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EDUCATION AND WORK: A REVIEW OF RESEARCH
REPORTS OF THE FIRST COHORT OF AWARDEES OF
THE KENYA, UGANDA, TANZANIA EDUCATIONAL
RESEARCH AWARDS (KUTERA) SCHEME

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INTRODUCTION

This paper is a modest attempt to synthesize the issues that have been covered by the first theme of reports emanating from the KUTERA competition entitled "Education and Work". The paper falls into three sections. Section One of the paper is a brief review of the general issues related to the notion of education and work. This section also summarizes policies related to education and work that have been pursued by the East African countries of Kenya, Uganda and Tanzania. Section two of the paper is a summary and critique of the reports emanating from the first cohort of KUTERA Awards, while section three makes an attempt to point to future directions for policy and research.

I. EDUCATION AND WORK: AN OVERVIEW

Before giving a summary of the research reports of the awardees of the first Kenya, Uganda, Tanzania Educational Research Awards (KUTERA), it is perhaps pertinent to look at the concept of education and work which was the theme of the first round of the competition.

(a) The Concept, Rationale and Motives of Education and Work.

The concept of education and work means all round education involving both theory and practice. Learners are called upon not only to learn theoretically but also to marry theory with practice when they engage themselves in the production of goods and services. The motives of integrating education with work or production may vary from one country to another. However, some of the major ones are the following :-

1. To supplement government expenditure on education. This is more necessary now than ever before given the declining levels of government funding of education in most Third World countries.
2. To instil positive attitudes towards productive labour. This one is particularly important in post-colonial countries where during the colonial period productive work curriculum was offered to those judged incapable (prejudicially or justifiably) of pursuing an academic one. That created a feeling that such work should be done by those who are "dull".

3. To make curriculum relevant to work situations. In countries where there is rampant educated unemployment, partly as a result of a mismatch between what is learned at school and what the community does, matching the two may create a continuum. This is expected to smoothen the transition from school to the world of work as the graduand will find little difference when he compares the two worlds: schooling and working.
4. To halt rural-urban migration. Many developing countries experience rural-urban exodus of the educated youth who swell the rungs of the unemployed in the urban areas creating congestion on social services and housing, family instability on relatives hosting them, increased crime rate and hooliganism. By introducing work while students are still at school, it is expected that this problem would be minimized as students would have acquired some basic knowledge and skills to enable them settle down within their locality immediately on completing school.
5. To abolish social division of labour. Regimes with an intent of establishing socialism as an economic system in their countries, often introduce manual labour in their education systems. The integration of study and

work is expected to get rid of the division between mental and manual labour and elitism and to enhance the creation of a "new socialist man".

Countries may thus pursue the policy of linking education with work for one or more of the above. Indeed the linkage of education and work is useful because the curriculum then becomes utilitarian. Its success, however, depends on a number of factors. These factors include: the availability of teachers who are committed to this philosophy and who must have received training in the management of projects; community/parental support; relevance of programmes; success of projects (sellability or consumability of products); the equal weighting of academic and practical subjects in assessing and certifying students; and a reward structure that does not discriminate against those excelling in practical subjects.

In developing countries - Kenya, Uganda and Tanzania included - the need to integrate education and work is compelling. In these countries, the level of science and technology is low. Consequently, the production of goods and services does not always meet the basic needs of the masses. The integration of education and work in a scientific way could lead to higher yields with the same effort. The success of this however, requires a supportive national climate in which institutions that are involved in integrating work with production will get the

necessary resources, both human and physical, and other ingredients to make the programme a reality.

Among the countries that have integrated education and work, Cuba is said to have a nationally successful programme of education with work (Gillespie and Collins, 1987: 23). Perhaps countries which are interested in seeing to it that education and work become fruitful programmes could learn something from those countries whose experiences have proven successful such as Cuba.

(b) Education and Work in Non-formal Education Programmes

Efforts by governments in developing countries to resolve the unemployment problem of youths have not only been limited to the formal education system. Non-formal Education (NFE) programmes were intensified in the late 1960s and early 1970s as a strategy for rectifying inadequacies of formal education. According to Coombs (1968) non-formal education was perceived as a means of providing education to those for whom schooling was not a realistic alternative, making new skills and alternatives available to the rural people, circumventing cultural obstacles that prevent some people from utilizing school effectively, using scarce education resources more efficiently, and modifying the school system itself. Non-formal education was therefore defined as any organized educational activity outside the established formal system whether operating separately or as an important

feature of some broad activity that is intended to serve identifiable clientele and learning objectives (Ahmed, Coombs, et al, 1975).

There have, however, been difficulties regarding the precise conceptualization of non-formal education. Studies have shown that NFE programmes can differ according to sponsorship, organization, pedagogical approach, their implicit assumption about the nature of development and their degree of integration with other social institutions (Bock and Papagiannis, 1976). NFE programmes today range from those directly engaged in raising the consciousness of the people, to those involved in the redesigning of educational planning and administrative structures in order to allow increased local participation and control. Other forms of NFE focus directly on the clients and the process which are necessary to provide skills and motivation for people to become involved in their own development.

(c) Education and Work: The East African Experience.

By the mid-sixties, the countries of East Africa which had greatly expanded their educational systems with independence, were beginning to experience a serious problem of school leaver unemployment. Planners and political leaders tended to blame the school for this state of affairs. It was argued that the school system was too academic and produced an educated labour force

whose orientation was anti-manual work and rural life. Attempts to respond to this problem included the expansion of non-formal education programmes and the diversification of the formal school curriculum to embrace pre-vocational subjects. The rationale behind diversification is that the school should prepare its students towards the world of work be it in the rural or urban environment. To expose school leavers from school to a working environment, it was argued, required among other things a possession of certain skills which were utilized in serving the community. Such skills were seen as those of an agricultural and technical nature.

Tanzania was the first African country to be identified with the concept of education and work. In 1967, Julius K Nyerere promulgated the Policy of Socialism and Self-Reliance in the famous document, the Arusha Declaration, which was followed by Education for Self-Reliance that spelled out specific relations between education and the community. The policy advocated a work and service oriented curriculum of learning by doing. Education was to prepare the youth for the work they would be called upon to do in the society which existed in Tanzania, a rural society whose improvement would depend largely upon efforts of the people in promoting agriculture and rural development.

To implement the policy of Education for Self-Reliance, the school curricula were revised to incorporate vocational

programmes and to promote the concept of education with production. Classroom theory was concomitantly supplemented with practical work. In agriculture, for example, school farms were established to cater for demonstrations of theoretical concepts and to promote production. Today most schools have farms for instructional purposes as well as production. In addition, since the mid-1970s, secondary school curricula have been biased along agricultural, commercial, technical and domestic science lines in a bid to ensure that students acquire vocationally useful knowledge and skills.

Kenya has also had a long post-independence experience with the concept of education and work. In 1966 a conference on education, employment and rural development was held at Kericho to discuss the importance of relating the school curriculum to rural life. The conference was prompted by the growing problem of primary school leaver unemployment. The idea of relating education to rural development received a further boost from the International Labour Organization (ILO) report of 1972 on unemployment in Kenya which recommended among other things the restructuring of the education system to create a basic education cycle of 8 to 9 years in which emphasis would be on pre-vocational subjects for community development. This recommendation was adopted by the National Committee on Educational Objectives and Policies of 1976.

At the secondary school level, the concern that manpower needs were more critical in technical and agricultural fields had led to the expansion of the technical programmes in the former trade schools, and the extension of the IDA-sponsored agricultural course at Chavakali Secondary School in Western Kenya to a number of other academic secondary schools. Industrial education was also launched in a number of the academic secondary schools. In the early 1970s, with increasing secondary school leaver unemployment, the country was locked up in a massive harambee (self-help) campaign to raise funds to establish Harambee institutes of science and technology.

From 1979 concrete steps were taken by the Kenya government to vocationalize the entire school system. A Ministry of Basic Education was established to popularize the concept 'basic education'. It exhorted the community to raise funds to start a nine-year basic education cycle. The ministry was however abolished in 1983, after an earlier pronouncement that the country was to move from the 7-4-2-3 (7 years of primary, 4 of secondary, 2 of senior secondary and 3 of university) nomenclature to an 8-4-4 (8 years of primary, 4 of secondary and 4 of university) education system. The pronouncement was promoted by the report of the Presidential Working Party on the second university of 1981 which recommended the adoption of such a system. The 8-4-4 education system became operational from

January, 1985, with the objective of vocationalizing formal schools to inculcate the necessary skills for employment. Vocational subjects at the primary school level include art and craft education, business education, agriculture and home economics. In secondary education, vocational curriculum covers, business education, agriculture, metal and wood work, power mechanics, electrical technology and others.

In Uganda, curriculum diversification dates back to The Castle Report of 1963. The Commission identified the various lines along which curriculum revision and syllabuses for primary and secondary schools would proceed. It was not, however, until the 1965 Minister of Education budget speech that practical steps were taken to introduce vocational subjects in the school curriculum, especially at the secondary school level, although they were not mandatory.

By the close of the first decade of independence in Uganda, school leaver unemployment became so critical that planners began to seriously rethink about educational alternatives to the dominant formal academic school system. Accordingly, reform efforts were directed towards curriculum change to encompass technical-vocational subjects. As a result, in 1975, the Ministry of Education instructed all secondary schools in the country to teach mathematics, science and vocational practical subjects as priority areas. It was hoped that by teaching these

subjects, the curriculum would be meaningful in terms of satisfying the needs of the individuals and the country as a whole. In 1985 a report to the Uganda government by a UNESCO team of experts echoed the conventional objectives of vocational subjects in the secondary school curriculum. The recent Education Policy Review Commission has also given vocational education a strong emphasis. Apart from the recommendation to provide a separate vocational track in secondary education, students who enrol in both comprehensive and general secondary tracks are to benefit from other alternatives provided through technical/vocational education.

It is clear that policies in education and work that have been pursued by the countries of East Africa have mainly been guided by attempts to respond to the problem of school leaver unemployment. Studies carried out on curricula diversification have however decried this vocational education fallacy. It has been amply demonstrated that training does not necessarily create employment because despite massive vocational education programmes in Third World countries, the unemployment problem has not only persisted, but intensified. Critics of vocational education argue that curriculum diversification needs to be accompanied by a major transformation in the socio-economic and political structures of the relevant countries to be acceptable to the majority of parents and students.

II. SUMMARY AND CRITIQUE OF THE REPORTS

Of the seventeen reports summarized here, four studies by Cele, Kaino, Mwaduma and Odada looked at education and work at the primary school level. Studies by Enon and Opolot, Odaet, Olupot and Odama, and that of Rutachokozibwa focus on the secondary school level. Two reports by Komba and Passi are on university education and work. Six reports by Chonjo, Katahoire, Kopoka, Mwanzi, Rono, Digolo and Shiundu are on non-formal education. The full titles of these studies are listed in appendix A.

(a) Studies focusing on Primary Education

Cele's study looks at the opinions of primary seven pupils, teachers, and parents in Kampala on a number of aspects regarding education and work. The statement of the problem is not well articulated although the research questions are. The researcher could have made his conclusions stronger by analyzing the objectives of Uganda education instead of using subject specialists to do this. In addition, asking pupils to take questionnaires to their parents was a questionable method of collecting reliable data. Having a smaller sample that could be accessible to the researcher and his assistants would probably have yielded more reliable data.

The study has very useful data on pupils', teachers' and parents' views on the state of primary education which are well tabulated but not that well interpreted. However, his findings that most of the pupils and their parents aspire to pursue academic education as far as university level and that they have high professional ambitions reveal that people look at the bright prospects for one's advancement socially and economically. This is why technical/vocational and agricultural occupations are taken as a last resort by those who fail to secure further education or jobs in the modern sector. Thus conclusions like: "Academic pursuit does not blind the pupils on what they would do in case of no progress beyond primary education. Most of them are favourably oriented (emphasis is that of reviewers) towards agriculture, the major occupational activity most of them will be engaged in", need to be qualified given the fact that had they been given a free choice as the researcher himself shows in the study, that may not have been their liking. There are such other similar statements that need reinterpretation as people might be saying what is acceptable to the political climate rather than their real feelings.

Kaino looks at the impact of primary school science curriculum in Tanzania in helping primary school leavers adjust themselves to the world of work and the extent to which these leavers use the knowledge and skills acquired at school in their respective localities. The problem of study and review of related

literature are briefly but well articulated while the methods of data gathering - questionnaires, achievement tests, check lists and observations of school leavers' work places look appropriate for the study.

Kaino found that 47 per cent of the school leavers he interviewed were jobless, 37 per cent engaged in petty trade while only 16 per cent were engaged in agriculture. He further found that 54 per cent of his respondents were dissatisfied with what they were doing as they had wanted further education or training. The few who engaged in agriculture used a limited range of science skills with poor performance as they were not any better than the ordinary peasants. When he asked primary seven pupils of their aspirations, he found that only 13 per cent preferred to remain at home and engage in farming. The others preferred secondary education, vocational training, and wage-employment. When an achievement test in science was administered to the same school leavers, their performance was very poor, the average being 30 per cent. This dismal performance was attributed to a lack of equipment, textbooks and qualified science teachers.

Kaino would have done well to attempt to explain the high rate of unemployment in Kibahe district (area of study) given the abundance of uncultivated land here. His recommendations such as that the government should allocate more funds to the Ministry of Education and Training or the provision of more science teachers

needs more thought. Vocational/technical education is unpopular not so much because the available school inputs are scarce, but more because the benefits accruing from such an education are not that attractive.

The report by Mwaduma which focuses on the self-employment activities of school leavers residing in the rural areas, give a good theoretical background to the problem as well as an appropriate review of literature. Data were collected through questionnaires administered to primary school leavers who completed their formal education between 1983 and 1985, interviews with teachers, parents, party and government officials and guided observation or interactions. The last method is vague as he does not say what he observed or the nature of the interactions. For such a study indepth investigation in one area with a lot of observations and interviews would have probably yielded more rewarding results than the questionnaire which the researcher chose to use.

His findings revealed that 86 per cent of the school leavers interviewed were self-employed while the remaining 14 per cent were jobless. The self-employed engaged themselves in farming, crafts and pastoralism. The use of theoretical knowledge and skills acquired at school was found to be minimal as they relied mainly on traditional agricultural implements and methods. They also lacked capital, working tools and farm inputs. Mwaduma also

found out that their aspirations were mainly towards secondary education as they regarded their being not selected to Form I as either a failure or bad luck. A majority of them had an average income that was irregular, unreliable and inadequate. However, his conclusion that the "attitude of the school leavers towards self-employment activities were positive" is not supported by his findings. Many of his findings are, nevertheless, consistent with earlier studies which show that school leavers did not have much to offer to the communities after graduating from school.

Odada's study on why primary schools in Uganda continue to produce job seekers instead of job makers and which was carried out in Mubende and Iganga districts of Uganda has its problem vaguely stated although one can deduce it from the objectives of the study. The literature reviewed does not focus on specific studies/literature on the problem in general and Uganda in particular.

Using interviews, checklists and questionnaires, Odada found that the majority of the primary school leavers stayed in villages and engaged in farming, trade, and domestic work in that order. Only 13 per cent of those reached were jobless. Furthermore, Odada found that 93 per cent of the primary seven pupils interviewed aspired to go to secondary school, while both pupils and parents preferred English, Science, Mathematics and Social Studies - subjects examinable in the Primary Leaving Examination - at the

expense of Art and Crafts, Agriculture and Gardening, and Physical and Health Education which are not examined.

His analysis and interpretation of data in some areas leave much to be desired as they are not supported by evidence. The following conclusion is a case in point: "The school leavers in Iganga were generally more integrated and happier in the village setting than those in Mubende". There are no questions or indicators to show the authenticity of such a statement. Moreover, findings that rely on what others (such as primary seven pupils and teachers) say about school leavers need careful and cautious interpretation as one is not sure of their reliability. In addition, answers to some useful questions raised in the questionnaires are not reported. The use of demographic factors, such as sex and educational background in interpreting the data could have yielded some interesting results. The discussion of the results without a word on the impact of BEIRD? in Mubende, (one of the sample districts) was a disappointment as this would have given a better insight and more critical interpretation of the findings.

(b) Studies Focussing on Secondary and University Education.

Passi's study on graduate unemployment in Uganda is interesting but suffers from major methodological flaws. Quantitative measure such as correlation coefficients and chi-square static were used on qualitative data without any effort to state the operational definitions of the relevant variables. Secondly, the Pearson correlation coefficient is a measure of the direction and strength of a relationship and not one used for hypothesis testing as is the case with this study. His finding that the crisis of graduate unemployment is getting more intense is interesting in the light of the brain drain Uganda has been experiencing since the early 1970's. The major reasons for graduate unemployment include a supply that far exceeds demand as school enrolments have soared since independence while the economy has been experiencing considerable decline, the tendency of the school curriculum to continue to expand arts related programmes, lack of sufficient career guidance at this level and the general declining quality of university education.

Although one cannot argue against many of Passi's contentions, it is not quite clear why declining educational quality would influence unemployment in view of the very limited employment opportunities available to those with formal educational qualifications. His recommendation that the expansion of education at the primary level can arrest the unemployment crisis

is also questionable given the very high level of school unemployment witnessed in this region.

The unemployment crisis also interests Odaet et al who in their rather long report examine the extent to which technical and vocational curriculum could be a panacea to school leaver unemployment. The researchers established that the school system can hardly solve the unemployment crisis for several reasons, namely, the little respect parents have for vocational education and instead preferring their children to attain academic type of education and preferably achieve a university level degree; the academically able students themselves are not keen on vocational education and that vocational subjects are generally unpopular with most students; finally, they found there to be a significant relationship between a given student's extra-curricula activities and career interests.

The researchers rightly conclude that problems like unemployment are external to the educational system and therefore call for extra-school solutions. Some such solutions include a radical change in the socio-economic structure of our societies, the redressing of rural/urban imbalances, a planning strategy that is informed by the reality of available physical and human resources, relating school experiences to the realities of the wider society including age-old attitudes on vocational education, the creation of a technical cadre and some measure of

privatization of education.

Also addressing the issue of employment, Komba in his study on creative engineering education looks at the extent to which engineering university students could be taught to be more creative and thus prepare them to be self-reliant entrepreneurs. This study on the University of Dar es Salaam engineering students concludes that the existing teaching strategy is inhibitive of creativity for several reasons. First, students' initiative, independence of thought, originality and creativity are hardly cultivated by a system which promotes rote learning and spoonfeeding. Secondly, the engineering curriculum encourages a narrow view of problems as well as their handling which in turn influences the students' mode of thinking. Thirdly, the syllabus itself is too examination oriented and thus does not reward the critical students. Finally, a chronic shortage of enabling resources limits the extent to which students could engage in research the major foundation of innovation.

Komba would have done well to stress that the problem of lack of creativity in teaching/learning approaches pervades the whole school system in societies where the word of the teacher is often considered unquestionable and where performance in academic examinations does to a very great extent determine the nature of the rewards accruing to individuals as well as their overall

station in society. All in all, this study could have been more analytical although it should be appreciated that the study approach limited the extent to which this could have been maximized.

Schools and the schooled have often been accused of being out of touch with the communities in which they are based. Rutachokoziwa's study attempts to examine the extent to which this is so by focussing on the effectiveness of secondary school agriculture in enhancing improved agricultural skills among neighbouring communities. His findings are discouraging. First, he found there to be very little sharing of agricultural knowledge between schools and farmers as there was limited interaction between the two although their agricultural practices were by and large similar. Secondly, although school farms benefited more from modern farming methods such as planting in rows and the use of fertilizers and pesticides, they were not good role models from the point of view of yields which tended to be relatively low.

The situation described by Rutachokoziwa is understandable in light of the facts that, first, schools are not as much concerned with the vocational aspects of the curriculum as they are with academic work for the latter is more rewarding. Secondly, both teachers and students are judged by society on the basis of their achievement on this particular aspect. Thirdly, classroom theory

and practice are hardly integrated thus, limiting the extent to which learned scientific knowledge and skills could be applied in everyday aspects of life such as farming. One of the methodological flaws of this study is that given that the sampling of the study subjects was purposive attempts to test the stated hypotheses are not particularly meaningful.

Enon and Opolot's study on the occupational aspects of secondary school leavers in Uganda report some interesting finding which may however, be questionable in the light of some of the apparent methodological flaws associated with their work. For instance, we are not quite clear about how the 'random' samples were drawn or how several key terms are to be understood. There are also questions related to the process of data analysis (numbers reported on some tables do not add up), on some measures such as that of SES as well as on some of the conclusions that are drawn while the research instruments are neither clearly defined nor appended to the report. Among the conclusions reached by the researchers are the following: the job aspirations of senior 6 (S6) and senior 4 (S4) school leavers are roughly similar; both general self-esteem (GSE) and Socio-Economic Status (SES) do not seem to have a significant impact on the job aspirations of S6 and S4 school leavers; there are no significant differences between S6 and S4 leavers from the point of view of their idealistic and realistic aspirations in all except the professional jobs; relatives and friends are the major avenues

for job search by school leavers and that S6 school leavers found jobs more easily than their S4 counterparts.

Many of the findings reported here are in conformity with earlier works related to occupational aspirations by level of education and gender. The study would have been more original if it concerned itself with the impact of parents, peers and teachers on the aspirations of school leavers.

(c) Studies Focussing On Non-formal Education Programmes (NFE).

Katahoire looks at the employment projects of Uganda women possessing non-formal educational qualifications. Although the study has a major omission of the literature review, and does not cite more recent researches on the subject, its general design is adequate. It focusses mainly on the districts of Kampala and Jinja where twenty organizations and groups were sampled for an interview of programme and group officers as well as women trainees.

This study concludes that the majority of the organizations and groups offering NFE programmes for women are mainly non-governmental. The Uganda Government has no clear policies and funding for NFE programmes. Consequently, the programmes in existence are sporadic, ill-funded and marginal to national development plans. Furthermore, these programmes seem to cater

for a very tiny fraction of women, who have already been motivated through exposure to basic education to seek training for an acquisition of marketable skills for wage employment or self-employment. Katahoire's study thus challenges the conventional wisdom of launching peripheral NFE programmes as a way of tackling women problems.

The study also shows that the content of most NFE programmes continues to reinforce and stereo-type the traditional roles of women such as tailoring and dress-making, home economics, needlework and secretarial work. Women groups in the study however, specialized in relatively new skills such as metalwork, carpentry, bricklaying and shoe-making although the effectiveness of these skills is not discussed. The study reinforces findings of related researches which have tended to show that vocational training offered to women has generally been narrow in scope and content, is sex biased and stereo-types women's traditional roles and their marginalization as inferior members of society.

Digolo's study examines the training of primary school leavers in Kenya's Jua Kali (open) workshops. The study departs from similar studies on the subject which tend to concentrate on the big towns of Nairobi, Mombasa, Nakuru and Kisumu as his focus is on the rural district of Siaya. Although the problem of study is well articulated, it is not cast in the broader international context. Informal sector training is not peculiar to Kenya or

Africa. A major methodological weakness of the study is the drawing of its sample mainly from proprietors of workshops as opposed to the trainees. Thus, one cannot help but doubt the accuracy of those findings related to the amount of fees paid by trainees as well as claims by proprietors that they pay trainees a monthly allowance of Kenya shillings 250 - 300 for meals, and that they make provisions for training materials. Related studies have provided evidence to show that quite often trainees are exploited by workshop proprietors. Efforts should therefore, have been made not only to establish the number of trainees in specific workshops, their socio-economic backgrounds and the effectiveness of training programmes by interviewing the trainees themselves as opposed to the proprietors who are likely to exaggerate, the contribution of the workshop to informal sector training.

The study however, concurs with other studies in establishing that Jua Kali training is informal, small scale, conducted on-the-job and dependent on revenue paid by customers as well as fees raised from trainees, that the training is mainly practical and is weak on theory and that workshops are poorly equipped with tools and training personnel.

Chonjo and Shiundu examine different aspects of technical training that are often associated with NFE programmes. Chonjo discusses vocational training at Post Primary technical centres in Tanzania while Shiundu focusses on education with production at primary schools, Youth Polytechnics and Harambee Institutes of Science and Technology (HIST) in Kenya.

In 1973, the then ruling party in Tanzania, Tanganyika African National Union (TANU) directed the government to launch a special skill training programme for primary school leavers. The training programme was to be low cost with the objective of developing among the school leavers, skills for wage or self-employment. The technical skills to be taught were in the areas of home economics, brickwork and masonry, carpentry and joinery and metal work. Chonjo's study examines the implementation of this directive with regard to Post Primary technical training Centres (PPTTCs). The study design however, seems to have a serious problems that cast a lot of doubt on the findings arrived at. The methods of investigation included studying written documents on the programme such as circulars, party directives, evaluation and progress reports and literature on vocational training. Interviews and questionnaires were to be administered to trainees, instructors, inspectors, coordinators and parents. Although the appendix has purported interview schedules and questionnaires administered to the various groups, there is no evidence to show that responses to the questionnaires and

interviews were actually analyzed. Much of the information presented in the study is apparently based on reports about the centres and some observations made by the author. It is also unfortunate that although the area of technical training is rich with literature, the study attempted no review of such literature even within the Tanzanian context. Overall, the researcher depends more on a descriptive as opposed to an analytical approach.

Chonjo concludes that by 1983 there were 316 PPTTCs with a student enrolment of 6,996 out of a capacity potential of 50,080 school leavers. Some of the reasons advanced for the apparent failure of the programme include a lack of qualified teachers, pilferage of working tools/equipment and lack of instructional materials. Other problems are related to the use of a common curriculum countrywide without an assessment of the needs of the communities concerned, thus making irrelevant some of the skills learned, an absence of community participation, and lack of tools or money to buy the necessary equipment upon graduation thereby forcing graduands to seek wage employment. The study leaves a number of question it set out to investigate unanswered.

Shiundu on the other hand portrays education with production in YPs, HITs and primary school in Kenya to be a success story. The study concludes that the idea of combining education or training with production is very popular in rural primary schools and

vocational institutions, especially among the administrators and students. It is noted that in addition to generating additional funds, the other main reason for the introduction of production units in primary schools is to equip the youth with productive skill according to the demands of the 8-4-4- system of education. Similarly, the vocational institutions produce in order to enhance their training on pedagogical grounds.

The study further argues that production in primary schools has pedagogical and socio-economic benefits to students as well as the whole community. It promotes a good relationship between the various parties in the school system who are involved. It does not only contribute to the cognitive but also, social, economic and physical development of the students. In YPs and HITs too, production is beneficial to students and the wider community. It is noted that production has positively changed the image of these institutions and enhanced the relevance of their training.

Shiundu's findings are interesting in a number of ways. They are a challenge to most other studies which have presented a different picture of the state of production units in schools and vocational training institutions. Those studies have provided evidence to prove that pedagogically, production units have not been all that effective, hence the need for student attachment in industries to acquire relevant skills useful to their trades. It has also been stressed that both the YPs and HITs are faced with

such serious financial problems that it is difficult to adequately equip their production units in terms of tools and personnel. Production units in schools too, experience considerable pedagogical and operational problems as studies in Tanzania and Zambia have shown (G Malekela, 1989; P W Achola and H Kaluba, 1989).

Shiundu's conclusions about the apparent success of production units in Kenya are understandable from the standpoint of the methodology adopted in his study which focussed mainly on obtaining information from District Education Officers, and the management of primary schools and vocational institutions. There is no indication in the study that students or pupils involved in production activities were at all interviewed. While the management is important in providing useful information, its objectivity is likely to be questionable unless checked by other independent sources. There are also some difficulties in data presentation and analysis where discussions are not tied to any particular table making it problematic for the reader to know whether or not the researcher is expressing his personal opinions or interpreting data actually obtained in the field. Some of the conclusions of this study therefore constitute an important area of future research in view of the design adopted and the omission of a review of literature that could have provided a better picture of the current state of education with production in a regional and international perspective.

The Rono, Kopoka and Mwanzi studies suffer from serious methodological problems that render their findings doubtful. In the Rono study on the role of 4-K clubs in encouraging pupils to learn modern methods of farming, although a research design is attempted, there is no evidence to show that work was carried out. Much of the information presented is apparently based on secondary source materials such as textbooks and manuals. This is similarly the case with Kopoka's study on technological development in Tanzania. It is a massive essay which draws mainly from published material on industrial development without any research design. The Mwanzi study on the transition from school to the world of work also does not reflect a knowledge of the basic social science research paradigms. The problem is not stated. There is no literature review, nor does the researcher specify the instruments used for data collection. In addition, discussions and conclusions are not based on data presented in the study, hence, casting considerable doubt on their authenticity. The three studies therefore make very little contribution to our knowledge of education and work.

III. IMPLICATION FOR POLICY RESEARCH

This last section of the paper discusses policy implications and possible questions for future researchers in the field of education work.

(a) Policy

Although it has been said many times before, it is worthwhile repeating here that it is indeed fallacious to assume that education is an independent variable with the power to alleviate the unemployment crisis characterizing many of the Third World countries. Equally fallacious is the related belief held by many governments of the Third World to the effect that training is in itself capable of creating employment. It is thus quite appropriate to argue that policy makers in the East African region who have tended to sell the notion of education for employment have not been guided by any objective understanding of the root cause of unemployment in their respective countries which simply put is the inability of their economies to grow at the same pace as the educational systems. An important policy matter thus relates to the need for those of us who formulate policy to interact more with those who generate knowledge (researchers, teachers) through seminars, workshops and the media in a bid to promote a deeper understanding of the real problems associated with unemployment and the possible ways of tackling them.

Given that influencing the pace of any given country's economy is a task no educational system can match, other possible policy actions within the educational system could include the following:

- Reward structures will need to be adjusted to give equal weight to those possessing vocational educational skills on the one hand and those possessing academic skills on the other. Thus agricultural work and manual skills in general must be seen to be well paying.
- Selection examinations do also need to be reoriented to give equal weight to vocational and academic education skills.
- Educational systems need not be openly dichotimized especially in such a way that those from the lower socio-economic backgrounds are the ones ending up in vocational/technical institutions.
- Facilities available for technical/vocational education call for a great deal of improvement. Likewise teachers of vocational skills will need to undergo more specialized and advanced training if the skills they impart have to be of a reasonable level of scientific sophistication.

- Those possessing vocational/technical skills cannot be self-reliant without support from their respective institutions or the government. Such institutions will also need to be more aggressive in advertising their products.

- The support of parents, teachers and the respective local communities must be enlisted by the proponents of vocational/technical education. So too should be that of students who will have to participate more actively in the making of those decisions that affect them.

(b) Research

Although research in the area of vocational education could be said to be fairly abundant, the experiences of those who were involved in the KUTERA scheme underline the extent to which there is still a lot to be learned. Some of the possible areas of research pointed to by many of the reports include:

- Studies on how best to narrow the gap between researchers and policy makers in view of the fact that the best policies are those informed by research findings.

- Comparative studies on the successful models of vocational/technical education systems at both the national and project levels.
- Comparative studies on the successful versus the unsuccessful products of technical/vocational institutions.
- Studies focussing on specific communities to establish the kinds of products that would be marketable in given communities.
- Research on how best wage structures could be adjusted to encourage those possessing vocational/technical educational skills without upsetting any given country's economy.
- Research to establish the extent to which academic standards will not decline if a great deal of regular school time is devoted to vocational education.

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APPENDIX A

AREAS RESEARCHED BY THE FIRST ROUND KUTERA AWARDEES.

(a) On Primary Education

1. Cele C I. Orientation of Uganda Primary School Leavers to the World of Work.
2. Kaino, L M. The Effectiveness of Primary School Science Curriculum on Pupils After Completing Primary Education.
3. Mwaduma, S Z. Primary Education Since 1967: An Evaluation Study on Self-Employment Activities in Rural Areas: Case Study of Iringa Rural District.
4. Odada, M. Why Primary Schools in Uganda Continue to Produce Job-Seekers Rather than Job-Makers.

(b) On Secondary Education.

5. Enon, J C and Opolot, J A. Occupational Aspirations of Secondary School Leavers in Uganda and the Linkage of These Aspirations to Job Attainment Process.
6. Odaet, C F, Olupot, E S and Odama, S. Technical and Vocational Education Provision in General Secondary Schools in Uganda.
7. Rutachokizibwa, V. The effectiveness of Secondary School Agriculture in Enhancing Improved Agricultural Skills to the Community.

(c) On University Education

8. Komba, A Y. Education for Innovation: A Pilot Study on the Promotion of Creative Engineering Education in Tanzania.
9. Passi, F O. An Investigation Into the Causes of Unemployment Among University Graduates in Uganda.

(d) On Non-Formal Education

10. Chonjo, P N. The Dilemma of Primary School Leavers in Tanzania: Is Post-Primary Technical Training a Solution?
11. Digolo, O O. Study of the Nature, Progress and Problems of Training Primary School Leavers in Jua Kali Workshops in Kenya.
12. Katahoire, A R. Non-Formal Education and Employment for Women in Uganda: A Study on the Role of Non-Formal Education Programmes in Equipping Women with Skills for Employment.
13. Kopoka, P A. Problems of Acquisition and Utilization of Technological Skills for Industrial Development: A Case Study of the Sugar Industry in Tanzania.
14. Mwanzi, H O A. Education and Work: A Study on the Transition From School to the World of Work.
15. Rono, P K A. Non-Formal Education: The Role of 4-K Clubs in Encouraging Pupils to Learn Modern Farming Methods.
16. Shiundu, J A. Education With Production: A Study of Rural Primary Schools and Vocational Institutions.