Education Division documents. No. 21

Practical Subjects in Kenyan Academic Secondary Schools:

Tracer Study

A study conducted by Anders Närman

SIDA

June 1985

Education Division documents. No. 21

Practical Subjects in Kenyan Academic Secondary Schools:

Tracer Study

A study conducted by Anders Närman

June 1985

Cover picture: Industrial Education Work Shop at Kitui High School.
Photo: Jan Söderström.

ALLF 171 5 092
Liber Tryck AB Stockholm 1985 372144

PREFACE

In the 60-ies and beginning of the 70-ies all economic trends pointed upwards. Optimism was great in the developed as well as in the less developed world. The less developed countries should replicate the development in the developed world and the gap should thereby rapidly decrease.

Investment projects were conceived in all areas and supported by the donors. Education was one of the most important areas for such investments. An important factor for development was to educate the people to read and write. In order to be able to modernise the economy "practical" subjects should be taught on all levels. "Diversification" of secondary as well as primary education was an important measure.

Kenya was one of many countries that implemented such diversification programmes. Part of this program, "Industrial Education", received Swedish support from 1961 to 1982.

Since the diversification programmes were started the developmei optimism has changed towards a greater degree of pessimism or "realism". Trends do not any more point upwards. Development funds are scarce and funds for running of existing facilities do not suffice. "Diversification" of schools has become, relatively speaking, too expensive, and a number of cost-benefit studies have thrown doubt on the relevance of such projects, at least as they were conceived in the early 70-ies.

As a contribution to the international pedagogical discussion SIDA engaged London Institute of Education to make an in-depth evaluation of the Swedish supported "Industrial Education Project" in KEnya. The result of this evaluation has given SIDA important feed-back on issues which have to be discussed in a number of new or on-going projects all over the world. I am also convinced that many others - responsible authorities in developing countries as well as donor agencies - can make use of the conclusions and recommendations of this study. The study is presented as an Education Division Document in three parts: General Report, Tracer Study and Background Paper.

Stockholm 27 June 1985

Lennart Wohlgemuth
Head of Education Division, SIDA

CONTENTS

FOREWORD

This tracer study forms a part of a broader evaluation of Swedish Assistance to Industrial Education (IE) in Kenya. The main evaluation team has been led by Dr Jon Lauglo from the University of London, Institute of Education. Furthermore we have co-operated with Kenyatta University College, Nairobi, and the Ministry of Education, Science and Technology, Kenya. SIDA has financed the evalutation, for which we are very grateful.

In this report we deal only with the former students, their situation, and their views about IE. Other aspects of the subject, including those concerning financing, are to be found in other parts of the evaluation.

In the follow-up study we have compared students with and without IE in their KCE-exam from a sample of 15 schools. These have been put in relation to another 5 "control" schools. In addition, in a retrospective search, we have studied ex-students of IE in three secondary schools.

Throughout the tracer evaluation we have reported our progress. This has been done in:

(i) A TRACER STUDY OF EX-INDUSTRIAL EDUCATION STUDENTS FROM THREE SCHOOLS IN KENYA. Occasional Paper 1984:4 from the Department of Human and Economic Geography, University of Gothenburg.

(ii) INDUSTRIAL EDUCATION STUDENTS IN KENYA - Who are They? How do They Perceive Industrial Eduation? Occasional Paper 1984:5 from the Department of Human and Economic Geography, University of Gothenburg.

(iii) WHAT HAPPENS TO KENYAN SECONDARY SCHOOL STUDENTS WITH INDUSTRIAL EDUCATION? A Tracer Study one Year after the KCE exam 1983 Occasional Paper 1985:1 from the Department of Human and Economic Geography, University of Gothenburg.

This present report can partly be seen as a short summarized version of these three preliminary reports. More detail is to be found in the above-named papers, including more details about the individual schools.

Throughout the study I have been assisted by a number of research students doing so-called MRTs (Minor Research Tasks). These were, during the first part of the study: Eigil Hegmar, Paula Oksanen and Annica Wallenheim, and during the second part: Claes Hildesson, Hans Sjölund and Jan Söderström. I would like here to express my gratitude and appreciation for their work. To all others who have helped in conducting this study I would like to express my thanks, especially the students, whom we have not been able to help in their predicament, teachers and headmasters of the respective schools. Finally a word of thanks to the other members of the team and Dr Jon Lauglo, for their close co-operation within the study.

Some explanations to the text:

We have to note that only boys take Industrial Education. Industrial Education will be abbreviated as IE. O-level when used is similar to KCE (Kenya Certificate of Education) exam, taken after Form IV. This exam used to be the East African Certificate of Education (EACE). A-level when used means KACE (Kenya Advanced Certificate of Education), formerly East African Advanced Certificate of Education, taken after Form VI.

Göteborg, March 12th, 1985
Anders Närman

0 EXECUTIVE SUMMARY

This paper is an attempt to find out what happens to Kenyan secondary school students who take Industrtial Education (IE) in their O-level examinations. For this purpose we have made a follow-up tracer study on a group of students who sat their examinations in 1983. These students were inverviewed during the time of their exams and one year afterwards. In all we succeeded in tracing approximately 70 % of the the total sample, or 1 080 students.

Furthermore we interviewed ex-students of IE who graduated during the period 1974-82 from three secondary schools. In that retrospective exercise we interviewed or obtained information about just over 300, which constitutes 65 % of the total possible contacts.

From these two tracer studies we have drawn the conclusions given below. In the major part of the study, the follow-up approach, we included 15 schools with IE, and 5 "control" schools without it. The students in the 15 IE schools were divided into two categories, those who took IE in the exam, Cat I, and Cat II who often hade previous experience of the subject. Students from the "control" schools are grouped together in Cat III.

0.1 Socio-economic background

To start with we can make the observation that, by being in Form IV in a Government maintained secondary school, our total sample is in a privileged position educationally. Less than 15 % of all boys in the relevant age groups in the country will ever be admitted to these kinds of educational institutions at that level.

The educational standard of their parents is well above the national average. Among the fathers of our group, 45 % have post-primary education, while for their mothers the correspon-

ding figure is 27 %. Nationally the corresponding figures for males and females (40-54 years olds) are 7 % and 1 % respectively. Here we can find a slight difference between Cat I-III. On the average, IE students (Cat I) originate from families with a somewhat weaker background academically.

Even if Kenya is basically an agricultural country, the students in "our" group come to a great extent from families with a background in the service sector. From the oral interviews we concluded that the middle-income sector was dominant here. However, a substantial proportion are from a peasant farming background. Few of the students have parents in any kind of industrial employment. Among those who do work in industry, Cat I parents predominate.

Finally we can note that the annual cost of education is very high. In most cases it is parents who pay these expenses. Normally these students also come from large families. This fact, coupled with the data on parents' education and employment, indicates a fairly affluent family background in most cases. On the other hand during the interviews we found a number of cases in which the students had their part of schooling interupted due to fee problems.

0.2 Educational and academic status

Generally IE is offered in schools equipped with above average educational facilities. In our sample we find some of the best secondary schools in Kenya, such as Alliance and Lenana.

In the O-level examinations the average aggregate results (six best subjects) were fairly similar between Cat I-III, or 35.1, 34.4 and 34.4 respectively. Each subject is marked on a scale with 1 as the best result up to 9, which means failure.

A comparison between our three categories indicates that IE students normally do better in Mathematics than English language. Therefore we can conclude that, in most cases, IE is grouped

together in streams with subjects with a mathematical bias, i.e. science subjects.

The grades in IE are normally low compared to other subjects. One reason for this might be that IE cannot be pursued up to the upper secondary level. Therefore students might not give the subject enough attention in the exams.

Academically the O-level students are divided into Div I-IV and Failures, with Div I as the best result. We can here find that, even if Cat I-III had similar results on the average, more Cat II and III students obtained a Div I (16 % in each category). For Cat I the corresponding share is 12 %. On the other hand, the Cat I students are rather more average, with the lowest share of outright failures.

From this we can conclude that IE is definitely not a subject option for only the weakest students.

0.3 Occupation one year after the KCE exam 1983

From our first questionnaire in 1983 it was obvious that a clear majority wanted to pursue their education further, up to Form V. The same preference was indicated by Cat I-III. The possibility to achieve this is rather limited.

For those with O-level results not good enough to secure a place in Form V, the options would be:

(i) Repeat at secondary level
(ii) Obtain some kind of employment or self-employment
(iii) Continue in some kind of college or training
(iv) Look for a job or continued education

Concerning the present situation, one year after the KCE exam 1983, we got 1 080 direct answers. Furthermore we obtained second hand data on another 240 students. The latter information together with exam results has only been used to measure the reliability of our calculations.

IE, which can earn them a living. This without being formally employed.

In our retrospective study we found problems with unemployment, particularly among the most recent school-leavers. One interpretation of this could be that the majority of our sample will eventually secure some kind of employment. However, there can also be a tendency that the labour market prospects are gradually becoming more problematic. If this is the case IE skills could be of great value to the school leavers.

We can note from the retrospective study that IE seems to have influenced a number of the ex-students in their situation on the labour market. This is particularly so among the school leavers who graduated from Kitui H.S. 1974-82, a school in a rural environment.

0.4 Future prospects

As is evident from the above, a clear majority wanted to continue their formal education. University studies are the main hope for a large majority. However, the prospects of achieving this must be regarded as rather dim. From our original questionnaire it was concluded that Cat I students were more inclined towards educational programmes such as those offered at KSTC (Kenya Science Teachers College), KTTC (Kenya Technical Teachers College), Polytechnics or Institutes of Technology, compared to Cat II and III. This was seen as a sign of influence from IE.

One year after the O-level examinations we still find a desire for further education. Table 0.2 gives the desires at this time.

Table 0.2 The indicated desires for further education one year after the KCE exam Cat I-III

Desired education	Cat I N	(%)	Cat II N	(%)	Cat III N	(%)	Total N	(%)
University	135	(35)	259	(37)	113	(47)	507	(38)
KTTC, KSTC, Polytech, Egerton, Inst of Tech	189	(47)	305	(43)	81	(34)	566	(43)
Other teacher training	13	(3)	44	(6)	17	(7)	74	(6)
Vocational training	49	(13)	51	(7)	12	(5)	112	(8)
Other	7	(2)	46	(7)	17	(7)	70	(5)
Total	384		705		240		1 329	

We can note that Cat I in particular, followed by Cat II, are interested in post-secondary education, in the form of courses at KTTC and KSTC, agricultural courses at Egerton, or Institutes of Technology and Polytechnics. Many might have given up the idea of university studies. Furthermore Cat I ex-students seem to regard vocational training as fairly attractive. Many of them see it as a possibility to improve their IE skills.

There is naturally a clear difference in the wishes expressed for further studies depending on the present occupations. For the Form V students University is a natural choice, even if it is only realistic for a few. The highest preference for university is expressed within Cat III. For Cat I and II, Form V students accept, to a greater extent, alternatives such as Polytechnics and Institutes of Technology.

Among the group at work some aim to get back into education eventually. For Cat I many want some kind of vocational training.

Within our classification "looking", there is a more realistic view expressed by Cat I. Vocational training seems to be attractive for them. However, both Cat II and III have, to a higher extent, some desire for post-secondary eduation, even university.

As a conclusion on the aspirations for further education, we have noted some rather unrealistic desires for university and post-secondary education. However, there is a slight feeling that particularly Cat I tend to settle for some kind of vocational training, if they are not in school or training. In most cases this will contain some utilization of their IE skills.

Besides obtaining desires for further education, we have tried to get views on labour market prospects. Our first question concerned the kind of work the respondents actually expected. The answers were classified according to blue and white collar job preferences. Within the blue collar jobs we find all technical/practical work, together with agriculture. Table 0.3 gives the distribution of answers.

Tabel 0.3 The distribution of jobs "actually expected" by Cat I-III and type of job

Type of job	Cat I N	(%)	Cat II N	(%)	Cat III N	(%)	Total N	(%)
Blue collar	190	(54)	218	(38)	50	(25)	458	(41)
White collar	100	(29)	211	(37)	102	(50)	413	(37)
"Any job"	17	(5)	43	(7)	18	(9)	78	(7)
Don't know	26	(7)	55	(10)	22	(11)	103	(9)
No reply Not classified No job	18	(5)	47	(8)	12	(6)	77	(7)
Total	351		574		204		1 129	

As can be deduced from the table, the share of preferences for blue collar jobs is higher in Cat I, followed by Cat II and of least interest in Cat III. A reasonable interpretation of this is that a positive view about blue collar jobs depends on IE experience. At least this seemed evident in many of the answers given by the students themselves.

In a second question we tried to find out what kind of work the respondents expected. To this we find the same tendencies as to the first question. Cat I and II expect to a greater extent blue collar jobs, compared to Cat III. Also here the tendency is strongest among Cat I. We can note that an overwhelming majority in both Cat I and Cat II stated that IE would be an advantage to them in their anticipated career.

On the prospects for the future we find a consistent pattern, even if the differences between Cat I-III might not be very distinct in some instances. However, the bias towards blue collar jobs as a preference as well as actually expected among Cat I and to a certain extent Cat II, has a positive correlation to the other experience of IE. The pattern is consistent with the desires concerning further educational prospects.

0.5 Use and opinions concerning IE

On the usage of IE there might be some exaggeration of the positive views, due to our presence. Often we could be regarded as some kind of representatives of the "IE authorities". However, we have tried to get answers about more concrete facts, rather than a simple "yes" or "no" without substantiation.

To a direct question on the use of IE one year after the KCE exam, we got very positive answers. The overwhelming majority had had, according to their own opinion, use of IE. There is a slightly higher share among Cat I compared to Cat II.

We can note here that the retrospective tracer study also gave positive views on the usage of IE after the exam. However, among this group, we also traced some frustration due to a perceived lack of possibility to exploit the skills directly on the labour market. Many students tend to think of IE more as vocational, contrary to the stated aims of being pre-vocational, hence the subsequent frustration.

From the more general statements on usage of IE or not, we went into more concrete issues on how it had been used. The answers were classified into five "usage" groups:

(i) Repairing
(ii) Construction
(iii) In working life
(iv) In school/training
(v) Improve technical know-how

The most frequent use is, so far, some kind of repair work. Many examples were given about how ex-students repaired, primarily, broken furniture. Within the options of "power/electricity" we even find some repairs of different electrical appliances.

Within "construction" we find a number of usages, such as making furniture etc. This is sometimes overlapped by usage in working life. A number of ex-students are partly self-employed, making and repairing furniture. From the retrospective study we found some ex-students of IE from Kitui H.S. who had their own workshops, some even with a number of employees.

In school/training some claim IE to be useful in the further learning of science subjects, above all physics. At vocational training institutions ex-students of IE have at least an initial advantage compared to those who lack workshop training.

Finally IE gives, according to some, a more diffuse and better understanding of technological matters.

A few respondents answering "no" to the use of IE, were also requested to specify why they had had no use so far. Of these some claimed that they had gained too little knowledge from the subject. This view was most common among Cat II ex-students, compared to Cat I. On the other hand the Cat I ex-students often claimed, more than Cat II, that the reason for not using IE was due to lack of tools and other equipment.

The largest group, who had no use of IE, claimed that they lacked opportunities. This was often due to the fact that they were still at school.

0.6 Concluding remarks

From our study some more general conclusions can be drawn:

(i) There are in general small differences between Cat I-III. Where socio-economic background is concerned, the majority belong to a somewhat elite group in Kenya. Among other things their educational position classifies them in this sphere.

(ii) The academic performance among the group with IE in the exam (Cat I) was fairly similar to the other two categories (Cat II and III). IE itself seems to be a subject with rather low grades in the KCE-exam.

(iii) There are no distinct differences where occupations are concerned one year after the KCE-exam between Cat I-III. A proportionately high share obtain a place in Form V.

(iv) It seems that there are a number of Cat I ex-students who stay at home in the rural areas and support themselves by some kind of petty crafts.

(v) A future goal for many is to get some kind of further studies. However, Cat I ex-students are more inclined than the other categories to accept some kind of more specialized vocational training, often within the technical/practical field. On future working prospects students with IE have a greater acceptance of blue collar jobs. Here IE seems to have had a large impact.

(vi) Opinions expressed on IE are generally very positive. A more general need for more technical/practical education was often expressed.

(vii) Some signs of frustration on the part of IE was connected to an overestimation of the vocational possibilities of the subject.

Finally, as a concluding remark, we can note that our results do not differ substantially between Cat I-III. However, all tendencies given point in the same direction. IE is seen as a subject of high value after the KCE exam. Furthermore it is useful for adaption into a more technological society.

From Industrial Education Work Shop at Musingu High School.
Photo: Anders Närman.

1 INTRODUCTION

Tracer studies of graduates from different educational institutions are valuable tools for the evaluation of the benefits and shortcomings of programmes. There are three ways of designing a tracer study, namely:

(i) The follow up approach

(ii) The retrospective approach

(iii) The employer-oriented approach[1)]

In this report we have used the two first approaches. Sifuna (1984) makes a contribution to the same evaluation using the third approach.[2)]

In 1983 we conducted interviews with a total of 1 642 students just prior to their KCE (0-level) exams. This group was followed up with a questionnaire and additional interviews in 1984.

Furthermore we choose three secondary schools, Kitui High, Kisumu Day and Tudor Day, for a retrospective search. Here we tried to find out about the more long-term effects from these particular schools.

Our purpose with this study has been to find out what kind of impact IE as a subject has on Kenya secondary school students. Two main issues have been investigated in detail. These are:

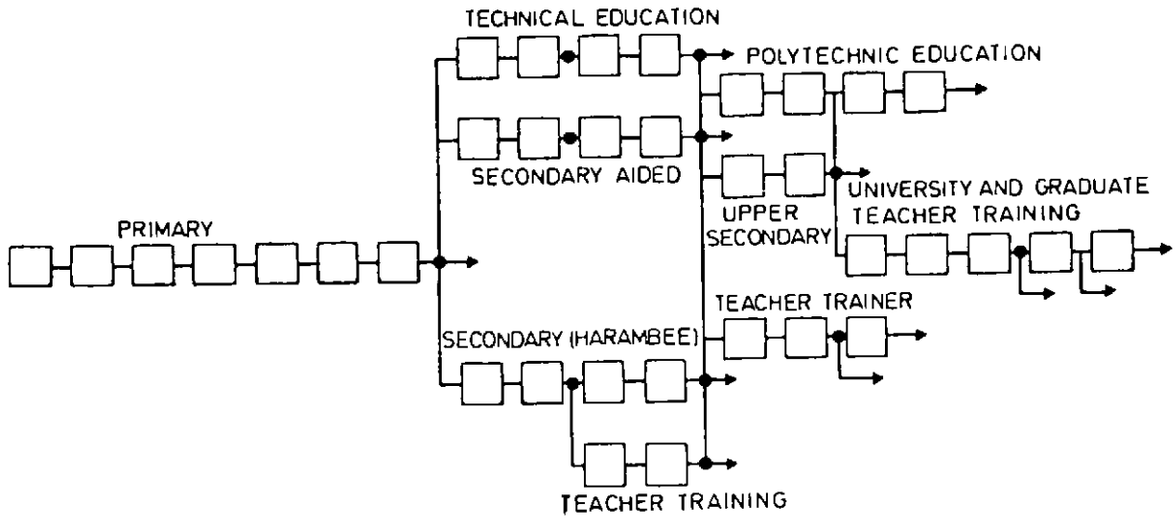
(i) Does IE improve the prospects of obtaining a job on the labour market?

(ii) To what extent does IE change attitudes?

IE, in the form presented in this paper, consists of one of the subject combinations; wood and metalwork, or power and electricity. It is offered as a part of general education at secondary level. During the first two years (Form I-II) IE is compulsory for all students. However, at the next stage (Form III-IV) it is normally taken by one stream in each school. At present the subject is offered only in a small fraction of Kenyan secondary schools.

An illustration of the total school structure in Kenya is given in Figure 1.1. We can note that this system is undergoing extensive re-organization at the present time.

Figure 1.1 The formal school structure in Kenya up till 1984.



IE has been an optional subject in the KCE exam after four years of secondary education. However, it is not offered at the upper secondary level. One further point can be made in connection with this. The basic character of IE is supposed to be pre-vocational, not outright vocational.

2 METHOD

As mentioned above, this report is primarily based on a follow-up tracer study. In all there are 35 schools offering IE within the programme sponsored by SIDA. To give a fair picture we decided on a sample of 15 of these schools. The schools were chosen to get a fair distribution in accordance with the following criteria:

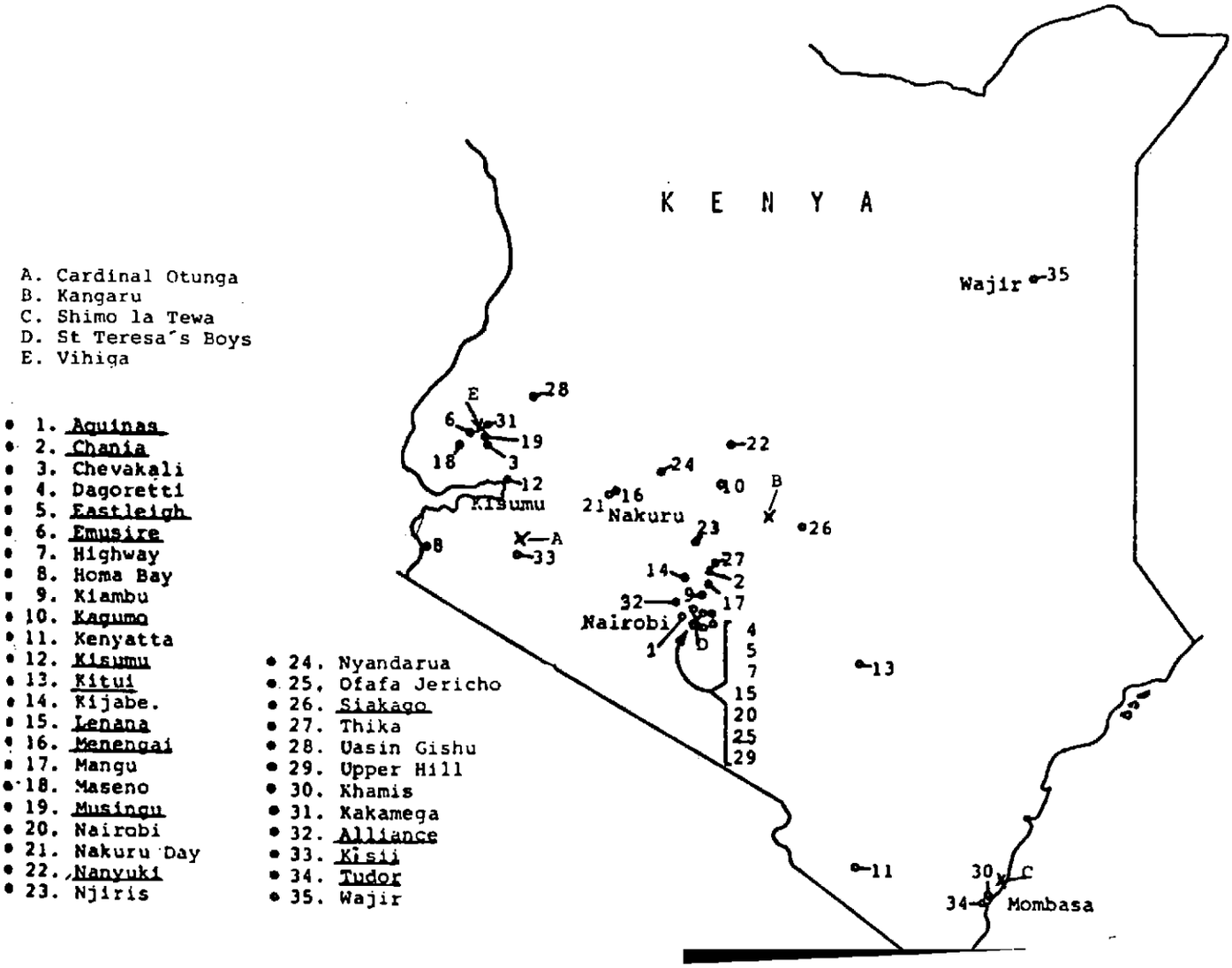
(i) Regional distribution

(ii) Academic performance generally

(iii) The two subject combinations of IE (wood/metalwork and power/electricity)

Furthermore we choose another five schools without IE in accordance with the two first criteria. The Form IV students in these schools were supposed to act as a "control" group. Map 2.1 gives the location of the twenty schools in our sample.

Map 2.1 Schools with IE (the schools in the sample underlined) and the five "control" schools.



Below we will discuss the three different categories of students used in this survey.

Category I, (Cat I) are students that took IE in their KCE exam. This is our main target group in the study.

Catebory II, (Cat II) are students of schools offering IE, who did not take IE in their KCE exam. Most of them have had IE as a subject for one, two or even three years. All of them are considered to be acquainted with the subject.

Category III, (Cat III) are students of schools not offering IE at all. Most of these students only have vague ideas about IE as a subject.

Basic background information on the students was collected by running a questionnaire in all the twenty schools. This was done during the months of October and November 1983, i.e. in close connection with the students sitting their KCE exams. As mentioned above we reached in total 1 642 students.

During the next stage (October-November 1984) we made an attempt to trace 1 514 students from the original group. The remaining 128 had not given a proper contact address. In all we got 1 080 answers, a response rate of more than 70 %. Table 2.1 gives the total number of answers per category and individual school.

Table 2.1 The number of answers from Cat I-III (in absolute numbers per category and percentage of total sample)

School	Cat I N	Cat II N	Cat III N	Total N	(%)
Aquinas	23	35		58	(67)
Eastleigh	19	47		66	(68)
Emusire	16	34		50	(77)
Kagumo	25	32		57	(68)
Kisii	12	51		68	(68)
Kisumu	28	28		56	(77)
Kitui	16	23		39	(65)
Lenana	15	52		67	(66)
Nanyuki	30	62		92	(79)
Siakago	33	30		63	(82)
Tudor	24	20		44	(77)
Alliance	12	38		50	(72)
Chania	18	30		48	(77)
Menengai	18	7		25	(69)
Musingu	26	66		92	(75)
Cardinal Otunga			62	62	(58)
Kangaru			21	21	(68)
Shimo la Tewa			25	25	(69)
St Theresa's			21	21	(57)
Vihiga			76	76	(81)
Total	320	555	205	1 080	(71)

Apart from direct answers to the questionnaire we obtained second-hand information on another 240 (16 %) ex-students. This information was given by their former school-mates during the interviews. For 194 (13 %) we were unable to obtain information about their present situation. Table 2.2 gives a breakdown of the information obtained.

Table 2.2 The information obtained from Cat I-III, in absolute numbers and (%).

	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Answers	320	(76)	555	(71)	205	(66)	1 080	(71)
Secondary info	60	(14)	119	(15)	61	(21)	240	(16)
No info	40	(10)	110	(14)	44	(14)	194	(13)
Total	420		784		310		1 514	

Apart from the questionnarie we also carried out personal interviews with 171 ex-students from a selected sample of 206. These were chosen at random from each of the three categories during the 1983 interviews.

The latter interviews were conducted in order to get a deeper understanding about certain issues. In the text below we use the interviews to a large extent to emphasize certain points. As a positive side-effect we also got some secondary information about groups we did not reach with the questionnaire. If this secondary information is included we obtained at least some information about almost 90 % of our total sample.

As mentioned above we also made a retrospective tracer study at three different schools; Kitui High, Kisumu Day and Tudor Day. To a certain extent this part of the study must be seen as a kind of exploratory exercise. Is it possible at all to obtain relevant data for ex-students from secondary schools in a country like Kenya? In total we reached or obtained information about 314 out of 481 from all three schools. This means that we acquired some information about 65 % of the total number, which must be considered fair, especially as we spent only a fortnight on this part of the study.

The results from the retrospective tracer study can be seen as giving some kind of indicators in various directions. Some general ideas can be developed from this part of the study. It will also give some long term background, as we have found ex-students of IE who graduated in 1974 from Kitui, in 1978 from Kisumu and in 1981 from Tudor.

Some respondents misinterpreted the aim of this study. Some seem to have pinned some hopes on gaining some benefit from answering the questionnaire, e.g. sponsorship for further studies. A number of our respondents are in a very strained social and economic situation and grasp, therefore, any opportunity that might appear. The receipt of our questionnaire has in some

cases been seen as such a hoped-for chance. We have tried to avoid this possible bias by cross-checking the results from the questionnaire in the 171 personal interviews. From this we believe that any misinterpretations that have occurred do not alter the basic conclusions of our study.

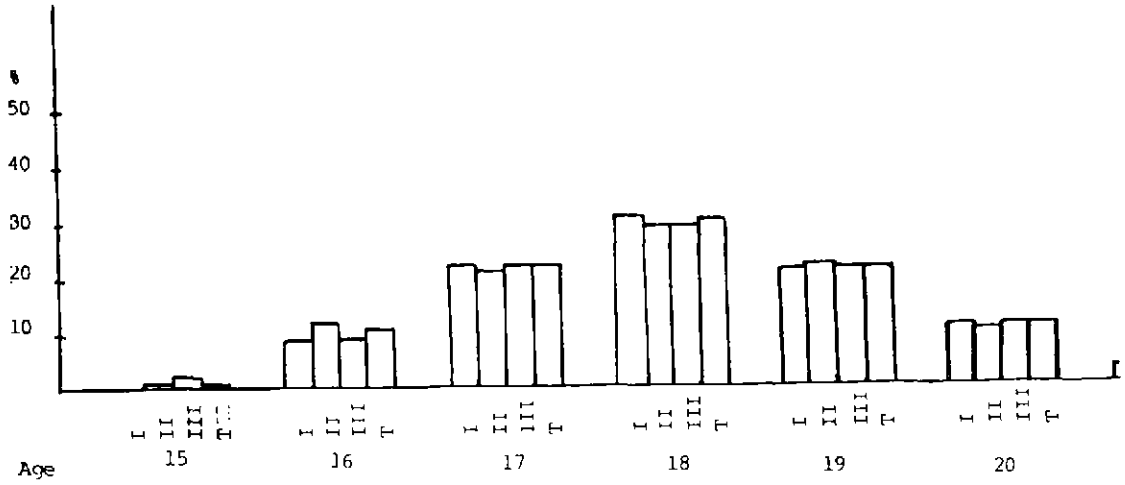
From Industrial Education Work at Kitui High School.
Photo: Jan Söderström.

3 THE SOCIO-ECONOMIC BACKGROUND OF THE STUDENTS

This part of the paper is primarily based on Occasional Paper 1984:5. Therefore the data given portrays the original sample of 1 642 from the 1983 questionnaire.[3)]

The average age for the whole group was just over 18 (at the time of the interviews in 1983), with no actual variations between the three student categories. It should be mentioned that in the Kenya school system, O-level examinations are taken after 11 years at school, the normal starting age being 6. We found out that the youngest students attending the classes were 15-16 years old, while some were as much as ten years older. The variations are due to differences in actual starting ages as well as frequent repetition. (See Figure 3.1.)

Figure 3.1 The percentage distribution of ages for the different categories



According to the Population Census 1979 almost half (44 %) of boys in the age group 15-24 received some kind of schooling.[4)] However, the boys in "our" group must be seen as being in a very favourable position. As will be seen below, all schools in our survey are Government-maintained schools, most of them graded in the highest class (i.e. A).

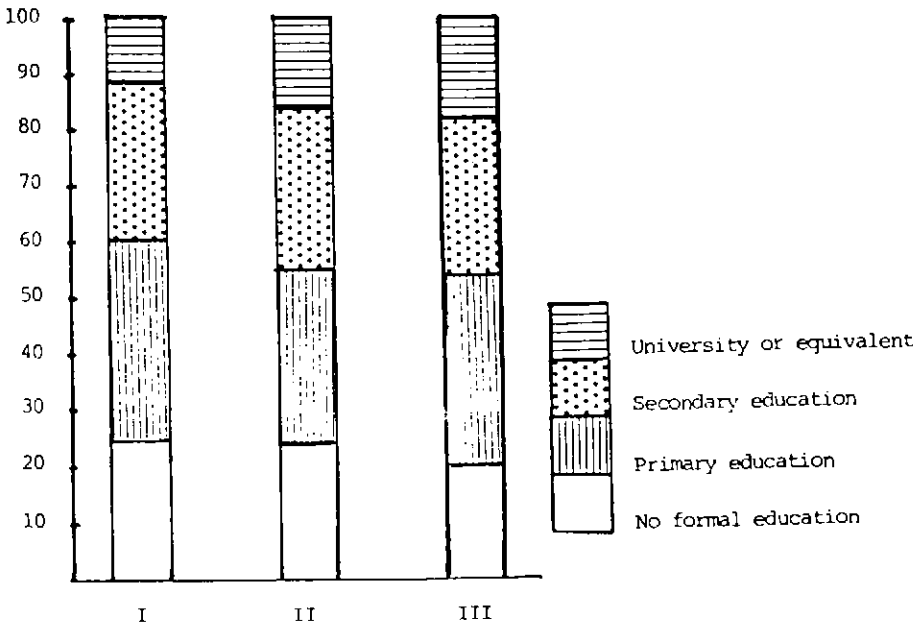
If we compare the number of boys in Form IV with the total number of boys in the age group 18 years old, we can see that only 13 % reach this level of education.[5] So in terms of education only, the respondents must be seen as belonging to a privileged elite. However, this is no guarantee for favourable treatment on the labour market. A discussion on this will be given below in Chapter 5.

Most of the students interviewed come from large families. The average number of brothers and sisters lies between 6-7, with no variations between Cat I-III. This figure could indicate that the group is rather above than below the national average.

Some indications about their family background could be given in terms of the educational and professional status of their parents. We did not include any direct questions on incomes, as the answers were thought to be too vague and uncertain. Instead we tried to find out the highest level of education obtained by both parents, and their occupations. In addition we tried to find out the estimated annual cost of the secondary schooling, as well as who is paying. Furthermore the oral interviews made gave deeper knowledge on this issue.

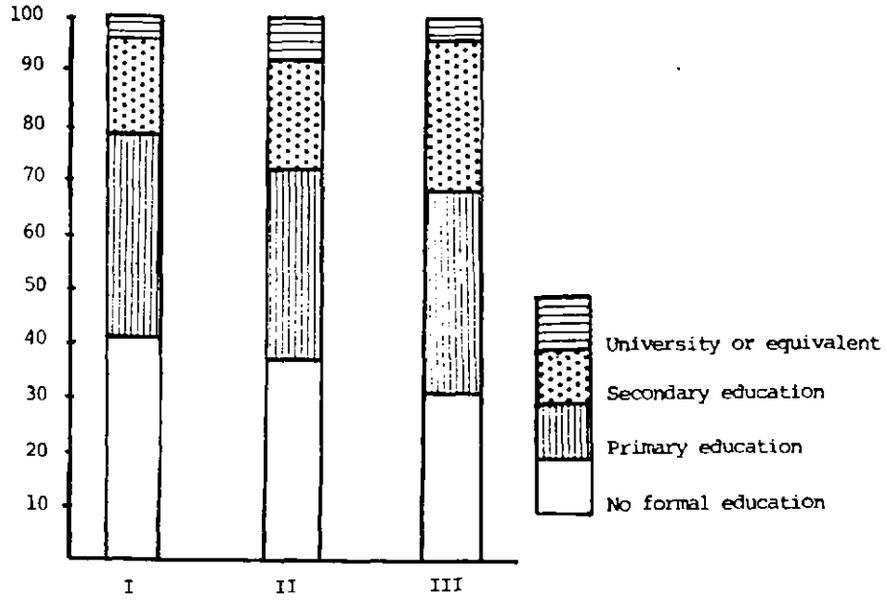
In Figure 3.2 we have given the highest level of education obtained by the fathers. Before we deal with the three categories of students, some more general comments can be made. If we make a rough estimate that the majority of the fathers are between 40-54 years old, we could get the average education for this group. From the Population Census 1979 we can find that 50 % of the males in this age group lack any kind of formal education. This is far higher than the groups given in Figure 3.2. Furthermore only 7 % of males 40-54 years old have obtained anything above primary education.[6] Among the fathers of our sample the corresponding figure is 45 %.

Figure 3.2 The educational standard of the fathers of Category I-III (8 %).



An illustration on the situation of the educational standard of the mothers is given in Figure 3.3. As expected the situation for the women is considerably different to that of the men. A nation-wide comparison such the one above gives a much higher educational standard among "our" group. Among the age group 40-54 years 83 % of the women have no formal education at all. The corresponding figure for the mothers of "our" group is 37 %. Furthermore only 1 % of the women in the total national group have any education above primary level, while within "our" group we find 27 % reached at least secondary level.[7)]

Figure 3.3 The educational standard of the mothers of Category I-III (%).



From the above we can see that the average educational background among our sample is much above the average of corresponding age-groups nationally. This is only natural as their own position educationwise is already favoured.

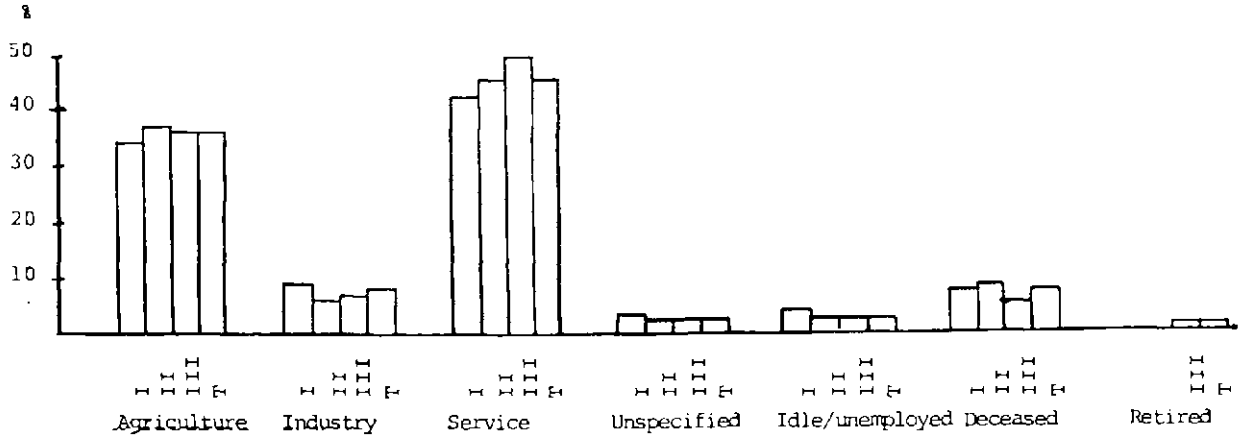
There seems to be a slight difference between those who take IE compared to the other two categories. Students who take IE generally originate from families with a weaker academic background. This could be due to the fact that the parents do not push for a purely academic career if they themselves have not received higher education.

We can also relate this to the financial situation. If education is correlated to income there might be a difference between family income in Cat I compared to Cat II and III. IE might then be seen as some kind of preparation for the labour market. However, the students in Cat I, as will be shown below, do not generally do worse academically compared to non-IE students. It can be noted that the background of students in Cat II and III is rather similar.

The educational level of the parents helps us to place the families of our respondents into a very privileged group in society education-wise. As educational level and income could be assumed to correlate with each other in Kenya, as well as in other developing countries, we can gather that the majority of the families belong to a fairly well-paid part of society.

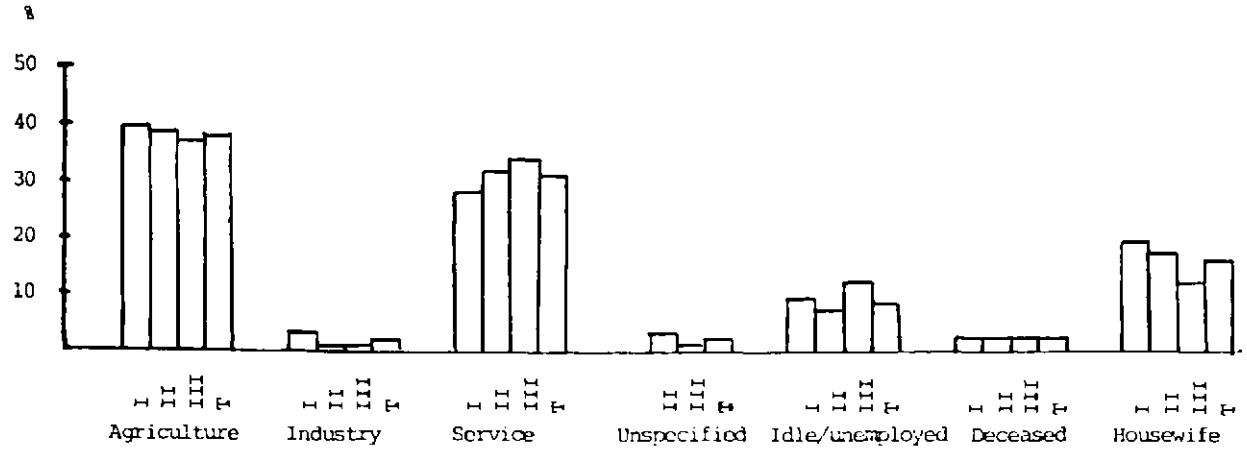
We have tried to obtain some information on the employment of the parents. We simply asked the respondent to state the occupations of his father and mother respectively. This very open question received rather broad answers. Some examples can be given. If somebody states that his father is a farmer, this could mean anything from a large-scale plantation owner with more than 1 000 acres, to a subsistence farmer with 1-2 acres. If the mother is stated to be a housewife this could naturally mean that she is also farming. Expressions such as "idle" or "unemployed" might also indicate the farming population, as the students seem to consider "employment" as different from "self-employment". Furthermore, work within the service sector could be anything from "ambassador", "M.P.", or "Doctor" to "watchman", "waiter" or"house maid". Therefore, what is stated here does not distinguish clearly about status or salaries.

Figure 3.4 The occupations of fathers of Category I-III in broad classifications.



With the above in mind we can note some indications in broad classifications on sectors of employment. This is given for fathers in Figure 3.4 and for mothers in Figure 3.5.

Figure 3.5 The occupations of mothers of Category I-III in broad classifications.



Kenya is primarily a rural society with the majority of the population directly dependent on farming activities. However, among our respondents, agriculture represents a comparatively small proportion. Most common among the fathers is some kind of service employment. The job title that predominates is "teacher".

It is evident that a large proportion of the parents are in some kind of salaried employment or self-employed in some kind of business. A comparison between Cat I-III indicates that service employment among parents is most common for non-IE students (Cat II and III). On the other hand the age group with IE (Cat I) more often have parents in various industrial jobs. Possibly these parents are less opposed to more practical subjects. We can also note that only a minority state that their parents are unemployed or retired.

Some further data on students can be given from the oral interviews. Almost 40 % of the students in this particular group had parents in the middle income bracket, service sector. Another 15 % have parents in the service sector, with approximately the same number in the low and high income brackets. 40 %

have an agricultural background, the majority having farmer status. A lower number originate from an industrial/manual background.

We can also make a comparison with the data given in Occasional Paper 1984:4 on ex IE students from Kitui, Kisumu and Tudor. In this instance there is an obvious urban-rural bias. Most of the parents from the group interviewed as former Kitui High students originated in the agricultural sector. For both Kisumu and Tudor there is a more ethnically mixed background compared to Kitui. Most of the parents from these two schools are in some wage earning employment, or, for the non-African population, in business. However, for Kisumu, among the African group, it is common that at least one of the parents works in agriculture.

One last indication on the social situation and economic background of the respondents can be given as the annual cost of schooling. We have to note that estimates were made by the students themselves. The accuracy might be questioned, but probably it can give a rough idea. There are also large variations between the individual schools in the sample.

The average annual cost of schooling is given to be above 3 000 K Sh. This sum can be compared to an average annual salary of approximately 16 500 K Sh among wage earners.[8)] If we assume large families of 7-8 children, the amount paid for education is very high. The background description above indicates, however, that the majority of our respondents come from fairly well-off families.

In more than three quarters of all cases the parents are the ones paying for the schooling. In a smaller number of cases we find some other relatives, such as brothers, sisters, or uncles among the contributing groups. Sometimes school fees are paid by different welfare societies. Students here are probably those who do not come from the more affluent families.

From our oral interviews we can notice definite problems in the payment of fees among a number of students. This was particularly obvious in rural schools, from which students sometimes had to miss whole school-terms for financial reasons. According to Occasional Paper 1984:4 this seems to be an obvious factor affecting the rural students from Kitui. However, at Kisumu and Tudor, parents or some other relatives are able to manage the fees. Consequently these students avoid this kind of inconvenience.

From our first questionnaire (1983), confirmed to a certain extent in the oral interviews, the following general comments can be made on the socio-economic background of our sample.

(i) By being in Form IV in a Government-maintained school, the boys in our sample belong to an educated elite in Kenya. Normally they also originate from families with educational standards well above the average. However, among the group we can find some whose parents lack formal schooling altogether. These students thus represent a first educated generation.

(ii) There seems, on average, to be a higher educational standard among parents of the non-IE students (Cat II and III) compared to those who take IE in the exam (Cat I). This might be due to less pressure for purely academic studies from parents as well as due to financial circumstances.

(iii) Where occupations are concerned we find a rather high amount of employment in various types of service sector jobs. Also here non-IE students (Cat II and III) are more dominant. Within industrial occupations, however, IE-students (Cat I) are more common. Here a more practical or industrial parental background might give a different attitude towards practical subjects in school.

(iv) The cost of schooling is rather high. Probably the parents of our respondents have above-average salaries. Otherwise more difficulities would have been indicated in financing the schooling of many children.

4 EDUCATIONAL AND ACADEMIC STATUS

In Chapter 3 we touched on the situation of "our" group education-wise. Our conclusion was that their very situation (1983), as Form IV-students in Government-maintained schools, in itself constituted a privilege.

Entrance into secondary education is determined by the results at the end of primary school (see Figure 1.1). This exam is called the Certificate of Primary Education (CPE). It is divided into three papers, namely English, Mathematics and General Paper. To get into a desired school at secondary level the student has to score as high a number of points as possible, the maximum being 36.

The average score for the students in our sample was just over 30 points in the CPE exam. We can note that the IE students (Cat I) had a slightly higher score than the others. However, the differences between Cat I-III are rather small. However, we find considerable variations between the individual schools. This is illustrated in Table 4.1.

Table 4.1 The points scored at the CPE exam for all schools in rank order.

School	I	II	III	Total
1. Alliance	36.00	35.71		35.76
2. Kagumu	35.31	33.69		34.32
3. Menengai	33.77	32.71		33.57
4. Lenana	34.66	32.99		33.42
5. Cardinal Otunga			32.82	32.82
6. Chania	32.33	32.44		32.38
7. Kisumu	33.19	31.00		31.90
8. Nanyuki	31.53	31.75		31.69
9. Shimo la Tewa			31.48	31.48
10. Kisii	30.64	31.04		30.94
11. Kangaru			30.71	30.71
12. Aquinas	32.39	29.10		30.28
13. Kitui	27.81	30.97		29.61
14. Siakago	29.65	28.88		29.25
15. St Teresa's Boys			28.89	28.89
16. Musingu	30.59	27.91		28.58
17. Emusire	29.07	27.70		28.19
18. Eastleigh	26.58	26.69		26.65
19. Tudor	26.82	25.65		25.20
20. Vihiga			24.62	24.62

From Table 4.1 we can note that in 10 out of the 15 schools the IE students had better CPE results compared to non-IE students. At the four top schools, Alliance, Kagumo, Menengai and Lenana, we can see that IE students are distinctly above the others. Thus, we can conclude that a practical subject, like IE, is not shunned by the academically best students.

IE as a subject is at present offered to a minority of the Kenyan Form IV-students. In 1983 there were more than 100 000 students sitting for the KCE exam after Form IV.[9] At the same time the number of secondary schools were well over 2 000. However, the quality and subsequent academic performance differs considerably between individual schools. Therefore, it could be of value to put the IE schools into a national perspective.

Less than half (46 %) of the Form VI-students in 1983 were attending Government-maintained schools.[10] As mentioned above all the 35 SIDA-sponsored IE schools are classified in this group. Furthermore, the individual schools were graded "A" to "D" according to the amount of educational facilities available. "A" stands for the best equipped schools.

Altogether there are approximately 300 schools graded "A"-"B". Here we find all the 35 IE schools, with 27 of these graded as "A" schools. In our sample of 15 IE schools only Emusire, Siakago and Musingu are "B" schools.

Normally it can be assumed that recruitment to a certain secondary school is from the same district or at least province. Some 20 schools, however, have national catchment areas. These are supposed to be the best performing schools in the country. In our total sample Alliance and Lenana belong to this group.

The Nairobi schools; Aquinas, Eastleigh, Lenana and St Theresa's, constitute an exception to what is said above, and recruit from the whole country. In all of these just over one third of the students originate from Nairobi. All of these schools, except Lenana, are day schools, which means that the students normally live with their fathers or other relatives, who might be employed in the city. To a certain extent the same also applies to Tudor in Mombasa. Among the other schools Alliance has the broadest geographical base for recruitment.

All the schools, apart from those named, recruit locally. The majority of the students in the sample (67 %) are from rural schools.

In Occasional Paper 1985:I we gave an analysis of the group we reached one year after the exam. This means that what is said below is based on 1 080 students. However, in terms of performance in KCE there are fairly small differences from the 1 642 students described above. Therefore, we can assume that, at least academically, the group dealt with below is representative of the original sample.

The KCE exam consists of a number of papers on different subjects. Each paper is marked on a 9 point scale (1-2=Distinction, 3-6=Credit, 7-8=Pass, 9=Fail). A grade aggregate is constructed out of the best six subjects, which, consequently, can be anything from 6 to 54. Another classification is given of the overall results in divisions, with Div I as the best. Those who do not reach a certain required level are classified as failures.

Initially we will make a comparison between Cat I-III in the grade aggregate results. Average aggregates of the six best subjects for Cat I-III are almost identical, or 35.1, 34.4 and 34.4 respectively. It could be mentioned here that, if the total group of students in the twenty schools from 1983 had been included, the figures would have been 34.9, 34.9 and 33.9 respectively. It is consequently evident that there are no significant

differences between IE and non-IE students academically, in respect of total grade aggregates.

A comparison between individual schools reveals a much larger diversity than the figures for the total sample. Table 4.2 gives the grade aggregate per school in ranking order.

We have to mention the very small sample from Menengai Cat II students. This might slightly misrepresent this school. There is also a rather small number taking IE at Alliance. However, in our sample we have 12 of the total 15 IE students at Alliance 1983.

Table 4.2 Average grade aggregate in 1983 KCE exam, by school and category, by rank order.

School	Total	Cat I	Cat II	Cat III
Alliance	18.96	13.25	20.76	-
Lenana	27.43	29.40	26.86	-
Cardinal Otunga	29.09	-	-	29.09
Kangaru	29.19	-	-	29.19
Kagumo	29.41	30.16	28.81	-
Menengai	31.32	30.28	34.00	-
Siakago	31.96	32.03	31.90	-
St Theresa	34.86	-	-	34.86
Shimo la Tewa	35.04	-	-	35.04
Kisii	35.25	38.47	34.16	-
Nanyuki	35.50	37.37	36.60	-
Kisumu	35.30	35.43	35.18	-
Musingu	35.83	37.92	35.00	-
Aquinas	36.22	27.21	42.14	-
Chania	37.23	28.45	36.83	-
Kitui	38.40	39.00	38.00	-
Vihiga	39.87	-	-	39.87
Tudor	41.57	43.75	38.95	-
Emusire	41.94	39.38	43.15	-
Eastleigh	43.19	47.53	41.32	-
Average	34.64	35.08	34.42	34.41

From Table 4.2 we can see that in schools such as Kagumo, Siakago, Kisumu, Chania and Kitui, the grade aggregates for Cat I and II are fairly similar. A distinctly better performance

for Cat I students can be observed at Alliance, Menengai, Aquinas and Emusire. For Aquinas, a school well below average in rank, the Cat I students are second only to Alliance in this category. Cat II students from Aquinas, however, are, on average, in fourteenth position out of the 15 IE schools. The last position among Cat II students is taken by Emusire, while as mentioned above the Cat I students from this school show a somewhat better result. Nanyuki, Kisii, Musingu, Tudor and Eastleigh are schools in which the IE students are doing much worse than the rest of the students. At this stage we can find no actual pattern in this context. For this we would need to be aware of selection procedures for IE in Form III and IV for individual schools. This selection can be influenced by factors such as the reputation and status of IE as a subject among teachers and students. Furthermore such a trend might change over a period of time. In any case this indicates that there are no uniform selection procedures for a subject such as IE. The picture we obtained about this from the oral interviews was very diverse.

We have also tried to analyse our three categories in relation to the two academic subjects taken by all students in the KCE exam, namely English language and Mathematics. Table 4.3 gives the average points in these two subjects.

Table 4.3 Average grade for English language and Mathematics in the KCE exam 1983 for Cat I-III.

Subject	Total	Cat I	Cat II	Cat III
English	6.48	6.66	6.39	6.46
Mathematics	5.92	5.59	6.05	6.06

From the Table 4.3 we can see that on average the points for Cat I students are below Cat II and III in English language. On the other hand it is obvious that in Mathematics the Cat I students are better than Cat II and III. This might be caused by the fact that Cat I students are more often grouped together in streams that are biased towards Mathematics, i.e. science subjects.

Among those interviewed it seems that science subjects have been taken by a clear majority of the Form V-students. However, proportionately, this tendency is strongest among Cat I followed by Cat II and weakest among Cat III.

Table 4.4 gives a comparison of the points attained in IE in relation to the average for the six best subjects, English and Mathematics for Cat I students. We can here note that the students are not doing so well in IE compared to the other two subjects, both if we compare the total sample in the twenty schools, and the Cat I students only. This is contradictory to the feeling expressed in the 1983 questionnaire: that it was easy to get good grades in IE. It has been argued in the interviews that one of the reasons for this might be that IE cannot be taken up to A-level and therefore the students do not give the subject enough attention in the exams.

Table 4.4 Average points in Grade Aggregates/6, English language, Mathematics and IE in the 1983, KCE exam by school in rank order. Cat I only.

School	G.A./6	English	Mathematics	IE
Alliance	2.21	2.67	2.95	3.92
Aquinas	4.46	5.24	3.04	4.49
Lenana	4.90	5.00	3.93	5.13
Kagumo	5.03	5.92	4.12	6.92
Menengai	5.05	6.22	4.83	5.39
Siakago	5.34	6.79	5.97	7.88
Kisumu	5.90	6.45	4.49	5.38
Nanyuki	6.23	6.63	6.57	7.77
Chania	6.42	7.27	5.43	7.38
Musingu	6.32	7.31	6.46	7.62
Kisii	6.41	7.41	6.59	7.47
Kitui	6.50	7.25	7.00	7.31
Emusire	6.56	8.06	7.00	4.63
Tudor	7.32	7.64	7.22	8.65
Eastleigh	7.92	8.63	7.79	8.61
Average	5.85	6.66	5.59	6.75

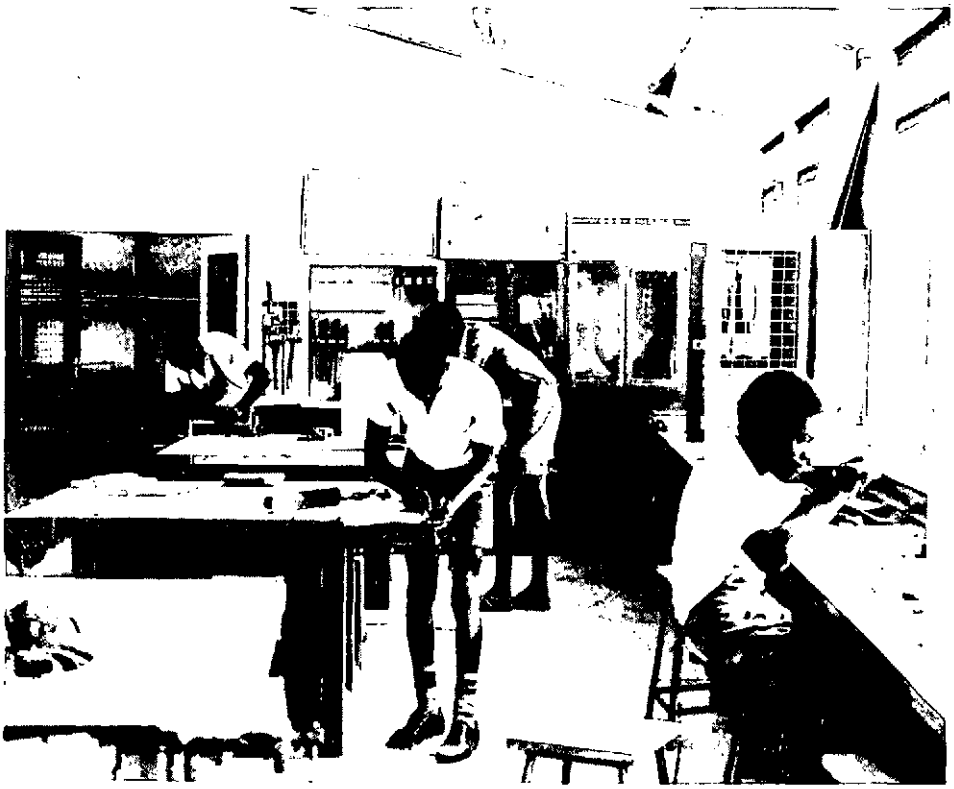
We can note the good results for IE in Emusire, which are well above the average Cat I results in that school. Therefore it seems that IE, based on the KCE results, is held in high repute among students as a valuable subject compared to other subjects at that particular school. From the questionnaire of 1983 we could find that a low number of students at Emusire, compared to other schools, wanted to continue their education. Exceptionally few indicated a desire to continue to Form V and further formal schooling. This could be taken as a sign of realism on part of the students, if their general academic performance is considered. On the other hand the data showed that among Cat I students there was a strong feeling that IE would help them in their future job career. Emusire is a school with rather poor results, and consequently few chances for the students to enter Form V. IE is therefore seen as the chance to get suitable skills for the labour market.

From Table 4.4 we can conclude that most of the schools take the same position for Cat I exclusively as for the total Cat I and II. The most notable exception here is Aquinas which is below average in the sample for the whole school, but the second school for Cat I alone. Furthermore we can note that for the individual subjects Cat I students do better in Mathematics compared to English, with the sole exception of Alliance.

In one school, Emusire, IE itself shows a considerably better result compared to the average among the six best subjects. Aquinas, Menengai, Kisumu and Eastleigh show better results in IE compared to English. However, in none of these schools, except Emusire, are the average results of IE better than those for Mathematics.

One conclusion on academic performance is that the total sample is well above the average Kenyan KCE candidates. We can note that, while on average only 10-15 % of the Form IV students manage to get a Div I or II, we find the corresponding figure for "our" group at 42 %. This has to be kept in mind as we move to a discussion about occupations one year after the exam.

Furthermore for the whole sample there is no distinct difference between the IE students (Cat I) and the non-IE students (Cat II and III). However, it can be mentioned that the very best students, with Div I, are more frequent in Cat II (16 %) and Cat III (16 %), than Cat I (12 %). On the other hand we find the lowest percentage of outright failures among Cat I.



From Industrial Education Work Shop at Kitui High School.
Photo: Jan Söderström.

5 OCCUPATION ONE YEAR AFTER THE KCE EXAM 1983

From the initial study of the 1983 Form IV-students, it was obvious that a clear majority wanted to pursue their education further. More than 90 % stated that they wanted to continue their education beyond Form IV. There were no distinct differences between our three categories in this respect. Furthermore we could conclude that priority was given to Form V, and thereafter university.

However, the prospects of obtaining a place in Form V are limited. Out of the total number of Form IV leavers nationwide only some 10-15 % are able to enter Form V immediately. However, as seen above, our sample is in a somewhat advantageous situation compared to average Kenyan students.

For those who do not enter Form V the prospects are rather limited. The options are normally, thus:

(i) Repeat Form IV,

(ii) Obtain some kind of employment or self-employment

(iii) Continue in some college or training institute,

(iv) Look for a job or further education.

Below we will give a description of the initial activities of our sample, one year after the KCE exam. We will give an account of the present occupations (Oct-Nov 1984), and possible disparities between categories and schools.

In all we had 1 080 responses to the question concerning present occupation. The phrasing of the question was:

"What is your present occupation? Tick the right one.

a) In school.....

b) At work.....

c) Looking for work or school.....

d) Other.....

If at school, which school.....

If at work, what kind....."

Below we have abbreviated all those answering: "looking for job or school" as simply "looking". A majority of the ex-students in this group are basically unemployed. It will be evident below that most of those here classified in the group "looking" are not totally inactive and not without means to earn some money. In some cases we find a few indicating that they are helping parents on a small shamba (plot of agricultural land). We can assume that this is not the activity they planned their education for. Naturally some might be partially idle during some time voluntarily.

Those who are classified as "working" have at least some kind of formal part-time or full-time agreement with an employer or are self-employed on a more or less full-time basis.

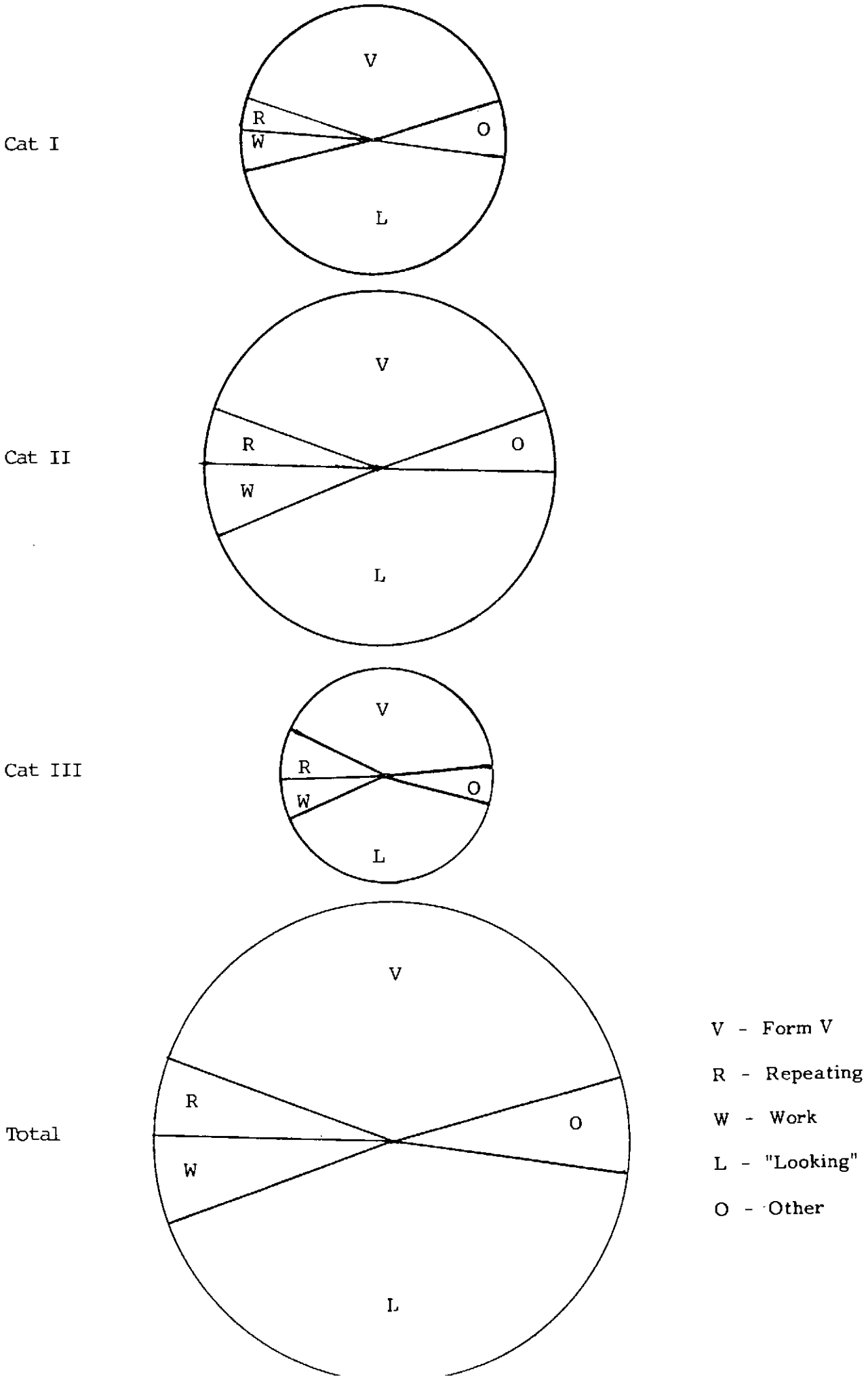
The group at school have been classified as "repeaters" or in Form V. In almost all cases it was actually stated or obvious which was applicable. We have also included all kind of colleges and other kind of training institutions from this group. These have been classified as "other". What is included in this group is stated below.

Table 5.1 The break-down of activities of our sample on the stated premises.

Activity	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(5)	N	(%)	N	(%)
Form V	127	(40)	219	(39)	88	(43)	434	(40)
Repeating	12	(4)	30	(5)	13	(6)	55	(5)
Work	18	(6)	39	(7)	11	(5)	68	(6)
"Looking"	143	(45)	240	(43)	81	(40)	464	(43)
Other	20	(5)	27	(5)	12	(6)	59	(5)
Total	320		555		205		1 080	

As can be noted from Table 5.1 and Figure 5.1 there are very slight differences in present occupations between Cat I-III. Below we will give a more detailed account of the different activities, but first we will try to see how representative these

Figure 5.1 A break-down of Cat I-III into different occupations.



1 080 ex-students are of the total group of 1 514. The means we have to do this are mainly by a comparison of academic results in their KCE exam. In this context we are also using the secondary information.

Out of the total sample the respondents constitute 71 %. As was seen above we obtained secondary information on another 240 (or 16 %) ex-students. If these were added to our respondents we would get 44 %, 46 % and 48 % in Form V for Cat I, II and III respectively. On the other hand, the rate of "looking" would be reduced to 40 %, 38 % and 34 % respectively.

If we were to base our results on direct questionnaire answers and secondary information obtained, it would mean that the percentage in Form V would increase from 40 % to 46 %. Furthermore, we would also notice that the share of "looking" is substantially reduced (43 % down to 38 %). Other activities do not show any significant differences if the second-hand information is included.

However, we cannot assume that the ex-students not accounted for as respondents or by second hand information, are not biased to the rest of the sample. It seems that it is easier to know the whereabouts of former school-mates who do well in their exams and continue their education, especially as a high number continue in the same school where they took their KCE exams. For that reason we need some other criteria to make a more accurate estimation.

A place in Form V is primarily determined by academic performance in the KCE exam. Normally students with Div I or II continue directly to Form V, while the rest are left to the other activities mentioned above, mostly "looking". Naturally we find a few Div I and II:s who not take up a place in Form V, mostly due to financial reasons. On the other hand we also find a smaller number with Div III or even IV, who succeed in securing a place in Form V.

Although it is impossible to make any definite calculations based on the group for which we did not obtain direct or secondary information concerning their present situation, some likely assumptions can be made based on their KCE results. The academic performance in the KCE exams for these 194 ex-students was on average far worse than the average among the respondents and for those whom we obtained secondary information.

For the whole group of 1 514 ex-students we can assume that the percentage share of different occupations one year after the KCE exam is as given in Table 5.2.

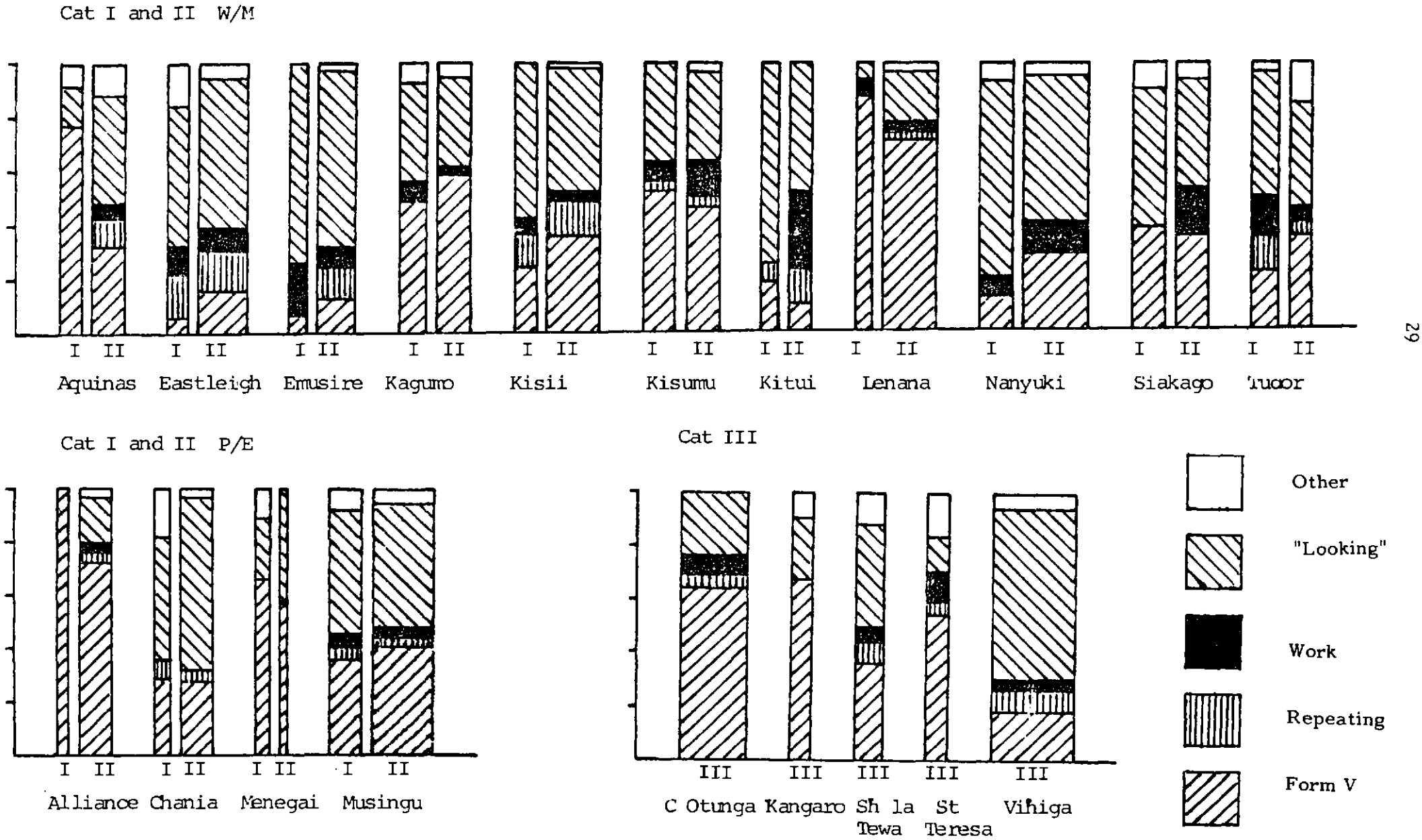
Table 5.2 Estimated percentage share of activities one year after the KCE exam based on the whole sample.

Activity	Cat I	Cat II	Cat III
Form V	40-41	39-42	42-45
Repeating	5	6	7
Work	6	7	5
"Looking"	43-44	42-44	37-40
Other	6	4	5

From the above we can assume that the actual activities of the total sample is fairly close to our 1 080 respondents. The share of the groups "looking" and in Form V might differ by 1-3 % in any category. The conclusion, therefore, is that we cannot find any substantial differences between Cat I-III when it comes to initial occupations after Form V. From this also follows that there are no direct visible short-term advantages on the labour market for students with IE based on these data.

Even if we cannot find any actual diversity between Cat I-III concerning occupation one year after the KCE exam, there are considerable differences between individual schools. This is illustrated in Figure 5.2.

Figure 5.2 A break-down of Cat I-III into different occupations by school.



From Figure 5.2 we can see that from schools like Alliance, Lenana, Menengai, together with the "control" schools, Kangaru and Cardinal Otunga, more than 60 % continue directly to Form V. Of these the sample for Menengai is rather small. In all three schools mentioned with IE, it seems that the Cat I ex-students succeed better compared to those from Cat II. The same can be observed for Aquinas, another school with more than half of the graduates in Form V. For this school this is obvious considering the academic performance given above in Chapter 4.

The reason for the diverse situation between individual schools is to be found in the academic performance among the 1983 KCE results. When it comes to the difference within the individual schools this is also determined by the performance among those who take IE and those who do not. As mentioned above, the selection for IE in Form III-IV is not uniform among the schools.

Table 5.3 is an attempt to illustrate the relation between academic performance and present occupation.

Table 5.3 The occupations one year after the KCE exam in relation to academic performance (%).

Occupation	Div I+II	Div III+IV	Failures
Form V	78	15	0
Repeating	0	8	16
Work	4	7	16
"Looking"	17	61	60
Other	1	9	8
Total	100	100	100

For those who attained either Div I or II, we can see that 78 % are now to be found in Form V. However, we can observe that many are out of formal schooling or employment. Among the group Div III, IV or Failures not less than 60 %are looking for some form of schooling or employment.

Below we will give a description on the group according to occupation one year after the KCE exam.

5.1 Continued education

In 1984 we found a total of 549 (51 %) in some kind of formal schooling or training. The majority of these are to be found in Form V. From Table 5.4 we can find the Form V population divided into Div I-IV and Cat I-III.

Table 5.4 The academic performance of the present Form V-students by Cat I-III.

Division	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Div I	37	(29)	80	(37)	30	(34)	147	(34)
Div II	67	(53)	99	(45)	37	(42)	203	(47)
Div III	20	(16)	37	(17)	21	(24)	78	(18)
Div IV	3	(2)	3	(1)	0	(0)	6	(1)
Total	127		219		88		434	

The very best high schools in the country are able to select the very best of the Div I:s. These are also the same schools that constitute the main recruiting base for the university. It was often said in schools we visited that the particular school did not manage to get enough students to the university. It might therefore not merely be enough to reach Form V, it is also necessary to have a good enough score to reach one of the best schools.

In all 350 students (81 %) of those who reach Form V have either Div I or II. It was noted above that there was no distinct difference in performance academically between Cat I and Cat II students. However, it must be pointed out that the very best students with Div I are from Cat II. IE might not be included as an option within the streams for the students that as early as Form I-IV are given the highest chances of reaching university level at

a later stage. A rather vague conclusion from this might be that Cat I will eventually have a smaller chance of achieving university education. Naturally there might be differences between individual schools.

As can be noted 84 (19 %) of the Form V-students have Div III or worse. Most of them are to be found in private or other high cost schools. Normally we can assume that this would be a second chance for those who come from more affluent families. However, the achievement of their goal of university studies (see below) might be doubtful. On the other hand there is a chance that the individuals within this group will be able to be sponsored for further studies overseas.

There are a number of Form IV-leavers that are trying to improve their results by repeating. Some are even going back to Form II and III again. Altogether there are 55 repeaters in the sample. Out of these 12 are Div III, 34 are Div IV and 8 are failures (on one there is no information on the result). From our interviews we could notice that many of the repeaters were at schools of rather low standard, with limited facilities. Many of these schools lack both water and electricity. It also seemed that, judging from "mock" exams, there was no visible improvement in academic performance. A general feeling might be that those who tried to go back to fairly good schools at an earlier level might have the best chances of success. However, this would naturally constitute a considerable financial burden for many.

The 59 ex-students classified as "other" are mostly in some kind of specialized training. Table 5.5 gives a break-down of the group according to academic performance and Cat I-III.

Table 5.5 The academic performance for the group "other" by Cat I-III.

Division	Cat I N	Cat II N	Cat III N	Total N	(%)
Div I	1	1	0	2	(3)
Div II	0	4	0	4	(7)
Div III	13	16	7	36	(61)
Div IV	5	5	3	13	(22)
Fail	1	1	2	4	(7)
Total	20	25	12	59	

From Table 5.5 it is evident that the group "other" are mostly those that managed to get either Div III or IV (83 %). Instead of aspiring for further education initially (either repeating or Form V within a low-status high-cost secondary school), they have opted for some training directly connected to the labour market. Table 5.6 gives the nature of activities for this group per school and category. In some cases the information given from this group has been a little vague.

Naturally no definite tendencies could be obtained from such a small number as in Table 5.6. This is especially the case if we also account for the fact that institutions like Polytechnics and Institutes of Technology offer both technical/practical courses as well as business/accounts. Terms like "college" and "course" are used here to any kind of vocational training.

With the small number in mind we can say that the Cat I students are slightly more inclined towards technical/practical courses. For Cat II and III there might be a higher tendency towards vocational training within business/commerce/accounts.

For the group that continued their education it is difficult to measure any effects of IE as a subject in relation to a future working career. A tracer study 3-5 years after the KCE exam might clarify attitudinal changes among this part of the sample.

Table 5.6 Kind of activities for the group "others".

School	Cat I
Aquinas	Volunteer work (hospital)
	Private Studies (accounts)
Eastleigh	RIAT (Institute of Technology - mechanics)
	Kenya Polytechnic
	Training (carpentry)
Kagumo	Utalii College (Tourism Industry)
	KIST (Institute of Technology - plumbing)
Nanyuki	RVIST (Institute of technology)
	KIST (Institute of technology)
Siakago	Training (mechanic)
	Training course
	Village polytechnic
Tudor	Bukara Institute of Agriculture
Chania	Kenya Polytechnic
	Animal Health and Industry Training Institute
	Christian Industrial Training Centre
Menengai	College
	Thika Commercial
Musingu	Kenya Polytechnic
	Institute of Technology

School	Cat II
Aquinas	Kenya Polytechnic (2)
	Training (mechanic)
	College (accounts)
Eastleigh	RVIST (Institute of Technology)
	University (India)
	College
Emusire	College
Kagumo	Accountancy course (2)
Kisii	Institute of Technology
Kisumu	Private College
Lenana	College (2)
Nanyuki	Private Studies
	Nyanza Commercial College
	Kenya Polytechnic
Siakago	Medical Training Center
	Accounts
Tudor	Mombasa Polytechnic (2)
	Training (electrical engineer)
Alliance	Embu Institute of Agriculture
Chania	Kirinyaga Institute of Technoloyg
Musingu	Training
	Institute of Technology

School	Cat III
Kangaru	Police training
	Kirinyaga Technical Institute
Shimo la Tewa	Village Polytechnic
	College
St Teresa	College
	College (electric)
	College (accounts)
Vihiga	Accounts (2)
	Course
	College

However, it is important to illustrate the high number that are actually able to continue their education. This is a strong confirmation on what was said above about socio-economic background.

In any case it is definitely important to expose this part of society to technical/practical subjects at secondary schools. Especially since, as will be shown below, the general opinion of IE is very positive.

5.2 The group out of school or training

Almost half of the respondents, or 525, were out of the formal educational structure one year after the KCE exam. These were either looking for some kind of employment or schooling, or working. Below we will se that very few regard themselves as out of the school system for good.

If the exam results are not good enough for further schooling, or if one lacks the financial means, the prospects of entering the formal labour market are limited. Therefore, we find a large number of the sample looking at present for work or some kind of educational institution (our group "looking") one year after the exam.

Table 5.7 gives the academic performance of the group.

Table 5.7 The academic performance of the group "looking" by Cat I-III.

Division	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Div I	1	(1)	7	(3)	1	(1)	9	(2)
Div II	20	(14)	30	(13)	18	(23)	68	(15)
Div III	72	(51)	118	(51)	32	(41)	222	(49)
Div IV	44	(30)	63	(26)	21	(27)	128	(27)
Fail	6	(4)	17	(7)	7	(9)	30	(6)
Total	143		235		79		457	

From Table 5.7 we find that, given the opportunity, at least 17 % would easily gain admission to Form V and further education. However, as mentioned above for different reasons, mostly financial, there are difficulties in continuing.

Some within this group might succeed in their stated efforts to gain admission into some kind of school or training. However, for the bulk of this group, especially for those who obtained only Div III, IV or failed, the only possibility would be to find some kind of employment or to be self-employed. For the latter much hope appears to be pinned on IE as a subject.

In a large number of cases during the oral interviews, the respondents said that one of the very positive sides of IE is the possibility for self-employment. Furthermore, when talking about the new emphasis on practical subjects in the Kenyan school-system, self-employment was often brought up as a positive aspect. Only in very few cases did some of the interviewed suggest the possibility of over-production within the practical field. The positive views on practical subjects reflect the general trend in official government statements and newspaper articles during 1983-84.

Within the sample we found 68 (6 %) working in some form of employment or as self-employed. The academic performance of this group is given in Table 5.8.

Table 5.8 The academic performance of the group at work by Cat I-III (two missing).

Division	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Div I	0	(0)	1	(3)	1	(9)	2	(3)
Div II	2	(12)	7	(18)	5	(45)	14	(21)
Div III	6	(35)	15	(39)	0	(0)	21	(32)
Div IV	7	(41)	12	(32)	2	(18)	21	(32)
Fail	2	(12)	3	(8)	3	(27)	8	(12)
Total	17		38		11		66	

First we have to note that the percentage figures in Table 5.8 are calculated on very small numbers. A slightly lower share is employed in Cat I than in Cat II and III. More than three quarters of the total employment group are Div III, IV or failures. In most cases the likely qualification for job has not been the Form IV-exam. It was said in too many interviews that a bad result in the KCE exam is worth next to nothing on the labour market.

Compared to those not working, in the group "looking", the ones working are not stronger academically. From our retrospective tracer study we often met the opinion that social contacts were more valuable for employment than skills and qualification.

We have also classified the different jobs mentioned into a number of broad characteristics. These are given in Table 5.9.

Table 5.9 The group at work by types of jobs and Cat I-III.

Type of job	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Technical/ practical	7	(41)	14	(35)	1	(9)	22	(32)
Office	0	(0)	5	(13)	3	(27)	8	(12)
Agriculture	0	(0)	2	(5)	1	(9)	3	(4)
Business	3	(18)	4	(10)	0	(0)	7	(10)
Service	4	(24)	5	(13)	1	(9)	10	(15)
Teaching	0	(0)	5	(13)	5	(45)	10	(15)
Self employed	2	(12)	4	(10)	0	(0)	6	(9)
Not specified	1	(6)	1	(3)	0	(0)	2	(3)
Total	17		40		11		68	

As was the case in Table 5.8 the percentage figures in Table 5.9 are calculated on just a few individuals, which means that the results ought to be interpreted with care. Nevertheless we want to draw the following conclusions from the data.

The types of jobs that dominate Cat I and II are technical/practical ones, and this is more so in Cat I than in Cat II.

On the other hand office jobs and teaching dominate in Cat III. This means that, Cat I and II, to a certain extent, manage to gain employment in the technical/practical field, as opposed to those who have never been exposed to IE. Quite a number of these ex-IE students could be regarded as at least semi-skilled. We can notice that a substantial share of Cat I and II are employed as skilled workers, e.g. garage technician, carpenter, electrical trainee, sawmill foreman, industrial superviser etc.

In Cat III, almost half (45 %) are employed as teachers, whereas in Cat I and II very few are to be found in the teaching profession (none in Cat I and 5 in Cat II). From the retrospective tracer study we found that, for many teachers, teaching is just something they do for living, and there is a high level of dissatisfaction among them. Data from the interviews also indicates that many respondents do not want to work as teachers. This tendency is strongest for Cat III compared to Cat I and II.

However, the share of respondents that wish to be teachers if they can choose freely is almost the same between Cat I-III (less than 10 %). It is therefore of interest to note that the percentage of teachers among the former IE students (Cat I and II) is relatively low compared to Cat III. One possible interpretation of this is that those who have studied IE have managed to "escape" from the teaching path, whereas this possibility does not exist for those who have not had IE in secondary school.

Another interesting feature is that we can only find self-employment among the group with IE (Cat I and II) at some stage of the secondary school. We find 2 in Cat I and 4 in Cat II that are self-employed. Of these 5 are in some way involved in wood-work. All of these respondents have had wood-work as their IE option during the secondary school, Thus, none from the power/electricity option is self-employed. From the interviews it can be concluded that it seems to be easier to apply the knowledge of wood-work for producing and selling things, compared to the other IE options (see below).

From the group that are not in formal schooling, some observations can be made on their present location in relation to their original home areas. For those at work or as "looking" this information might be revealing.

The number working were observed to constitute a small portion of the total sample. Of these it has been possible to determine the present location of 66 individuals. Table 5.10 gives the place of work in relation to:

(i) "At home"

(ii) Not in the home area, but in
Nairobi/Mombasa
Major town, other than the above
Other town or rural area

Within Nairobi we have included Thika and Athi River as being of the same labour market.

Table 5.10 The present location of the working population in relation to their original home areas.

Location	Cat I N	Cat II N	Cat III N	Total N	(%)
"At home"	10	30	9	49	(74)
Nairobi/Mombasa	3	3	1	7	(11)
Major town	0	1	0	1	(2)
Other	2	6	1	9	(14)
Total	15	40	11	66	

We can conclude that the working opportunities have been found mostly in the home areas. The actual areas are Nairobi 10, Mombasa 6, western Kenya 16 and central Kenya 16. That indicates that many of the jobs acquired would be based in small towns or rural areas. Of those working at home a smaller number (7) have tried to look for work elsewhere, of which 5 in Nairobi/Mombasa. The difficulties in entering Nairobi's labour market were obvious from some of the interviews. Ten students from Nairobi schools, however, have been successful in securing jobs in the city. Of these none are from Cat I.

Compared to the working population, the group "looking" constitutes a much larger entity. In Table 5.11 we have summarized this group on the same premises as for those at work above.

Table 5.11 The present location of the group "looking" in relation to their original home areas.

Location	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
"At home"	116	(81)	198	(84)	62	(78)	376	(82)
Nairobi/Mombasa	17	(12)	29	(12)	13	(16)	59	(13)
Major town	7	(5)	8	(3)	5	(6)	20	(4)
Other	3	(2)	2	(1)	0	(0)	5	(1)
Total	143		237		80		460	

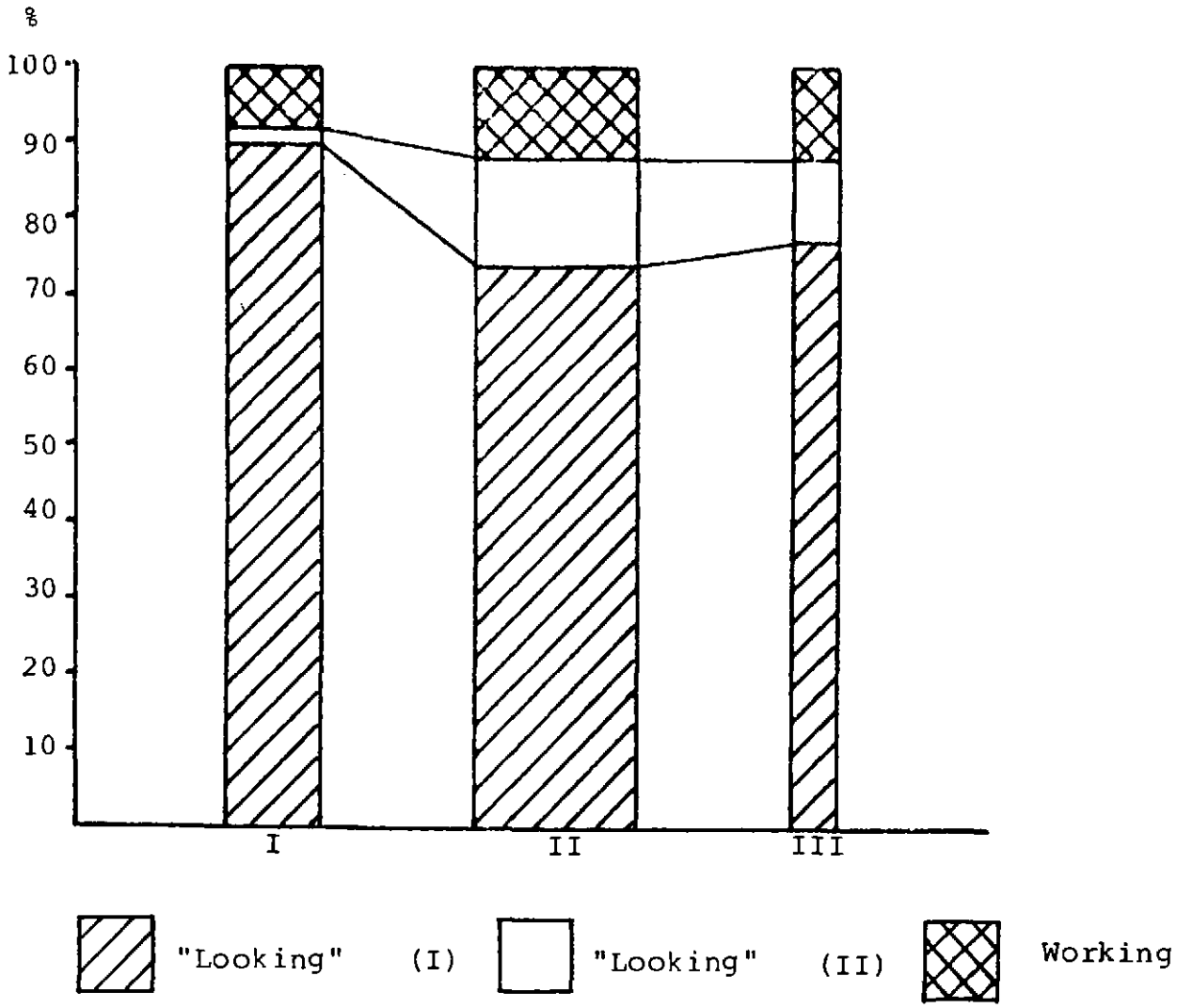
From Table 5.11 it is obvious that a fairly small number of the group "looking" are (one year after the KCE exam) in a place away from the original home area. Most attractive for job seekers are Nairobi/Mombasa as could be expected. Here we do not find any distinct differences between Cat I-III.

However, if we include the working population and the group "looking" in one table some diversities are obvious. Furthermore if we introduce a division of the group of "looking" still at home, into those who have stayed at home all the time; "looking" I, and those who have tried their luck elsewhere; "looking" II, some discrepancies emerge.

Table 5.12 The population at home for groups "looking" and at work.

Activity	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
"Looking" I	113	(90)	168	(74)	55	(77)	336	(79)
"Looking" II	3	(2)	30	(13)	7	(10)	40	(9)
Work	10	(8)	30	(13)	9	(13)	49	(11)
Total	126		228		71		425	

Figure 5.3 The population "at home", "looking" and working categories.



From Table 5.12 it seems to be obvious that Cat I to a higher extent stay at home without being employed and without looking for opportunities elsewhere. One reason for this might be the fact dealt with below, that this group is equipped with skills, developed within IE, which can earn them a living. This without being formally employed.

Furthermore if Nairobi and Mombasa were excluded from Table 5.12 we find that the trend is even more accentuated. This would indicate that it is the rural school-leavers who exploit the IE knowledge to support themselves, either before continuing at school or entering the formal labour market.

> "Otherwise, I cannot forget to thank the people concerned on this subject, for I truly have witnessed that it's very useful in our daily lives. If it were not on this subject that I have alone since I left school I could have remained idle at home since I left school because I had missed the chances to join any other college. But for now, I have kept myself busy and a little sort of self-employed by making simple furniture which I could use at home or sell to neighbours to get my daily bread." (Unemployed ex-student of Kagumo H.S.)

> "By leaving school I started looking for jobs, but unfortunately I didn't get any. But due to IE I managed to employ myself by working and making carpentry work, first by borrowing tools from my friends and start my own business of carpentry and by now I have employed two people to help me in my work and I hope if I get more markets I will continue with my work." (Self-employed ex-student of Nanyuki H.S.)

> "Due to IE I took at school, I do earn some little cash at home when I repair simple electrical devices of the people of my area and that makes me feel proud for I am not yet trained but I know something and therefore have a hope of succeeding in life in future." (Unemployed from Musingu H.S.)

From our oral interviews we found out that the number of answers given were about the same for Nairobi as for rural areas. It is clear that most of those interviewed felt a wish to work in their home area, whether rural or urban. The major attraction of Nairobi was in most cases dependent on the presence of relatives already in the city.

A large group stated that they could work anywhere within the country. This they interpreted as being "development-conscious". However, few would accept, when pressed further on this point, to move to the remote arid and semi-arid areas.

5.3 A long-term perspective on employment

As one year is a fairly short period we have also tried to locate some who took the 0-level exam at an earlier stage. This is the retrospective tracer study done at Tudor, Kisumu and Kitui. Only students with IE, included in the exam, are among this group.

Within the two urban schools, Tudor and Kisumu, it seems, that it is mostly the recent school-leaver, that are faced with unemployment problems. From Tudor we found 18 working and 26 unemployed of the group we had information on. These had all left school in 1981 or 1982. Many of them had applied for a number of jobs, but only got temporary ones for short periods. It was claimed that often there was no considerable difference between a primary school leaver and a Form IV leaver, with poor grades, on the labour market.

Among the group we traced from Kisumu, we found 46 working and 13 unemployed. This group graduated from Form IV in 1978-82. Of the unemployed almost all were from the 1982 graduation group. Some were still, at the time of the interview, expecting a vacancy for further training, but the majority have applied for a number of jobs. It could also be mentioned that none of the unemployed are from the rather large Asian community of Kisumu. Many of these with this kind of background have secured work within a family business.

Furthermore the majority traced from Kisumu Day were still in Nyanza province, the main recruiting area. A few were working in Nairobi or Mombasa. It was hard to trace any large impact of IE among the professions given.

From Kitui we traced ex-students who had graduated 1974-82. Therefore, some more long term perspectives can be given. In all not less than 114 were in some kind of employment or are self-employed, compared to 23 unemployed. Also here we find that the majority of the unemployed for the last few years

are 0-level students. A further comparison here shows that among the 1983 sample for Kitui in Cat I none was at work, but 12 classified as "looking".

An attempt has also been made to give a picture of the different kinds of work for the group traced from Kitui, graduated 1974-82. Table 5.13 gives this information.

Table 5.13 Professions of those at work traced at Kitui (0-level students 1974-82)

Profession	N
Teacher	33
Work with Government Ministry	22
Workshop, repairs, carpenter, tailor	17
Army, police, prison	14
Office work	7
Manual labour	6
Farming	4
Technician, engineer	4
Health	3
Unspecified	4
Total	114

Some of the classifications in Table 5.13 are not distinct. However, we can clearly see that the Government is the main employer of Form IV-leavers. Some members of the group have acquired further education and training before entering the professions given here. Teaching is of course the main employment, but, as seen above, hardly a very desirable career. The relatively high figure for army, police and prison might be due to the special traditions in this area within these fields. We are also able to note the categories of different kinds of repairs, carpentry and manual labour. This can be taken as an indicator of the way IE has changed attitudes.

Within a small number of self-employed (9) we find some farmers. However, some of the former IE students actually tend to use their acquired skills to open up some kind of workshops or to repair things in a self-reliant way in their own local areas.

At Kitui we also asked if the ex-students had any direct use of IE in their work careers. Almost half of the group claimed that this was the case.

Most of the ex-students from Kitui H.S. are still in Kitui or the neighbouring districts of Machakos, Embu and Meru. This is also the dominating area for recrutiment to the school. Altogether we traced 77 ex-students to this region. Another 57 were to be found in either Nairobi or Mombasa at the time of interviews (Nov. 1983). From the interviews it is evident that a large number leave Form IV to go to one of these centers in search for employment. This is often made possible by the help of relatives in one of the two cities ("extended family"). Some of them seek work in vain and return to their home areas.

We can here also make a comparison with a group of former IE students from Nyandarua Sec. traced by Martin Davis. This group of 14 sat for the 0-level examination in 1974. Of this group none were unemployed.[11)]

5.4 Some concluding remarks on the present situation

Finally some remarks can be made in connection with what has been said on the present situation of the ex-students (Oct.-Nov. 1984). It would be easy to criticize IE on the basis that it has not given the ex-students any advantage on the labour market. However, we have to make two observations in relation to such a criticism. First of all one year is a short time for this kind of evaluation of effects. Hopefully the tracer study can continue over a longer period of time. Secondly, IE is not supposed to be a vocational subject. Instead it is classified as pre-vocational and its effects must be measured as such.

However, even in the short perspective given here, some indications are shown of a more positive view or adaptability towards technical/practical work. The possibility of self-employment seems to be an opportunity for a few to exploit their IE skills.

It is not clear if the two initial years of IE are enough, or if four years are needed to succeed in self-employment related to the subject. In any case it was obvious that many exploited these skills in a productive way to support themselves. One loose assumption here was that it even held some back in their own home areas, instead of migrating to Nairobi/Mombasa as the only places for work.

If we add the long term perspectives, from Kitui in particular, the immediate problems to secure employment for our group "looking" might be only temporary. However, these problems could also have another dimension. Realistically it could be assumed that the labour market prospects for Form IV leavers have deteriorated considerably since the 1970s. In that case a skill like the one gained through IE could be useful.

Ex student of the Industrial Education Work Shop at Kitui High School (graduated 1976), now with his own work shop. (Second from left.)
Photo: Anders Närman.

6 FUTURE PROSPECTS

6.1 Further education

When we asked the original sample in the 1983 questionnaire about prospects for the future an overwhelming majority wanted to continue their education. Not less than 91 % indicated this alternative. Of these a clear majority stated a preference for Form V.In all more than two thirds of this group wanted to continue their education in Form V. From what has been said above, approximately 40 % were successful in this respect.

Of those who wanted to continue their formal education, a very clear majority had a strong desire to study eventually at university level. It is evident that the students' answers were more dependent on hopes and wishes, than on what is possible. Students from Cat I were well above the other categories in their preference for Kenya Science Teachers College (KSTC), Kenya Technical Teachers College (KTTC), and Polytechnics or Institutes of Technology. Thus, IE might influence some students to go further in the field.

For the few students who indicated no desire for further studies, some kind of formal employment seemed to be the aspiration. Some in Cat I and to a higher extent Cat II mentioned self-employment.

To a large extent we still find a lot of hopeful wishes rather than realistic thinking in the answers to our questionnaire one year after the KCE exam. Only 9 students out of the 1 080 answered "no" to continued education.

Note that in Table 6.1, some respondents have mentioned more than one type of future education. From Table 6.1 it is indicated that many still desire to enter university. Especially in Cat III this seems to be a major goal.

To give perspective to the chances of continued education at university we can quote the Sunday Standard of Nov. 25th, 1984:

> "More precisely of the 11 778 candidates who took A-level examinations in 1983, 5 491 attained the two principle passes required to join the University. Very sadly, the University will open its doors to only 2 700."[12)]

Table 6.1 The indicated desire for further education one year after the KCE exam

Desired education	Cat I		Cat II		Cat III		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
University	135	(35)	259	(37)	113	(47)	507	(38)
KTTC, KSTC, Polytech, Egerton or Inst of Tech	180	(47)	305	(43)	81	(34)	566	(43)
Other teacher training	13	(3)	44	(6)	17	(7)	74	(6)
Vocational training	49	(13)	51	(7)	12	(5)	112	(8)
Other	7	(2)	46	(7)	17	(7)	70	(5)
Total	384		705		240		1 329	

We can also notice that some other form of post-secondary education, such as teaching courses at KSTC and KTTC, agricultural courses at Egerton, or Institutes of Technology and Polytechnics are popular at this stage. The highest share of indications here is for Cat I. Among the five kinds of institutions it seems that Polytechnics are the most popular, followed by Institutes of Technology. This is the same for Cat I-III. Egerton seems to be a choice that could attract the Cat II group.

Very few seem to be interested in a teaching career. Of the two secondary teachers colleges, KTTC is indicated far more often than KSTC, even among Cat III students. The interest for KTTC, even if it is a small share, can be explained by the fact that the college offers both technical and business subjects.

For other kinds of teacher training (mostly primary school), few seem to like it. Here Cat I constitute the smallest group. Teaching seems to be a profession not held in very high esteem by many. This fact has been stressed in this paper under different headings.

Students that took IE, and particularly those with 4 years of the subject, might regard themselves as having a skill for technical/practical work that could be utilized. From the oral interviews and answers to the questionnaires we often witnessed a strong belief in the possibility to use IE in different ways. It will be possible to detect if the students are correct some 3-5 years from now.

The fact that Cat I regard themselves to be in possession of a skill that will eventually lead to some technical/practical work, is reflected in the choice of vocational training. This has normally been interpreted as using some kind of practical skill in training. Here the largest interest is among Cat I.

We also have to realize that the classification "other" means some kind of vocational training. Out of the 70 we obtained 52 stating the nature of training they wanted. The rest just stated "any training" or left the specification blank. Of those who indicated some kind of specific training as "other", 6 were in Cat I, and all stated technical/practical training. In Cat II we got 32 definite answers, of which 9 were for technical/practical fields and 8 for business/accounts. Among the remainder 5 were for health, 5 for tourist-related training and 5 did not fit into any particular field. From Cat III we got 14 answers, of which 6 were for business/accounts and 3 for health. Only two of them had indicated some kind of technical/practical training. Three of them were in specialized diverse fields.

Naturally we can notice a clear difference in wishes for further schooling depending on present occupations. Among the present Form V-students in our sample more than two thirds of the choices were for university. The realism of this could be judged against the quotation above from the Sunday Standard. University gets a much higher priority for Cat III compared to Cat I and II. Alternatives like Polytechnics, Institutes of Technology seem

to be accepted for Cat I and II to a much higher extent than for Cat III. Primary school teacher training, vocational training or any other training seem to be much more of a second-hand choice.

For those repeating, university is still part of the desired career for many. Here a high number have settled for the group of institutions, including KSTC, KTTC, Institute of Technology, Polytechnics and Egerton. Among the repeaters it can be seen that Cat III still have hopes for university to a larger extent than Cat I and II. This conlusion, however, is based on a very small sample.

Among the group working we can notice a distinct difference compared to those still in school. Within this group there still seems to be a vague hope of university among a few. However, both Cat II and III still seem to think that, in the future at least, they will be able to join primarily Polytechnics. On the other hand Cat I want some kind of vocational training.

Within the group "looking" the largest number of answers are for KSTC, KTTC, Polytechnic, Institute of Technology or Egerton. Using the academic performance as a criterion it is obvious that very few will ever fulfil this hope. Even more unrealistic are the choices of university found, to a certain extent, particularly among Cat II and III. Also among the group "looking" it seems that Cat I are more realistic about their future and settle for vocational training as a choice for further education. This is consistent with the impressions from the oral interviews.

As was noticed above, the group "other" - for the present occupation, included mostly some kind of training directly geared towards the labour market, yet even this group seems to want some kind of post-secondary education. Even the university seems to be attractive to some.

As a comparison it can be mentioned that, from the retrospective study, even those who left school some years ago often want

to further their education. For some this could be a hope to improve their present situation on the labour market. Here we also found those who had a fairly recent 0-level exam who gave vocational training as a way to deepen their knowledge of IE. From this they hope to get a much desired certificate to prove their skills to the employers. This is something that is not given to the students with IE in the 0-level examinations.

In conclusion we can say that there is obviously a desperate desire for university studies and other post-secondary education among many. However, there is a slight feeling that those categories that have taken IE, particularly Cat I, tend to settle for some kind of vocational training if they belong to the groups that are not in school or training. In most cases this will contain a utilization of IE skills.

6.2 Attitudes towards work

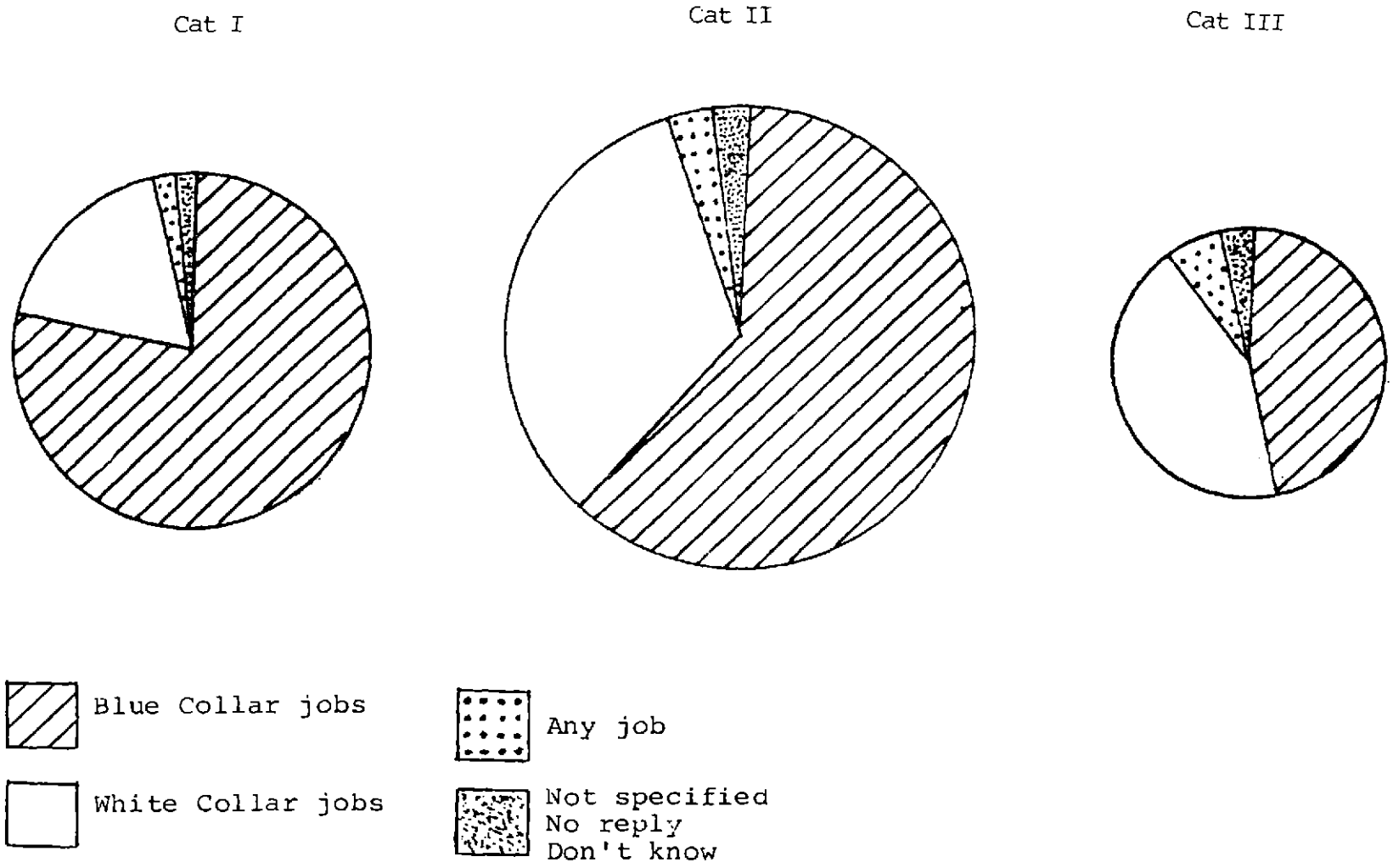
In this section attitudes towards future prospects, in working life, held by the ex-students, according to the questionnaire one year after the KCE exam, will be analysed. Through this we hope to determine how, if at all, IE will influence choice of career on the labour market.

The first question on this topic was phrased: "What kind of job would you wish to do if you could choose freely?"

Figure 6.1 gives an illustration of the answers to this question for Cat I-III. Here we have classified the jobs into two main groups: blue and white collar jobs. The definition of these groups is relatively wide. Blue collar jobs include agriculture and all types of technical/practical jobs. White collar jobs include business, office jobs, teaching, medical and other jobs in the service sector.

The share of preferences for blue collar jobs is highest in Cat I followed by Cat II and of least interest in Cat III. A reasonable interpretation of this is that this positive view of technical/prac-

Figure 6.1 Jobs "chosen freely" - Distribution of choices by category.



tical occupations depends on the experience the students had while studying IE. The subject is definitely regarded as useful and from the interviews we can quote:

> "I used to despise mechanics in greasy aprons, but now I appreciate them. I had intended to take a white collar job, but now I have decided to, hopefully, take a job that combines both skills and manual labour like civil electrical engineering." (Still at school from Alliance H.S.)
>
> "I no longer regard industrial work as one for school drop-outs with no future. Also I appreciate the skills required in IE for good products." (Still in school from Lenana H.S.)
>
> "It has made me like the work whereby I will be using my hands i.e. manual work." (Still in school Aquinas H.S.)
>
> "IE has stimulated my desire and love for skilled craft jobs, e.g. a mechanic, radio technician etc. My outlook towards my future working life have been completely altered. I now have respect for these jobs apart from all what we were learning to get: White collar jobs." (Still in school Chania H.S.)

Furthermore we made a break-down of the jobs into more specific occupational groups:

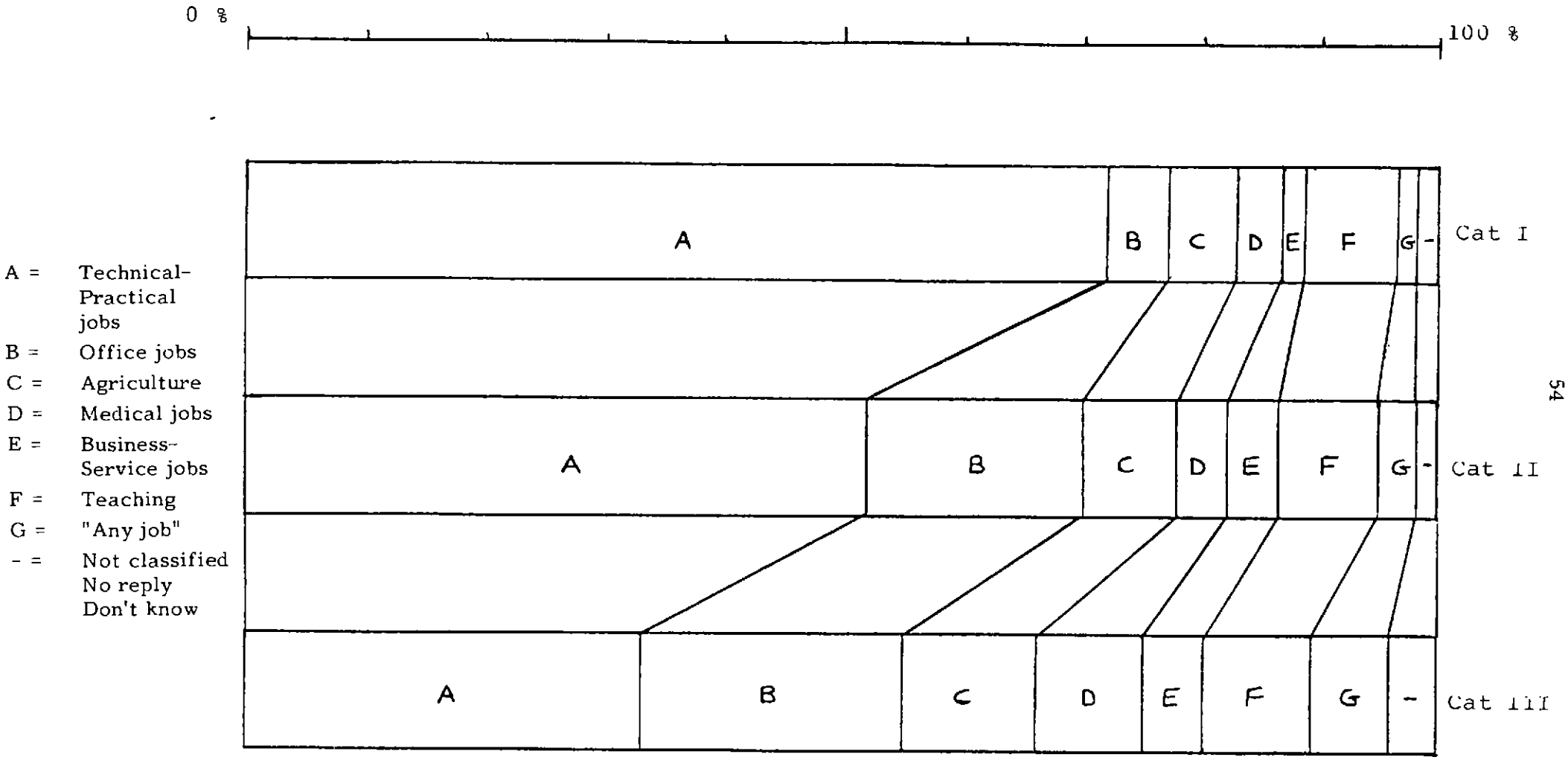
(i) Technical/practical
(ii) Office
(iii) Agriculture
(iv) Medical
(v) Teaching

A distinction between high-paid and low-paid jobs within these classifications has not been made, the reason for this being that the answers were not that specific. Usually a respondent answered in very broad terms like: "office-work", "something in the field of engineering" etc, and it was not possible to judge whether the particular job should be classified as high or low paid.

The distribution of occupational classifications in jobs chosen freely is illustrated in Figure 6.2.

The most striking difference between Cat I-III is the dominance of technical/practical jobs in Cat I and II compared to Cat III.

Figure 6.2 Jobs "chosen freely" - Distribution of choices by type of job and category.



In Cat III office jobs, medical and "any job" are indicated more often than in Cat I and II. It is also interesting to note that agriculture has a higher share of the choices in Cat III. Considering "any job"/"Not classified"/"no reply"/"don't know", we can see that in Cat I and II these types of answers get a lower share. One interpretation of this could be that IE reduces some of the uncertainties about job preferences by stimulating interest in technical work.

A second question on this topic was phrased: "What kind of job do you actually expect to get?" The distribution of answers to this question is illustrated in Figure 6.3.

The distribution of choices, with reference to blue and white collar jobs respectively, is given in Figure 6.3. Cat I and II expect more blue collar employment than Cat III, and the tendency is stronger in Cat I than Cat II. It is likely that IE has affected the perception of future employment. The data from the interviews supports this hypothesis, since an overwhelming majority of the respondents in Cat I and II stated that they thought that IE would be an advantage for them in their anticipated career. The fact that Cat I have a stronger tendency than Cat II to believe that they are going to work with blue collar jobs, also supports the hypothesis that IE has affected views about future jobs. It is likely that a person with 4 years of education in IE will think that he has greater possibilities of obataining some type of technical/practical job than a person with only 2 years of IE.

Also for expected future jobs we made a similar break-down of occupations into the classifications that were used in the discussions on job preferences. These results are given in Figure 6.4. The tendencies are fairly similar to those from Figure 6.2 regarding jobs chosen freely.

With reference to the teaching profession there is a big difference between Cat I and II on the one hand and Cat III on the other. In Cat III teaching is the most commonly expected occupation,

Figure 6.3 Jobs "actually expected" - Distribution of answers by category.

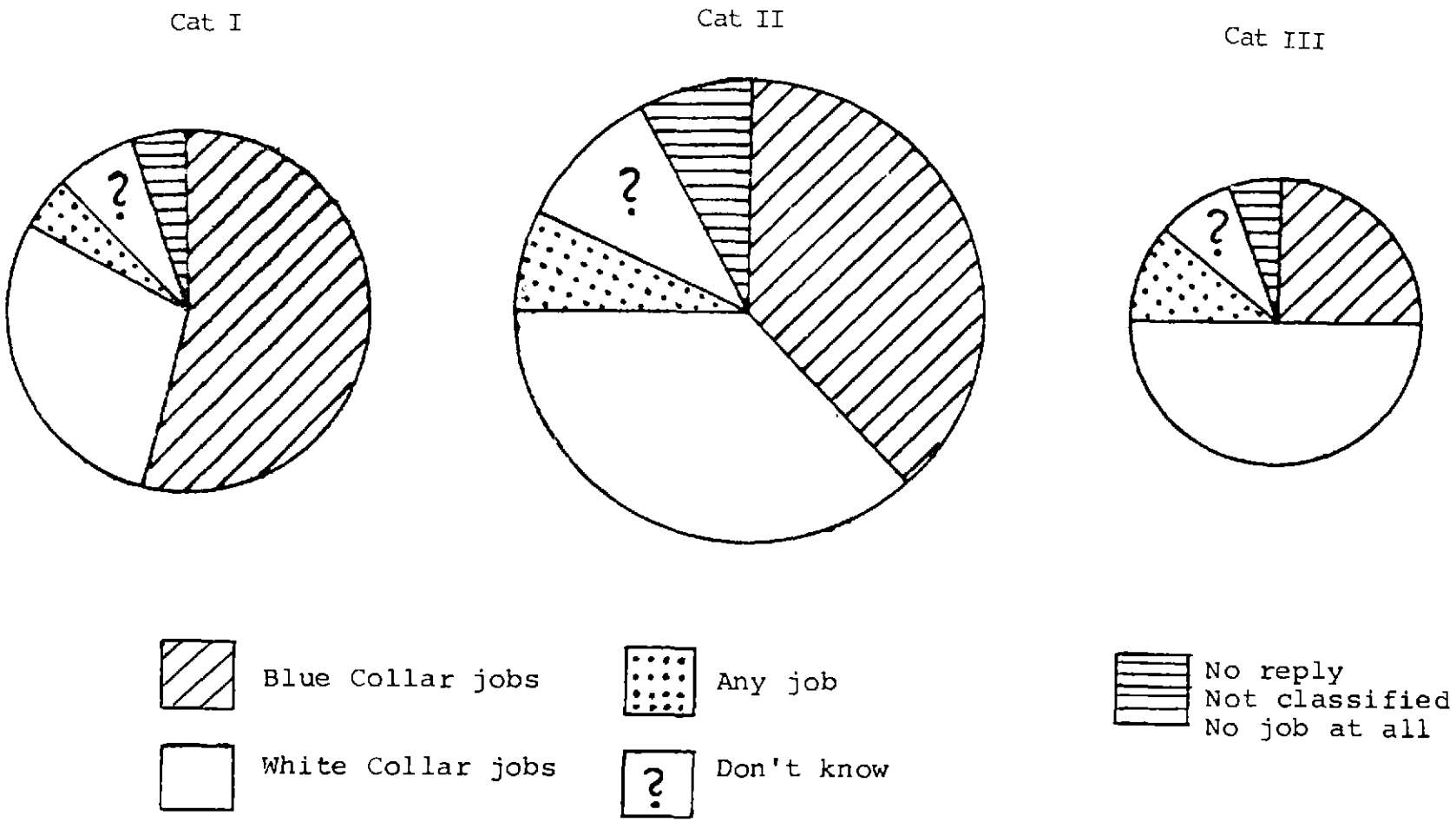
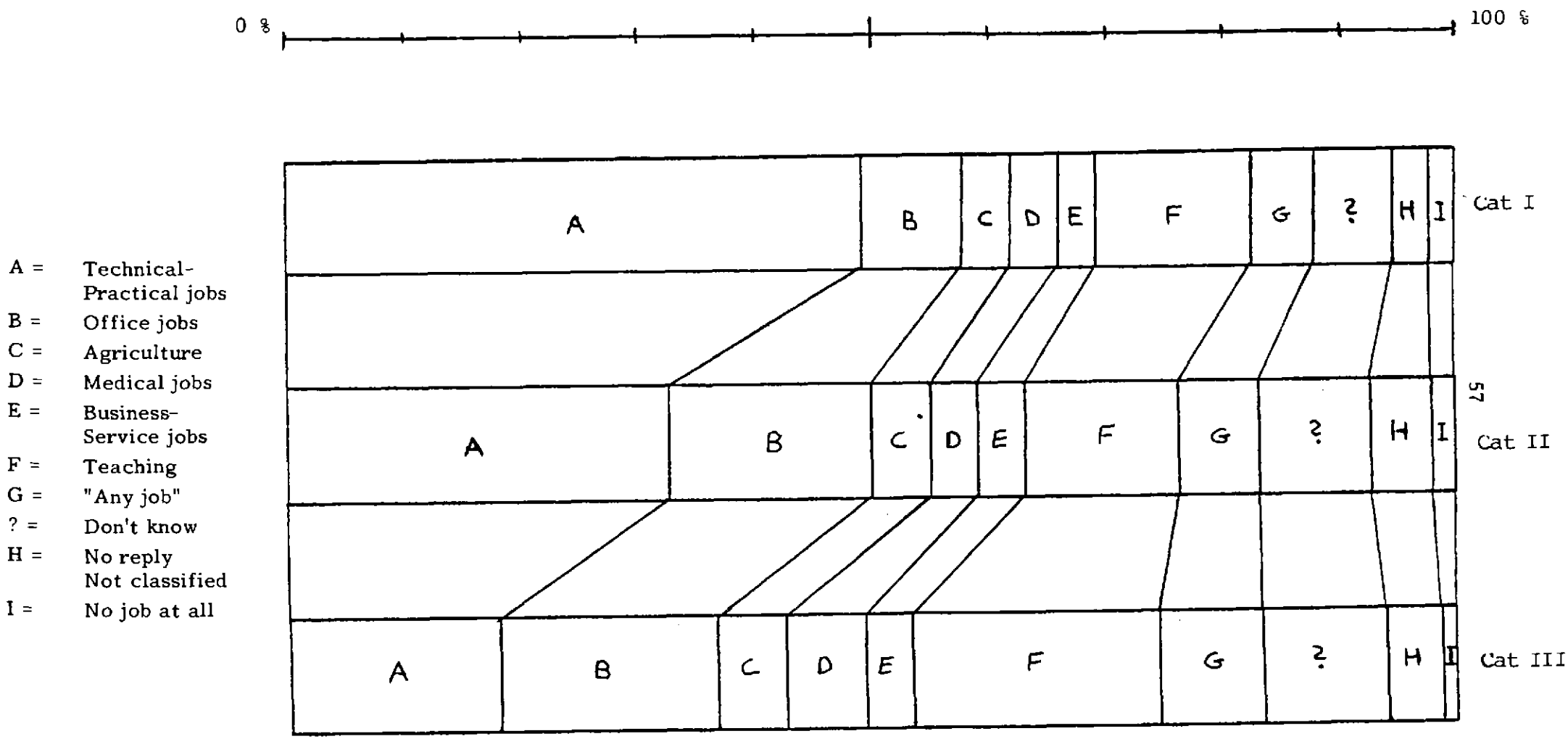


Figure 6.4 Jobs "actually expected" - Distribution of answers by type of job and category.



with 21 % of the answers, whereas it has a more moderate role in Cat I and II (13 %). It has to be recalled that there was only marginal differences between the preferences for teaching as "chosen freely" (Figure 6.2). Furthermore, as pointed out above, when we look at the group of respondents that actually work, teaching dominated in Cat III, but not in Cat I and II.

In the oral interviews we also discussed expected future salaries. Many of the respondents were uncertain about this issue, but the tendency we could trace was that Cat III had higher expectations of the scale of future earnings. Cat II was the group with the lowest expectations, but the difference between Cat I and II was not significant. After considering the situation on the Kenyan labour market our interpretation is that Cat I and II seem to have a more realistic view about future salaries than Cat III.

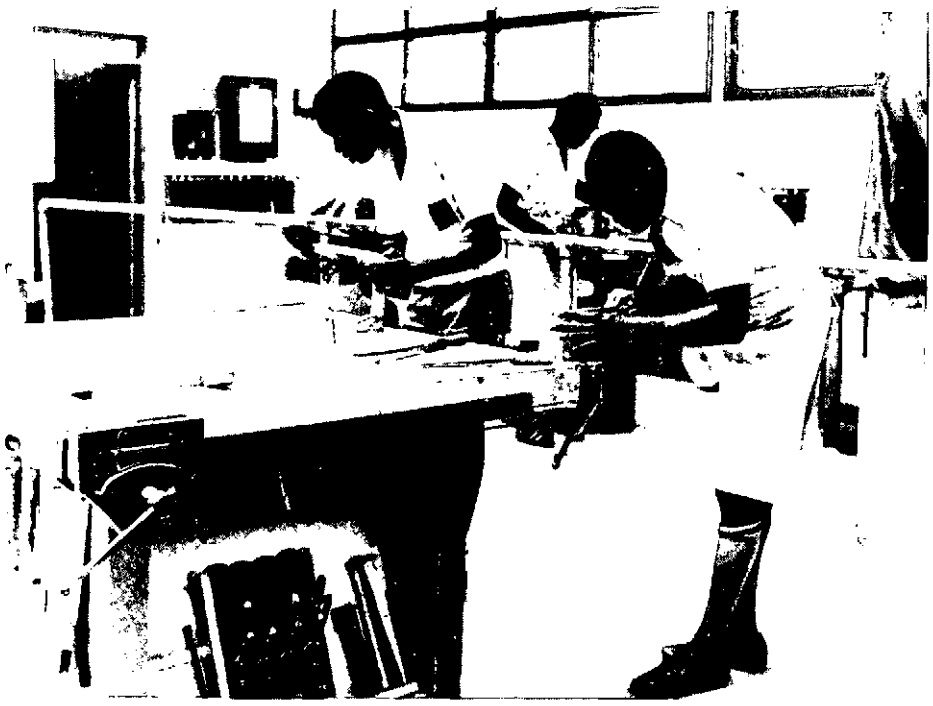
In the oral interviews we asked the question; "What kind of jobs would you definitely not choose?" A majority of the ex-students answered that there were no types of jobs which they could not take, since, because of the situation on the labour market, they were not in a position to say "no" to a job. In a situation with a high unemployment rate for Form IV leavers, most ex-students are willing to take any job they can get. Furthermore we found almost no differences between Cat I-III in this respect.

We will also analyse the pattern of applications for jobs among the group "looking". It has to be pointed out that some respondents seem to associate the expression "apply for a job" with some kind of formal and written application. Thus, our data underestimates the number of respondents who are looking for a job, but who have not formally applied for one.

The share of the group "looking" that have applied for a job, is higher in Cat III (63 %), than in Cat I (50 %) and II (48 %). One interpretation of the difference between Cat I and II, on the one hand, and Cat III on the other, could be that Cat III

ex-students are more dependent on the formal labour market. As pointed out above, the unemployed, from especially Cat I, remain at home to a large extent and obviously manage to support themselves.

With reference to the blue-white collar dichotomy, there is a consistent pattern. The bias towards blue collar jobs in preference and actual expectations, has a positive correlation with the other experiences of IE. The pattern is consistent with the desires in respect of further education given. It is also in accordance with the results from our retrospective tracer study, on views about the labour market.



From Industrial Education Work Shop at Kisii High School.
Photo: Anders Närman.

7 USE AND OPINIONS CONCERNING IE

When dealing with this issue there is naturally always a risk of getting a very positive view, not totally based on reality. We were often met by the students as representatives of the "IE-authorities". We have tried to get answers that provide concrete facts rather than simple "yes" or "no" without substantiations. From this, coupled with the oral interviews, we believe that the basic conclusions about IE are correct.

Furthermore we have integrated some of the views from the retrospective tracer study. These views, built on long term experience, are often given from people already in the labour market. Hopefully this could raise the degree of objectivity on this topic.

We will start to discuss some of the aspects on IE gained from the original sample before finishing Form IV.

One issue for investigation has been if IE has any impact on the initial choice of secondary school. It was claimed by many of Cat I (60 %) and Cat II (55 %) that they had knowledge of IE as a subject before entering secondary school. From our interviews we were told that they heard about it from brothers, cousins or other boys in the neighbourhood. Some claimed that they had made an attempt to get into a Technical Secondary School and their particular IE school was seen as a suitable option. A much smaller share, less than one third, of Cat III had heard about IE before starting secondary school. In fact where the general knowledge of IE is concerned many of the Cat III students told us during our oral interviews, that we gave them their first information about IE.

To the direct question "Does IE improve your education compared to a set of completely academic subjects (?)" we got a very positive view. Due to the bias mentioned in favour of IE the actual figures might be exaggerations. However, we can note that a considerably higher share within Cat I express a positive

attitude compared to Cat II. Furthermore students in all categories (including Cat III) think that Kenya needs more people with IE and other technical subjects. This is in accordance with the official governmental view on this matter.

Most of the IE students, particularly Cat I, are confident that they will use their IE knowledge in private life. A majority also claim that it has been useful already, i.e. before the 0-level examination.

Even if the students of IE regard the subject, to a high extent, as part of general education, many think it will be useful in their future work. There is a tendency to see it as a preparation for technical/practical work. This was seen to indicate a positive view held by the students on knowledge about practical work even in cases where they are not planning to work practically themselves. However, as was seen above, a technical/practical job career is of direct interest to many in Cat I and II.

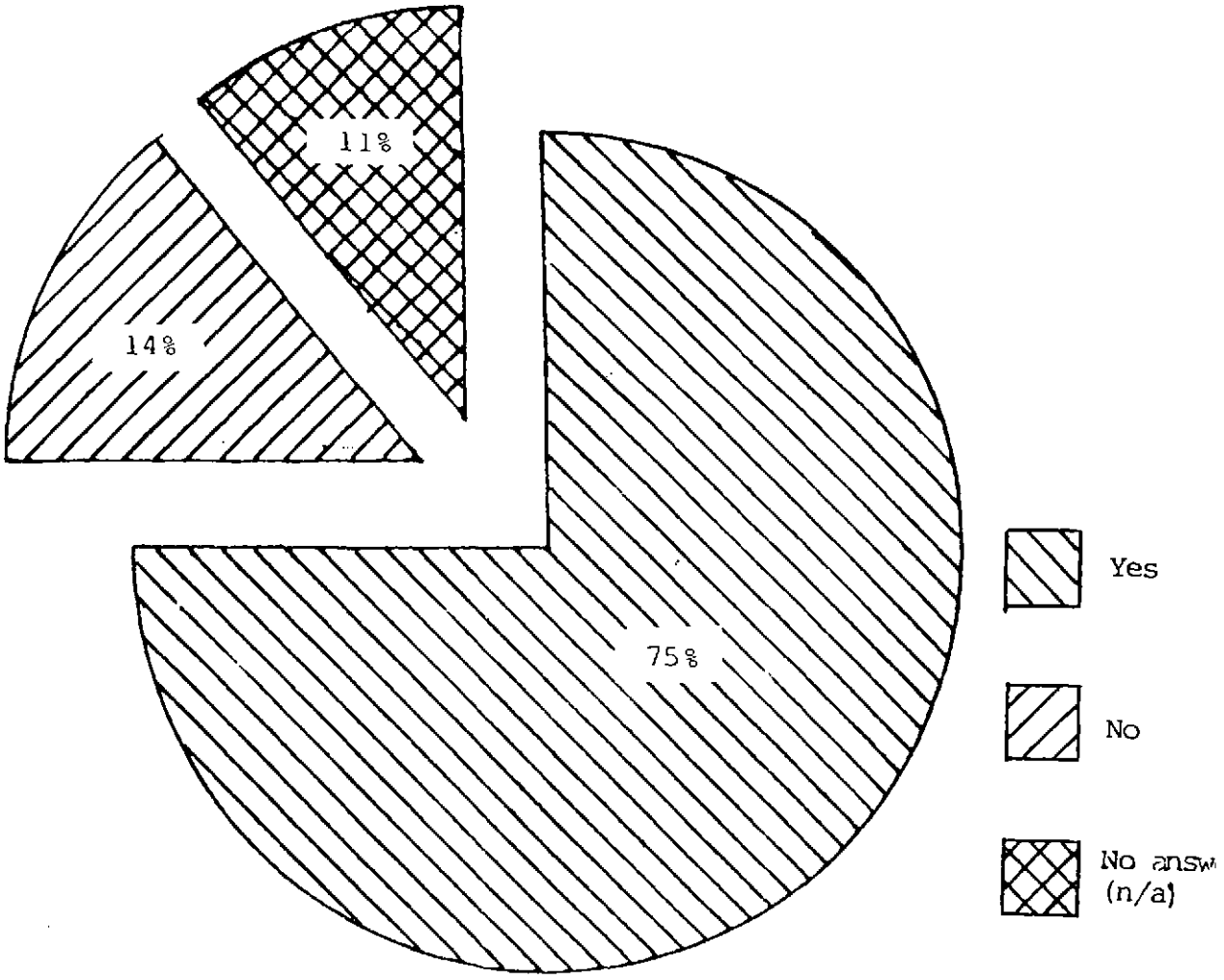
From this we will scrutinize Cat I and II and try to find out how useful the IE-knowledge has been so far (one year after the KCE exam) and in which ways it has been used.

Our main question on use of IE was; "Have you had any use of IE so far?" Out of the sample of 875 respondents a clear majority answered that they had had use of IE. The results are shown in Table 7.1 and illustrated in Figure 7.1.

Table 7.1 Use of IE as indicated by Cat I-II one year after the KCE exam.

Answer	Cat I + II	
	N	(%)
Yes	656	(75)
No	122	(14)
No answer (n/a)	97	(11)
Total	875	

Figur 7.1 Use of IE - total sample.



From Table 7.1 it is evident that many seem to think that IE has been useful to them. If we try to compare Cat I to Cat II there is a slight difficulty. The figure "no answer" in Cat II is 17 % compared to 1 % in Cat I. An explanation for the high percentage in Cat II could be that some misunderstood the instructions and thought it was only meant for those who had IE in the exam. We also know that some respondents in Cat II have changed from a school, not offering IE, to one of the IE schools in our sample, and therefore do not have any direct exposure to the knowledge gained from the subject.

Within Cat I, 85 % claim that they have had use of IE. For Cat II the percentage share would be 69 % if "no answer" is included and 83 % it is excluded altogether. Our conclusion here would be that a very clear majority have had some use of IE, and that it has been somewhat more useful for Cat I ex-students.

The subjective question on use of IE, has also been tied to a substantiation in which the ex-students were supposed to give concrete examples. Here we got detailed answers on how IE had influenced the daily lives. Furthermore from our oral interviews we find that a majority in our sample state that they have become more self-reliant after taking IE and have saved money in daily life through e.g. repairing and constructing household equipment. Some extracts are:

> "Up to date I still find use of IE here and there in my daily life. This is by minor repairs of e.g. furniture, livestock enclosures etc." (Student at accountancy cource from Kagumo H.S.)

> "I don't need to employ anybody to make stools or tables for me. I can make it myself." (Unemployed from Kitui H.S.)

> "I do earn some little cash at home when I repair simple electrical devices of the people of my area." (Unemployed from Musingu H.S.)

Also from the retrospective study we found a generally positive view towards IE. Expectations of IE were high, especially among the younger respondents, i.e. those who most recently experienced it. The subject is often perceived as something more than merely a general subject. Many of those interviewed tended to feel that they had learnt a skill in the workshops, a skill which could be exploited directly on the labour market. In Kitui many older ex-students were disappointed because they had not been able to exploit their perceived skills on the labour market.

As far as we have seen it, there are differences between the planned aim of IE as pre-vocational and the way students perceive it. Due to the students' way of seeing IE as vocational there are clear points of frustration when they leave school and find

out that they are not received as trained. Therefore, we found some very disappointed remarks during the interviews of ex-students, with longer experience.

> "It (IE) has contributed in no way at all unfortunately." (Sales assistent from Kisumu Day H.S.)

> "When I was in secondary school I had very great expectations concerning IE. Such were that I would get a job in which my industrial know how will be necessary, but things turned out differently." (Untrained teacher from Kitui H.S.)

> "No use to do anything at home, because of tools problems." (Untrained teacher from Kitui H.S.)

> "When I was in secondary school, I hoped for the best and success in IE, but at present, I have lost my hope because I do not know what to do next. I have never had any use of it (IE) in my life." (Teacher from Kitui H.S.)

Even if we find these clear signs of frustration towards IE, we know that IE knowledge has been used at home in repairing small things. Ex-students we met sometimes claimed that they would know what was good quality when buying furniture for example. In some cases they even produce the things themselves.

A possible sign of frustration can be noted for the group interviewed in 1984, one year after the KCE exam. Students from Emusire have the highest share of no use of IE among the Cat I group (37 %). We note that this school had good grades in IE, but was generally weak academically. Hence, few from this school planned to continue their education, and pinned high hopes on IE as being vocational. Today Emusire has the highest rate of those who are neither in the formal school system, nor at work.

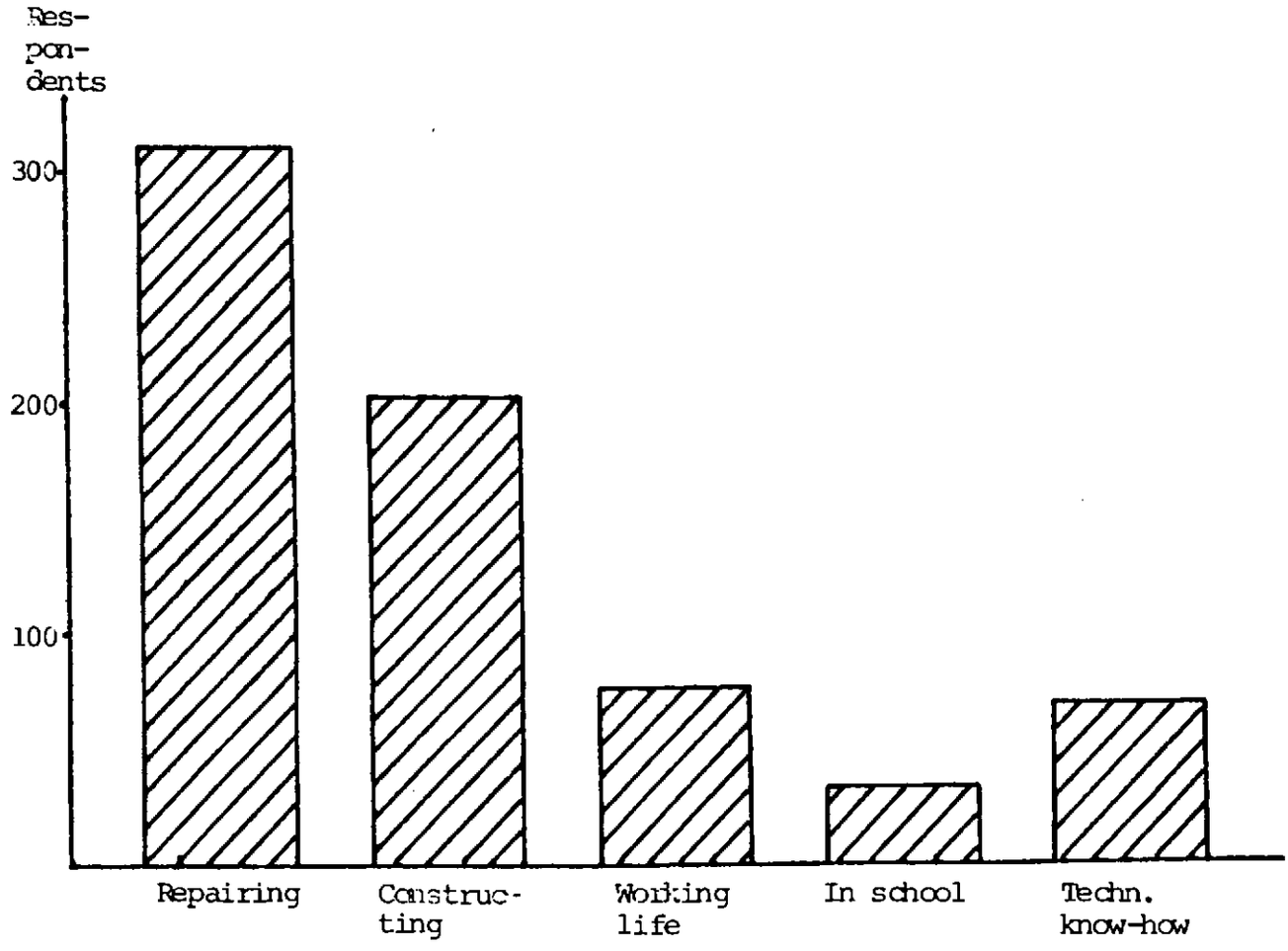
At Form III and IV the students have to specialize in any of the four options given. The highest frequency in terms of usefulness seems to be among the group taking wood-work (89 % "yes"), followed by electricity (88 %). A reason for this could be that within wood-work it is easy to make small repairs and even constructions with simple means. Knowledge of electricity can be useful either to repair small devices or for further schooling in physics.

The 656 respondents who answered that they have had use of IE so far, were asked to specify in which way they had used it. This was something done by a majority and often very extensively. We made a classification of the answers into five groups:

(i) Repairing
(ii) Constructing
(iii) Working life
(iv) In school/training
(v) Technical know-how

The distribution of usage is shown in Figure 7.2. Note that the figure gives all the uses indicated by the ex-students in absolute numbers.

Figure 7.2 The distribution of usage - total sample



We will give an explanation, and some examples of, what these five "usage-groups", contain. Through the interviews and the very detailed specifications that many gave us in the questionnaires, we got a fairly good picture of what kind of activities which have been undertaken with IE skills and knowledge. One remark that should be made is that some of the activities could, in a Swedish context, be regarded as basic.

But without the facilities we regard necessary, even an answer like "learnt to replace a broken bulb" can be understood.

Repair is the most frequent usage given by 310 respondents. We find a number of examples of how IE has been used to do repairs. The kind of repairs differ to a certain extent according to the options. The most common example, however, is repairs of broken furniture e.g. tables, chairs etc. This, together with fixing doors and windows, is the usage given by almost everyone within the "wood/metal" option. Two examples:

> "I can now use tools which are used in everyday life, and is thus self-reliant by repairing small things at home and helping others who don't have the idea of using tools and machines." (Still in school from Kitui H.S.)

> "I have been repairing most of the house furniture, e.g. chairs, windows and doors, and when doing this work I feel that i'm doing the right thing." (Unemployed from Aquinas H.S.)

An example from "power/electricity":

> "One day I was very happy when I was wished good luck by several defected Matatu-passengers. The Matatu on which they were travelling had a dirty spark-plug and tighty throttle valve. They were very glad to see that when I applied my Power-mechanics knowledge on it, it resumed its normal moving condition." (Unemployed from Musingu H.S.)

Other examples of more specific "power/electricity" repairs are fixing faults in different electrical appliances at home, such as irons, radios, lamps etc. A common remark within all

options is that they have saved a good amount of money by not taking the broken items to a specialist, e.g. carpenter, electrician.

By "construction" we have defined answers where the respondents said they have used IE to make itmes outside the school workshop. Here the "wood/metal" option dominate with examples like:

> "The IE has proved to be very useful so far. I have been able to use it extensively in the outside life. Having the basic tools, I usually make small coffee-tables, stools etc. I make these things during the holidays and at the moment I have contracts to make small tables next holiday. I usually make these things for my relatives." (Still in school from Siakago H.S.)
>
> "Since I finished the course (IE) I am able to help myself, e.g. by making objects like stools, chairs, beds, tables etc." (Unemployed from Nanyuki H.S.)

Material for these activities can be relatively easy to obtain and it is possible to manage with a limited set of simpler tools. We also find examples of making tools, e.g. pangas (large knife), cooking utensils, hooks for doors and windows. Within "power/electricity" we find work like wiring in the house:

> "We did some installation at home, the knowledge I acquired on IE really helped me in this because I was then able to know the instructions to be followed when doing a particular installation." (Still in school from Alliance H.S.)

Those who have had use in "working life" are those that said they have used IE to earn some money. Not only those that have got formal employment or can be considered self-employed on a full-time basis, but all those who are partially self-employed.

Most often it is making and repairing furniture here too. Those in this group of partially self-employed are usually doing this while they are seeking employment and/or further schooling. Employment where IE is used is often found in some relatives' or neighbours' workshops. Those few (6) who can be considered self-employed on a full-time basis are all (except one) involved in making and repairing furniture.

From the retrospective tracer study we found further examples of the use of IE at work. Particularly, at Kitui we met some where IE usage was obvious, in technical/practical employment or self-employment. But it can also be mentioned that some of those who are teaching say that IE is good for them in science subjects. Other teachers are responsible for repairs at their schools, for example one has been appointed maintenance master. Another odd example is an occupational therapist who produces aids for the disabled.

Some had use of IE in their continued schooling/training. Most of them are in Form V and claim the use of IE in other subjects. Particularly those with "power/electricity" say they are helped in science subjects:

> "For a student like me who did physics in O-level and is still doing it, IE helped me to shape my elementary principles in physics and especially in electrical technology." (Still in school at Alliance H.S.)

Those who have joined some training institution also tend to say they have advantage over those who have never had IE. There is also a tendency that the type of training they are taking is influenced by the option, i.e. "electricity"-electrician, "power"-mechanic, "wood"-carpenter, "metal"-welder etc.

We could here give some quotations from the retrospective study:

> "It has helped me a lot, because most of the tools used here are related to it." (Student, taking a course in Electrical Installation from Kisumu Day H.S.)

> "IE gave me basic understanding and experience in workshop technology." (Student of Mechanical Engineering at Kenya Polytechnic from Kisumu Day H.S.)

> "IE is the backbone of my present career because my present training involves technical work. My introduction required workshop tools which I have already met in my previous IE." (Agricultural engineer trainee at Egerton from Kitui H.S.)

The widest use of IE is the group of a general nature saying that IE somehow improved their technical know-how. One example is:

> "I can rember I went to the extent of been advising my uncle on some precautions he should take when using electricity, especially the fact that he had children who could easily play around with sockets and thus endangering their lives." (Still in school from Musingu H.S.)

Another common answer is that one understands technical matters better, things that have looked complicated and impossible to understand are now found quite simple, e.g. radios, cars, metal constructions etc.

The rather small number of respondents, 122, who said they have had no use for IE were also requested to specify why not. Of these specifications a classification can be made into three groups:

(i) Too little knowledge

(ii) Lack of capital/equipment

(iii) No opportunities

Two examples of those who feel they did not acquire enough knowledge or skills are:

> "I haven't used IE so far because of too low standard of IE in secondary school." (Unemployed from Nanyuki H.S.)

Cat II give the reason that they lack knowledge to a much higher extent than Cat I. This is hardly surprising since they have had IE for a shorter length of time.

On the other hand it is more common for Cat I to claim the problem of getting tools and material etc as the main constraint. The difference in "lacking capital/equipment" could be explained by the assumption that Cat I have wider knowledge and therefore know what they lack. They know what they could do with the necessary inputs. Two examples:

> "If it were not for the capital I know I would have done a lot since last year." (Unemployed from Kagumo H.S.)

"This is due to lack of working tools." (Unemployed from Kitui H.S.)

The largest group of non-users gives some vague idea of no opportunities. Some claim that they have not come across a situation where they think they could have used what they learnt in IE. Some are in school and claim they are too busy with studies, or boarding away from home.

"I've been in high school, therefore I haven't had any opportunities so far. (Still in school from Nanyuki H.S.)

"Because I'm still in school and I've had no chance." (Still in school from Lenana H.S.)

Finally we want to give some more general views on IE from our oral interviews. An overwhelming majority stated that IE was an important subject, and especially the practical part of it.

"Practicals give you skills you can utilize in daily life." (Unemployed from Emusire H.S.)

"Practical part is more beneficial to you, but you have to know theory too." (Still in school from Saiakago H.S.)

"Knowing theory is in no way enough." (Unemployed from Kisumu Day H.S.)

"The practical part is most important, you have to do the things to know them." (Unemployed from Siakago H.S.)

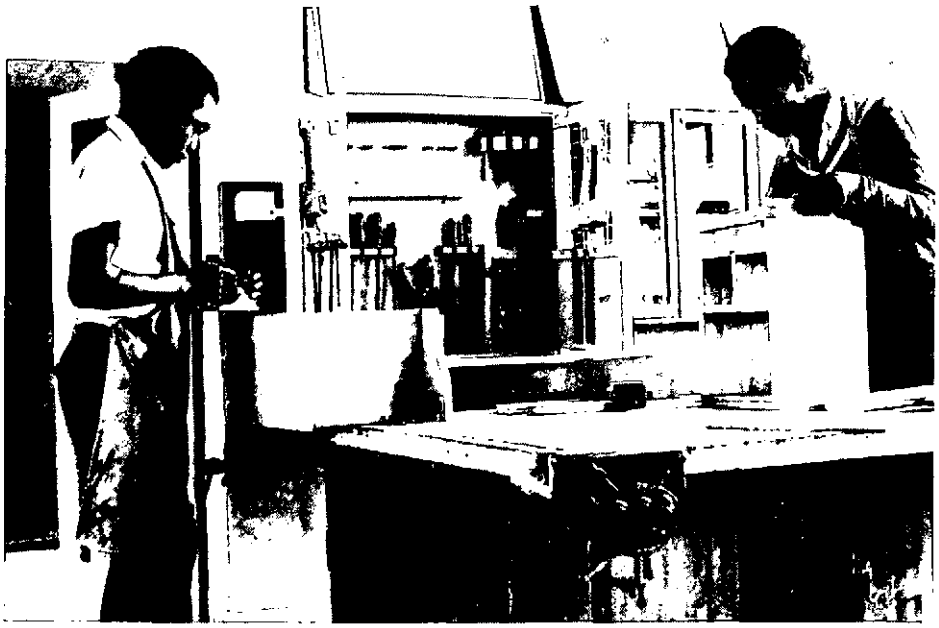
Those interviewed were also asked to name the best, and worst things about IE respectively.

A number named safety precautions as something important to learn. Another common answer was that IE makes oneself self-reliant and it is easier to become self-employed. The latter point is most often stressed by those who are still in school. Another "good" thing about IE that was often mentioned was the use of machines, especially those in the metal workshop.

Some respondents, on the other hand, said that there were too many of these machines and too much emphasis on them in

the practicals. In their view there ought to be more simpler tools, because, after leaving the subject, you never come across these machines anyhow. Other comments on "worst" parts were that things like technical drawing are too complicated and that the periods are too few to cope with the syllabus. The projects done could, in the view of many, have been geared towards something they could make use of after completing.

In Cat II there were many that said they were forced to drop IE after Form II, and they suggested that IE ought to be expanded so that all could take it, at least to Form IV, preferably even up to Form VI. Quite a number in Cat I stated that they were disappointed that it was not possible to continue IE up to A-level.



From Industrial Education Work Shop at Kitui High School.
Photo: Jan Söderström.

8 CONCLUDING REMARKS

In this study we have tried to trace a sample of approximately 1 500 ex-students of Kenyan secondary schools. This group sat the KCE exam in 1983. The sample was interviewed initially during the time of their exam, and a second time in 1984, one year after the exam. Among those who were interviewed, we had one category (Cat I) with IE as one of the subjects of the exam, one category from the same schools, that left IE at an earlier stage, and one category (Cat III) of "control" students from schools not offering IE. In all we had 15 schools with IE and 5 as "control" schools.

During our two months of tracing we succeed in getting in touch with 71 % of the group. In our view this group can be judged to give a representative picture of the total sample.

Furthermore, we conducted a retrospective search of former students of IE from three schools; Kitui H.S., Kisumu Day H.S. and Tudor Day H.S. This was done in November 1983 in order to try to get some information on how IE is perceived by ex-students of three schools. In this exercise we succeeded in interviewing 111 and got second-hand information on another 203, out of a total of 481 possible ex-students. These sat for their 0-level examination between 1974 and 1982.

One general remark that can be made is that it is comparatively easy to trace former students from Kenyan educational institutions. In this kind of interview situation there is always a difficulty in getting unbiased answers. Therefore it is essential to include questions on concrete examples. Furthermore, the questionnaires must be coupled with in-depth oral interviews. Experience gained from our retrospective tracer study shows that some information must be evaluated in a long-time perspective to get an objective view.

From our study a number of conclusions can be drawn about the students taking IE in Kenyan secondary schools.

I. There are in general small differences between the different categories. Where socio-economic background is concerned, the sample seems to a large extent to belong to an elite group in Kenya. Among other things their educational position puts them in that sphere. From this point of view the IE programme does not correspond to the basis of Swedish aid policies. However, this does not mean that the introduction of more practical subjects at secondary level should not be supported. It rather points to the ambiguity of the Swedish aid goals.

II. The academic performance among the group with IE in the exam was fairly similar to the other categories in the sample. Among individual subjects IE does not seem to be an easy subject to obtain good grades in. Another observation made is that Cat I do better in Mathematics than in English language.

III. To a large extent the IE students' present occupations do not differ much from other students in the same schools or the "control" schools. A proportionately high percentage compared to the average KCE exam student succeed in getting into Form V. On the other hand we also find a rather high number that are neither in formal schooling/training nor at work.

IV. It seems that a large proportion of the Cat I ex-students have stayed at home, even if they are among those classified as "looking". One likely reason for this we found was that they are able to earn a subsistence living from different petty crafts.

V. For the future almost all the students hope for some kind of further studies. Among those at Form V university is the main goal. However, it seems evident that Cat I are more inclined to accept other kinds of more specialized training. For those not in school the vocational, often practical/technical education is of high priority for the Cat I ex-students. Regarding future work, both expected and hoped for, students with IE have a higher inclination for blue-collar jobs in the technical/practical sector. For many IE has made such a large impact that they have modified their future plans for a working career.

VI. The opinions expressed on IE are overall very positive, both before and after the KCE exam. Many in the group wanted IE to be expanded into more schools. Also the more general need for more technical/practical education was emphazised. The possibility for self-employment was the factor that often influenced students in this direction. From the retrospective study we found some frustration among those who had not obtained expected use of IE.

VII. Many of those who felt frustration in connection with IE based this on an overestimation of the vocational role of the subject. Often we were confronted with the view that students of IE should be exposed to a Government Trade Test. However, this would be contrary to the pre-vocational character of the subject. From this point of view it is of the utmost importance to clearly define the future role of IE in the new Kenyan educational structure.

Finally we can conclude that the way IE is looked upon by the ex-students is very positive. Especially it seems to be very useful to the individuals. It is not chosen only by the weakest students in the respective schools, rather the more average. For those who are not able to enter the formal labour market the chances of self-employment seem attractive.

Sometimes our results do not differ substantially among our three categories of students. However, most of the variations point in the same direction. IE is of high value for many after the exam. It has given a greater possibility for adaption into a more technological society.

LIST OF REFERENCES

1) Hinchliffe, K - Psacharopoulos, G: TRACER STUDY GUIDELINES. World Bank, 1983.

2) Sifuna, D: REPORT ON EMPLOYERS' VIEWS OF INDUSTRIAL EDUCATION: Kenyatta University College, 1984.

3) Hegmar, E et al: INDUSTRIAL EDUCATION STUDENTS IN KENYA. Who are They? How do They Perceive Industrial Education. Occasional Paper 1984:5, Department of Human and Economic Geography.

4) Republic of Kenya: POPULATION CENSUS 1979.

5) Republic of Kenya: POPULATION CENSUS 1979.
Republic of Kenya: ECONOMIC SURVEY 1983.

6) Republic of Kenya: POPULATION CENSUS 1979.

7) Republic of Kenya: POPULATION CENSUS 1979.

8) Republic of Kenya: ECONOMIC SURVEY 1983.

9) Republic of Kenya: ECONOMIC SURVEY 1984.

10) Republic of Kenya: ECONOMIC SURVEY 1984.

11) Davis, M: A LONG TERM TRACER STUDY OF INDUSTRIAL EDUCATION STUDENTS FROM NYANDARUA SECONDARY SCHOOL, Nairobi, 1984.

12) SUNDAY STANDARD, Nov 25th, 1984.

The Education Division at SIDA initiates and implements a large number of studies regarding education and training, especially in SIDA's programme countries.

In order to make these studies more readily available, they will be published in a series called "Education Division Documents".

Included in this series:

No. 1: "Education and Training in Sri Lanka" by O.Engquist, L.Jivén, K.Nyström

No. 2: "Education and Training in Botswana 1974—80" by J.O.Agrell, I.Fägerlind, I.Gustafsson

No. 3: "The Indian Non-Formal Education Programme" by O.Österling, J.Persson

No. 4: "Education and Training in Bangladesh" by A.Gorham, J.I.Löfstedt

No. 5: "Education in Guinea-Bissau 1978—81" by R.Carr-Hill, G.Rosengart

No. 6: "Institutional Co-operation between The University of Zambia and The University of Luleå 1976—82" by K.Chitumbo. S.Ray

No. 7: "Mobile Vocational Training Units" by K.Larsson

No. 8: "Technical and Vocational Teachers College, Luanshya, Zambia" by O.Eklöf, M. de Beer, J.Fisher, K.Ruuth-Bäcker

No. 9: "Adult Education in Tanzania" by A.I.Johnsson, K.Nyström, R.Sundén

No. 10: "Evaluation of the Activities of the Southern African Team for Employment - Promotion (SATEP)" by B.Karlström, A.Read

No. 11: "Education in Ethiopia 1974—82" by P.Gumbel, K.Nyström, R.Samuelsson

No. 12: "Education in Zambia. Past Achievements and Future Trends" by I.Fägerlind and J.Valdelin

No. 13: "Non-Formal Training Programmes for Rural Skill-Development" by Alex Gorham First Published November 1980

No. 14: "The Indian Non-Formal Education Programme." An evaluation by G.Mellbring, O.Österling, J.Persson

No. 15: "Education in Mocambique 1975—84." A review prepared by Anton Johnston

No. 16: "Primary Education in Tanzania." A review of the research by Roy Carr-Hill

No. 17: "Report on Teaching of Technical and Science Subjects in Sri Lanka" by Alan Dock/Sören Salomonson

No. 18: "Swedish Folk Development Education and Developing Countries" by Johan - Norbeck, Folke Albinson, Tyko Holgersson, Rolf Sunden

No. 19: "The Indian Non-Formal Education Programme". A Follow-up/Evaluation and Feasibility Study by O.Österling, G.Mellbring, U.Winblad

No. 20: "Practical Subjects in Kenyan Academic Secondary Schools": General Report by Jon Lauslo

No. 21: "Practical Subjects in Kenyan Academic Secondary Schools": Tracer Study by Anders Närman

No. 22: "Practical Subjects in Kenyan Academic Secondary Schools": Background Papers by Kevin Lillis, Christopher Cumming, Martin Davies

Swedish International Development Authority (SIDA)
Education Division
S-105 25 STOCKHOLM

ISBN 91-586-7055-6