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RESERVE

THE ECONOMICS OF COSTING AND FINANCING OF
EDUCATION FOR DEVELOPMENT IN KENYA

A RESEARCH AGENDA IN THE
1980s AND BEYOND

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THE ECONOMICS OF COSTING AND FINANCING OF
EDUCATION FOR DEVELOPMENT IN KENYA

I.C. Riak

ABSTRACT

The central role of education for economic and social development has never been questioned. Indeed, most economists and other social scientists would probably agree that it is the human resources of a nation, not its capital nor its material resources, that ultimately determine the character and pace of its economic and social development. All countries have committed themselves, therefore, to the goals of "universal" primary education in the shortest possible time. As a result, a greater percentage of government budgets in the Third World countries has been allocated to education since the 1960s to the present.

Even though education is widely recognized as a major force for promoting socio-economic development, and educational expenses are after the most important item in developing countries budgets, education is not contributing all it can to development. In addition, developing countries like Kenya are facing a mounting demand for more and better education. Adequate financing is required to produce greater quality and equality within the educational system and constant pressures are being applied to provide additional resources for the sector.

The purpose of this paper is to enquire into the real possibility of the Republic of Kenya of costing and financing her educational objectives in the 1980s and beyond, bearing in mind the high level of expenditure that has already been reached, the constant rise in unit costs, increasing rate of unemployment, the implementation of 8-4-4 system and the increasing competition within the state budgets themselves that education will probably encounter in the future from the financing of productive investments, debt servicing and other predictable expenditures. The research proposal, therefore, aims at

- (a) Studying the real weight of probable financial constraints on the development of Kenyan educational system up to the year 200;
- (b) Investigating the various costing and financing methods likely to augment resources and to define a strategy of education at costing and financing more closely adapted to social and economic realities of the Kenyan society and
- (c) analyzing certain alternative solutions capable, by reducing costs or improving the efficiency of the teaching process, leading to a better balance between educational target and the resources available for them. Suggested areas for present and future research are discussed; they include the sources of financial resources, equity and efficiency considerations in financing, ways and means of improving efficiency the role and impact of Students loans in Kenya, public and private schools in Kenya, cost analysis, data collection improvement, and Kenyan economic performance and the financing of education.

1. Introduction

Education has long been recognized as a central element in development. When the developing countries began their drive for social and economic development nearly three decades ago, education was perceived as a means not only of raising political and social consciousness, but also of increasing the number of skilled workers and raising the level of trained manpower (World Bank, 1980, 1986)¹. These benefits together with the visible gains for individuals from education, stimulated an un-precedented growth of enrollment in primary schools and of substantial investments in education at the secondary and university levels. Formal education has been expanding and will continue to expand in Kenya also because of what Carnoy et al. calls educational symbolism, partly represented in reality, of potential social and economic mobility (IDRC, 1980). From the state's point of view, expanded education helps legitimate the state itself. In addition, increased spending on schooling mediates pressure by various groups for public services and better socio-economic opportunities for their children. But, although substantial progress was made during the 1950s and 1960s educational growth failed to achieve (a) a more equitable distribution of income and social services and (b) an equilibrium between the productive capacity of the education system and the absorptive capacity of the ^{labour} market.

Even though education is also widely recognized as a major force for promoting socio-economic development, and educational expenses are often the most important item in developing countries budgets, education is not contributing all it can to development. According to the World Bank experts on economics of education, the four main reasons for education's failure to development are underinvestment in education as a whole; misallocation of resources; the inefficient use of resources within individual schools¹, and inequality in the distribution of educational costs and benefits among various income groups (World Bank, 1980, 1986; Wolff, 1984; Woodhall, 1983). Compared with the previous five years, the average rate of growth of real public expenditure on education in developing countries declined between 1970 and 1980. This trend in public expenditures on education reflects two mutually reinforcing factors: the decline in many countries of overall budgets in real terms in the wake of the two major world recessions of 1974-75 and 1980-83, and the large proportion of the government budget devoted to education. With tight overall finances, intersectoral competition

for resources tends to make education a "victim of budget cuts" (World Bank, 1984, p.30; and IDRC, 1982, p.13). Kenya has also experienced substantial declines between 1975 and 1983 from 19.4 to 15.4 percent.

Underinvestment in education is reflected not only in a shortage of new school places but also in under-spending on certain recurrent expenditures. In education, the recurrent cost problem - inadequate funding for a project's operation and maintenance - is especially very severe because projects typically have high recurrent-to-capital-cost ratios. The low level of educational development in Kenya is also reflected in high rates of adult illiteracy. This underinvestment brings us to the critical issue of misallocation of resources across levels of schooling. For instance, primary education should receive top priority because, apart from measurable rewards, investments in the lower levels of education may generate more externalities than would investments in higher levels, for example, lower fertility and better health and nutrition. Specific fields (e.g., technical personnel in engineering and medicine) may be highly profitable from the social point of view. However, the degree of cost recovery in education is higher at the primary level than the higher level. According to World Bank research reports, subsidies in higher education have two components: first, they fully cover the direct cost of education (such as teachers salaries and equipment), and students pay little or no tuition; and second, many students also receive living allowances, which often exceed the sum required to cover food, lodging and transport (World Bank, 1986, pp. 9-11). The misallocation of resources across levels of schooling also results to inefficiencies within schools. Often, the mix of purchased inputs, such as teacher's services and pedagogical materials, is inefficient. Inefficiency also arises when lower income students with good learning potential are not able to secure places at the next grade level because they drop out for economic reasons or because they cannot compete with students from higher socio-economic backgrounds or because of a combination of both. The present arrangements for financing and providing education contribute to both types of inefficiencies. The problem has worsened in recent years because the centralized financing system has been slow and even unable to adapt to the scarcities of public resources for education. In most cases, managers in the public school system have no incentive or authority to adjust.

At the same time, increased schooling may serve to increase growth rates, redistribute earnings and legitimate the state. But in Kenya, if the total demands for expanded and improved formal education are to be satisfied, the percentage of total product going to educational spending may have to be increased substantially. Will such increases in spending cut into other investments, and reduce growth rates? If social pressures for increased educational spending are great, how should government finance this spending? If choices have to be made, which levels of schooling are more politically "crucial" and which less? Do some patterns of spending contribute more to more equal earnings distribution? These are precisely the educational finance issues and decision is made, who is to pay for the increased educational spending? There is relatively little literature that explores these decision and how they are resolved. This Research Proposal is a response to these pressing and unanswered questions and issues. But before we address the issues and problems of research priority on costing and financing of educational system in detail, we briefly look at the concepts of development and education.

2. Concepts of Development and Education

By the late 1960s, the need to widen the definition of "development" beyond a narrow focus on economic production was apparent. In 1970, the General Assembly of the United Nations resolved that "... as the ultimate purpose of development is to provide increasing opportunities to all people for a better life, it is essential to expand and improve facilities for education, health, nutrition, housing and social welfare and to safeguard the environment".² This approach to development is aimed at improving the welfare of human beings, primarily in terms of providing goods and services needed to eliminate manifestations of poverty, such as malnutrition, disease, illiteracy, and squalor. The development of human resources not only helps alleviate poverty, but also contributes significantly to growth in national productivity and income.

This comprehensive approach to development underlines, the importance of education in three interrelated ways. First and foremost, education is regarded as a basic human need. People need education to acquire a broad base of knowledge, attitudes, values, and skills on which

they can build in later life. Such kind of education provides people with the potential to learn, to respond to new opportunities, to adjust to social and cultural changes, and to participate in the political, cultural, and social activities.

Secondly, education is also considered as a means of meeting other basic needs. Education influences and is in turn influenced by access to other basic needs: adequate nutrition, safe drinking water, health services, shelter and security (job). Reduction of gastrointestinal diseases and of parasites, for instance, which can be achieved through education, clean water, and health programmes, considerably increases the nutrition to be gained from a given quantity of food. Conversely, improvements in nutrition, particularly in infants and young children, greatly improve their learning capacity, their overall benefits from education and ultimately their productivity and income.

Thirdly, education is an activity that sustains and accelerates overall development. Education serves roles³: (a) it prepares and trains skilled workers at all levels to manage capital, technology, services, and administration; (b) through trained personnel, developed methodologies, and institutional settings, education facilitates the advancement of knowledge in pure and applied fields; (c) as concern for the management of the environment, for conservation, for the use of energy and for achieving a balance between human population and material resources mounts, education will be expected to raise the consciousness of people and to provide knowledge, skills and trained manpower to deal with environmental issues; and (d) rapid economic growth, technological advancement, and social change transform the relationship between the individual and society and may tear down the traditional supports that have provided the social framework for the individual, the ability of individuals to identify with changing culture and find constructive roles in society, depends to a large extent, on what education can provide by way of self-understanding, better knowledge of the choices available to society, and critical view of the culture.

One must think of education, therefore, not only as a "sector" of development - parallel, for example, to agriculture or industry - but as a pervasive element that must be integrated - horizontally and vertically - into all development efforts (World Bank, 1980). The

concept of education as a pervasive element has several implications: (a) education must cover a wide spectrum both in content and in form; (b) general education is as essential for attaining development objectives as training in specific skills; (c) investment in education and training should be balanced with investments in other fields so that learners can become involved in productive tasks in a growing economy; and (d) equity in education and national economic development are mutually consistent.

3. Research Proposal on Costing and Financing of Educational System in Kenya.

Although all the four implications are very important for research study, the present research proposal deals with the last two implications; (c) and (d). The research proposal originates in an inquiry as to the real possibility of the Republic of Kenya of costing and financing her educational objectives, bearing in mind the high level of expenditure that has already been reached, the constant rise in unit costs, increasing rate of unemployment, the implementation of 8-4-4 system and the increasing competition within the state budgets themselves that education will probably encounter in the future from the financing of productive investments, debt servicing and other predictable expenditures.⁴

Viewed in this light, therefore, the research will not strictly be limited to the study of costing and financing techniques, but will have wider aims. (I.C. Riak, 1975, World Bank, 1980; K. Kinyanjui, 1980):

- (1) To study the real weight of probable financial constraints on the development of educational system up to the year 2000.
- (2) To investigate the various costing and financing methods likely to augment resources and to define a strategy of educational costing and financing more closely adapted to social and economic realities of the Kenyan society.
- (3) To analyze certain alternative solutions (new structures, new technologies, etc.) capable, by reducing costs or improving the efficiency of the teaching process, of leading to a better balance between educational target and the resources available for them. In addition to these extremely concrete objectives, concerned with the real problems

facing educational planners in Kenya, the collation of the essential data should provide the basis for the answers to more theoretical questions, affecting, for example, the type of correlation between educational expenditure and the level of development, between the level of expenditure and the method of financing, between the level of unit costs and the development of educational system, etc.

With these aims in mind, the research proposal should undertake two types of study. First and foremost, Kenya's study for the retrospective (1964-1986) and prospective (1987 or beyond) analysis of the expenditure financing and costs of educational system in Kenya; the study should, as already stated, reveal both the magnitude and the nature of the financial constraints to be met in the general framework of the development of the economy and the finances of the state, and the level and various alternative forms for the possible development of educational system. The study will thus cover the whole field of educational financing, costs and policies in Kenya. The second aspect of the study should cover different possible methods of financing (e.g. centralized, decentralized, public, private, etc.) and, especially original ways of raising supplementary resources, and the study of new educational solutions calculated to reduce costs.

The study should also look at the past performance of the Kenyan economy and project economic performance until 2000 with an eye of projecting the maximum amount of resources likely to be available for education.

4. Suggested Areas for Present and Future Research

In the present context of these developments in the educational system, namely; educational expansion and its costing and financing over a period of time, it is suggested that ^{future} research should attempt to amplify their implications and to suggest alternative strategies of costing and financing of education for development in Kenya. More specifically, the research priority should study the following topics in depth:-

4.1 Sources of Financial Resources:

- (1) Public Revenues (local, provincial and central government).
- (2) Private Revenues (parents, private industries, foreign aid, fees and loans balanced by scholarships at post - elementary and local communities). Kenya is facing a mounting demand for more and better education, adequate financing is required to produce greater quality and equality within the educational system and constant pressures are applied to provide additional resources for the system. New sources for coping with new demands for more and better education will be investigated. With this research proposal, we have the following important factors in mind to be considered:

assessment of educational outcomes, costs per student, determinants of school achievement, educational and labour market data, efficiency of the tax system, public and private school quality, redistributive effects of educational expenditures, requirements to establish new schools, salary structure. Sex discrimination in the educational and labour markets, student loan systems and types of private schools. One of the practical problems this research proposal will be doing is funding areas of education in which experimentation on the financial plan is feasible without stepping on too many vested toes.

4.1.1 Equity Considerations in Financing

As we said earlier, education is a basic right and all individual should have equal access to educational opportunity and, more importantly, results. The basic assumption that there is some advantage in becoming educated is supported by the high relationship between education and income detected in developing countries.

There are three approaches to financing of education. The proponents of government financing and government provision always believed that providing equal access was a social responsibility. Proponents of the free market approach, free in both financing and provision, obviously differ. They agree in principle on the need for everyone's equality of purchasing power, but they oppose government financing and provision because they say it does not do what the government says it does. Proponents of a third strategy - government financing and free market provi-

sion - believe that equalization of purchasing power can best be obtained with the r approach: Government can give subsidies to individuals so that the poor have as much purchasing power as the rich, but are free to use it as they wish. One of the major questions the research proposal will address is: How socially equitable are the present financial arrangements in Kenya?

4.1.2. Financing for Efficiency

In a natural monopoly, such as education, where it is difficult to introduce effective legal controls and consumers have little power, a centralized administration operating with some public control, as do all civil services, may prove to be a good solution. On the other hand, such a system tends to reflect the ^{administrator's} tastes rather than the consumers' tastes. Increased state acceptance of financial responsibility in education is sometimes labeled as administrative overburden of bureaucracy, whereas private education is often accused of "selling" diplomas without regard for satisfactory academic work of "polluting" the rest of the public system by excluding those students with learning or behavioural problems. The Coleman Report dispelled some previous beliefs (conventional wisdom) on differences in American schools' performance. Research in some developing countries, excluding Kenya, has also shown that little difference in achievement is observed between public and private schools once the socioeconomic level of families is controlled, although several school variables have significant effects - textbooks, peer groups, and length of school year (Simmons, 1980, p.137).

Private education tends to be concentrated in densely populated urban areas. Sparsely populated rural areas increase the cost of educational services as well as that of transportation or lodging. Extreme climates, risky zones in shanty-towns, ^{high} cost-of-living cities, isolated mountain and jungle areas affects average level of efficiency and raise costs per student. Several questions must be considered before a rational decision is made in this regard. How do free market forces cope with these problems or state-aid schools adjust to such conditions? What are the major sources of inefficiency in the current system of providing and financing of education in Kenya? How efficient are the state norms and controls? How are consumers made aware of the quality of educational institutions? What are the social problems or solutions

to "education pollution"? How can higher costs in areas with special problems for educating students be subsidized? What would be the probable increments in technology generated by the profit motive?

4.2 Ways and Means of Improving Efficiency

The research proposal will critically analyze various ways and means of improving efficiency in the educational system. How efficient and effective are the following measures of improving efficiency?:

- (1) Improvements in the use of staff by increasing the teaching load and the ratio of students to staff.
- (2) Eliminating unnecessary diversity or duplication of courses.
- (3) Using school space more efficiently (e.g. adopting double shift).
- (4) Introducing accelerated courses of study, year-round programmes and shorter, more intensive training period.
- (5) Reducing non-teaching costs by improving the student selection procedures and student-aid policies and lowering costs of boarding.
- (6) Improving management through effective programme budgeting cost analysis and procurement practices.
- (7) Efficiency in the flow of students - the input/output ratio-can be improved by reducing rates of repetition and dropout.
- (8) Improving management capacity - educational personnel at the central, provincial and local levels need training in management; how management policy and procedures should be formulated in such a way that educational administrators at various levels become important participants in, rather than dispensers of, decisions; and exploring strategies for managing education (e.g. centralized, decentralized), and the adequate linkages, functions and levels of education.

4.3 The Role and Impact of Student Loans in Kenya

In more than thirty countries, students can borrow to pay tuition fees or to meet living expenses while they are enrolled in higher education. Student loans programme exists in Kenya. Because many of the loan programmes were designed primarily to expand educational opportunities

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for the poor, the interest charged is generally below market rates. Experience in both developed and developing countries has shown that student loans are feasible. However, they are associated with problems of high default rates and the decapitalization of programmes that occurs because real interest rates in some developing countries are low or even negative.

Now, this research proposal will investigate the role and impact of student loans in Kenya. The research will focus on ways to improve the performance of the schemes so that default rates and collection costs are minimized. It will examine the impact of student loans on student selection. The study will evaluate the benefits and costs of introducing loan schemes. It will finally examine the appropriateness of the terms of repayment to Kenya's prevailing socio-economic conditions.

4.4 Private and Public Schools in Kenya.

In Kenya, private schools are subsidized to varying extents. During 1980-81, 9 percent of Kenya's total public budget for secondary education assisted private harambee schools built by local communities through self-help. Schools assisted by the Kenyan government account for 35 percent of total private school enrollment (more than 82,000) of all secondary school students went to harambee schools that receive no government aid; another 20 percent went to harambee schools that did.

Rigorous comparisons of the relative efficiency of public and private school are difficult to make because quality is variable. But we know that in the United States of America the private schools are the best that produce most qualified students. In Chile, for example, studies do show that students in private schools achieve more academically than those in state schools after differences in socioeconomic background are taken into account (Schiefelbein, 1985). Yet, in Kenya the results show the opposite even though private schools cost more per student to educate. Further research is needed on the role of private schools in contributing to educational development in Kenya. One concern is the question of how and to what extent the government should exercise control over private schools. Other issues include: What are the factors that explain the differences in students performances in both systems?

Should the government encourage the expansion of private schools? How can this be accomplished? What would be the impact of such expansion on social selectivity in education? What are the differences in graduates from public or private schools that are attributable to each type of school?

4.5 Cost Analysis

- (1) Teachers' salaries
- (2) School equipment and supplies
- (3) Teachers retaining costs
- (4) Costs to further and more expensive geographical dispersion of schooling.
- (5) Administrative costs at local, provincial and central levels.

The proposal will examine various educational innovations that result in cost reductions made possible by increasing the number of students served, decreasing the number of teachers needed, diminishing waste (i.e., improving the retention and promotion of students, or augmenting the share of community contributions to educational costs). How cost-effective are educational technologies in producing student learning? Can they result in students costs much lower than those incurred in regular schools? Can innovations in non-formal education produce positive economic and social changes at the community level, particularly in rural areas? How relatively expensive or inexpensive are these innovations, given their heavy reliance on voluntary support at the local school level by both community members and programme participants? Much remains to be learned about educational costs and that a study is needed to focus on the school as the unit of analysis because it is this level that appears to be the most sensitive in the identification of sources of inefficiency as well as sources of additional economic support for schooling.

4.6 Data Collection Improvement in Kenya

It is virtually impossible to obtain accurate data on any aspect of educational costs and expenditures for Kenya. For purposes of costing, financing, planning and analysis of education, it would be desirable to obtain a standard classification of information that would be accurate and available on a systematic basis. Without more

accurate cost information, useful analyses are often impossible to construct and, therefore, policies must necessarily be made on the basis of assumptions that may or may not be valid.

This research proposal intends to analyze issues in the costs and financing of education in Kenya. Many officials in both private and public institutions in Kenya complain that education is getting "too costly" and that they can no longer finance the development or sometimes, even the maintenance of their school system. They ask advice on how to reduce costs and/or to recover part of them by tapping other sources.

Before addressing issues in costing education and in cost recovery, this research proposal looks at the availability and quality of data on the cost of education. The data available were found to be incomplete and unreliable for the following reasons:-

- a) We have to rely almost exclusively on macrodata taken from government budgets.
- b) These data give information on expenditures and not on costs.
- c) The data available generally show planned, not actual, expenditures.
- d) There is no standard way to define and classify expenditures on education.
- e) Their coverage changes from year to year.
- f) Some ^{proportion} of public expenditures on education comes from budgets other than that of the Ministry of Education; the data are thus difficult to synthesize.

To remedy this state of affairs; collection of cost data at the local level through local surveys of schools and of households is imperative. The work started at UNESCO and the World Bank to harmonize and standardize data on public expenditures on education should be pursued and intensified.

Why attempt to reduce the unit cost of education in Kenya? Two main sets of reasons call for reductions in the unit cost: First, the unit costs of education at all levels, but particularly higher education, are much higher in African countries than in other countries

in the same range of per capita income. Second, at current into costs, Kenya may not attain her stated objectives of universal primary education in the next fifteen years. With the reduction in unit cost, we will be able to address the following questions: How willing and able are parents and students to pay? What is the likely magnitude of the extra revenue? How can alternative financing arrangements improve efficiency and equity?

4.7 The Kenyan Economic Performance and the Financing of Education

- (1) Economic growth and income distribution (1964 - 1986).
- (2) Development by major industrial sectors.
- (3) Supply and use of resources.
- (4) Capital formation.
- (5) The work force.
- (6) National Savings.
- (7) Analysis of government revenues and expenditures.
- (8) Balance of payments trends.
- (9) Capital movements and external debt.

The financing of education is largely dependent on the economic performance in Kenya. If the Kenyan economy grows at, say, 5% or more annually, there is a good chance of sustaining the present level of educational expenditures. On the other hand, low or even negative economic growth rates along with high inflation may be reducing the resources available for education in real terms even though proportional spending is maintained. If public expenditures are reduced in real terms, as for example, is predicted for sub-Saharan Africa by the World Bank, then pressure will undoubtedly fall heavily on education budgets with adverse consequences for medium - and long-term development goals. In addition, increasing and mounting pressures on educational budgets in Kenya could be felt if the developed countries economies are not performing well. For example, the slow down and stagnation of economic growth in the developed countries can have negative effects on the economies of the developing countries. The effects of recession and increasing conditionality of loans, are, therefore, likely to threaten social development expenditures in general and education in particular, as are any reductions in the resources available from donor agencies. This is especially critical for the low-income, oil-importing develop-

ing countries like Kenya where the bulk of external finance is provided by Official Development Assistance. There is, therefore, a need to analyze the Kenyan economic performance, taking into consideration the domestic and international determinants of the Kenyan economy. The study should look at the past performance of the Kenyan economy and project economic performance until the year 2000 with an eye of projecting the maximum of resources likely to be available for financing of education.⁵

5. Cost and Financing of Education Analysis: Meaning and Limitations

Analyses of costs represent attempts to render investment decisions rational. The most logical way to choose among alternative investments is to compare anticipated benefits against required resources. This reasoning has been applied to educational decision for sometime. Major difficulties remain, however, regarding the concepts being used, the assumptions made to measure these concepts the suitable referents in comparing costs, the methodologies used to ascertain cost-benefit ratios and cost effectiveness and the tendency to quantify benefits of diffuse nature or outcomes what have different values depending on the social or personal objectives.

Cost would seem to be a concept easy to measure than benefits or effectiveness, yet problems emerge when one confuses cost with expenditure, the latter referring to costs described in official budgets. One way of measuring unit costs is that of the cost to produce one graduate at each level. Basic tools, such as cost-benefit or cost-effectiveness analysis, may have limitations in encompassing most of the benefits and some of the costs involved, so it is difficult to make generalizations on the effects of efficiency in financing.

Education and finance are concepts used here in a wide sense. The first includes formal, nonformal and eventually informal. Education is what is taught in school and school-related experiences like sports teams and theatre groups. It refers to learning that can take place outside the school as well as inside. Nonformal education refers to organized educational activities that occur outside the school, like adult literacy courses and agricultural extension services. Learning that is not organized can be termed informal education and includes all

forms of nonschool experience (Simmons, 1973, p.3). Finance includes the sources and management of educational finance as well as the process of spending and using funds. Financing of education, in policy terms, should take into account comparisons over time: effects of changes in mechanisms or in beneficiaries; modifications in factors affecting demand for education; introduction of more efficient technologies; use of new sources; changes in process that affect costs per student; and objective indicators of the efficient use of funds (IDRC, 1983, p.19; 1982).

In the proposed study, four issues relating to educational financing will be examined in detail; level of financing, sources of funding, efficiency and financial mechanisms. Financing is directly related to efficiency because the more efficient the educational system the less funds will be required to fulfill its goals; more can therefore be accomplished with a budget. Efficiency is weighed by the benefits derived and these depend on the basic philosophic issues and on ability to assess them.

6. Research Methodology

This involves the activities and procedures of the study. The study will provide an opportunity to test different approaches for conducting costing and financing of education for development in Kenya. The study is subdivided into two main phases, corresponding to two periods, 1960-1985, the retrospective period, and 1986-2000, the prospective one. The period, 1964-1986, should, as stated above, reveal both the magnitude and the nature of the financial constraints to be expected in the general framework of the development of the economy and the finances of the state and the levels and various alternative forms for the possible development of educational system. Whereas, the second period, 1987-2000, will cover different possible methods of financing and, especially original ways of raising supplementary resources, and the study of new educational solutions calculated to reduce costs.

The first phase of the research study will involve the collection, and generation of data and review of present relevant literature on the economics of costing and financing of education for development in Kenya. The starting point of Phase One, will be to search for

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references relating to available research findings on the economics of costing and financing in Kenya. The data sources for this review will include unpublished and published project reports, journal articles, internal and external evaluations, and books. Sources may vary tremendously in academic rigour, ranging from impressionistic statements of cost reductions to sophisticated cost effectiveness analysis based on data derived from carefully designed study.

The literature review will give us the present status of the research on the Economics of the Costing and Financing of Education in Kenya. At any rate, the lack of research material on the topic will be the important reason for the need to carry out serious research to generate relevant and reliable data to adequately answer the vexing research questions posed earlier on. Phase One of the research study will also look at data on recurrent expenditures by sectors (public and private); sources (central, provincial and local); levels (primary, secondary, and higher); ownership (government, community, and private); and types (salaries, general expenses, study aid, and facilities). These data will be supplemented with household and school survey data, plus few school case studies.

Phase Two will consist of the following activities: Cleaning, coding and entering data into the computer system; processing and analyzing data; publications and disseminations of the findings and recommendations of the study. For historical data, unit costs per student and comparisons with GNP or GDP and total public budget will provide a basis for analyses - mainly deviations relating to regional averages and changes over time. Time series data on educational funds will be related to the total expenses with unit costs, enrollments rates, and proportion of the population age.

Other activities and ^{procedures} in Phase Two will include the following:

- a) Data from expenses - per - student study should yield accurate estimates of costs: applying unit costs instead of cash flows should provide information on the use of resources. Such data are also useful for identifying the main factors affecting

unit costs at the micro level - the school as the unit of analysis.

- b) Household data for household decision making. Attention will focus on the family's contribution to the education of its members. The study will consider direct contributions as well as expenses relating to school attendance and foregone income. We need research findings on the household decision - making to invest in its members' education.
- c) Study on subsidies. We need to study the distributional effects of subsidies on enrollments or achievement. More careful analyses of costs in higher education will also be carried out. As a part of higher education, students loans systems will be evaluated in terms of their social impact, student debt ceilings, and the capital ^{required} under a set of macro-economic constraints. Report on the proportion of defaults and some information on the administration of loans will also be carried out.
- d) Simulation or optimizing model will be used for educational decisions: iterative procedures for computing the amount of resources required and cross-section data will be used to estimate equations for future school demand, including as independent variables energy consumption, birth rates of urban population and male participation rates in the labour force.
- e) Efficiency and Equity Study. The issue of who bears the cost and who benefits from education should also be considered. This will be done by comparing the socioeconomic profile of the general population that pays taxes with the profile of those enrolled at different levels and in different types of education. Such background analysis can help alter financing arrangements that are inefficient or inequitable or both.

FOOTNOTES

1. Literature review in education and development is so numerous to be listed here. For the Selected References at the end of this paper, see, for example, David Abernethy, Lewis Brownstein, David Court, Kabiru Kinyanjui, J.A. Nkinyangi, I.C. Riak and Pauline E. Riak, World Bank.
2. See United Nations. Resolutions Adopted by the General Assembly during Its Twenty-Fifth Session. 15 September - 17 December, 1970. Supplement No. 28 (A/8028) United Nations, New York, 1971. p. 41.
3. Ibid - p.41.
4. See for example, Sessional Paper No.1 of 1986 on Economic Management for Renewed Growth, Republic of Kenya, (pp. 26-41); Colin B. Mackay, Second University in Kenya: Report of the Presidential Working Party, Government of Kenya, 1981, S.H. Ominde, Kenya Education Commission Report Part I and II. Government of Kenya, 1964, and The Report of the Presidential Working Party on Financing of Higher Education in Kenya, 1983.
5. Ibid. p. 26-32.

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