

CULTURE AND EDUCATION IN THE DEVELOPMENT OF AFRICA

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EXECUTIVE SUMMARY

Today, Africa remains the world's poorest continent. There could be several reasons for this but one of the key ones is that education has not been relevant to the needs of the society. Substantial resources have been expended to boost education in Africa, even though such resources may not have been adequate. The basic problem is that educational structures were formulated by colonialists who had a cultural background different to that obtaining among Africans. Decades of self rule and independence have not succeeded in empowering Africans through enabling them determine their educational framework. In part, this difficulty is a result of the continued social and economic ties between African countries and their former colonising powers. Although Africa is politically independent, it remains technologically and economically dependent on countries that colonised it. Current educational structures are meant mainly to foster this bond, rather than reduce it. Reforms in African education were conceived and implemented within the framework of this relationship, hence they did not go far enough to develop and foster African culture .

This paper is divided into sections. Each section discusses a specific aspect of education. The material is drawn from across Africa, and many countries are used as cases, thus giving the paper a comparative perspective.

Section I is a historical presentation of the evolution of education across Africa. It highlights key areas of focus in traditional education before the advent of Europeans. At this point in time, education was structured by the people and it was relevant to the needs of the society that prevailed then. Such education was based on the values and traditional systems of societies. It was when Africa was colonised that modern or western education was introduced. It undermined the traditional value system and created social classes that did not exist before its advent. Western values replaced traditional ones and in the process traditional African education was relegated to the margins, being associated with rural people who lost their socio-economic power with the onset of western values. Post-colonial education has continued the links with the west. The post colonial educational system has operated to strengthen such links.

Section II focuses on primary education. The section highlights the problem of growing numbers of primary school children across sub-saharan Africa, showing the rates of growth and reflecting on the costs of providing education for these children. The section explains some of the reasons why some African children will never receive formal schooling and then shoes costs associated with education at the primary school level. The section proposes some alternatives to formal schooling.

Section III addresses higher education. This section brings into the discussion ideas of the World Bank, an organisation that funded higher education in a number of African countries. The Bank's arguments are tested for relevance to African situations and alternatives are suggested. Curriculum changes are suggested and the role of the government in the provision of higher education is evaluated.

Section IV touches on curriculum. It argues that African countries have Africanised their education curricula quite slowly. Changes have occurred mainly in science subjects, such as mathematics. One might argue that such subjects have a small political economy dimension, hence the willingness of the west to make appropriate reforms in them. The section considers the role of informal education and that of vocational training, putting the informal sector in the perspective.

Section V is on modeling African education for development. The section concentrates on the curricula for certain countries, essentially Zimbabwe, but also brings in experiences from Latin America.

Section VI brings to the fore problems associated with using a second language as the main language for learning. Cases used include French and English as the medium of instruction for African students. The problems are discussed under three sub-headings: pedagogical, supply of teachers and administrative difficulties. The literature reveals the difficulties African pupils face in understanding the basic concepts when taught in a foreign language and also the shortage. Most importantly, the discussion shows how culture comes up strongly to present a barrier for African students when they are forced to learn in a foreign language which is based on values and metaphors different from theirs.

INTRODUCTION

This paper sets out to discuss how culture has influenced education and also how education has influenced culture in Africa over time, from the pre-colonial through the colonial to the post-colonial period. Due to paucity of more current or up to-date literature, the post colonial period will be considered only up to the mid 1990s. It is recognised, however, that the current period is characterised by the use of hi-tech in education, tele-education through TV and through video-conferencing, and the e-Learning initiative which is fast gaining a foothold in a number of African countries. Most of the discussion is on the colonial and the post colonial period. The discussion is in the form of analysing a very wide and comprehensive literature, even though one cannot claim that the literature is exhaustive. The space allocated for the paper is a serious limiting factor as there is a lot to be said about this subject, such that it is far from enough to make a balanced presentation in less than 50 pages.

The paper is divided into sections, each addressing a specific aspect of a broad theme of culture and education. Cultural aspects of education do not stand out from the rest of the teaching or learning activities; there are often an integral part of it. Hence, the cultural dimensions of the discussion will be indirect most of the time.

SECTION I: OVERVIEW OF EDUCATION IN AFRICA

1.1 The Social Framework of Education in Africa

This section sets out the social framework of education in Africa through outlining the relationship between African societies and their educational systems with reference to both the pre-colonial and the colonial period. Following Datta (1987) the subject matter of the section is analysed with reference to a number of concepts including 'industrial and pre-industrial societies', 'primary and secondary groups', 'subsistence and exchange economy', 'social stratification', 'division of labor', occupational, specialization', and 'formal and informal education.

Africa in the pre-colonial period included a large number of autonomous societies. Some of these attained a high degree of political organization, for example, the kingdoms or Ashanti and Dahomey in West Africa, and the Zulu under Shaka in South Africa. Other societies were acephalous, that is, without organized kings or chiefs, such as the Talletsi, the Ibo and the Yako of West Africa, the Nuer of southern Sudan, and the Tonga of southern Zambia. Despite such political differences, pre-colonial African societies were marked by certain distinctive traits so that it may be in order to treat them together in a study such as this. An individual in such a society was born, grew up, and spent most of his life in his village, which contained a small number of people. Much of his time was spent in the production of food. There was a simple division of labour based chiefly on sex and age. Men lived in close relationship with nature (the land, vegetation, and animals) because of limited technological development. They were related to each other by extended ties of kinship which bound them to such unilineal kinship groups as the lineage and the clan. These ties supported a network of reciprocal ritual, social and economic obligations. In this framework marriage involved a contractual agreement between two groups of kindred. Political power was based on religion and partly emanated from the ritual relationship of the chief, or the king, to the land and to the

ancestral spirits. Despite differences in status, emphasized by formal etiquette and ritual behaviour, there was a general uniformity in the standard of living. Although the society was stratified between the rich and the poor, the main aim of the former was to gain followers by giving poor people land, for which they themselves had no use, and surplus stocks of cattle and grain.

1.2 Education In Pre-colonial Africa

How was education organised in societies of this nature? In the early phase of colonial administration some missionaries in Africa believed that they were bringing education to entirely uneducated peoples. This supposition would have been valid if educated were equated with literacy and formal schooling. In fact, detailed accounts of African peoples by anthropologists leave one in no doubt that African societies did possess a kind of customary education, a system which worked reasonably well, given limits imposed by the society within which it had to operate. In this section an attempt is made to highlight some of the more important aspects of traditional African education. It should be noted that although the past tense has been used, the system described persists even now, to a limited extent, in various areas.

The main aims of African customary education may be identified as follows:

1. to preserve the cultural heritage of the extended family, the clan and the tribe
2. to adapt members of the new generation to their physical environment and teach them how to control and use it; and to explain to them that their own future, and that of their community, depends on the understanding and perpetuation of the institutions, laws, language and values inherited from the past.

Understandably in accordance with these objectives the content of African customary education grew out of the physical and, what is more important for our present purpose, social situation. As to methods, both formal and informal processes were utilized for the transmission of knowledge, skills, ideas, attitudes and patterns of behaviour. Thus tribal legends and proverbs were told and retold by the evening fireside, and through them much of the cultural heritage of the tribe was kept alive and passed on to the children). There were riddles to test children's judgement, and myths to explain the origin of the tribe and the genesis of man. Such oral traditions, narrated with care and repetition, additionally constituted the African child's training in what was often a complicated linguistic system without a script. Names of trees, plants, animals and insects, as well as the dangers and uses of each were learnt as boys herded cattle or farmed land with their fathers, and girls helped their mothers in household work. Imitative play, too, formed an important part of informal education. Boys staged mock battles, and made model huts and cattle pens; girls made dolls, played at husband and wife and cooked imaginary meals. The importance of play in customary education in Africa has been underlined by many observers. A major part of the cultural heritage of an African people was transmitted to children and adolescents through these informal activities.

Additionally many societies had organised instruction. Lucy Mair in *An African People in the Twentieth Century* describes how Ganda fathers would, through formal instruction, teach their children appropriate manners and the knowledge of genealogical positions of different clansmen. Kenyatta, in *Facing Mount Kenya*, analyses how, among the Kikuyu who are endowed with a pronounced age-set system, formal education was, in the past, imparted through succeeding stages of initiation, from status to status. The assumption of each status was accompanied by a sequence of rites which organised instruction of one sort or another. Initiation ceremonies and formal training for adulthood have also been reported from many other societies of the continent, especially from East, Central and

Southern Africa. Among these may be mentioned the Sidamo (Ethiopia), the Nandi (Kenya), the Masai (Kenya and Tanzania) and the Pare and the Makonde (Tanzania).

Indeed in many traditional societies of Africa, formal education most strongly manifested itself in the initiation ceremony. This ceremony marked the transition from adolescence to adulthood and often consisted of circumcision for boys and clitoridectomy for girls. The extent of formalism in the initiation and the post-initiation training can, with advantage be illustrated with reference to the Poro society in West Africa. This society functioned among the Kpelle, the Gbunde, the Loma and the related peoples of Sierra Leone and northern Liberia, extending as far as the border of Guinea. Among these peoples, a youth, after circumcision, was initiated into the Poro; his formal entry into the adult world could not take place before the completion of the Poro education. The length of a term in the Poro school was theoretically four years, but the time a youth had to spend in it varied. Joining the school was not obligatory. However, a boy who did not go through it had no social standing so that, traditionally, membership of the Poro society was practically universal.

A coming-of-age ceremony thus sustained the individual at a critical stage in his life, the transitional period between late childhood and adulthood, through interaction with his peers. In many places different clans, villages and segments of a tribe participated together in the ceremony, thereby stressing the integration of the entire society. It was during the ceremony and the accompanying training that a major part of the tribal mythology, accumulated knowledge and skills, and appropriate attitudes were transferred to the young initiates. But to the extent that adults took part in the ceremony some of the these cultural components were reinforced for them too. To make the occasion memorable, sanctions of all kinds were brought to bear upon the neophytes, thereby asserting the authority of the society over the individual. The ceremony was attended by considerable pomp and spectacle which impressed upon the participants the significance of the occasion. Popular display was always contrasted with certain secret rites (a series of acts including gestures and verbal expression, their sequence established by tradition) that were confined to those who had themselves gone through similar experiences.

In those societies where Islam gained a foothold, a formal system of instruction was provided through Koranic schools. Religious education, a basic requirement of Moslem societies, involved the learning of the Koran.. Thus, various African countries saw the establishment of Koranic schools to arrange for the teaching and learning of the Koran and the Arabic language.

A Koranic school was usually set up in or near a mosque. The teacher sat in front of his pupils, controlled their activities and recited to them the verses from the holy book which were repeated by the pupils. Older pupils were taught to read and write the Arabic script. For most pupils formal education ended with the memorization of a part of the Koran and the acquisition of the skill to read and write the Arabic script; but more able and ambitious pupils could enter the next stage of schooling which involved the comprehension of the meaning of the Koranic verses learnt by rote, reading other writings such as Hadith (that is, the traditions of the Prophet), followed later by learning the rules of grammar. The programme of studies at this stage might also include other branches of knowledge, viz, theology, commentaries on the Koran, logic and jurisprudence. The student then chose an area of specialisation and joined one of the well-known universities, at Fez, Sankore, Timbuktu, Al-Azhar, or Mecca.

It is clear that Islamic education in pre-colonial Africa was highly formalised, characterised as it was by learning occurring at a specific place and time, mediated by someone who was specialised as a teacher. In most societies the process of elementary education was brought to a close through a graduating ceremony when the successful pupil visited the houses of his parents, teachers and relatives, recited a verse selected for

him by the teacher and was given presents. The graduating student reciprocated by giving appropriate gifts to the teacher.

Apart from formal training for all adolescents, there was, in most societies, formal education for a number of functional categories. Among these could be included herbalists, drummers, blacksmiths and priests. In most cases, training for such occupations was organised through a kind of apprenticeship system. In a limited number of societies which developed standing armies, formal training in warfare was imparted through an institutional arrangement of the state.

The training of children took note of sex-difference very early. This was justified on the ground that boys and girls at a later age would be expected to perform different tasks, boys engaging mostly in farming, house-building, herding and hunting, and girls in cooking, keeping the home and child-rearing. Thus boys were ridiculed if they dabbled in something which was supposed to be the preserve of girls, but were encouraged when they tried to take part in operations considered appropriate for boys. The sex role of the girls was emphasized in like manner .

The differentiation of sex roles was pointedly brought to the fore in *mantoombwa*, a popular game among Tonga children. In this make-believe game children built themselves play houses on the outskirts of the village. In the building process, boys did the work that was generally done by grown-up men in hut-building. They went to the bush and cut poles and constructed huts. The girls undertook women's work, involving cutting grass for thatching the huts and preparing food for the working men. When the hut was complete, the boys pretended to herd cattle or hunt small birds to be cooked by girls. Usually, in such plays, older boys and girls paired off as husband and wife, while the smaller ones took the role of their children. Children eagerly waited for the afternoon when their mothers would release them from helping in household chores and allow them to go to play *mantoombwa*. If one was a good girl that day her mother, would give her salt, meat or vegetables for *mantoombwa*. At the end of play the girls would bring food to their mothers to taste. If it was well cooked, the mother would praise the girl and, if the girl was teased with 'Is this how you will cook for your husband!?'

Girls' education came to an end with puberty rites. These were organised when girls reached the age of fourteen or fifteen. A very important part of the puberty ceremony was the confinement of the girl into the house of some relative. The period of confinement varied between six weeks and two months in different parts of Tongaland; during which girls attaining maturity were subjected to an intensive training given by senior women of the community. This part of girls' education was entirely controlled by women. The puberty ceremony had scope for physiological, social and moral education. The physiological education comprised the teaching of healthy sex habits and the knowledge of the procreation process. The social part of the training dealt with the rights and obligations of women in relation to the whole community, while moral training involved instructions in the art of self-discipline and control and trial of courage. Older women tried to reform the girls of the defects they had earlier observed in them. If a girl had been impolite, she was rebuked and even beaten. Elizabeth Colson tells us that the words used on such occasions were 'Now you are grown, we want you to stop using obscenity, and abusing people. From now on you must be reminded, further, that as married women they must work hard, keep their homes clean, their husbands well looked after and their fields in order.

We may now identify the characteristic attributes of customary education in Africa.

- (a) African traditional societies, except where Islamic education was available, laid a heavy stress on informal instruction as far as general education was concerned. It is true that the initiation and the post-initiation education were highly formal and went on for several months or even years, but these catered only young people of a certain age.
- (b) Compared to modern education, customary education in Africa was marked by limited specialised training.
- (c) Except in Moslem education, there was no distinct category of professional, full time teachers for purposes of general education.
- (d) Barring Koranic schools, instruction was in most cases imparted through oral communication.
- (e) Instruction was practical and geared to specific situations. It had little use for abstract theories and generalisations.
- (f) Religion, ethics and education were inextricably integrated.
- (g) With hardly any scope for experimentation with new ideas and techniques, customary education in Africa was basically conservative in nature.

A little reflection will show the extent to which an educational system of this type correspond to essential features of the precolonial African society. Such a society was technologically backward, without a literacy language, and in most cases with a low level of scientific knowledge. Its economy was marked by limited specialisation and simple division of labour. A society of this type set considerable store by the sanctity of traditions, being itself a well-integrated and stable social order. It may be useful here, to trace the correspondence between these elements and various features of traditional education in Africa.

1.3 Colonial Education in Africa

Modern European-style education in Africa was begun by the Portuguese missionaries in the fifteenth century. There is very little written evidenced to indicate what they achieved. Later, in isolated cases, European administrators and traders set up schools for mulatto and African children. But the real foundation of the Western-type school system in Africa was laid by the eighteenth-century missionaries. This is true of most colonial powers such as Britain, France and Portugal, although there were national and local differences. In the period following the First World War, colonial administrations in Africa assumed greater responsibility for education. In most colonial territories Directors of Education were appointed and committees were set up in European capitals for assistance to formulate official policies on African education. The result of such activities was to create a system of education that continued to operate, with some changes, until the 1930s.

The church-government dualism in Africa was symptomatic at once of the limitation of the colonial administration and the social function of the missions. In lending help to the missions, European administrations in Africa were working on the basis of their experience at home. The understanding between the church and the state in Europe was extended to Africa but, in so doing, colonial powers were considerably relieved of administrative and financial burden. On the other hand, the character of the missionary society conditioned, in effect, the type of schooling offered. While Anglican and Catholic missions, constituting by far the largest majority, were principally concerned with providing academic education, evangelical missions, whose preachers originated more

often from the artisan class in the metropolitan society, tended to teach manual skills, over and above literacy and arithmetic. The importance of missionary schools was further reflected in the economic function they performed. With the expansion of trade and administration, both the government and commercial enterprises heeded local staff to fill the lower posts which it would have been impossible to fill by expatriates.

The second feature of colonial education was that it was minimal in nature. The number of students who benefited from it was small. On the Gold Coast the first Director of Education was appointed in 1890, but by 1902 the number of children in primary and middle schools was only 15000, rising to 35 000 in 1920. The population of the territory during this period was between two and three million. In French Africa pupils were chosen with great care. The first contingent always included the sons of chiefs. Next in order were sons of notables, civil servants in the colonial administration, employees of European trading companies and business houses and former members of the Senegalese infantry. It was not only that the number of children who went to primary schools was small; whatever education could be provided touched the pupils but lightly. This was mainly due to the high drop-out rate in schools. Many children left school after only a short stay, semi-literate at best.

Colonial education was not merely limited quantitatively, it was also marked by a heavy stress on primary education. The spread of secondary education in British dependencies of Africa has been uneven. Sierra Leone witnessed the establishment of the first grammar school for boys in 1845, and for girls in 1849. About 30 years later the first secondary schools were opened in Nigeria and the Gold Coast (Ghana). By 1937 fifty-eight schools were classified as secondary schools in the four British dependencies of West Africa; but not all of them provided a full secondary programme. As opposed to this, in Uganda only Makerere College offered facilities for full secondary education, while Kenya could boast of two junior secondary schools; both run by missionary societies. In French West Africa an annual supply of thirty-five secondary school teachers was considered sufficient, not merely to provide against attrition due to normal retirements but also to satisfy the needs of a gradual expansion of education at this level. This number was meant for a territory which now comprises eight countries (Mauritania, Mali, Senegal, Guinea, Ivory Coast, Upper Volta, Benin and Niger) and which is about as large as Western Europe.

The general neglect of secondary education in the colonial period is illustrated by the fact that in 1952 (at the beginning of the last decade before large-scale decolonization in Africa) enrolment in African secondary schools came to less than 8 per cent of the total primary school enrolment in Northern Rhodesia (now Zambia). The corresponding figures for other countries were: the Gold Coast (Ghana) 2.1 per cent, Nigeria 2.9 per cent, Sierra Leone 8 per cent, Uganda 3.5 per cent, Kenya 2.1 per cent and Tanganyika II .8 per cent.¹³ However, in several territories colonial governments set up certain institutions modelled on English grammar schools which became well known for their academic excellence. Some of these were the Fourah Bay College in Sierra Leone, Achimota in the Gold Coast (Ghana), Katsina in Nigeria, King's College, Budo, in Uganda, the Alliance High School in Kenya and Munali in Northern Rhodesia (Zambia).

Colonial education was characterized, too, by a pronounced European bias. This was reflected in the provision for the medium of instruction and in the curricula. Teaching was generally conducted in the language of the colonial power.

Finally, colonial education in Africa was generally marked by a major stress on the liberal arts. There was little by way of technical, vocational or professional instruction. Agricultural training was not highly developed in societies which depended overwhelmingly on farming. Opportunities for training in such fields as pharmacy, nursing, tailoring, baking, weaving, carpentry and related fields were either sadly missing or inadequate. This was the general picture of what happened in practice. In a number of cases the colonial administration, as well as missions, devised vocational curricula and attempts were made to implement them. Thus, on the Gold Coast, an official move sought

to introduce training programmes in agriculture and trades as early as the 1850s. Various official documents repeated the need for the vocationalization of education several times until the independence of the territory in 1957.

1.4 Educational Changes In The Late Colonial and Post-colonial Period

In the late colonial and post-colonial period, educational development in Africa has been characterized by three main processes:

- (a) a massive expansion at all levels;
- (b) the provision for technical and professional instruction; and
- (c) some Africanisation of the curricula.

The first two of these processes have to be explained in terms of the immensity of social change in Africa and the transformation of African dependencies into modern semi-industrial societies. The last process is largely a result of the pressure exerted by the emergence of an indigenous elite.

Education changes in the late colonial and post colonial period cannot be properly understood except in the context of 'the wind of change' that had been blowing over Africa. The three aspects of educational development mentioned above are all linked with social change. The process is too well -known to need an elaborate discussion. Suffice it to say here that the penetration of the money economy with all its accompanying features, created a new stratification system in African societies with a thin layer of modern elite at the top who were themselves the products of colonial education. An awareness of their position vis-à vis European rulers made them demand a larger share of political power. Thus was born an African anti-colonial movement directed against European control over the administration. In this struggle for power the elite realised the importance of drawing the unmobilised masses to their side, against the colonial masters. In the ensuing process they soon discovered the relevance of education as an agency for effective communication with, and mobilisation of, the masses. Education was also seen as a means of bringing about economic development and cultural self assertion, the two other objectives of the anti-colonial struggle. Finally, further to this instrumental value, there was a general recognition that education was something good in itself.

All this generated a heavy demand for mass education. In countries like Ghana and Kenya the big leap came in the late 1930s. As Ward says, the graph of attendance at schools had been rising slowly over the previous several decades, but now it suddenly rocketed upward at a steep angle. Speaking of Ghana he says, 'it is not surprising that the graph should climb slowly from 1902 to 1920, while the country was so poor. But it is surprising that it should continue to climb slowly showing the years of prosperity from 1920 to 1935. During this period, the Government's expenditure on education increased eight-fold, but the number of children in school barely doubled. Compared to this, the student population in primary and middle schools in Ghana trebled between 1935 and 1945, despite the Second World War. With the progress of self-government the process was strengthened. From 1951, when the country achieved internal self-rule, to 1957, when it became independent, the student population in primary and middle schools increased from 301 000 to 572 000. A comparable trend was observable in southern Nigeria where, in the Western region, a major step of the Action Group, when it came to power in 1951, was to publish a plan for universal primary education. A similar, though belated, trend characterises most emerging states of Africa, with the result that in 1963-4

a majority of them were seen devoting a higher proportion of their total spending to education than did, for instance, Britain (though the absolute amount spend on education in Britain was much greater). The following are the relevant figures: UK 12.2 per cent. Zambia 12.4 percent, Kenya 13.3 per cent, Ghana 14.2 per cent and Nigeria (federal and Regional Governments) 19.5 per cent.. Also to be noted is the fact that almost everywhere the education budget has been one of the fastest growing elements in total spending.

The forces which were responsible for the quantitative expansion of African education have also led to its qualitative transformation. Changes in this field are reflected in various ways, for instance a greater provision for higher education, a shift in emphasis from the liberal arts to scientific and technical subjects, the Africanisation of the contents, the reorientation of the programmes for adult education, and new thinking about African languages. Of these, a few aspects are selected for a more detailed analysis.

Africa has seen a phenomenal growth of university education during the last 25 years. In the early 1940s there was, between the Sahara and the Kalahari, only one institution of higher learning, the Fourah Bay College in Sierra Leone, founded in 1827, and affiliated to the University of Durham, in 1876. The move to expand tertiary education is closely linked with the content of the African freedom movement. These included (a) the aspiration to replace European decision makers by indigenous recruits, (b) the stress on ensuring the necessary supply of high-level manpower, a pre-requisite of economic progress, and above all, (c) the hope of an intellectual and cultural renaissance - a close correlate of the search for spiritual identity. The last point partly explains why, despite the high cost of training in African universities as compared to that in European universalities, the number of higher institutions in Africa is on the increase. The university has indeed many outputs, besides trained manpower, in that it provided research, contributes to the cultural and intellectual life of a community, and provides intellectual satisfaction to students. Thus, most African statemen rightly realized that it is difficult to quantify, in solid input - output terms, the benefits from a university.

The qualitative transformation of African education in the late colonial and post colonial period is further manifested in shifts in the curriculum from an over-representation of the arts and humanities to a greater scope for technical subjects, and in a more adequate use of African material. Exigencies of economic development and cultural self-assertion, generally, and the emerging African elite ask for such changes. However, there is no reason to suppose that the elite were agreed on the exact nature of the curriculum to be developed for this purpose. Three distinct groups put forward conflicting sets of priorities at the Tananarive Conference of UNESCO in 1962, a landmark in the history of education in Africa.

These three groups have been called:

- (1) the Traditionalists, who generally endorse the Oxbridge tradition by assigning a prominent position to the theoretical sciences and the humanities.
- (2) the Specialists, who underline the university's economic function in nation-building through the supply of high-and middle level specialised manpower, and emphasize the scientific and technical training;
- (3) the Generalists, would argue that African countries need 'generalists' in education, politics and managerial positions as much as they need 'specialists' for technical occupations, and therefore the arts should remain at least on a level of parity with the sciences and technology.

It is interesting that the second group won the race at the Tananarive Conference which recommended, *inter alia*, that at least 60 per cent of the student at an African University should specialise in the sciences, 31 per cent in the humanities, and only 9 per cent in the social sciences (Datta 1987). At the national level, too, an increasingly heavy stress is being laid on the physical sciences and technology. All African universities now have faculties of sciences, and many have started faculties of agriculture, engineering and medicine, while a few have set up separate universities for technology and agriculture.

SECTION TWO: FOCUS ON PRIMARY EDUCATION

2.1 Primary School Education in Sub-Saharan Africa

The provision of primary education to children in sub-Saharan Africa has presented formidable problems at the beginning of the twenty first. The numbers of children have grown rapidly with a 90 percent increase in attendance in the fifteen year periods between 1985 and 2000. In the year 2000 there were an estimated 125 million students in primary school in sub-Saharan Africa. They represented about 20 percent of primary students in the world's developing nations, an increase from 14 percent in 1985. Despite this rapid increase in the numbers of children in school, some (about 12 percent) will never receive any formal schooling.

As the number of children grow, African governments continue to try to provide primary education for all. They honor a commitment made at a continental conference in Addis Ababa in 1960. At that Conference, African nations set 1980 as the target year for achievement of universal primary education. This goal was not met by the year 2000. But the sheer number of children in primary school was far greater in 1980 than the projections had suggested it would be. It had been projected that 33 million children would be enrolled in African primary schools in 1980; instead 59 million were enrolled (UNESCO, 1961, 1986, 1987). The goal of universal primary education has been an elusive one in sub-Saharan Africa as populations rapidly increase and strain available resources.

2.2 More Children, less Money: The State of Primary Education in Sub-Saharan Africa

Since it is extremely difficult to deliver primary education to burgeoning population in sub-Saharan Africa, its nations must articulate valid purposes for the effort and expense they have undertaken. Two purposes are usually cited: (1) primary education can make citizens literate and numerate to the extent that they can deal with problems encountered at home, and (2) it can provide a foundation for further education (Lockheed & Verspoor, 1991. p. 1).

These purposes are not fully accomplished in sub-Saharan Africa for several reasons. First, some groups are unlikely to attend school. These typically include girls, rural students and the poor. Second, while many African children begin school, a large proportion of them do not complete their schooling. Primary school completion rates declined in the lowest-income countries (those with an annual per capita income of \$450 U.S. or less) during the 1980s. This decline can be traced to dropping out of school early and also to high rates of repeating grades. Lack of school completion is also related to a third factor; the content of the curriculum presented to children while they are in school is often too limited to accomplish its purposes. For example, most Chadian students spend two years in first grade. They repeat first grade because they have not learned the material that is considered to be the content of the first grade curriculum.

In their classrooms the actual curriculum is much more limited than that intended in the national curriculum. Although national curricula have been developed that provide guidelines for an education of high quality, several factors found throughout sub-Saharan Africa result in a curriculum that is often too limited to accomplish its purposes. These include: high student-teacher ratios, under qualified teachers who have limited teaching strategies available to them, few books and teaching materials, and teachers who do not plan because they are tired from traveling long distances to school or working more than one job as a result of a low salary (Cornia, Jolly, & Stewart, 1987; Graham-Brown, 1991; Lassibille & Gomez, 1990; Sunal, Osa, Gaba, & Saleemi, 1989). Fourth, those who do complete their primary education often do not perform as well as their peers in developed nations on international assessments such as that of the International Association for the Evaluation of Educational Achievement (IEA). This is particularly true of the lowest-income nations. It is also true of many lower-middle-income countries, whose annual per capita income is between \$450 and \$1500 U.S. The IEA assessments contain items that address content found worldwide but the items are geared toward the national curriculum of the nation in which the assessment is occurring. Their poor results indicate these students are not meeting international standards.

Nor are they meeting national standards (Lockheed & Verspoor, 1991). Malawian students, for example, achieved a median score of 34 percent on the first IEA reading achievement test, and Nigerian students achieved a median score of 33 percent on the first science assessment in comparison to the international median of 54 percent. In both testings, however, there was a wide range of scores within each country suggesting that some schools are far more successful at teaching content than are others. Testing that utilizes higher-order problems asking students to apply knowledge to new situations has found even lower median scores among sub-Saharan African students.

Fifth, many students begin school at a late age (Gajraj & Schoemann, 1991). These students' families may have had to wait until they saved enough money to cover uniforms and school materials. Or, they may have had to save enough money to be able to go without the student's income-producing activity for a while. In some cases, the student is an adult who previously did not have access to primary schooling. These students may not complete their primary education due to the same factors that caused their late enrollment.

2.3 The Cost of Primary Education

Primary education is expensive even though it is neither meeting national purposes nor serving all children. African countries spent 9 percent of their capital expenditure on education between 1975 and 1987, allocating a greater share of their resources to primary education than did countries in Latin America or Asia.

The economies of sub-Saharan Africa are weak. The average gross national product of African countries is expected to grow about 0.3 percent a year. This will be low compared to other areas such as Latin America where a 1.4 percent growth is expected and Asia where a 4.7 percent growth is expected. The large enrollments expected in Africa cost the equivalent of \$10 billion U.S. by the year 2000. If all children were served through university primary education the cost would be \$13 billion U.S. as expenditures increased annually by 6.7 percent. Universal primary education would

result in an almost 60 percent cost increase over what was spent in 1985 (Lassibille & Gomez, 1990). A relatively large proportion of sub-Saharan national budgets is spent on education. Yet in absolute terms the amounts of money spent on education in developing nations is small when compared to money spent by developed nations, because the total national budgets are small (Graham-Brown, 1991, p.33). When the money available is not large, teacher salaries are relatively low, fewer educational faculties can be built, fewer text books and materials can be purchased, and less curriculum development can occur. Since materials such as paper and scientist equipment may be imported by developing nations, costs are higher than in many developed nations.

2.4 Enrollment Growth

Both enrollment and the school-age population grew rapidly into the early 1980s. But declines in the percentage of enrolled students became obvious as the 1980s progressed, although sheer numbers increased. This was particularly true in low-income countries, but also became evident in lower-middle income countries. Those countries that experienced war and a rapidly declining gross national product has the greatest declines. These included Ethiopia, Mozambique, and Somalia (Gajraj & Schoemann, 1991). Other countries' enrollment growth rate slowed because greater percentages of the population were served by primary education, and the elusive goal of universal primary education moved closer.

Those still unserved were often poor, lived in isolated rural areas, or were girls from traditional families (Gajraj & Schoemann, 1991). These girls were viewed by family members as eventually having responsibility for passing the culture on to their children. Their families viewed primary schooling as a mostly foreign process that might change their daughters' ability to pass on the culture. Many of these families also became concerned about the length of primary schooling. As their daughters approached and entered puberty, they worried about the possibility of pregnancy. In some cultures, daughters are married at puberty. Marriage was thought to be incompatible with continued primary school attendance. These families were likely to withdraw their daughters from primary school as they approached puberty. They were also more likely to refuse to ever enroll them because of the concerns they would have in the later years of primary schooling (Adesina, 1982).

2.5 Alternatives to Formal Schooling

Since formal schooling is not reaching all children, alternatives have been tried. These experiences included rural education centres in Burkina Faso. Koranic schools in Mauritania, and distance education through television and radio in several nations (Christensen 1990; Coombs Prosser & Ahmed 1973; Leby & Lutz, 1982). There was very limited success. In general, the public did not accept these innovations and demanded a formal primary education program. The alternatives were viewed as having less potential for helping children achieve academic success and as carrying lower status.

2.6 Teacher and Classroom Factors in Formal Schooling

Teacher - Student Ratio and Teacher Salaries

In the formal settings supported by the public, there were an estimated thirty-seven students per teacher in sub-Saharan African nations in the year 2000. A reduction in the student-teacher ratio would greatly increase the cost of primary education, since the population of potential primary school students is growing quickly. The cost of a decrease in student-teacher ratio could be lowered by hiring less qualified teachers and paying them 70 percent of the salary of those currently in the teaching force. This means of reducing the student-teacher ratio has been suggested but has not been given much consideration in sub-Saharan Africa. Instead, wage forecasts suggest that average teacher salaries were projected to increase by the year 2000 and in the years beyond (Lassabille & Gomez, 1991). Yet, between 1980 and 1985 real salaries declined in all but two sub-Saharan countries. In eleven countries the decline was 10 percent or more. Among these countries were Kenya, Zambia, Zimbabwe, and Senegal (Zymelman & De Stefano, 1989, p. 35).

In Nigeria during the early 1980s, many teachers were not paid for periods of up to eighteen months because of revenue shortfall, from a rapid drop in oil prices. In Cameroon teachers have waited a year to be paid at various times in the 1980s and early 1990s. Because of the economic crises occurring in much of sub-Saharan Africa between 1983 and 1986, over 80,000 teachers found other work, or were laid off because there was no money to pay them (IDS, 1989). Even if the present student-teacher ratio were maintained, a 15 percent increase in the current outlay would have to occur. It would have to be increased by 45 percent to provide universal primary education (Lassabille & Gomez 1991). The weak economic situation in sub-Saharan Africa suggests the financing of universal primary education is unlikely.

Classroom Settings and Instruction

The classroom setting and teachers' quality of life profoundly affect instruction. A survey of fifty-one primary schools in Botswana concluded that students with adequate classrooms, desks, and books perform significantly better on tests than do those without adequate facilities and materials (Mwamwenda & Mwamwenda, 1987). Students in many African countries purchase textbooks at local book-stores. Often one or a few copies of different textbooks are offered for sale. As a result, students bring to class a variety of textbooks. Textbooks and instruction manuals structure the curriculum and ensure that specific material is covered during the school year (Sunal, Osa, Gaba, & Saleemi, 1989). Without standardization of textbooks it is more difficult to ensure that specific material is covered. Improving working conditions enables teachers and students to perform better. When students perform better, the teachers' motivation is reinforced, as is classroom practice (Lockheed, Vail, & Fuller, 1986). This is particularly important when teachers are not well trained and have few in-service programs available to them.

Overt classroom assessment has been rarely observed. Ali and Akubue (1988) found continuous assessment techniques used 10 percent of the time in Nigerian primary classrooms, while in Botswana students took tests only 1 percent of the time (Fuller & Snyder, 1991). The lack of continuous assessment may be related to inherited European colonial traditions where assessment is focused on year-end-exams, particularly at the secondary school and university levels. Continuous assessment does occur in traditional societies where learning is apprenticeship based. The trainer constantly evaluates the skills and knowledge of the trainee and sets new tasks that challenge the trainee to move

to the next attainable level. Continuous assessment in a formal school setting requires the teacher to have a deep understanding of both content and pedagogy. Teachers with limited training do not have such deep understanding nor do they have enough training to enable them to comprehend the necessity for continuous training and readjustment of the curriculum and pedagogy to the needs of their students.

2.7 Student Factors

Instructional strategies and classroom conditions have a strong effect on children's learning. However, health and nutritional status and the home environment must be adequate if even the most effective instructional strategies are to be productive in terms of student learning. In Burkina Faso, 90 percent of primary school students have been reported to have parasites, and 29 percent suffer from chronic malnutrition. In Kenya, nearly 39 percent have an iodine deficiency, 25 percent suffer chronic malnutrition, and 35 percent have parasites. In Zaire, 55 percent suffer chronic malnutrition and 45 percent have parasites. In Zimbabwe, nearly 15 percent suffer chronic malnutrition and 63 percent have parasites (Graham-Brown, 1991).

Most children return from school to homes that are crowded. Extended families live in large compounds. In families with multiple wives, common throughout much of sub-Saharan African, each wife had her own dwelling and often her own cooking fire. These are both places around which her children gather. Often they play with their siblings and half-siblings in the compound. Many people live together and create the noise and activity found with groups that average twenty or more people. This setting does not lend itself to quiet study. Many children cannot find a private spot to study without interruption, nor a place where they can store school materials (Mazrui & Levine, 1986; O'Connor, 1983).

Children have chores to do and are likely to be involved in family enterprises. They may care for younger children in the compound, draw and haul water to the compound, weed fields, hawk peanut oil or snacks produced by their mother, or collect the sheep. All of these activities are essential to the economic survival of the family. Children's work is highly valued. However, it limits children's study time and the energy available for study (Graham-Brown, 1991; Ungar, 1986). When children also are malnourished or have parasites, studying is difficult and learning is less likely.

2.8 Financial Factors

The economic crisis experienced throughout sub-Saharan African has placed additional burdens on families and has resulted in a debate about financing of primary schools (Ozigi & Ocho, 1981). Prior to independence there were many private schools. Frequently these were founded by missionaries and churches. Well funded public schools were few (Amacheazi, 1985; Taiwo, 1981). In many countries private schools were taken over by the independent nation. As this occurred these schools became subject to the same shortages of qualified teachers, books and materials that were prevalent in the new public schools. Students and their parents documented a decline in the effort to advance universal primary education a debate ensued over quantity versus quality and availability of teaching materials wished for a return to the days of private schools. Some parents who could afford private schooling for their children were particularly angry when private schools were not permitted. Arguments of elitism and mediocrity ensued. Earlier, private schools, usually colonial, often taught a limited curriculum. Some subjects were emphasized and others not included. The breadth of national curricula after independence was not found in earlier colonial private schools. However, these schools were often free or low cost and the quality of education, while

biased, was stronger than it appeared to be in many of the new public schools (Graham-Brown, 1991).

As public schools suffer from the weak economic situations in their country, parent-teacher associations are often formed to provide extras for schools. These associations might buy a map, books or chalk, or build a classroom onto a school. Family-based funding has always been common in education throughout sub-Saharan Africa (Carnoy & Samoff, 1990). Many schools in recent years depend heavily on such funding for supporting the cost of everything other than teacher salaries. In some cases special teachers for the arts, a foreign language, or other areas hired on a part-time basis through parent funding. Generally it is expected that families will pay for writing materials and textbooks. When uniforms are required, families pay for them. As the economic picture weakens, families pay for more and more of the costs of education both directly and through parent-teacher associations. Poor families are faced with tough choices when the limits of their finances are reached. The percentage of poor children who are not in school can be expected to grow.

2.9 Primary Education in Nigeria

As part of the movement toward universal primary education in sub-Saharan Africa, Nigeria began working toward a six year level of basic primary education in 1976. While accepting the common purposes given for universal primary education, Nigeria also was responding to a felt need resulting from a civil war. The civil war had caused extensive destruction of life. Primary education was seen as a means of creating unity and a stable nation out many ethnic groups who spoke different languages, practices different religions, and came from widely divergent cultures. While most sub-Saharan nations have not endured a civil war since independence as Nigeria has, most contain a multiplicity of ethnic groups and are striving to create unity. Primary schooling in Nigeria was intended to reduce inequities for the many cultures contained within the country. It was recognised that some Nigerian children were receiving an excellent primary education while many others were not. This and other imbalances had contributed to the civil war. Universal primary education could redress some of these imbalances (Adesina, 1982; Ozigi & Ocho, 1981). Most Nigerians endorsed a national commitment to universal primary education (Casano 1981, 1983).

Despite a large national commitment of personal and financial support, many problems occurred as primary education became available to large numbers of Nigerian children. Many millions of children received a primary education but it was often of low quality (Bray, 1981). Inspectors responsible for primary schools were surveyed a decade after the initiation of the effort to achieve universal primary education. They indicated that conditions in primary education were continuing to be such that quality education was difficult to obtain (Sunal et al., 1989). Most research studies carried out in Nigeria used government statistics or focused on the reports of administrators. As has been true elsewhere in Africa, little data have been available from those who teach primary school students. A study carried out by Sunal and Sunal (1994) interviewed primary teachers, and attempted to build a profile of the status of primary education as it was experienced and perceived by those who taught at that level.

Universal primary education (UPE) in Nigeria was designed to educate children aged 6 to 12. At the time it was instituted, those receiving primary education tended to be male, urban, well-to-do, and residents of a southeastern or southwestern state in Nigeria. These education imbalances were thought to increase the stresses already experienced by a nation with over 200 ethnic groups speaking many languages practicing Christianity, Islam and traditional religions. It was thought that education could promote children's

view of themselves as Nigerian citizens first and then as members of an ethnic group. It could also equalize opportunities, as citizens all received a basic level of education (Fafunwa, 1982; Ozigi & Ocho 1981).

Problems occurred as the UPE effort was initiated (Casap, 1981, 1983; Urwick, 1983; Wilson, 1978). First, there was an initial large underestimation of enrollment. Second, there was a need for huge expenditures of money, much more than had been estimated because of the much higher than expected initial enrollment of students. Large amounts of money were spent. Education expenditures ranked first in state and second in federal budgets. Despite this large commitment, there was not enough money to finance the extensive needs of primary education. A third problem became evident over the first three years. This was a continuing lower percentage of enrollment of African nations (World Bank, 1988, p.77). The number of non-teaching staff in university employment is very high, and at times has exceeded the number of students. Increasing funding for higher education will require finding new and creative sources of money and a reordering of spending priorities, along with reforms in management and organisation.

SECTION III: HIGHER EDUCATION IN AFRICA

3.1 Change and Reforms in Higher education in Sub-Sahara Africa

Currently, there is a widespread acceptance of the need for comprehensive reform in higher education. The World Bank recommends four categories of change that it believed will improve the functioning of African higher education. Their recommendations have been criticised by many for emphasizing a goal of increasing economic development over all other potential objectives. Several critics of the World Bank recommendations have focused on the fact that universities have several roles to play in society, and that many other institutions and factors have a role as important to economic development than do universities (Hughes & Mwiria, 1990; Van De Bor, & Shute, 1991). Following an extensive analysis of the experiences of developing nations, the World Bank suggests that the goals of greater efficiency, quality, and equity in higher education can be achieved through implementing reforms in the following categories:

1. Encouraging greater differentiation of institutions, including the development of private institutions
2. Providing incentives for public institutions to diversify source~ of funding, including cost-sharing with students, and linking government funding closely to performance
3. Redefining the role of government in higher education
4. Introducing policies explicitly designed to give priority to quality and equity objectives (World Bank, 1994, p. 4)

Recommendations from a major funding source can have an impact on higher education in Africa. However, each nation can be expected to implement them in their own way and time. In some African nations such reforms are already underway. The reform effort has produced successes, controversies, and deep reactions. Re- forming higher education will be difficult. Faculties are organizing to protect their interests, as are the students. One of the more difficult problems is likely to come from the fact that many students whose education is being funded by their country come from affluent families. Therefore, they can be expected to use their political and economic power to preserve their own

economic advantages of free schooling and better jobs. Indeed, in 1988 and 1989 Nigerian students joined forces with other groups in fighting against World Bank and International Monetary Fund structural reforms (Nkinyangi,1991).

Both faculty and students have much to gain and much to lose. Although they benefit from political stability, they are caught in the middle of the political problems. As potential contributors to reforms, both can be blamed by either the government or social and economic reformers for the failure to bring about changes. Solving problems in higher education will cost and benefit both faculty and students. If students can quickly find meaningful employment upon graduation, they will be encouraged to complete their educations in a timely fashion. Likewise, if they or their individual families are required to invest in their own education, students may be motivated to complete their education through the shortest and least expensive route. Students will also demand from the universities a curriculum and teachers who will provide an education that leads to a good job. If, however, the goal of attaining meaningful employment and opportunities is not likely, students may feel justified to milk the system for all they can get and may delay completion of their educations because of the benefits the present system gives to them. They can be expected to devote energies toward protest for broader social, ethnic, and religious goals. They will also fail to view government property as their own, but instead see it as an object of disdain and something to destroy rather than preserve.

Faculty members who see their efforts respected by students, society, and administrators will be more inclined to work to implement needed reforms and devote their energies to being full-time workers in higher education (Sunal & Sunal, 1994). However, those who fail to have their needs and ambitions fulfilled are likely to use their best talents in the private sector of the economy or in more rewarding parts of the public sector.

3.2 Diversity in Higher Education

The greater the diversity within a nation, the more potential for diversity of higher education institutions (Hughes & Mwiria, 1990). Higher education has the potential for short-term classes and for offering education in specific skills, especially those associated with the use of technology and other fields undergoing rapid change. These offerings are rare now in sub-Saharan Africa. If the traditional universities do not offer services such as training or updating in skills to business and governmental agencies, private institutions can fill the gap and may develop into institutions of higher education with special emphases.

In sub-Saharan African nations where there is a scarcity of student positions in the public universities, there is a market for private higher education. One additional group that may provide a market for private institutions of higher education is women. In nations with large Muslim populations, for example, families may prefer to have their daughters attend schools exclusively for women. The current policy of most sub-Saharan African universities is to use the facilities of the university only during the daytime with no classes during extensive yearly breaks. Night classes and classes offered during the "vacation" period would make use of available physical facilities for additional types of training. Universities, particularly in large cities, have an opportunity to provide physical facilities for evening, weekend, and short-term classes for temporary and part-time students. This is rarely done now.

3.3 Diversity in Sources of Funding

A large proportion of university funding currently goes to the support of students. This portion of the budget is likely to face revision. Funds for room and board on campus, or allowances for off campus living are considerable, and greatly increase the cost of higher education to the government. Several sub-Saharan African nations have begun to phase out this type of support. Students in some nations are now required to pay some fees. Other changes being considered are scholarships based upon need as determined by family income, or scholarships being converted to loans that are repaid when graduates are employed. Both options are rarely implemented now. Another new alternative is to grant full or larger scholarships to those seeking degrees in the most needed fields and limiting the number of scholarships to students in fields where there is an oversupply or anticipated surplus of graduates. Continuous evaluation of student progress toward completion could be required for renewing scholarships from year to year. This is rarely done now. Currently between one-third and two-thirds of the students who begin tertiary education do not graduate, or require additional time to graduate (World Bank, 1988, 1994). The poor record of completion raises the costs of higher education to society and cuts the potential benefits. Although rarely done at present, universities could sell research or training services to businesses and governmental institutions through grants and contracts. This type of change holds out possibilities for providing additional money and incentives to faculty and departments.

3.4 Redefinition of the Government Role in Higher Education

Administratively, the high degree of funding for higher education by national governments creates close ties between academe and government that can have negative impacts (Van Den Bor & Shute, 1991). Academic freedom to criticize governmental policy can result in cutting funds, dismissals, and closing of the university. Governments usually appoint the highest members of university administration. Students come into conflict with the government and find that government may respond by using the power of the purse or by sending in troops to assure order. On occasion, the university is not able to function because of student protests that have little to do with the responsibilities of the university or its staff.

Having full ownership of higher education has given the government the opportunity to exert great control over the goals and procedures of higher education (Aminu, 1986; Nikinyangi, 1991). Economic efficiency has not been a necessity for higher education survival. Political influence has more control over the direction of higher education than have economics and market forces. Duplication of facilities and services tends to predominate. Delays are frequent, slowing or eliminating attempts at change because of the necessity to deal with many governmental agencies, all with power to approve or change individual programs. Multiple institutions of higher education with identical missions are often dispersed throughout a nation, rather than establishing larger more economic faculties at a fewer locations. Eliminating duplication in physical facilities, faculties, administrations and overlapping governmental jurisdictions can save money and bring about higher quality in education by concentrating human resources where they more readily cooperate on academic tasks.

Equity and quality in higher education have been concerns since independence (Sunal, Sunal, Rufai & Inuwa, 1995; Van Dn Bor & Shute, 1991). The number of females in higher education in Africa is lower than in other developing nations. Some ethnic groups are underrepresented. Training in the types of skills that would be economically and socially helpful to large portions of the people often is not available.

To administrate universities that are not completely financed by the national government, it will be necessary for academics to acquire more attitudes and skills associated with business management. All staff will need to act in ways that add to the efficiency of the university. Restructuring will be required, as will changes in the size of departments and regular availability of full-time staff (World Bank, 1994).

Creating regional institutions for advanced degrees or degrees in fields requiring costly technological equipment will require cooperation between nations and careful monitoring and confronting of ethnic and national issues. If these institutions are to be cost efficient for African nations, duplication of programs beyond basic needs must be avoided. Standards should be high so that existing institutions will be willing to close small departments and work in cooperation with regional institutions. Ease in transferring credits between a national university and a regional institution can save on costs. Temporary faculty exchanges might also be used a way of providing some courses and ensuring that the school remains representative of the nations it serves. Procedures for assuring faculty of the importance and security of their regular positions should be carefully negotiated and enforced, as should acceptance of exchange faculty.

3.5 Improvement in Staff

Staff development must strive to encourage the acquisition of new, appropriate skills by faculty members and the hiring of staff that fill departmental and program needs. In the past foreign universities provided the most common way for staff to acquire doctorates. This method fails if students do not return to their universities or if the training of returning scholars cannot be used to the benefit of the students and the institution. More staff are now being educated in sub-Saharan African institutions than in the past and the numbers are increasing.

In-service staff development to improve teaching and research skills is generally rare or ineffectual (Inuwa, 1991). Often lectures have gone directly from the role of undergraduate student to teaching graduate student to university lecturer with only their own student experience and senior lecturers to guide them as teachers. The importance of interactive instruction and techniques in preparing laboratory exercises and in learned through trial and error over time. Success of such efforts depends upon teacher attitudes toward learning and change. In-service staff development needs to be available to expand knowledge of the needs of the learner, instructional methods, and effective assessment methods, and to broaden experience with various media. In a study on the attitudes of lecturers in two universities in Nigeria, Inuwa (1991) found that beginning faculty felt their jobs would be threatened by educational television, as it would serve as a substitute for lectures. However, experienced teachers who worked in outreach programs in agriculture and medicine viewed the use of educational televisions differently, seeing greater potential for its use.

SECTION IV: CURRICULUM

4.1 Curriculum

Africanization of the curriculum has been a gradual but strong movement in the region. This movement has been away from curricula originating in the colonial period. It has moved toward curricula that incorporate both indigenous knowledge and traditions and current ideas and knowledge representing widespread educational theory and practice. Examples are inquiry-based curricula and the use of manipulative in mathematics. Concomitant with these movements, there has been retention of curriculum content and theory associated with the colonial period and the educational traditions of the colonizing powers. Thus, curricula often follow European models.

Immediate change to an African curriculum has not occurred. It has proven to be a process requiring time and funding. Curriculum courses of study, syllabi, materials, and textbooks are time consuming to develop, test, and implement. They are most appropriate when based on research into the types of conceptions and misconceptions the culture and language lead individuals to develop. Curriculum developers must be trained who understand the culture(s) of a nation, teaching, the disciplines and levels for which the curriculum is being developed, and national, local, and individual needs. Finally, teachers must be trained to implement the curricula.

The need for a balance between indigenous knowledge and knowledge from elsewhere. They support the use of locally relevant examples, materials, and knowledge in the curriculum. Typically, the most Africanized curricula are found at the primary school level and in informal-sector education. As students move into secondary and higher education, the curricula are less Africanized and often very much like curricula found elsewhere. Indigenous languages are fostered most often in the primary school, whereas other languages such as English, Arabic, and French often are used in curriculum materials after the primary school level. Some authors argue for heavy use of indigenous material at the secondary school level.

Since Africanization appears to be strongest at the primary school level, and this is the level beyond which many African students do not progress, some questions result. If students will receive no further formal education, do they not need to be given a foundation of knowledge about the world outside their own culture and nation? How much should they study about their culture and nation? neighboring nations? other parts of the continent? other regions of the world?

Curriculum has many definitions in the literature (Oackson, 1992). It has few clear guidelines for developers anywhere in the world. Curriculum is heavily impacted by tradition and certainly by the perspectives of its developers. The questions and quandaries faced in sub-Saharan Africa occur everywhere. In the United States, for example, cultural diversity is an issue that is being argued in terms of curricula. How much world literature should be in the curriculum? Do students from a Puerto Rican background in the United States need different examples from students of Polish background or students from a Lebanese background? Do some groups perform poorly because the curricula are very different from the cultural and knowledge background of their home? As Africans work

through similar questions, their curriculum development processes and philosophies can be expected to inform and interest developers in other world regions.

4.2 The Significance of the Informal Sector to Education in Sub-Saharan Africa

Beginning with the end of World War II, newly independent African countries expanded educational opportunity at tremendous rates more than tripling enrollments (United Nations, 1970, 1980, 1987 World Bank, 1988). One unanticipated effect has been a significant reduction in the employment prospects for secondary school graduates, particularly those of lower classes and rural backgrounds. This apparent surplus of better-educated unemployed youths may lead to economic disincentives that undermine student and parental decision making concerning educational investment. The potential! for spill over effects concerning health, fertility, nation building, and labor force capability are so disruptive that the unemployment issue now commands attention at the highest levels of government.

Despite a remarkable advance in the annual growth of educational enrollments, the economies of sub-Saharan African countries have failed to keep pace. During the post-independence years of 1965-73. the mean growth rate for primary education was 7.1 percent. while gross domestic product (GDP) grew at a robust 6.4 percent. By the following decade (1973-1984) primary growth rate! had dropped to 2.9 percent and gross domestic product (GDP) growth to only 1.3 percent. significantly below the 2.8 percent rat (of overall population growth (World Bank, 1988). Although all economic sectors of sub-Saharan countries have experienced dramatically reduced growth. the manufacturing sector was particularly hard hit. with mean growth rates being reduced over the two decades from 8.8 percent to 2.3 percent (World Bank, 1988). This reduction reflects the limited growth of job opportunities in the non agricultural formal sector-the preferred employment location for the vast majority of school leavers.

Although employment growth in the formal sector continues to be severely limited, self-employment in both manufacturing and services is increasingly becoming the most viable occupational opportunity in sub-Saharan Africa. Today, micro enterprise employment represents the largest share of job growth, comprising 40-60 per- cent of the urban labor force of most African countries, including well over 20 million individuals (Fluitman, 1989).

4.3 Formal Education and the Informal Sector

Throughout Africa, governments have sought to institute curricular programs reflecting both the demographic and the labor market shifts of their countries, while acknowledging the importance of the in- formal sector. The result has been a strong interest in various types of vocational education. Their activities are typically justified by one or a combination of four goals:

1. acknowledging that the state has a responsibility to provide employment for all of its citizenry, accompanied by a belief that vocational education helps individuals attain and create employment

2. addressing issues of equity, by deflecting criticisms that academic pursuits promote a white-collar bureaucratic mentality
3. addressing issues of development operating under the assumption that economic advancement is technology led. justifying the necessity for schools to enhance worker training beyond traditional apprenticeship programs
4. stemming the tide of rural to urban migration

The vocationalization of education typically focuses on one of two alternative strategies. Either attempts are made to strengthen separate vocational institutions, usually at the secondary level, or efforts are aimed at introducing curriculum diversification programs, which introduce prevocational subjects to primary and secondary students. The latter is often justified by asserting that dropouts and repeaters (who make up a significant component of the informal sector) will benefit. Unfortunately, labor market considerations have rarely informed these investment strategies (Middleton & Oemsky 1989).

4.4 Vocational Education and the Informal Sector

Views on vocational educational have endured cyclical periods ranging from deference to disdain: Benavot (1983) refers to this as the "rise and fall of vocational education." Today we are just emerging from a period of skepticism, so it is reasonable to anticipate a future rise of interest in vocational education. Bilateral and multilateral assistance organisations play a large role in promoting these education trends. A recent World Bank policy paper provides an illustrative example: "The Bank faces a significant opportunity, and an equally significant challenge, in providing support for vocational education and training over the balance of the century... The challenge is posed by the problems of developing cost-effective training systems in small low-income countries, notably in sub-Saharan Africa (Middleton & Demsky, 1988, p.ii).

Although there has been no conclusive study examining the role of education on economic growth in sub-Saharan Africa, for which much investment is predicated, there has been a limited amount of cross-national research that seems to suggest positive returns for vocational education during certain periods. For example, Benavor found that vocational education had a slightly stronger effect than general education on economic growth for all less developed countries during the period between 1955 and 1970; however, it has a small negative effect for the periods between 1965 and 1980 (Benavot, 1986).

The joint diversification goals of relevance and equity have produced arguably unfavourable results. Psacharopoulos and Loxley (1985) found in Tanzania secondary schools that the students from lower income backgrounds favored technical and agricultural programs while those from higher income families chose academic and commercial programs. This class-based selection began at the secondary school level, where children of father with the highest levels of education (more than eight years) were six times more likely to be found in secondary school. Psacharopoulos (1986) was able to confirm a demonstrated gain in achievement in the particular areas of vocational specialisation (such as agricultural, technical, and commercial achievement tests for these

respective schools), controlling for a range of other factors. The annual costs of diversified technical schools in Tanzania were about 14 percent higher than in the academic schools. Tracer studies conducted one year after graduation seemed to indicate little difference regarding a student's status - whether working, training, looking for work, or continuing on to higher education, despite the type of school attended.

Psacharopoulos also found that the vocational exposure of diversified schools seemed to have little if any immediate effect on either finding or creating employment. Only technical students seemed to show a correspondence between employment and their area of specialisation. His research concluded that the economic returns for diversified education were negligible (Psacharopoulos, 1986).

A similar failure to identify a close correspondence between technical education and work was found in a study of Kenyan diversity schools (Jauglo & Narman, 1986). One year after taking their O-level examinations, students who had four or more years of Industrial Education (IE) displayed little variation with their non-IE counterparts regarding the ability to find work, undergo training, or continue with their education.

Another critical issue is time lag. Individuals often start their own firms later in life. Others do not enter the informal labor market until well after formal education is completed. One study in Kenya found that only 6 out of 1,080 students were self-employed one year after their exams, limiting the applicability of IE considerably (Narman, 1988). A longitudinal study conducted three years later found little if any correlation between learning at an IE school and obtaining employment. The apparent failure of formal education to stimulate self-employment was also identified in a study of Sierra Leone, where less than 5 percent of the fifth-form (secondary) students planned to start their own business (Wright, 1986). Such findings seriously question the utility of current diversification strategies in Africa.

SECTION V: MODELLING AFRICAN EDUCATION FOR DEVELOPMENT

5.1 Possible Models for African Development

There is a general dearth of empirical research on nonformal education. However, insight can be gleaned from utilizing what available research there is, as well as extrapolating from other geographical areas. In many ways, the Caribbean region represents a possible model for African development. Countries like Trinidad and Jamaica have populations with cultural backgrounds quite similar to that of many African countries; however, as middle-income countries, they are wealthier than most in Africa. Perhaps they represent the future for those countries that are able to move up from low-income status. In any case, their situation is arguably insightful.

Jamaica has successfully implemented universal primary school education. As early as 1970, 96 percent of the labor force had completed at least five years of schooling (Honig, 1993a). However, it makes sense to focus on an African country, and Zimbabwe is selected for some analysis here below.

5.2 Mathematics Education in Zimbabwe

Mathematics education in Zimbabwe embodies the difficulties of the search to develop an authentic, deep, and well-understood mathematics literacy in sub-Saharan Africa. Zimbabwe became independent in 1980, nearly twenty years later than the majority of African nations. Like other nations, Zimbabwe faced problems such as unequal educational participation and low transitional rates from one educational level to the next (Mungazi, in L. Jaji, 1988). This resulted in a pyramid-like enrollment shape that was extremely narrow at the top and very wide at the base. However, unlike other nations of Africa, Zimbabwe had an impressive number of university graduates ready to take up higher-level posts in government at independence time (1980). Still, at the time of independence, Zimbabwe faced enormous needs for expanded educational opportunity and the development of the workforce. In the five-year period immediately following independence, primary education enrollment alone expanded 150 percent, from 820, 000 to more than 2 million according to Habte (in Chikombah, Johnston, Schneller, & Schwille, 1988).

Independence brought genuine change in the political system, which in turn resulted in rapid quantitative expansion in both the primary and the secondary school systems. Every child was to have the opportunity to go to school (whereas previously only 12 percent of school-age black children were afforded the opportunity to gain a secondary education). The curriculum, however, remained highly influenced by the British system. Educators in Great Britain had little understanding of the Zimbabwean child, his or her environment, or his or her teacher. The educational system was highly elitist (L. Jaji, 1988), while the society at large was aspiring to be egalitarian. When the mathematics curriculum was transplanted, the perspective was also copied; thus, primary mathematics became viewed as a stepping stone to secondary mathematics, which was seen merely as preparation for university education. This viewpoint produced and continues to foster a situation in which children in the schools see mathematics as something foreign and useless to their lives (Gerdes, 1988). Thus, there has continued to be a need for the development of a genuinely Zimbabwean curriculum that is relevant to the needs of the Zimbabwe society (Nyagura, in Chikombah, Johnston, Schneller, & Schwille, 1988).

5.3 The Present Position in Zimbabwe in School Mathematics

The mathematics curriculum of the primary school years (grades 1- 7) has been under local control since before independence (grade 7 became the end of primary education in 1969; previously it had been grade 8). Since independence (1980) the syllabi have been produced by a syllabus panel composed of Ministry of Education (MOE) regional education officers, Curriculum Development Unit (CDU) officers, practicing teachers, representatives from the Schools Psychological Services Unit of MOE, the University of Zimbabwe, other government ministries, and commerce and industry (private sector). Panelists were urged to consult widely with the people they represent so as to make the exercise as democratic as possible (Vere, in Chikombah, Johnston, Schneller, & Schwille, 1988).

The syllabus itself is further divided by grade level and within grade level by the following topics: number (whole and fractions), measure, shapes and lines (money, time, mass, length, area, capacity and volume, rates, shapes, directions, angles and lines), operations (addition and subtraction, multiplication and division), and relationships (ready reckoners, graphs). The objectives of the syllabus are written in behavioral terms: for example, an objective from grade 1 is, "Can sort objects according to one of two criteria from length, mass, color, texture, (hard or soft, rough or smooth) thickness and kind, and can distinguish between flat and rounded objects: (p.3).

It can be seen that the intended curriculum is not so different from that of schools in the United States, particularly during the period of time that the syllabus was produced (note that the syllabus is dated 1984, before the National Council of Teachers of Mathematics in the United States produced their Curriculum and Evaluation Standards in 1989). The textbooks in use in the schools have been produced to directly reflect the aims and objectives specified in the syllabus. One series (Lawton & Jaji, 1978) produced by a member of the panel and one of the authors of this chapter more clearly reflects the problem-solving, investigate approach advocated, but all series clearly reflect the stated aims and objectives of the syllabus. We have to look further than the intended curriculum to see the real state of affairs in terms of mathematics education as it pertains to Zimbabwe. The implemented curriculum is clearly not matched to the intended curriculum. Shumba (1988) also found that teachers emphasize mechanics and the rote acquisition of skills without adequate conceptual frameworks. Thus, there is evidence that the implemented and attained curriculum in mathematics in Zimbabwean schools does not match the intended curriculum.

At the secondary school level there are three levels of syllabi: the junior certificate level, the ordinary level (O level), and the advanced level (A level). The junior certificate level covers the first two years of secondary education and is seen to be mainly a preparation for the O level. Prior to independence the junior certificate was a terminal point for black students, but with the attainment of independence (1980) most pupils now proceed to O-level if they enter secondary level. The O-level covers the next two years of secondary schooling and when completed it is roughly equivalent to completing high school in the United States (it is considered equivalent for purposes of entering most U.S. universities). The A-level certificate then covers the last two years of secondary education. Very few pupils are able to proceed to do A level, as entrance into A-level schools in Zimbabwe is highly selective; and A-level mathematics is even more selective. A level is equivalent to the first year or two of university in the United States it is not like U.S. junior colleges, in that it is highly selective (A-Level courses are given university course credit by most U.S. colleges). Note that, like British universities, the Universities in Zimbabwe are mainly three-year institutions, since students enter with A levels (the equivalent of one year of university level work by U.S. standards).

At present, both the junior certificate and O-level syllabi are localized in Zimbabwe. These syllabi have been designed in Zimbabwe and are examined by Zimbabweans. The O-level syllabus examination is still monitored (i.e., samples of marked exams are sent to the United Kingdom) by the Cambridge Examinations Syndicate. The junior certificate was local even before independence, and the O-level syllabus became fully local in 1994. The A-level syllabus, however, remains under the control of the University of Cambridge Local Examinations Syndicate in Britain. The junior certificate is seen as mainly

preparatory to the O-level syllabus and thus is highly tied to the content and methodology of the O-level syllabus. Likewise, to a great extent, the O-level syllabus is seen as preparatory to the A-level syllabus, and is thus tied to the A-level syllabus. This clearly leaved the control of the secondary syllabi by default in the control of outside focus forces rather than indigenous forces, as was intended when localising the syllabi. Certain other intentions, such as saving foreign currency by examining locally, were better served.

SECTION VI: USE OF SECOND LANGUAGE IN EDUCATION

6.1 Education Through A Second Language: An African Dilemma

A characteristic of African education south of the Sahara is the use of second languages as media of instruction. While the continuing use of English or French in education has had considerable advantages in establishing a high level of achievement for a minority, it presents almost insoluble problems if it is to be applied to education extended to the majority of the population. The use of some second language is inevitable, however, for the majority, if states are to develop as economically viable units. Special problems resulting from using a second language, of the effectiveness of learning, of the training of teachers and of the administrative financial development of educational services are sketched.

South of the Sahara no African language has yet been used as the medium of secondary or higher education, while a great number of pupils in African primary schools are taught in languages other than their mother-tongue. a characteristic of African education is the use of second language as a medium of education, at present often English or French.

For various reasons education all over the world is now becoming more and more linguistically saturated and the demands made on pupil and teacher alike for a more extensive and sophisticated use of language, spoken as well as written, are increasing. Partly, of course, this is a result of the vastly greater amount of information which we now seek to convey in the classroom; there is just more to learn and to be taught than there used to be in nearly all subjects. Partly it is the result of modern fashions in teaching methods: pupils are expected to discuss, to question, to discover, to argue indeed-in short, to do and speak not to merely to sit and listen. Partly it is a reflection of the linguistic noisiness of the world outside the school, where the fast talker, indeed the *facile* talker, often gains the economic advantage and where the increasing use of the mass media of radio, television and the press are regarded as desirable evidences of progress, development and civilization.

The origins of the use of second languages in African education are of course historical, ethnographical and political. English and French were the languages of dominant imperial powers; Africa is linguistically complex-where not fragmented; administrative areas which were determined in Europe rather than in Africa a! colonial preserves have been consolidated into national state! with little or no adjustment. When modern education was first introduced into Africa there was little expectation that its purpose would be more than to provide a limited number of craftsmen catechists, teachers, clerks or minor functionaries for the service of missions or the colonial administration. For these jobs an obvious! need was French or English, quite apart from any other releva

educational or vocational skills. Initially, the educational standard! and the content of the curriculum in colonial schools were imported from the metropolitan countries.

In British territories primary schools were established with a curriculum very like that of English elementary schools, while rather oddly by comparison, the first colonial secondary schools were often modeled on English public schools-an implied class-distinction which perhaps became more significant later, when primary schools staffed by Africans used *African* languages, and secondary schools staffed by Europeans used *European* languages as media.

Public examinations taken in secondary schools were versions (often almost unchanged) of those current in Britain. On such matters there was broad agreement between missionaries, who were initially responsible for the schools, and colonial governments, which began their educational responsibilities by supporting, and continued them by developing, the work of voluntary agencies.

In the early twentieth century African languages were known by comparatively few Europeans, and for various reasons were still little respected as potential educational media by those who did know them. In the 1920s both missionary and government sentiment towards the use of African languages became much more favourable and their place in education was actively encouraged--often against some opposition by Africans. Their use beyond the primary stages of education was however barely considered, largely because there was very little secondary education available; such secondary schools as existed were intertribal and for teaching in them *lingua franca* was necessary. Attempts to use African "union languages" as media in the middle stages of education were not very successful ; nor for that matter were the middle stages of education.

The comparatively rapid post-war development of colonial primary education in British areas, with a bias towards community development, led to an estimated 91 languages being used as media in British Africa by 1953, although in 1951 it had been estimated that no less than 369 different languages were actually spoken in the same area. Many of the languages thus used had no literary past and little literary future, in spite of efforts made in some areas to stimulate writing in African languages by government literature bureau. An extreme example can be given from East Africa where, in 1957, it was discovered that in one small tribal area primary school children were spending most of their first two years at school learning to read their own language, although no reading material on which to apply this skill existed in the language other than the primers (written in 1913) which provided material for this reading course.

From the educational point of view the important factors in the early twentieth century and later were that most African languages as yet had no written form, no literary resources, no formalized reference "grammar", and no currency outside their own tribal area. Thus, however excellent psychologically it might be to educate children through the language of the home, doing so could do little to broaden their intellectual horizons, to facilitate communication outside their home area, or to assist in developing the stability of larger administrative units. Moreover, Africans educated exclusively in their own language would not be well equipped to take positions of responsibility outside their own tribes.

Stratifying education linguistically by using African languages in primary schools and English in secondary schools although at times dictated by practical necessity, tended to produce social cleavage; in any case the linguistic demands of secondary schools were often anticipated by primary or middle schools because few pupils were prepared to be handicapped in their opportunities of secondary education by linguistic deficiencies.

As earlier in Asia, in Africa the wider use of English or French in education materially assisted the development of nationalism by providing not only a common language for the educated but an opportunity for them to participate in the political evolution of colonial into national governments, without suffering a serious linguistic disadvantage in dealing with the metropolitan power or its administrators. Given British attitudes towards decolonization, this was a valuable advantage.

In the post-independence stages, the use of English or French by the educated had a further advantage. Rapid development was facilitated either by sending large numbers of Africans overseas for training or by receiving expatriate technical assistance. This was made easier if the operational languages of aid were English or French.

It is perhaps not surprising that governments in Africa have often appeared to concentrate on what seem to be palliatives rather than seriously considering whether, in fact, this is a problem which ever can be solved without a fundamental reevaluation of educational objectives. But there is yet no known example of a national unified state developing out of a loose polyglot federation, with a low index of general education, through the use and willing acceptance of a language foreign to virtually the whole population throughout its educational system. And it is probably not helpful to continue to think ' in terms of interim linguistic policies. Education takes a long time for its effects to become widespread; of all educational activities, language learning seems the slowest and hardest.

6.2 Pedagogical problems

Mention has already been made above of the basic problem of extending education, with a contact appropriate to a rigorously selected minority and intense teaching and learning to a wide and less selective population. But even without this later development, with the best teachers and best pupils available, education in an English medium in Africa has always had grave inherent problems. Pupils were assumed to 'learn' English in primary classes and "use" English in secondary classes. But such a distinction was misleading to say the least. For the primary school child is far less capable of learning a language in isolating than was usually assumed. Young children can learn language through its use, but this, generally speaking, is not how English has been taught. We still find the belief prevalent that if only the "right" method and the "right" materials can be discovered, English can be taught as a self-sufficient skill to African children for later use as a medium. Language is never a self-sufficient skill in this sense.²

The result has been, often enough, that children have begun secondary courses taught in English in all subjects with quite insufficient ability to do more than memories selected texts or parts of them, with very low reading skill and without the ability to discuss, question or criticize facts, ideas or doctrines. They have indeed passed unsuitable examinations on this basis, but it can be questioned whether they have been educated into citizens whose full potential can be exploited. The situation persists into university

education and possibly colours the teaching as well as the learning. Communication across varying educational levels is certainly inhibited.

Obviously the African pupil or student is exposed to far more English in his various subject classes than in the specifically English classes. But the teachers of the 'other' subjects get no special training in the business of teaching through a second language and may not indeed speak it well; it is they, however, who provide the important content of education. So-called language skills in themselves are of no great educational value: it is what language is used effectively about which matters. An ominous note, however, has recently been sounded by the statement that in African education the drop-out rate in primary classes is increasing, while the most impressive growth in recent years is in university students and university staff. This could indicate a growing division between those who became only semi-literate in an African language and those who became more fully educated in a European language.

In Francophone areas there have been recent demands for an increase use of African languages in place of French. However, we must not minimise the immense difficulties of establishing African languages as effective media of education (if the education given is to be based on European or American models). There are first the great difficulties arising in some states from the sheer numbers of indigenous languages spoken - as in Cameroon, for example, where linguistic fragmentation is extreme. In other states, where there are fewer languages, the designation of one African tongue as a national language may be regarded as politically provocative by speakers of other African languages in the same state. Thus we may have the odd phenomenon of a "national language" and an "official language" co-existing in some states.

In Anglophone areas there is a wish for the greater use of African languages. If and when this is done, English, because of its political, scientific, commercial and cultural value, will take its rightful place as an important foreign language to be taught in the schools but not to be used as the medium of instruction". But the difficulty which must be faced here is the almost certain likelihood that, as soon as English is no longer used as a medium, the effective results of teaching it merely as "an important foreign language" will be that African children will learn very little English at all and certainly not enough to take full advantage of its scientific, commercial and cultural values.

Whichever languages are used in African education, the content and presentation of the whole curriculum must be adjusted to conform to their resources and to the language potential of the pupils. It just cannot be assumed that "the language-teaching problem" can be separated from the content of general education and "solved" independently.

CONCLUSION

This paper has related African education to culture and development, showing the inter-relationships between the three. It demonstrated how colonial education in Africa, operated jointly by the church and the state was meager, both in terms of quantitative expansion and qualitative standards, and had a heavy European bias with a major stress on the liberal arts. The paper has further highlighted that the model of the African society on aggregate comprised a loose collection of autonomous and semi-autonomous tribal societies which were held together, within a common administrative framework, by the arbitrary rule of a power elite who came from Europe. In addition, these Europeans were

Christian, and aimed at developing certain economic activities in the colony, including trade and extractive operations. Their actions contributed to the emergence of a non-traditional sector in the colony, endowed with a money economy, a more complex division of labour, a new status system and social heterogeneity. Modern education was not a felt need for Africans, in so far as they still maintained their traditional systems of education. Similarly the major stress in the colonial education on liberal arts has to be understood in terms of the internal structure of a colonial society. The main reason for this was the absence of any felt need, or of any pressure exerted by, either the colonial elite or the emerging African elite. Evidently, this absence is to be related to the retarded economic development of the colonies with very limited effective demand for technicians. What little demand there was could be met by the respective authorities making their own arrangement for technical training; Thus, in British colonies the railways trained their signalmen and engine drivers, hospitals trained their own nurses and dispensers, and the public works department trained its own foremen and clerks of works. All would draw their recruits from primary schools.

The paper has indicated that education in Africa, as elsewhere is socially determined. The social determination of educational provisions can be traced to the way a society shapes its educational system, and also to pressures exerted by various social categories and groups contending among themselves for power, prestige and wealth. Where there is no formal schooling, the influence of the society gradually moulds the educational system over a long period of time. Although it is difficult to show how this process actually takes place, we can observe the correspondence between the structure of a society and various features of its educational system. This has been attempted with regard to precolonial customary education in Africa. In the traditional African society there was greater social homogeneity in that its members largely belonged to the same ethnic group and did not demonstrate much difference in wealth, privilege and power. In such a society, as compared to a modern industrial society, there was less room for social tension and conflict. Consequently, the educational system was little pressurized by demands of contending strata and groups. Under such circumstances, the social structure shaped the pattern of education over a long period. The social pressure on education was thus latent, and less fragmented.

Things took a different turn with the advent of colonial rule in Africa. Diverse social strata and groups, related to different points in the productive and distributive process, came into existence. Their interests and aspirations were not always reconcilable. Thus, the educational system came to be moulded by a class of opinions, the dominant section contributing most to the pattern of development. The social pressure here was more deliberate, manifest and fragmented. In the early colonial period it was the European colonial elite which exercised supreme influence on education, but the modern African elite gradually expanded and its influence was increasingly felt during the late colonial period. At the end, with the decline of European rule, this group gradually took over. Much of the transformation which has taken place in African education during the past several decades can only be understood in the context of the hopes and fears of this group. Yet, despite their agreement on broad fundamentals, members of this group are not, even now, unanimous on the relative importance to be attached to different aspects of contemporary education, such as the theoretical sciences, the humanities, the social sciences and technology.

There are other crucial issues which this paper has not covered. They include the use of high technology in education, which brings with it learning by telecast and the video and video conferencing. These measures have greatly expanded distance education and more people are now able to receive formal education.

APPENDIX

TABLE 1: TRENDS IN EDUCATION ATTAINMENT FOR 29 SUB-SAHARAN AFRICA COUNTRIES									
Percent of population over 25 by Level of schooling									Avg
Region/Group	Pop.over	No	Primary	Secondary	Higher	Years of			
Year	25 (m)	Schooling	Total	(Complete)	Total (Complete)	Total (Complete)	School		
Sub-Saharan Africa (29)									
1960	47	70.5	23.6	(7.3)	5.4	(1.4)	0.4	(0.3)	1.60
1965	53	69.5	24.4	(6.4)	5.5	(1.4)	0.6	(0.5)	1.62
1970	60	67.8	24.9	(5.6)	6.3	(1.5)	1.0	(0.8)	1.76
1975	68	63.9	28.5	(6.1)	6.6	(1.4)	0.9	(0.7)	1.91
1980	77	58.8	32.7	(6.6)	7.6	(1.5)	0.9	(0.7)	2.16
1985	89	54.4	36.0	(7.6)	8.7	(1.6)	1.0	(0.8)	2.41
Developing countries (83)									
1960	487	69.3	25.5	(8.2)	4.4	(1.7)	0.8	(0.6)	1.70
1965	45	66.6	26.9	(9.4)	5.4	(2.1)	1.2	(0.8)	1.94
1970	609	62.6	28.8	(10.5)	6.9	(2.7)	1.7	(1.2)	2.28
1975	684	58.4	30.0	(8.5)	9.1	(3.6)	2.5	(1.7)	2.59
1980	782	55.9	28.1	(8.5)	12.7	(5.1)	3.2	(2.2)	3.04
1985	905	49.6	31.7	(10.4)	14.4	(5.8)	4.4	(3.0)	3.58
Source: Barro and Lee, 1993									

Despite overall progress, the percent of the adult population with no schooling has the acquisition of many of the skills and capabilities required to effectively operate and compete in many modern sectors. The result, with a few exceptions, is a much more bipolar economic structure than observed in other developing regions: a constrained small-scale sector with limited opportunities and a large-scale sector consisting of parastatals plus a few foreign firms, both employing large numbers of expatriates. Medium-sized operations utilising intermediate technologies that conserve on Africa's scarcest factor of production - human capital - are hard to find. In these ways, the development strategy pursued inhibited the development, through experience, of the skills and attitudes that are critical elements in the modernization process.

Use of available resources (a result, among other things, of weak management), and rapid population growth. In some instances these problems have been exacerbated by the centralisation of education systems that occurred at the time of independence and inappropriate allocation of resources within the education sector. This failure does not appear to have resulted from lack of effort in most countries. As Table 2 indicates, these countries developed a larger share of their GNP and almost an identical share of their public expenditures to education that did developing countries in general.

Allocations by level of education have been more clearly related to Bank policy. The first panel of Figure 5 shows the early dominance of lending for secondary, the rising importance of primary, a temporary, modest, increase in focus on nonformal, and the limited allocation to tertiary. As the second panel indicates, the overall character of the Bank's allocation to all countries is similar, but with an important exception for higher education which played a much bigger role - and an increasing role over time - outside of Africa.

TABLE 2: PUBLIC EDUCATION EXPENDITURE ATTAINMENT FOR 29 SUB-SAHARAN AFRICA COUNTRIES

	Percent of Public		Higher Education	Third level	
	<u>Percentage of GNP</u>	Expenditures	as % of All Levels	Student Abroad as %	
	1960	1989	1988	Those at Home 1987-88	
All Developing Countries	2.2	3.6	17.9	17.2	2.9
Least Developed Countries	1.3	3.1	14.8	14.1	7.9
Sub-Saharan Africa	2.4	4.1	17.5	17.5	14.2
Selected Countries					
Cameroon	1.7	3.3	18.7	22.0	40.3
Tanzania	2.1	3.7	14.0	11.1	31.4
Nigeria	1.5	1.5	12.0		6.8
Senegal	2.4	4.6			23.0
Malawi	2.1	3.3	8.8	22.9	13.9
Kenya	4.6	6.5	27.0	16.6	17.3
Korea	2.0	3.6	23.3	14.5	1.9
Brazil	1.9	3.7	17.7	7.0	0.5
Indonesia	2.5	0.9		17.6	1.6

Source: UNDP, Human Development Report, 1992, Table 15

**TABLE 3: REAL ANNUAL PER CAPITA EDUCATIONAL EXPENDITURES OF CENTRAL GOVERNMENTS
(Averages over selected years)**

US\$, 1987 Prices		Percent Change								
Education Per Capita		GDP Per Capita			Education Per Capita			GDP Per Capita		
Countries	1975- 1979	1980 1984	1985- 1989	1975- 1979	1980- 1984	1985- 1989	75/79- /8480	80/84- 85/89	75/79 80/84	80/84- 85/89
Benin	12.3			341	444	412			30.3	-7.2
Botswana	33.7	65.5	79.8	615	920	1,328	94.4	21.8	49.6	44.5
Côte d'Ivoire		67.6		1,152	1,137	987			-1.2	-13.2
Cameroon	14.3	20.9	31.5	762	1,128	1,161	45.7	50.9	48.1	2.9
Comoros		49.5	41.2		201	481		-16.8		138.6
Congo	49.2			793	1,192	1,166			50.4	- 2.2
Ethiopia	2.6	3.5	4.0		126	118	31.5	16.6	3.7	- 6.6
Ghana	10.2	7.5	11.4		395	392	-25.8	51.0	-9.4	- 0.9
Gambia, The	4.9	10.0	4.4		244	243	105.4	-56.0	1.4	- 0.3
Guinea Bissau		10.3	5.8		171	186		-43.7	-13.8	8.7
Burkina Faso	5.0	5.2	5.3		281	317	5.4	1.8	8.9	12.7
Kenya	13.1	18.1	19.5		373	376	38.5	7.6	8.4	0.7
Liberia	20.6	24.9	18.6		633	315	21.2	-25.2	-11.7	-50.3
Lesotho	23.8	32.1	33.7		225	231	34.9	4.9	10.4	3.0
Madagascar		8.2	6.0		281	256		-26.8	-10.6	8.9
Mauritania	17.7				545	527			1.1	-3.4
Mauritius	44.3	56.4	52.2		1,331	1,737	27.3	-7.6	2.7	30.5
Malawi	3.9	5.5	5.1	167	174	169	41.9	-8.1	4.5	- 3.0
Niger	8.0	9.9	7.5	403	419	323	24.1	-24.2	3.9	-23.0
Nigeria	5.8	4.0	1.8	327	297	248	-31.8	-54.3	-9.1	-16.4
Rwanda	5.9	11.5	10.7	295	366	336	95.6	-6.6	24.2	-8.3
Sudan	8.4	12.8		835	476	435	52.1		-43.0	-8.7
Senegal		31.9	12.2	708	693	693		-61.6	-2.1	-0.1
Sierra Leone	4.4	5.3	2.3	158	183	162	18.6	-57.0	15.9	-11.4
Somali	2.5	1.7	0.6	149	180	179	-31.5	-67.3	20.5	0.5
Swaziland	36.9	55.2	55.3	845	812	830	49.5	0.3	-3.9	2.2
Togo	16.5	23.4	16.6	432	438	402	42.2	-29.0	1.3	-8.2
Tanzania	5.6	5.5	2.3	170	159	157	-2.3	-57.7	-6.3	-1.5
Uganda	3.8	2.6	2.4	313	315	292	-31.5	- 7.4	0.4	-7.2
Zaire	4.8	3.6	1.6	270	261	248	-26.4	-54.5	-3.6	-4.7
Zambia	17.1	14.9	9.2	384	346	299	-13.3	-38.4	-10.0	-13.4
Zimbabwe	20.8	42.7	50.6	627	669	630	105.5	18.5	6.6	-5.7
	905	49.6	31.7	(10.4)	14.4	(5.8)	4.4	(3.0)		3.58

Note: Averages are for years available

Source: World Bank, Africa Development Indication, 1992.

ANNEX TABLE 1: TRENDS IN FEMALE EDUCATIONAL ATTAINMENT FOR 29 SUB-SAHARAN COUNTRIES AND 83 DEVELOPING COUNTRIES

Percent of population over 25 by Level of schooling										Avg	
Region/Group	Pop. over 25 (m)	No Schooling	Primary Total	(Complete)	Secondary Total	(Complete)	Higher Total	(Complete)	Years of School	Gender Ratio ^a	
Sub-Saharan Africa (29)											
1960	25	78.4	16.8	(5.1)	4.6	(1.2)	0.2	(0.2)	1.21	60.3	
1965	28	78.3	16.9	(3.1)	4.6	(1.1)	0.6	(0.3)	1.15	53.9	
1970	31	77.4	17.0	(3.1)	5.0	(1.1)	1.0	(0.5)	1.22	52.0	
1975	35	73.9	20.2	(2.5)	5.3	(1.0)	0.9	(0.5)	1.32	51.7	
1980	40	68.5	25.1	(2.3)	5.8	(0.9)	0.9	(0.5)	1.52	53.7	
1985	46	64.0	28.7	(2.2)	6.8	(0.9)	1.0	(0.4)	1.72	54.7	
Developing countries (83)											
1960	240	78.6	18.0	(5.8)	3.1	(1.2)	0.4	(0.3)	1.13	50.2	
1965	269	76.0	19.8	(6.5)	3.6	(1.4)	1.6	(0.4)	1.29	49.8	
1970	302	72.8	21.9	(7.5)	4.4	(1.7)	0.8	(0.6)	1.51	49.8	
1975	340	68.8	24.0	(6.8)	5.8	(2.3)	1.4	(0.9)	1.78	52.5	
1980	389	64.9	24.9	(6.7)	8.3	(3.2)	2.0	(1.3)	2.16	55.1	
1985	451	59.6	28.2	(8.3)	10.0	(4.1)	2.9	(1.9)	2.65	58.7	

a. Gender ratio is the ratio of female to male average years of schooling multiplied by 100.
Source: Barro and Lee, 1993.

ANNEX TABLE 7: HIGHER EDUCATION LENDING IN AFRICA AND REST OF WORLD 29 SUB-SAHARAN AF

Per Capita US\$, 1990 Prices					
	1963-68	1969-79	1980-87	1988-92	Total
Africa	0.07	0.93	0.51	0.64	2.37
Universities		0.38	0.10	0.54	1.24
Teacher Training	0.06	0.21	0.17	0.02	0.44
Other Institutes	0.01	0.34	0.24	0.08	0.70
Rest of World	0.07	0.78	0.86	0.65	2.76
Universities	0.05	0.38	0.50	0.18	1.25
Teacher Training	0.01	0.06	0.10	0.06	0.27
Other Institutes	0.01	0.34	0.25	0.42	1.24
Percent of Total Education Learning					
	1963-68	1969-79	1980-87	1988-92	Total
Africa	5.3	19.1	16.7	24.2	20.4
Universities	0.0	7.5	3.8	20.7	12.2
Teacher Training	4.3	4.6	5.6	0.6	3.1
Other Institutes	1.0	7.0	7.2	3.0	5.1
Rest of World	24.9	31.4	44.3	37.6	38.9
Universities	17.1	14.5	25.6	10.0	16.1
Teacher Training	3.6	2.3	5.5	3.2	3.8
Other Institutes	4.1	14.6	13.2	24.4	18.9
Regional Shares (%)					
	1963-68	1969-79	1980-87	1988-92	Total
Africa	14.6	16.7	6.9	11.9	11.0
Universities	0.0	14.4	2.5	29.5	12.5
Teacher Training	49.0	38.3	17.2	3.6	18.9
Other Institutes	16.4	14.3	10.5	2.7	7.5
Rest of World	85.4	83.3	93.1	88.1	89.0
Universities	100.0	85.6	97.5	70.5	87.5
Teacher Training	51.0	61.7	82.8	96.4	81.1
Other Institutes	83.6	85.7	89.5	97.3	92.5

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