teachers and therefore JOCVs have a role to play even in the foreseeable future. Most schools where the JOCVs are sent are located in the remote areas and it is difficult to get good local teachers who would like to teach in those schools. Once volunteers are sent to schools, the Headteachers were reluctant to let them go and in most cases sought ways to renew their contracts or to get replacements.

11.3. Factors Affecting the JOCV Programme

- ◆ From our survey, many heads of schools were not aware of JOCV programme. The schools were keen to have JOCVs once they became aware of the existence of the programme. For example, in Kitonyiri Secondary School in Machakos, when the head teacher became aware of the programme and of the procedures to be followed in requesting for volunteers, he made a follow up and a volunteer was dispatched to the school.
- ◆ The JOCVs and other teachers who were interviewed generally felt that for the programme to have a significant impact, more volunteers should be sent out to schools.
- ◆ It was also suggested that JOCVs should be sent to the Teacher Training Colleges to train science teachers. However, we understand that the Training Institutions would require experts of a higher level than JOCVs and it would therefore be more appropriate to send JICA experts to the TTCs.
- ◆ Although the volunteers visited did not have problems in working together with the head teachers, we were made aware that in some cases, JOCVs had experienced difficulties in working in some schools especially when they attempted to expose some malpractices. Our overall assessment was that volunteers shared common goals with the head teachers and were happy to teach in the schools assigned.
- ◆ From the responses received, the JOCVs felt that the impact of the programme was affected by the following:
 - *Lack of text books:* Unavailability of adequate textbooks was cited as a major problem.
 - *Inadequate workshops and laboratory equipment:* In all schools visited, learning resources were largely inadequate. Workshops, home science rooms, laboratory equipment and tools and even consumable such as, chemicals were inadequate or non-existent. The teaching was therefore more theoretical than practical
 - *Lack of basic facilities:* Lack of facilities such as clean water for experiments makes it difficult to teach science subjects.
 - *Curriculum:* The volunteers also felt that the curriculum was too tight. They have to teach a wide range of subjects and topics in a fairly short time.
 - *Number of students per class:* There were normally too many students per class and it therefore difficult to give individual attention to the weak students.

- *Lack of aspiration among the students:* An opinion was expressed that as there are very limited opportunities for entering universities, some students in the remote areas believe that they will not make it to the university and are usually demotivated and do not work hard.
- *Language:* Most volunteers initially have a language problem which reduces their effectiveness in the early part of their attachment. However, this problem was overcome within a relatively short time in most cases.
- *Lack of technical know-how in using equipment provided by the JOCV programme.* The volunteers expressed concern that not many teachers knew how to use the equipment provided by the programme. Storage of the equipment was also of general concern due to the possibility of theft.

11.4. Specific Recommendations for the JOCV Programme

Based on suggestions made by survey participants we recommend that:

- JICA should consider providing more JOCVs to teach science and mathematics especially in remote or disadvantaged areas;
- through Grant Aid, JICA should provide financial assistance for procurement and maintenance of science kits and equipment to schools;
- JICA should, through technical assistance, train the locals on how to use these equipment;
- for participants to be selected for training in Japan, they must have some knowledge of the Japanese language;
- the JOCVs should spend at least 2 months in Kenya so that they can familiarise themselves with the country and the education system and to practice speaking English before being posted to schools. The volunteers feel that this is necessary because some scientific words were too difficult to translate;
- the JOCV programme should be publicised so that more schools could take advantage of the programme;
- Volunteers should continue to meet regularly to share experiences on how to improve teaching methods etc;
- the JOCV programme could be extended to primary schools to provide teachers in mathematics, science and specialised subjects in the upper classes (std 7-8);

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- the JOCV programme should be extended to the special education to teach the visually impaired, hearing impaired, the dumb, the mentally handicapped as well as those with multiple disabilities. This should cover both teaching as well as helping the students improve their abilities. The programme could also include training of teachers in special education.

CONCLUSIONS AND RECOMMENDATIONS

12. CONCLUSIONS AND RECOMMENDATIONS

12.1. Conclusions

- ◆ The survey, as well as documented research, revealed an acute shortage of physical facilities and other learning resources in nearly all educational institutions. The most affected were primary schools where science laboratories, workshops, home science rooms, classrooms, libraries and text books were either inadequate or non-existent in some cases.
- ◆ Secondary schools, and especially those that were formerly harambee schools, have also been unable to obtain funds to significantly improve teaching facilities.
- ◆ It is not possible to teach students skills in practical subjects and sciences without appropriate resources. However, the majority of schools do not have adequate facilities due to lack of financial resources. Some of them are now opting not to offer some subjects because they do not have the facilities required to teach them.
- ◆ For both primary and secondary school education, it is evident that the extent to which the objectives are achieved is minimal.
- ◆ The donor communities have supported various institutions in the education sector. Major efforts are currently focused on the educational development of ASAL areas. However, although no evaluations have been made, the impact is not likely to be very significant as these areas still lag far behind in terms of enrolments and of teaching facilities.
- ◆ Although research on employability of school leavers from the 8:4:4 system is not extensive, preliminary analysis tends to indicate that graduates from the 8:4:4 system are not well prepared for formal and informal employment.
- ◆ Available data shows that there are no significant gender disparities in the education system. However, there are still acute regional disparities. The disparities mainly are as a result of the historical development of the country and from the different levels of endowments of different regions.
- ◆ There are still major problems in the education sector in Kenya and JICA could contribute towards the improvement of the education system by developing assistance programmes which aim at providing better physical and learning facilities in the primary and secondary sectors.

12.2. Recommendations

Below, we recommend areas in which JICA could assist Kenya in the area of basic education. The JICA projects should be designed to cover the following activities:

- provision of school equipment and especially laboratory science kits and workshop equipment; through Grant Aid;
- through technical cooperation, train the local personnel on how to use and maintain these equipment;
- construction of workshops, classrooms and science laboratories through Grant Aids and on a cost-sharing basis with the parents and the community;
- provision of basic facilities such as clean water to schools;
- provision of text books especially to the ASAL and disadvantaged areas and former harambee schools;
- focusing attention on the former harambee schools so as to bridge the gap between them and the formerly government assisted secondary schools;
- improvements in the calibre and quality of teachers through Technical Cooperation;
- improvements in teacher training capacity by providing technical training and assistance to KSTC and the KTTC.
- providing assistance in improving teaching methodology by dispatching experts from Japan to teach Training of Trainers (ToT);
- JICA should incorporate in the JOCV programme a programme whereby Kenya science and mathematics teachers could go to Japan to learn or to develop Training of Trainers skills in science subjects;
- facilitation of seminars and other training programmes (in country or third country training) for technical subject teachers;
- developing and implementing training programmes for school inspectors on management and monitoring of schools;
- JICA could send advisors to the Ministry of Education to advise on inspection and management of schools and also review of the curriculum;

- provision of transport facilities - motor cycles, or motor vehicles to school inspectors to enable them to carry out their duties more effectively.
- include seminars for the parents especially in ASAL areas to sensitise them in the importance of education;
- organising seminars for the parents of the disabled children to help them cope with the special problems which are associated with disabilities and to inform them about the type of programmes available for the disabled and how they could benefit from them;

We also recommend that the JICA programmes should be publicised so that more schools and institutions could take advantage of them.

12.3. Priority Areas

From our survey, it was quite evident that most public primary and secondary schools in the country do not have adequate facilities or resources to provide quality education to the Kenyan youth. However, it is unlikely that any one donor community could be able to sufficiently address all the problems in these schools. JICA is no exception. We would however recommend that its future programmes should give priority to the following areas where the resource gap is extremely wide:

i) ASAL and Disadvantaged Areas

JICA could provide assistance in form of school equipment, assistance in building classrooms and assistance through posting of JOCVs to more schools in the ASAL areas. We believe that without equipment, the JOCVs will not be effective.

ii) Former Harambee Schools

This is also another area where there is a large resource gap. JICA should consider the possibility of assisting these schools by providing them with equipment and especially laboratory equipment. Additional support could be provided in the construction of school buildings - classrooms, laboratories and workshops. However, this type of support should be on a "cost sharing basis" with parents and the local communities meeting some of the costs.

iii) Teachers Training Facilities

Project type assistance for KSTC and KTTC should be considered. We strongly recommend that the assistance should also include developing the skills of trainees in maintenance of school equipment.

iv) Management of Schools

We also recommend that development of training programmes for school inspectors be included in this list of priority activities. Programmes in this area could include dispatch of experts as advisers, as well as Group Training in Japan.

APPENDICES

APPENDIX I - SUMMARY OF SURVEY FINDINGS

Raw Scores

Availability of Resources And Facilities - Primary Schools

	Yes	No
Permanent Classrooms	172	35
Library	26	161
Clean Water	113	94
Toilets	175	32
Playground	163	44
Health Facilities	19	188
Transport	7	200
Lighting	36	171
Text Books	106	101
Exercise Books	47	160
Teacher's Handbook	123	84
Blackboards	195	12
Dusters	78	129

	Yes	No
Chalk	131	76
Workshop	78	129
Home Science Room	56	151
School Farm	113	94
Science Labs	8	199
Tools - Equipment	44	163

Difficulties With Completing 8-4-4 Curricula And Syllabus

Complete Curricula 8-4-4	185	22
Complete Syllabus 8-4-4	161	26

Comparing 8-4-4 Problems With 7-4-2-3

Similar to 7-4-2-3 Curricula	21	186
Similar To 7-4-2-3 Syllabus	26	181

Relevance Of 8-4-4

8-4-4 Relevant To Needs	148	59
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Total Responses 207

Percentages

Availability of Resources And Facilities - Primary Schools

	Yes	No
Permanent Classrooms	83.09%	16.91%
Library	12.56%	87.44%
Clean Water	54.59%	45.41%
Toilets	84.54%	15.46%
Playground	78.74%	21.26%
Health Facilities	9.18%	90.82%
Transport	3.38%	96.62%
Lighting	17.39%	82.61%
Text Books	61.21%	48.79%
Exercise Books	22.71%	77.29%
Teacher's Handbook	59.42%	40.58%
Blackboards	94.20%	5.80%
Dusters	37.68%	62.32%

	Yes	No
Chalk	63.29%	36.71%
Workshop	37.68%	62.32%
Home Science Room	27.06%	72.94%
School Farm	64.59%	45.41%
Science Labs	3.86%	96.14%
Tools -Equipment	21.26%	78.74%

Difficulties With Completing 8-4-4 Curricula And Syllabus

Complete Curricula 8-4-4	89.37%	10.63%
Complete Syllabus 8-4-4	87.44%	12.56%

Comparing 8-4-4 Problems With 7-4-2-3

Similar to 7-4-2-3 Curricula	10.14%	89.86%
Similar To 7-4-2-3 Syllabus	12.56%	87.44%

Relevance Of 8-4-4

8-4-4 Relevant To Needs	71.50%	28.50%
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Total Response: 207

Raw Scores

Primary School Analysis

Adequacy Of Facilities Resources

	V.Adequate	Adequate	Inadequate	V. Inadequate	No Response
Physical Facilities	3	21	143	40	0
Teaching Resources	1	23	118	53	1

Staffing Situation

Using Untrained Teachers	83
More Teachers Needed	144

Drop Out Rates

Responses	0 - 10 %	11 - 20 %	21 - 30 %	31 - 40 %	41 - 60 %	> 50 %
	135	31	16	4	1	19
Increased With 8-4-4	98	Decreased With 8-4-4		23		

Most Affected

Boys:	60	Girls:	93	Both:	29
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Effectiveness of 8-4-4

	Very Effective	Effective	Not Effective	No Response
Self-Employment	31	63	82	31
Formal Employment	8	52	79	68
Further Education	11	57	68	71

Cost Sharing

Parent Contribution 60% and over	97			
	Positive	Negative	Not at all	No Response
Cost Sharing Effect	47	149	6	5

Total responses **207**

Percentages

Primary School Analysis

Adequacy Of Facilities Resources

	V. Adequate	Adequate	Inadequate	V. Inadequate
Physical Facilities	1.46%	10.14%	69.08%	19.32%
Teaching Resources	0.49%	11.17%	57.28%	30.58%

Staffing Situation

Using Untrained Teachers	40.10%
More Teachers Needed	69.57%

Drop Out Rates

Responses	0 - 10 %	11 - 20 %	21 - 30 %	31 - 40 %	41 - 50 %	> 50 %
Responses	71.81%	16.49%	7.98%	2.13%	0.63%	1.06%
Increased With 8-4-4	80.99%		Decreased With 8-4-4		19.01%	

Most Affected

Boys:	32.97%	Girls:	51.10%	Both:	6.93%
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Effectiveness of 8-4-4

	Very Effective	Effective	Not Effective
Self-Employment	17.61%	36.80%	46.59%
Formal Employment	5.76%	37.41%	56.83%
Further Education	8.09%	41.91%	50.00%

Cost Sharing

Parent Contribution 60% and over	51.32%		
Cost Sharing Effect	Positive	Negative	Not at all
	23.27%	73.76%	2.97%

Total responses **207**

Raw Scores

Availability of Resources And Facilities - Secondary Schools

	Yes	No
Permanent Classrooms	133	6
Library	63	86
Clean Water	97	42
Toilets	127	12
Playground	111	28
Health Facilities	29	111
Transport	46	93
Lighting	100	39
Text Books	108	31
Exercise Books	114	25
Teacher's Handbook	107	32
Blackboards	133	6
Dusters	130	9

	Yes	No
Chalk	133	6
Workshop	40	99
Home Science Room	56	83
School Farm	87	52
Science Labs	110	29
Tools -Equipment	68	71

Difficulties With Completing 8-4-4 Curricula And Syllabus

Complete Curricula 8-4-4	114	25
Complete Syllabus 8-4-4	118	21

Comparing 8-4-4 Problems With 7-4-2-3

Similar to 7-4-2-3 Curricula	34	105
Similar To 7-4-2-3 Syllabus	36	104

Relevance Of 8-4-4

8-4-4 Relevant To Needs	103	36
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Total Responses 139

Percentages

Availability of Resources And Facilities - Secondary Schools

	Yes	No
Permanent Classrooms	95.68%	4.32%
Library	38.13%	61.87%
Clean Water	69.76%	30.22%
Toilets	91.37%	8.63%
Playground	79.86%	20.14%
Health Facilities	20.14%	79.86%
Transport	33.09%	66.91%
Lighting	71.94%	28.06%
Text Books	77.70%	22.30%
Exercise Books	82.01%	17.99%
Teacher's Handbook	76.98%	23.02%
Blackboards	95.68%	4.32%
Dusters	93.53%	6.47%

	Yes	No
Chalk	95.68%	4.32%
Workshop	26.78%	71.22%
Home Science Room	40.29%	59.71%
School Farm	62.69%	37.41%
Science Labs	79.14%	20.86%
Tools - Equipment	48.92%	51.08%

Difficulties With Completing 8-4-4 Curricula And Syllabus

Complete Curricula 8-4-4	82.01%	17.99%
Complete Syllabus 8-4-4	84.89%	15.11%

Comparing 8-4-4 Problems With 7-4-2-3

Similar to 7-4-2-3 Curricula	24.46%	75.54%
Similar To 7-4-2-3 Syllabus	25.18%	74.82%

Relevance Of 8-4-4

8-4-4 Relevant To Needs	74.10%	25.90%
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Total Response.

139

Raw Scores

Secondary School Analysis

Adequacy Of Facilities Resources

	V. Adequate	Adequate	Inadequate	V. Inadequate	No Response
Physical Facilities	7	30	63	17	2
Teaching Resources	10	40	71	16	2

Staffing Situation

Using Untrained Teachers	114
More Teachers Needed	98

Drop Out Rates

Responses	0 - 10 %	11 - 20 %	21 - 30 %	31 - 40 %	41 - 50 %	> 50 %
	89	33	8	0	1	0

Increased With 8-4-4	44	Decreased With 8-4-4	13
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Most Affected

Boys:	36	Girls:	73	Both:	9
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Effectiveness of 8-4-4

	Very Effective	Effective	Not Effective	No Response
Self-Employment	19	56	55	9
Formal Employment	11	69	38	21
Further Education	12	58	61	18

Cost Sharing

Parent Contribution 60% and over	89			
	Positive	Negative	Not at all	No Response
Cost Sharing Effect	31	82	22	4

Total responses 139

Based upon mixed Schools only (i.e. with both boys and girls)

APPENDIX II - TABLES

Secondary School Analysis

Adequacy Of Facilities Resources

	V. Adequate	Adequate	Inadequate	V. Inadequate
Physical Facilities	5.11%	21.90%	60.58%	12.41%
Teaching Resources	7.30%	29.20%	51.82%	11.68%

Staffing Situation

Using Untrained Teachers	82.01%
More Teachers Needed	70.50%

Drop Out Rates

	0 - 10 %	11 - 20 %	21 - 30 %	31 - 40 %	41 - 50 %	> 50 %
Responses	67.94%	25.19%	6.11%	0.00%	0.76%	0.00%
Increased With 8-4-4	77.19%		Decreased With 8-4-4		22.81%	

Most Affected

Boys:	31.03%	Girls:	53.45%	Both:	5.52%
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Effectiveness of 8-4-4

	Very Effective	Effective	Not Effective
Self-Employment	14.62%	43.08%	42.31%
Formal Employment	9.32%	58.47%	32.20%
Further Education	9.92%	47.93%	42.15%

Cost Sharing

Parent Contribution 60% and over	66.42%		
Cost Sharing Effect	Positive	Negative	Not at all
	22.96%	60.74%	16.30%

Total responses **139**

EXPENDITURE OF THE MINISTRY OF EDUCATION, 1991/92 - 1994/95

Table 15.3

	KEmillion			
	1991/92	1992/93	1993/94*	1994/95**
RECURRENT EXPENDITURE-				
General Administration and Planning	42.70	55.14	45.00	1,063.53
Pre-Primary Education	0.07	0.08	0.78	0.17
Primary Education	348.36	393.95	551.22	2.26
Secondary Education	98.30	122.14	168.08	16.03
Technical Education +	7.22	5.11	5.38	8.92
Teacher Training + +	12.87	16.14	17.16	8.45
Special Education	5.14	5.60	6.91	1.70
Polytechnic Education +	9.70	4.53	5.82	6.53
Higher Education***	97.93	125.04	142.04	203.73
Miscellaneous	2.49	1.55	2.98	4.04
TOTAL	625.38	730.88	935.40	1,305.42
DEVELOPMENT EXPENDITURE-				
General Administration and Planning	1.08	12.67	15.64	29.23
Pre-Primary Education	0.83
Primary Education	3.60	1.33	0.69	3.31
Secondary Education	5.16	2.89	3.12	2.96
Technical Education +	0.81	0.04	0.05	6.14
Teacher Training + +	20.23	14.66	16.00	37.64
Special Education	0.54	0.43	0.25	3.27
Polytechnic Education +	0.26	0.34	0.06	1.52
Higher Education***	23.54	34.03	19.81	39.85
Miscellaneous
TOTAL	55.82	66.39	64.62	124.76
TOTAL RECURRENT & DEVELOPMENT EXPENDITURE	681.20	797.27	990.02	1,430.17

* Provisional.

** Estimates including supplementaries.

*** Includes expenditure on Universities of Nairobi, Moi, Kenyatta, Jomo Kenyatta University of Agriculture & Technology and Egerton.

+ Currently under the Ministry of Technical Training and Applied Technology.

+ + Includes Expenditure on Kenya Technical Teachers College

Table (ii)

DROP-OUT RATES : SECONDARY AND PRIMARY SCHOOLS

Region	Sum of At School	Sum of Left School	Total	Drop-out Rate
BARINGO	98,647	7,399	106,246	6.96%
BUNGOMA	208,838	22,938	231,776	9.90%
BUSIA	107,117	15,111	122,228	12.36%
EMBU	116,019	13,937	129,956	10.72%
GARISSA	10,970	1,532	12,502	12.25%
ISIYOLO	11,451	2,200	13,651	16.12%
KAJIADO	44,543	8,978	53,521	16.77%
KAKAMEGA	431,671	55,622	487,293	11.41%
KENYA	5,806,414	807,803	6,614,217	12.21%
KIAMBU	265,081	42,253	307,334	13.75%
KILIFI	120,220	19,290	139,510	13.83%
KIRINYAGA	119,962	17,119	137,081	12.49%
KISII	377,929	34,576	412,505	8.38%
KISUMU	187,296	30,254	217,550	13.91%
KITUI	185,991	19,853	205,844	9.64%
KWALE	72,267	13,960	86,227	16.19%
LAIKIPIA	60,137	8,110	68,247	11.88%
LAMU	13,268	2,411	15,679	15.38%
MACHAKOS	445,486	43,732	489,218	8.94%
MANDERA	10,149	1,221	11,370	10.74%
MARSABIT	14,363	2,003	16,366	12.24%
MERU	314,702	43,620	358,322	12.17%
MOMBASA	82,798	25,483	108,281	23.53%
MURANG'A	286,126	32,349	318,475	10.16%
NAIROBI	221,981	75,392	297,373	25.35%
NAKURU	237,823	38,242	276,065	13.85%
NANDI	132,941	14,438	147,379	9.80%
NYANDARUA	109,133	14,383	123,516	11.64%
NYERI	202,293	22,266	224,559	9.92%
SAMBURU	11,980	1,975	13,955	14.15%
SIAYA	188,470	26,984	215,454	12.52%
SOUTH NYANZA	306,265	43,336	349,601	12.40%
TANA	23,564	3,285	26,849	12.24%
TAVETA	60,407	8,572	68,979	12.43%
TURKANA	14,027	2,462	16,489	14.93%
WAJIR	9,226	879	10,105	8.70%
WEST POKOT	35,201	6,278	40,479	13.04%
Grand Total	10,944,956	1,529,246	12,474,202	12.26%

ENROLMENT IN SECONDARY SCHOOLS BY FORM AND SEX, 1990 - 1994

Table 15.6

Numbers

Form	1990		1991		1992		1993		1994*	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Form 1	95,079	74,992	95,511	76,128	97,267	78,081	81,543	69,660	90,774	78,140
Form 2	91,482	69,615	89,181	70,651	91,209	72,774	73,125	61,158	87,993	76,549
Form 3	83,334	60,172	82,749	64,139	84,429	66,189	72,647	55,467	79,067	66,328
Form 4	82,800	59,987	78,347	57,457	80,467	58,648	67,881	49,961	78,605	62,383
TOTAL	353,695	264,766	345,788	268,373	353,372	275,690	295,196	238,146	336,439	283,400
GRAND										
TOTAL	618,461		614,161		629,062		531,342		619,839	

* Provisional.

Table (iv)

Primary School Statistics: 1971-1988

Year	Number of Schools	Enrolment	Teachers	Trained	Untrained	% No. of Trained Teachers	Pupil: Teacher Ratio	Pupil: Trained Teacher Ratio
1971	6,372	1,525,000	49,396	36,617	12,779	74.1	31	42
1972	6,657	1,676,000	54,536	41,599	11,937	77.7	31	40
1973	6,932	1,816,000	56,543	43,925	12,618	77.7	32	42
1974	7,706	2,706,000	78,340	52,132	26,208	66.5	35	53
1975	8,161	2,881,000	86,107	54,832	31,284	63.7	33	53
1976	8,544	2,895,000	89,074	56,145	32,929	63.0	33	52
1977	8,896	2,975,000	89,764	59,640	30,124	66.4	33	50
1978	9,349	2,915,000	92,046	63,912	28,134	69.4	33	47
1979	9,622	3,698,000	92,762	68,361	24,401	73.7	50	54
1980	10,255	3,917,000	102,452	72,017	30,435	70.3	38	54
1981	11,127	4,134,000	110,991	73,499	37,412	66.3	37	56
1982	11,497	4,185,000	115,094	80,664	34,430	70.1	36	52
1983	11,856	4,324,000	119,776	84,036	35,740	70.2	36	51
1984	12,539	4,380,000	122,763	86,135	36,628	70.2	36	51
1985	12,936	4,702,000	138,375	96,586	41,789	69.8	34	49
1986	13,392	4,843,000	142,807	99,680	43,127	68.8	34	49
1987	13,849	5,031,000	149,151	104,400	44,751	70.0	34	48
1988	14,288	1,523,000	155,694	108,424	47,270	69.6	34	47

Source: CBS. Social Indicators: Selected Data on Social Conditions in Kenya, 1985 and Economic Survey, various issues.

Number of Teachers in Kenyan Secondary
Schools, 1971-1990

Year	Trained	Untrained	Total	% Untrained
1971	3,907	2,464	6,371	39
1972	4,469	2,637	7,106	37
1973	4,750	2,638	7,388	36
1974*	5,192	2,812	8,004	35
1975				
1976	6,460	4,978	11,438	44
1977	6,727	5,969	12,696	47
1978	7,309	6,887	14,286	48
1979	7,565	7,336	14,901	49
1980	8,229	7,687	15,916	48
1981	8,916	8,110	17,026	48
1982	8,277	8,571	16,848	51
1983	8,797	10,163	18,960	54
1984	10,729	8,648	19,368	45
1985	12,552	9,160	21,712	42
1986	13,263	9,033	22,296	41
1987	14,949	9,302	24,251	38
1988	16,611	9,290	25,901	36
1989	17,139	10,917	28,056	39
1990	19,431	11,190	30,621	37

Provisional

Sources: Kenya Statistical Abstract 1972-1990 Economic Surveys, 1972-1991.

Copy of Statistics Section of 1993

PRIMARY SCHOOL TEACHERS BY QUALIFICATION AND DISTRICT IN 1993

District	TRAINED TEACHERS										UNTRAINED TEACHERS							Grand Total	
	Graduated & Approved	Diploma/ ST	P1	P2	P3	P4	Others	Total	Graduate in	Diploma	A-Level	O-Level	KCSE	KUSE	CPE	KCPE	Others		Total
Adama	7	80	1,123	258	107	2	5	1,570	0	1	28	273	84	14	2	2	2	343	1,913
Bahr el Jebel	6	80	1,737	485	172	0	16	2,500	0	1	41	287	315	80	18	1	5	782	3,270
Bahr el Jebel	4	22	377	127	74	0	0	600	0	8	8	150	96	14	3	1	1	271	876
Bahr el Jebel	3	13	251	150	24	0	12	455	0	4	4	57	30	1	0	0	4	96	561
Bahr el Jebel	12	57	1,299	290	190	0	16	1,824	4	2	46	451	137	24	29	3	4	709	2,532
Bahr el Jebel	44	109	311	225	101	2	16	1,008	4	2	36	161	30	2	1	4	4	240	1,648
Bahr el Jebel	16	179	2,250	482	144	1	7	3,089	0	0	98	177	86	17	13	3	2	389	3,488
Bahr el Jebel	50	442	3,698	1,198	376	0	7	5,640	0	0	72	72	45	9	2	1	2	201	6,843
Bahr el Jebel	18	200	2,077	563	195	12	6	3,081	4	1	68	219	67	15	2	2	2	378	3,457
Bahr el Jebel	50	444	4,519	1,504	434	3	8	6,967	4	1	150	404	71	39	9	5	5	671	7,638
Bahr el Jebel	60	371	3,680	1,326	432	29	27	5,908	1	1	176	228	71	13	13	1	1	417	6,353
Bahr el Jebel	10	44	290	40	12	0	4	373	0	3	5	5	6	1	1	2	1	12	280
Bahr el Jebel	28	221	2,470	1,231	609	11	24	5,594	0	4	173	797	451	186	84	9	3	1,708	7,302
Bahr el Jebel	8	147	2,300	786	411	3	24	4,312	0	2	100	1,225	452	117	30	9	16	1,965	6,276
Bahr el Jebel	19	176	2,317	804	259	2	0	3,247	0	0	42	145	68	18	6	0	0	279	3,526
Bahr el Jebel	28	326	3,764	1,262	402	4	27	6,022	12	1	210	627	281	177	26	7	1	1,441	7,288
Bahr el Jebel	5	27	341	129	82	0	9	600	0	2	6	19	11	8	8	1	5	152	665
Bahr el Jebel	2	11	249	74	66	0	6	368	0	0	1	64	17	0	0	0	0	74	489
Bahr el Jebel	19	187	3,053	1,141	517	4	4	4,852	0	4	145	702	240	271	69	4	2	1,529	6,458
Bahr el Jebel	5	132	1,978	556	257	3	12	2,822	1	8	58	200	114	75	5	2	2	458	3,060
Bahr el Jebel	110	644	2,100	524	98	1	44	3,319	7	9	106	371	66	5	4	0	0	1,840	4,159
Bahr el Jebel	14	122	1,386	801	318	1	16	2,248	3	3	21	295	229	69	131	5	3	1,286	4,574
Bahr el Jebel	5	95	2,032	662	195	0	15	3,024	0	1	36	305	238	77	10	4	10	788	3,813
Bahr el Jebel	44	258	3,381	900	195	1	16	4,795	3	0	90	384	144	42	8	5	5	2,471	7,266
Bahr el Jebel	19	109	648	141	76	1	1	933	5	3	17	60	7	7	7	0	0	66	1,022
Bahr el Jebel	20	158	2,413	669	263	2	14	3,258	0	2	52	254	189	73	7	4	7	542	4,341
Bahr el Jebel	12	88	1,202	321	96	0	20	1,729	0	1	19	188	70	13	12	4	7	308	2,036
Bahr el Jebel	4	34	847	278	116	7	10	1,255	1	1	14	260	170	31	12	4	30	502	1,754
Bahr el Jebel	6	32	741	233	115	1	13	1,195	1	1	10	73	35	6	4	2	2	134	1,329
Bahr el Jebel	4	21	263	121	61	1	6	477	0	0	10	116	68	13	16	3	3	258	686
Bahr el Jebel	6	41	952	355	71	0	9	1,398	0	0	23	278	140	44	4	1	1	481	1,827
Bahr el Jebel	9	130	2,177	791	379	0	21	3,507	1	0	86	385	156	105	43	7	5	788	4,296
Bahr el Jebel	11	130	1,755	545	119	1	9	2,570	0	0	20	175	80	69	6	2	2	353	2,923
Bahr el Jebel	2	29	279	96	2	0	2	391	0	1	5	12	24	2	2	0	0	46	377
Bahr el Jebel	5	52	424	450	141	0	5	3,700	0	0	32	189	155	53	7	2	4	442	2,753
Bahr el Jebel	4	65	760	340	177	1	12	1,368	0	0	14	268	89	38	159	5	2	547	1,908
Bahr el Jebel	4	116	1,060	519	225	2	10	1,897	0	0	16	308	59	21	65	6	3	477	1,614
Bahr el Jebel	20	206	3,777	1,324	360	3	9	2,998	0	0	58	205	144	58	9	0	0	608	3,604
Bahr el Jebel	52	363	4,808	1,309	397	2	20	6,910	0	1	161	610	232	248	24	4	7	1,289	7,122
Bahr el Jebel	19	188	2,447	746	281	8	14	3,898	0	1	127	458	221	207	24	6	1	1,005	5,905
Bahr el Jebel	19	197	2,550	741	216	6	7	3,700	0	0	105	601	259	98	5	1	0	490	4,198
Bahr el Jebel	25	50	459	150	39	0	4	701	1	1	21	30	14	6	6	1	1	74	888
Bahr el Jebel	29	206	3,455	1,150	425	6	21	5,296	2	1	313	340	240	509	18	3	2	1,745	7,043
Bahr el Jebel	18	158	2,727	1,038	279	2	16	4,196	0	0	154	577	314	323	19	0	5	1,391	5,589
Bahr el Jebel	30	209	2,732	853	310	1	45	4,174	0	0	212	860	132	35	3	1	6	1,309	5,483
Bahr el Jebel	11	101	2,396	698	265	9	9	3,490	0	0	145	249	147	250	8	3	0	808	4,296
Bahr el Jebel	14	122	2,055	601	182	3	26	3,004	1	0	82	452	227	221	10	2	6	1,006	4,008
Bahr el Jebel	4	7	111	31	14	0	3	140	0	0	12	75	13	2	1	1	1	104	277
Bahr el Jebel	1	6	111	91	36	0	5	250	0	0	1	22	5	2	1	1	1	32	262
Grand Total	680	7,291	98,048	29,540	10,292	92	671	141,672	48	37	9,587	16,398	6,948	2,946	676	98	166	91,190	171,079

Note: This data is subject to audit.

Source: Ministry of Education
Statistical Section
as of 1993

TK000A3

1993 SECONDARY SCHOOL TRAINED TEACHERS BY SEX, QUALIFICATION AND DISTRICT.

PROVINCE/DISTRICT	Graduate		Approved		S1 / Diploma		Technical		P1		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
CENTRAL												
Kiambu	483	673	106	84	327	462	43	19	8	2	847	1,228
Kiinyaga	148	160	42	18	213	120	18	8	10	4	451	729
Muranga	281	290	84	31	272	232	27	10	17	3	691	1,267
Nyandarua	136	98	57	10	188	105	20	4	4	0	405	622
Nyeri	227	263	88	23	333	289	21	3	10	7	679	1,264
Total	1,255	1,489	387	143	1,333	1,268	129	41	48	18	3,153	2,892
COAST												
Kilifi	127	41	15	5	204	64	7	2	2	2	355	114
Kwale	43	18	10	1	74	9	2	0	2	1	131	27
Lamu	17	1	5	1	50	3	2	0	1	1	76	8
Mombasa	84	87	8	6	47	60	13	1	1	1	168	146
Taka-Taveta	125	57	19	3	180	60	6	1	2	1	332	122
Tana-River	25	1	3	10	44	5	3	0	2	0	77	16
Total	425	283	61	26	599	191	23	4	18	6	1,129	439
EASTERN												
Embu	148	128	34	20	139	131	12	5	5	1	338	285
Isiolo	25	11	5	0	17	5	2	1	1	0	50	17
Kaji	108	43	21	0	116	38	9	0	5	0	259	81
Machakos	110	97	24	1	110	53	12	1	12	0	288	152
Makueni	106	67	23	3	99	30	18	1	3	0	246	181
Marisabit	30	12	6	2	48	2	2	0	1	0	87	16
Tharaka-Nith	63	43	18	5	116	45	11	2	1	0	209	95
Meru	225	133	50	25	275	136	13	7	9	1	536	302
Total	818	534	191	56	873	448	72	17	37	2	1,899	1,049
NORTH-EASTERN												
Garissa	16	1	2	0	13	4	0	0	0	0	31	5
Mandera	3	0	1	0	8	0	2	0	0	0	14	0
Wajir	17	3	2	0	24	4	2	0	0	0	48	7
Total	36	4	5	0	45	8	4	0	0	0	94	12
NAIROBI-TOTAL	281	647	48	77	136	292	9	4	8	3	483	1,023
NYANZA												
Kisii	310	92	28	6	227	60	18	2	4	0	587	160
Kisumu	219	135	34	10	238	148	14	1	6	1	511	295
Nyamira	195	74	21	7	52	32	9	3	4	0	241	178
Siaya	95	44	20	5	155	43	3	2	2	0	275	100
Mogot	133	39	26	6	126	37	9	0	0	0	294	84
Homa-Bay	134	45	35	1	154	63	5	3	4	1	334	113
Total	1,046	438	164	37	954	389	58	11	29	2	2,242	869
RIFT-VALLEY												
Baringo	229	89	21	4	146	57	6	2	0	0	402	152
Nakuru	303	276	68	20	262	197	26	9	1	2	660	504
Kencho	140	39	193	17	1	5	0	0	0	0	334	61
Bomet	139	106	46	3	136	183	20	5	3	0	404	283
Laikipia	35	28	19	1	54	33	4	1	1	1	113	64
Narok	47	17	4	6	30	14	0	0	21	2	102	38
Kajiado	12	29	0	12	12	19	26	1	0	0	50	61
Samburu	39	16	3	0	46	13	3	1	25	4	116	34
Kenya-Marakwet	113	80	11	109	76	20	5	2	4	2	209	213
Nandi	117	115	34	5	165	84	14	4	1	0	331	208
Trans-Nzoia	82	68	21	9	122	73	6	3	2	0	233	153
Uasin-Gishu	41	37	12	5	8	7	4	2	2	1	87	92
West Pokot	39	24	7	0	76	23	6	0	3	0	130	47
Turkana	26	12	1	1	25	4	0	0	2	0	53	17
Total	1,381	836	448	181	1,218	718	128	30	65	12	3,284	1,887
WESTERN												
Vihiga	231	163	46	15	268	153	16	6	6	0	566	337
Bungoma	311	237	58	29	334	121	34	8	19	3	756	398
Busia	133	52	38	5	156	53	10	5	5	0	352	115
Kakamega	221	146	38	8	218	149	11	4	8	2	496	309
Total	896	598	180	57	898	476	71	23	37	5	2,179	1,159
NATIONAL TOTAL	6,116	4,632	1,477	687	6,194	3,723	496	129	221	48	14,459	9,217

Note:
This data is provisional!
Data is from 87% response

35-0000
 11-19-51
 8th & 9th section of
 June 1951

1953 SECONDARY SCHOOL UNTRAINED TEACHERS BY SEX, LEVEL OF EDUCATION AND DISTRICT

PROVINCE/DISTRICT	Gr-6/7/8		Diploma		Technical		A-Level		O-Level		Other		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
CENTRAL	171	58	18	13	25	14	97	14	2	2	3	3	423
Namibia	33	20	0	0	18	11	32	29	0	0	3	3	117
Orange	81	37	0	7	27	16	134	89	0	0	53	16	517
Average	47	50	13	6	7	7	114	64	17	0	17	0	310
Northern	83	24	13	5	75	14	149	72	3	35	7	208	475
WEST	428	148	140	34	391	61	724	391	108	57	83	29	1,889
COAST	79	3	6	0	6	3	25	8	0	0	2	2	75
Swakop	13	3	1	0	4	2	7	3	7	0	3	1	30
Lundu	3	0	0	0	0	0	1	0	0	0	0	0	13
Northern	24	8	3	2	4	0	34	7	2	3	3	5	91
Table-Town	5	1	2	0	0	0	0	0	0	0	0	0	55
Swakop	13	5	2	0	7	0	0	0	0	0	0	0	32
QUATERN	113	52	48	1	36	6	86	28	18	6	21	8	268
Eruru	37	11	7	2	18	7	39	39	7	0	0	2	109
Usoo	8	1	1	0	0	0	0	0	0	0	0	1	10
Wala	25	6	27	29	87	40	24	22	29	20	579	186	773
Mechanics	44	14	4	0	21	0	68	53	4	0	3	3	180
Milburn	51	27	4	0	21	18	108	50	0	0	0	0	242
Marsburg	0	0	0	0	0	0	2	5	1	1	2	1	29
Swakop	28	0	2	1	17	11	33	39	7	3	3	0	99
Total	230	88	67	39	188	83	378	184	64	28	63	213	1,537
NORTH-EASTERN	3	1	0	0	2	0	0	0	0	0	0	0	6
Gemsbok	0	0	0	0	0	0	0	0	0	0	0	0	0
Weg	1	0	0	0	1	0	0	0	0	0	0	0	2
Total	2	1	0	0	3	0	0	0	0	0	0	0	3
SOUTH-WEST	48	28	2	0	0	3	17	1	0	0	0	0	74
ATLANTA	148	19	0	2	19	0	243	37	13	0	0	0	524
Wauwau	20	2	0	0	4	0	33	5	11	0	0	0	70
Wauwau	40	13	0	4	13	5	68	27	17	0	0	0	167
Swakop	17	4	2	0	7	0	5	13	6	3	5	0	53
Weg	27	4	0	0	9	3	37	8	7	2	0	0	70
Wona Bay	30	5	0	0	3	0	30	6	2	2	0	0	49
Total	307	48	20	2	67	23	483	88	31	5	4	4	74
PORT VALLEY	71	7	7	1	4	1	10	0	2	1	1	2	40
Weg	27	3	1	0	11	0	192	52	1	0	0	0	323
Wauwau	27	33	14	2	12	0	67	20	10	1	0	0	189
Bonval	2	2	11	4	5	1	78	19	15	4	14	1	151
Maruk	6	0	0	0	0	0	14	4	0	0	0	0	18
Weg	7	0	0	0	1	1	9	4	5	0	0	0	24
Wauwau	24	4	0	2	2	0	31	14	0	0	0	0	15
Weg	30	5	2	2	7	0	38	31	3	0	0	0	61
Wauwau	22	3	0	0	13	0	42	14	0	0	0	0	81
Weg	18	0	3	6	5	4	18	7	3	2	0	0	47
Weg	3	0	0	0	3	3	46	10	0	0	0	0	53
Weg	14	5	1	0	2	0	4	2	0	0	1	1	14
Total	308	64	75	26	71	30	243	178	27	11	12	1	571
WESTERN	29	7	4	0	14	6	112	34	16	4	5	2	187
Weg	16	10	11	2	37	29	181	24	34	0	0	0	366
Weg	25	0	0	0	0	0	46	51	0	0	0	0	93
Weg	189	28	24	8	163	67	448	163	64	11	16	6	1,144
NATIONAL TOTAL	1,947	418	243	111	663	282	2,694	1,048	339	79	89	33	5,469

Note: * Estimate.
 This data is based on 1973 returned as on 27/01/1981.

NUMBER OF PRIMARY TEACHERS BY QUALIFICATION AND SEX, 1991 - 1994

	1991			1992			1993			1994*		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
TRAINED:-												
Graduate	11	14	25	32	30	62				4	4	8
Approved +	434	224	658	501	254	755				590	258	848
S1/Diploma	3,897	1,598	5,495	4,398	1,806	6,204	5,099	2,132	7,231	5,410	2,510	7,920
Technical												
P1	51,600	30,424	82,024	54,641	33,514	88,155	57,279	35,787	93,066	63,447	41,822	105,269
P2	18,278	11,301	29,579	18,073	11,640	29,713	17,889	11,701	29,590	18,969	12,484	31,453
P3	5,856	5,537	11,393	5,291	5,217	10,508	5,163	5,129	10,292	4,966	5,098	10,064
P4	25	30	55	4	5	9	49	43	92	12	17	29
Others							346	325	671			
TOTAL	80,101	49,128	129,229	82,940	52,466	135,406	85,825	55,453	142,047	93,398	62,193	155,591
UNTRAINED:-												
Graduate							28	17	45			
Diploma							16	21	37			
Technical												
K. A. C. E. ('A' Level) ..	2,690	1,506	4,196	2,899	1,639	4,538	2,358	1,209	3,567	1,276	722	1,998
K. C. E./K.S.C.E. ('O' Level)	20,501	13,018	33,519	18,520	12,126	30,646	13,719	8,610	22,329	10,605	6,467	17,072
K. J. S. E.	3,720	1,304	5,024	3,332	1,382	4,714	3,021	974	3,995	2,020	733	2,753
C.P.E.	590	515	1,105	514	437	951	458	513	971	347	213	560
Other	6	11	17	50	55	105	111	75	186	90	33	123
TOTAL	27,507	16,354	43,861	25,315	15,639	40,954	19,711	11,419	31,130	14,338	8,168	22,506
GRAND TOTAL	107,608	65,482	173,090	108,255	68,105	176,360	105,536	66,872	173,177	107,736	70,361	178,097

* Provisional

+ An approved teacher has completed the equivalent of a University Education

Table (viii)

NUMBER OF SECONDARY TEACHERS BY QUALIFICATION AND SEX, 1991 - 1994

	1991			1992			1993			1994*		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
TRAINED:-												
Graduate	5,960	3,734	9,694	6,051	4,629	11,280	6,116	4,832	10,948	5,142	5,856	14,998
Approved +	1,132	356	1,488	1,252	397	1,649	1,477	587	2,064	1,622	569	2,191
S1/Diploma	8,020	4,224	12,244	8,312	4,635	12,947	6,144	3,722	9,866	8,826	4,770	13,596
Technical	393	126	519	557	156	713	496	130	626	433	143	576
P1	451	75	526	357	76	433	226	46	272	198	34	232
P2												
P3												
P4												
Others				145	52	197						
TOTAL	15,956	8,515	24,471	17,274	9,945	27,219	14,459	9,317	23,776	20,221	11,372	31,593
UNTRAINED:-												
Graduate	1,051	359	1,410	1,511	502	2,013	1,597	416	2,013	1,322	473	1,795
Diploma	263	111	374	473	181	654	343	111	454	543	182	725
Technical	6,083	2,375	8,458	4,341	1,783	6,124	2,694	1,040	3,734	2,904	876	3,480
K. A. C. E. ('A' Level) ..	76	38	114	114	39	153	333	79	412	171	62	233
K. C. E./K. S. C. E. ('O' Level)												
K. J. S. E.												
C.P.E.	210	60	270	123	44	167	993	333	1,326	364	117	481
Other	7,663	2,943	10,626	6,562	2,559	9,121	6,523	2,241	8,764	6,004	1,710	6,714
TOTAL	23,639	11,458	35,097	23,836	12,504	36,340	20,982	11,558	32,540	25,225	13,082	38,307
GRAND TOTAL												

* Provisional

+ An approved teacher has completed the equivalent of a University Education

Table (ix)

NUMBER OF EDUCATIONAL INSTITUTIONS, 1990 - 1994

Category	1990	1991	1992	1993	1994 ¹
Schools:					
Pre-Primary	16,329	17,650	17,327	18,487	19,083
Primary	14,864	15,196	15,465	15,804	15,906
Secondary	2,678	2,647	2,632	2,639	2,834
Training Colleges:					
Primary	17	22	25	25	25
Secondary	7	4	4	3	3
TOTAL	33,895	35,519	35,453	36,958	37,851

¹ Provisional.

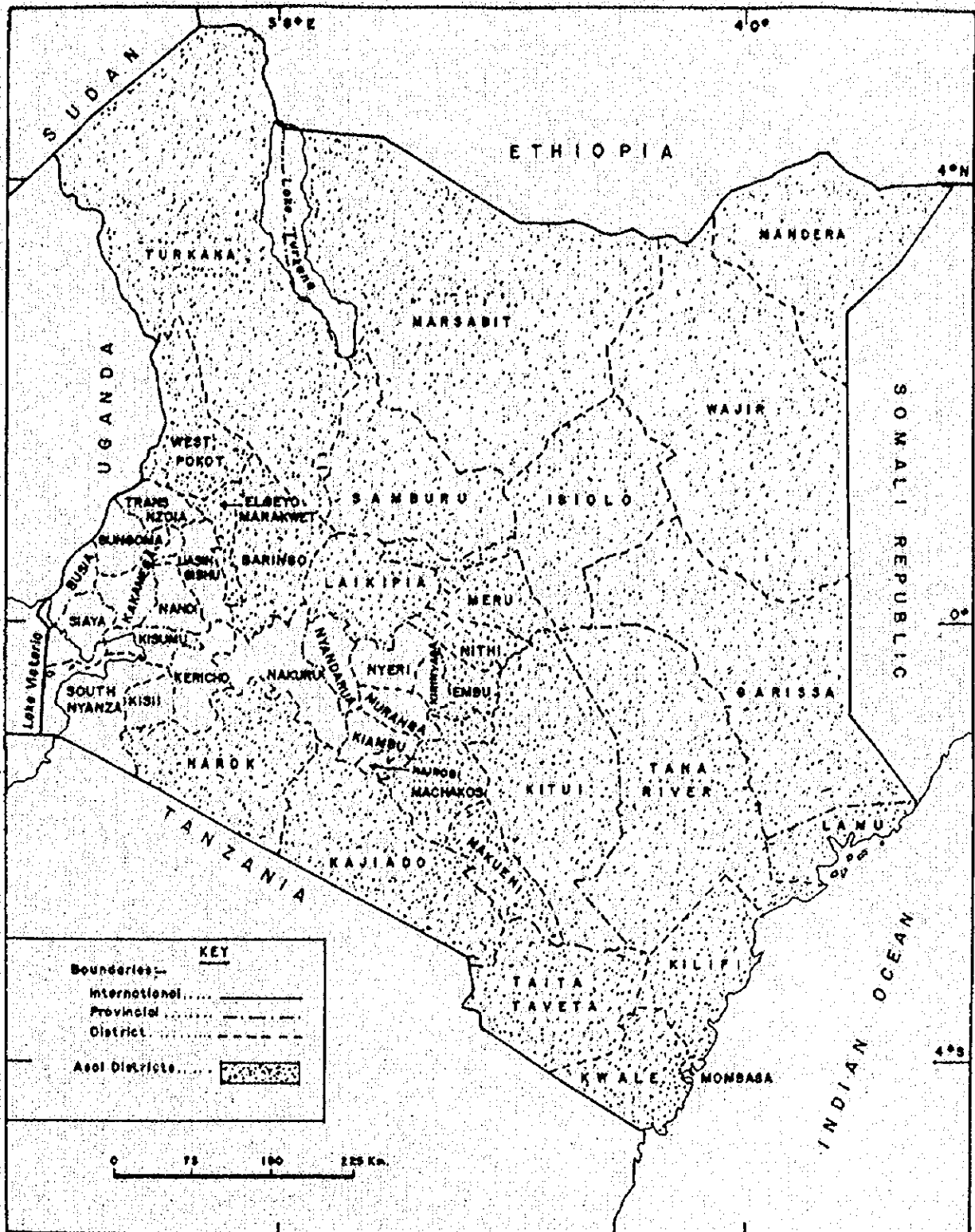
Table (x)

GENDER DISPARITIES

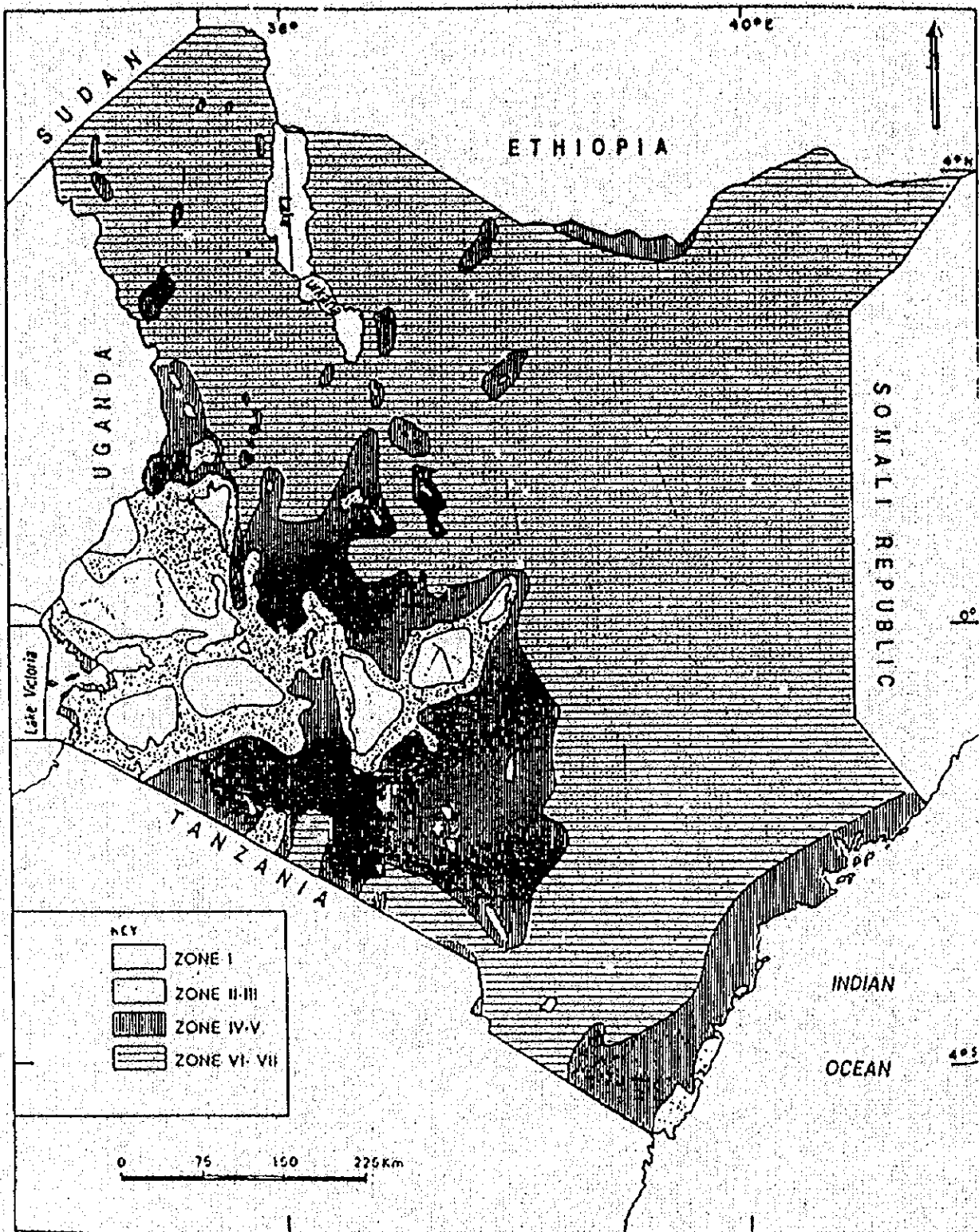
District	Number of Schools	Enrolment		Total Pupils	Girls' Participation as a % of total	Rank
		Boys	Girls			
Nyeri	359	86,453	88,585	175,038	51	1
Thika Municipality	24	5,823	6,076	11,899	51	1
Meru	916	143,630	148,958	292,588	51	1
Kakamega	949	198,026	20,4350	402,376	51	1
Muranga	419	136,757	135,857	272,614	50	5
Kiambu	388	106,590	106,851	213,441	50	5
Kirinyaga	180	53,464	54,868	108,332	50	5
Nyandarua	246	51,354	50,578	101,932	50	5
Uasin Gishu	247	47,070	47,502	94,572	50	5
Bungoma	480	115,001	114,933	229,934	50	5
Nandi	408	65,117	64,362	129,479	50	5
Keiyo Marakwet	269	34,975	34,899	69,874	50	5
Nyamira	356	59,299	58,073	117,372	50	5
Kisii	606	106,253	105,910	212,163	50	5
Kitui	777	92,815	91,085	183,900	50	5
Machakos	1,347	215,109	215,225	430,334	50	5
Embu	265	54,584	55,292	109,876	50	5
Mombasa	98	33,683	32,215	65,898	49	18
Taita Taveta	173	30,893	30,037	60,930	49	18
Nairobi	211	75,926	73,639	149,565	49	18
Baringo	442	42,151	40,987	83,138	49	18
Nakuru	365	96,418	94,134	190,552	49	18
Kericho	598	136,627	130,767	267,394	49	18
Laikipia	189	31,561	30,551	62,112	49	18
Trans Nzoia	194	47,332	46,347	93,679	49	18
Eldoret Municipality	27	9,059	8,866	17,925	49	18
Nakuru Municipality	40	16,298	15,573	31,871	49	18
Kisumu Municipality	49	15,716	15,003	30,719	49	18
Kitale Municipality	23	3,930	3,696	7,626	48	29
Siaya	600	98,044	92,011	190,055	48	29
Kisumu	533	75,158	70,501	145,659	48	29
Lamu	56	7,381	6,709	14,090	48	29
South Nyanza	1,241	151,790	131,340	283,130	46	33
Kajiado	166	25,493	20,155	45,648	44	34
Narok	290	40,217	31,677	71,894	44	34
Busia	326	67,116	51,576	118,692	43	35
Isiolo	47	6,958	5,241	12,199	43	35
Tana River	110	12,600	9,410	22,010	43	35
Kwale	260	43,071	32,320	75,391	43	35
Kilifi	310	70,518	51,367	121,885	42	40
West Pokot	249	24,010	18,727	42,737	41	41
Marsabit	56	9,168	5,695	14,863	38	42
Turkana	134	20,596	12,022	32,618	37	43
Samburu	87	8,767	5,004	13,771	36	44
Wajir	45	6,783	3,105	9,888	31	45
Garissa	51	8,687	3,522	12,209	29	46
Mandera	40	8,701	3,423	12,124	28	47
Total	15,196	2,796,972	2,659,024	5,455,996	46	

Source: Ministry of Education, Statistics Section (unprinted), 1991.

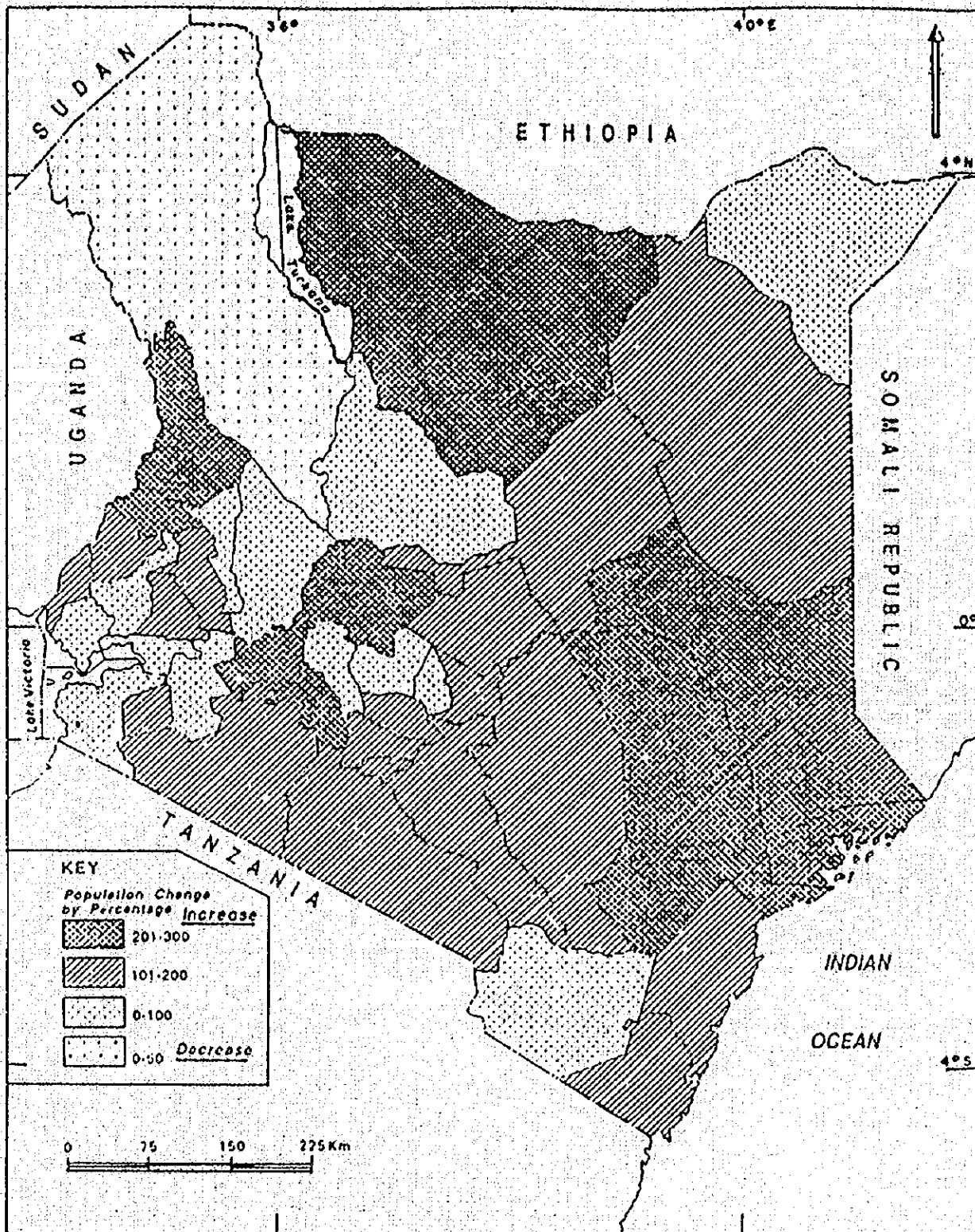
APPENDIX III - MAPS - ASAL AREAS



MAP 1 : KENYA ASAL DISTRICTS



MAP 2 : KENYA AGRO-ECOLOGICAL ZONES



MAP 3 : POPULATION CHANGE 1969-1989 BY DISTRICT

A. THE ARID AND SEMI-ARID LANDS

Definition

2.1 The definition of the Arid and Semi-Arid Lands (ASAL) dates back to the 1979 GOK policy document "Framework for Arid and Semi-Arid Lands Development in Kenya". There are 24 ASAL districts (Map 1) and based on the Agro-Ecological Zones (AEZ) from the Farm Management Handbook of Kenya, they are defined as zones IV to VII (Map 2).

2.2 The basis for all definitions is moisture availability. The areas of each zone and relative rainfall/evapotranspiration ratios (r/E_o) are shown in Table 1.

Table 1: Area by Agro-Ecological Zone (AEZ)

	% r/E_o	Area (km ²)	% Country area
Zone IV, Semi-humid	40-50	27,000	5
Zone V, Semi-arid	25-40	87,000	15
Zone VI, Arid	15-20	126,000	22
Zone VII, Very arid	< 15	226,000	46
Total		466,000	88

Source: Farm Management Handbook of Kenya (Vol. I-IV) MOA, Kenya, 1982

2.3 The ASAL cover about 51 million hectares or 88% of the total country. Using the criterion of greater than 30% of a district's area with an evapotranspiration of more than twice the annual rainfall, there are 24 ASAL districts. There are four categories of districts depending on the extent of aridity.

Table 2: ASAL Districts Classified by Extent of Aridity

Category	Districts	‡ Total ASAL
A. 100‡ ASAL	Isiolo, Marsabit, Garissa, Mandera, Wajir, Turkana	62
B. 85-100‡ ASAL	Kitui, Tana-River, Taita-Taveta Kajiado, Samburu	25
C. 50-85‡ ASAL	Embu, Meru *, Machakos **, Laikipia, West Pokot, Kilifi, Kwale, Baringo	10
D. 30-50‡ ASAL	Lamu, Narok, Elgeyo Marakwet	3

* including the District of Tharaka-Nithi

** including the District of Makueni

Source: IFAD/UNDP, 1988. Arid and Semi-Arid Lands (ASAL) Development Programme: Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme

B. POPULATION

2.4 According to the Population Census Provisional Results an estimated 7,378,000 individuals lived in the ASAL districts in 1989. This constitutes about 34% of the country's population in the same year. While the intercensal growth rate for the total population is 3.34%, equalling the growth rates between 1969-1979 (3.37%), the growth rate in ASAL has dropped from 3.81% (1969-1979) to 3.29% by 1989 (Table 3). In terms of AEZs IV-VII an estimated 20% of the country's population (i.e. 4,280,000 individuals) reside in the arid and semi-arid areas of ASAL.

2.5 However, trends of population growth rate among ASAL districts vary greatly. In some districts such as Isiolo (4.87%), Kajiado (5.64%), Laikipia (4.56%) and Narok (6.49%) the intercensal growth rates (1979-1989) are significantly higher than the average growth rates for ASAL and the country. While this indicates a high degree of in-migration, the districts of Wajir and Garissa have experienced negative rates in the period 1979-1989 (i.e. -1.06% and -0.40% respectively).

2.6 The density of population is variable in the ASAL districts. Significant changes have also occurred through time, most notably in Machakos District where the population density has increased over the last 20 years from as low as 0-50 persons/sq.km to an estimated 101-200 persons/sq.km (Map 3).

Table 3: Population Size and Population Growth Rates in ASAL Districts*

Districts	Population 1989 (000)	Population 1979 (000)	1979-1989 Growth Rate (%)	Growth Rate** 1969-1979 (%)
Kilifi	611	431	3.49	3.36
Lamu	57	42	3.05	6.47
Taita Taveta	202	148	3.11	2.88
Kwale	384	288	2.88	3.35
Tana River	129	92	3.38	5.90
Embu	358	263	3.08	3.85
Meru incl.				
Tharaka-Nithi	1138	830	3.16	3.30
Kitui	640	464	3.22	3.02
Marsabit	125	96	2.64	6.13
Isiolo	70	43	4.87	3.60
Machakos incl.				
Makueni	1393	1023	3.09	3.68
Garissa	124	129	-0.40	6.85
Wajir	125	139	-1.06	4.80
Mandera	123	106	1.49	1.10
Kajiado	262	149	5.64	5.50
Laikipia	213	135	4.56	7.01
Baringo	286	204	3.38	2.31
Samburu	114	77	3.92	0.95
Turkana	179	143	2.25	-1.43
West Pokot	231	159	3.74	6.62
Narok	402	210	6.49	5.19
Elgeyo Marakwet	212	149	3.53	-0.65
ASAL Total	7,378	5,320	3.29	3.81
National Total	21,397	15,327	3.34	3.37

* 1989 Population Census Provisional Results (Economic Survey)
 ** Actual Census figures

C. ASAL ENVIRONMENT

Climate and Rainfall

2.7 Generally speaking, the ASAL are hot and dry, having an evapotranspiration rate which is more than twice the annual rainfall. Rainfall is low and highly variable in space and time. The ASAL are subject also to rainfall variability both within and between seasons and often occur as high intensity storms. These storms produce considerable run-off.

ANNEX I - LIST OF PERSONS INTERVIEWED

LIST OF PERSONS INTERVIEWED

Ms. Tan Miyuki
Kiangai Secondary School
Karatina

Ms Watanabe Junko
St. Gonzaga - Goons Sec. Sch, Isoge
Kisii

Ms Yamamoto Yuuko
Bunyonyu Sec School
Kerugoya

Ms Yamasaki Junnko
Nyamonyo Sec Sch
Kisii

Mr Tanaka Shegeyuki
Kitonyini Sec Sch
Machakos

The Headmaster
Kitonyini Secondary School
Machakos

The Headmaster
Kiangai Secondary School
Karatina

The Headmaster
St. Gonzaga-Gonza Secondary
School, Isoge
Kisii

The Headmaster
Njega Secondary School
Kerugoya

Mrs. E. W. Gathungu
Education Officer in Charge of
Secondary Administration
Murang'a

Rev. Muthuri
Deputy Provincial Education
Officer
Embu

Mr. . N.K. Egessa
District Education Officer
Meru

Mr. Rono
District Education Officer
Nakuru

Mr. Aranja
District Education Officer
Kisumu

Mr. Mbugua
Deputy District Education
Officer
Kajiado

The Deputy Principal
Kenya Science Teachers
College
Kikuyu

The Deputy Principal
Kenya Technical Teachers
College
Gigiri

Mr. Yusuf
Deputy District Education
Officer
Isiolo

Mr. Peter Maundu
Deputy District Education
Officer
Machakos

Mr. Martin Yiga
Malovu Project Officer
African Social and
Environmental Studies
Programme (ASESP), KIE
Nairobi

Mr. Hedd Thomas
Plan International
Kiambu

Mrs. Syongoh
UNICEF- Education and
Behavioral Child Section
Nairobi

Mr. Charles Kirkaldy
ODA
Nairobi

Mr. Kamunge
World Bank
Nairobi

Mr. Sadhyabalan
Action Aid
Nairobi

ANNEX II - BIBLIOGRAPHY

BIBLIOGRAPHY

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GLOSSARY - TEACHER QUALIFICATIONS

GLOSSARY - TEACHER QUALIFICATIONS

P1	P1 is the highest passing grade from Teacher Training Colleges for primary school teachers
P2	P2 is a middle grade
P3	P3 is the lowest grade
P4	Although there are still a number of P4 teachers, this grade has been discontinued. (Intake of P4 trainees was from primary school graduates).
S1	Awarded to graduates of Technical Teacher Training Colleges
Kenya Advanced Certificate of Education: (KACE 'A' Level)	Was awarded after Form 6 - in the 7:4:2:3 system and after passing the A level examination.
Kenya Certificate of Education (KCE/KCSE 'O' Level)	Awarded after Form 4. KCE for 7:4:2:3 system or KCSE in the 8:4:4 system of Education
Kenya Junior Secondary Education (KJSE)	Formerly awarded after Form 2 and after passing a junior secondary examination.
Certificate of Primary Education (CPE)	Awarded after Class 7 - in the 7:4:2:3 system of education.
Approved Teacher	A teacher with a university degree. Diploma students can also be promoted to approved teachers on merit.

