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The process of educational planning in Tanzania

A.C. Mwingira
Simon Pratt

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IIEP African studies

In 1965, the International Institute for Educational Planning (IIEP) embarked on a series of African case studies designed to shed light upon several major problems confronting educational planners in developing countries. These problems included the integration of educational and economic planning, the costing and financing of educational development, the supply of and demand for teachers, the effect of rapid expansion on the quality of education, the planning of adult education, the bearing of educational planning upon external aid, and the administrative aspects of planning, including implementation.

The task was undertaken in three stages. The first involved the collection and analysis of documentation on three English-speaking countries, Nigeria, Tanzania and Uganda, and two French-speaking countries, Ivory Coast and Senegal, where the studies were to be undertaken, followed by the drafting and critical review of provisional reports. The second stage consisted of field investigations by staff members and expert consultants, lasting one to three months in each case. In several instances reports were prepared by experts on the scene in accordance with outlines jointly designed and agreed to. The last stage involved the drafting, criticism, revision and final editing of the reports for publication.

Two senior staff members of the IIEP directed the studies in the English-speaking and French-speaking countries respectively, from initial design to final editing. Altogether, eighteen field studies were carried out with the help of officials and advisers of the countries concerned. To the extent possible, the same problem was examined on a similar basis in different countries so that it could later be subjected to comparative analysis. Although the IIEP intends later to synthesize certain of the studies in book form, it considers that most of the full original reports should be made available promptly in monograph form for training, operational and research purposes. It should be emphasized, however, that the intent of these reports is not to give advice to the countries studied but rather to extract from their experiences lessons which might prove useful to others and possibly to themselves.

While gratitude is expressed to the governments, organizations and many individuals whose co-operation made these studies possible and to the Ford Foundation and the French Government for their help in financing them, it is emphasized that responsibility for the facts, analyses and interpretations presented rests with the authors. In making the decision to publish these studies, neither Unesco nor the IIEP necessarily endorses the views expressed in them, but they feel that their content is worthy of open and free discussion.

Foreword

This monograph provides a realistic account of the process and problems involved in making an educational plan for Tanzania, viewed from the vantage point of the planning office in the Ministry of Education. The story is told by two participants—Augustin C. Mwingira, Assistant Chief Education Officer, and Simon Pratt, for nearly three years a Unesco expert serving as an education officer in Tanzania—who played important roles in the process.

After describing the legal and administrative framework for educational planning, the report proceeds to show how, starting with the existing educational circumstances, a design was fashioned for future educational change and expansion, calculated to supply the estimated manpower needs for economic growth while at the same time fitting within the nation's tight resource limits.

The authors give attention to each of the essential steps involved in formulating an educational plan—such as the diagnosis of present educational conditions, the determination of basic policies, the projection of potential student populations, the setting of basic priorities and targets in light of manpower requirements and resource limitations, the balancing of expansion plans as between primary, secondary and higher education, the determination of teacher requirements and the means for meeting them, the costing of the draft plan and then its modification and re-costing to match foreseeable resources.

The dominant theme of the narrative, however, which gives it special value, is the need for constant co-operation and negotiation among all the units of government involved in the making, financing and successful execution of an educational plan. The authors stress the need especially for close co-operation between the planning office in the Ministry of Education and those in the Ministry of Development Planning responsible for elaborating projections of manpower requirements as well as those concerned with mediating the competing claims against the nation's limited financial resources. It is clearly a process in which skill and creative ideas may often play a more important role—and do more for education—than naked bargaining power.

Another major theme concerns the important role of educational innovation and reform in achieving a more effective use of available educational resources, both in educational and economic terms. The financial stringencies that surrounded Tanzania's educational plan, once it had run the gauntlet of negotiation and modification, forced new attention on the search for improvements in the educational system and its processes that might secure both a better quality and larger quantity of educational results within the means available.

Those who desire to look beyond the cold statistical methodologies of educational planning into the practical human processes of co-operation and compromise that give educational planning its real life will find this account most useful.

The Institute is grateful to the Government of Tanzania for granting permission to discuss some current issues of policy affecting educational planning.

Raymond Lyons, a senior staff member, represented the Institute professionally in working with the authors of this monograph, collaborating closely with them on the original design and at each stage of drafting until the final publication.

PHILIP H. COOMBS
Director, IIEP

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Introduction

Educational planning in Tanzania is not by any means a new idea; a ten-year plan which included educational projects was drawn up as long ago as 1948. By 1961, when a three-year plan for development covering the period 1961-64 was launched, the planning concepts had advanced to the stage at which priorities were identified and the targets for educational expansion expressed in terms of the rate of expansion to be achieved at the various levels of education. It was, however, not until 1963, when planning began in earnest for the five-year period 1964-69, that a serious attempt was made to construct a national development plan in which the contribution to be made by each agency to agreed objectives for development was worked out, and the results used to determine the priority to be accorded to each field of activity in the allocation of funds and other scarce resources.

In 1961, to prepare the development plan, each ministry drew up a list of desirable projects, costed them and then submitted the list for approval to the Cabinet Development Committee, of which the Minister of Finance was chairman. Ministries which seemed to claim too large a share of available finance had to cut their plans back accordingly; but, apart from this financial limitation, there was relatively little effort devoted to ensuring that the plans of different ministries were mutually consistent and provided the shortest route to national objectives—not least because there had been no explicit formulation in terms meaningful to planners of what those objectives should be.

The Development Committee of the Council of Ministers already in existence was changed in 1962 into the Economic Development Commission, consisting of cabinet ministers, with its subsidiary co-ordinating committee consisting of permanent secretaries. The Minister of Finance and his permanent secretary were respectively chairmen of these two bodies. After independence in December 1961, the Prime Minister, and later the President, took the chair of the Economic Development Commission, which had succeeded the Cabinet Development Committee, although the secretariat continued to be provided by the Treasury until early in

1963, when responsibility for the Economic Development Commission was passed to the newly formed Ministry of Development Planning. The current development plan (1964-69) was prepared under the auspices of this new ministry, which was served by economic, financial and manpower advisers and which was made responsible for the co-ordination of projections of both capital and recurrent revenue and expenditure. The Economic Development Commission continued as the body responsible for the resolution of policy matters, particularly those referring to priorities; the responsibility for raising revenue and for its allocation in each successive annual budget remained with the Minister of Finance. The position of other ministries is, therefore, essentially that their annual financial requirements must, as always, be negotiated each year with the Treasury, using the National Development Plan as the framework for these negotiations.

The principal task of planners in the Ministry of Education was the preparation of a five-year development plan for education (1964-69) in a form which could be used as a basis both for the discussion of national priorities, with the Ministry of Development Planning, and for the negotiation of annual appropriations from the Treasury. In drawing up the education plan for this purpose, the planning officers of the Ministry of Education had to be fully aware of the constraints acting upon the educational system as a whole and upon its various parts. Apart from the overriding constraint on the system as a whole of availability of finance,[1] they had at all times to consider the effect of a number of other factors on their plans. The principal aspects with which they were concerned are: (a) the legal framework within which education in Tanzania is conducted; (b) the administration of the educational system and the application of administrative resources to planning problems; (c) the structure of the educational system in 1964; (d) the economic and social objectives of the plan as they affect the educational system; (e) teacher requirements and supply.

No sound plan can be drafted as a claim on the nation's resources without prior reference to every one of the above constraints. This was duly done in 1963-64 and, not surprisingly, the claim which was first made was judged to be too large to conform to national priorities; so the process of decision in which adjustments had to be made both to cost limits and to plan targets was of prime importance at that time to the educational planners.

Topics (a), (b), (c) and (d) are discussed in chapters which lead up to a description of the process of decision in Chapter 5 and of the resulting plan. Detailed discussion of the requirements for teachers and the plans for meeting them is, however, held over until the final chapter of the monograph. This has been done

1. In Tanzania this was found to be the overriding constraint in preparing the five-year plan for 1964-69. In other situations a different constraint, such as the supply of teachers, may prove to be the limiting factor.

because these plans are best seen against the background of the five-year plan[1] itself, and because of their special importance (together with plans for the development of educational administration) in determining the educational constraints within which future plans will have to be drawn up. Now that the current plan has been launched for two years, the educational planners are becoming increasingly concerned with preparing the ground for its successors.

The financial constraints within which future plans must be drawn up cannot yet be determined with any precision, nor can anything but the broadest outlines of future manpower priorities be discerned. It is nevertheless by careful implementation of the current plan in respect of the supply of teachers and the administration of education that the necessary tools for further development of the educational system in future planning periods can be assured.

1. *Tanganyika Five-Year Plan for Economic and Social Development, 1 July 1964-30 June 1969*, Vols. I and II. Dar-es-Salaam, Government Printer.

1 The legal framework within which education in Tanzania is conducted

The conduct of formal education in Tanzania is the responsibility of the Ministries of Education in Dar-es-Salaam and Zanzibar, acting separately since education is not a union matter. The Minister of Education in Dar-es-Salaam is responsible for the promotion of education throughout the former Republic of Tanganyika;[1] his responsibilities are discharged in accordance with the powers conferred and the duties imposed upon him by the Education Ordinance of 1961 which came into effect on 1 January 1962, less than one month after independence.

Under the terms of this ordinance a single system of education was set up to replace the four distinct systems, African, Indian, European and other non-native, which had been in operation previously. The Chief Education Officer, appointed by the President of the United Republic as chief professional adviser to the Minister of Education,[2] also acts as chairman of an advisory council to the minister, and has at his disposal in the discharge of his duties the services of the professional education officers who make up the education division of the Ministry of Education. In addition to his advisory duties, the Chief Education Officer also has powers conferred upon him by the ordinance in respect of the conduct of schools. It is, however, in his advisory capacity to the minister that the duties of the Chief Education Officer are closely associated with educational planning, since it is the minister who is responsible for the progressive development of schools. In carrying out these advisory duties the Chief Education Officer has assistant chief education officers with responsibilities for primary, secondary and technical education, for teacher training, for the inspection of schools, for administration and for educa-

1. The mainland part of Tanzania.
2. The Minister of Education also has, as his principal adviser, the Principal Secretary to the Ministry of Education, who is the civil service head of the ministry, and a junior minister (parliamentary secretary). The Principal Secretary is the accounting officer responsible to the Permanent Secretary to the Treasury for the proper disbursement and collection of public funds. He is assisted in discharging these duties by the administration, finance, students and establishments divisions of the ministry in addition to the education division.

tional planning. The Chief Education Officer sitting in committee with his assistant chief education officers constitutes a *de facto* educational planning commission.[1] The secretary of this committee is the Assistant Chief Education Officer responsible for planning; he is assisted by a planning unit which is concerned mainly with the collection of statistics, the organization of capital works programmes through various agencies (both government and non-government), and the preparation of briefs for the Principal Secretary to the ministry regarding the negotiation of external aid, and negotiations with other departments, notably the Directorate of Development Planning, on planning matters.

The principal provisions of the education ordinance are those which set up local education authorities and define their functions, provide for the establishment of boards of governors and school committees, set out the powers of the minister and the Chief Education Officer in the control of schools, and a number of general provisions of which, from a planning point of view, by far the most important are that giving the power to pay subventions and grants-in-aid in accordance with prescribed conditions and that giving the minister power to make regulations for a specified list of purposes. Twenty-one such purposes are listed, including the provision of statistics and accounts, the prescription of the basic syllabus to be followed in schools in receipt of public funds,[2] the provisions of teaching certificates and licences to teach, and the prescription of the conditions under which subventions and grants-in-aid can be paid.

The terms of the ordinance are such that the Minister of Education has, in effect, complete control of the school system; the execution of the purposes of the ordinance is, however, delegated in most instances. Thus, the ordinance requires that every local authority shall be the local education authority for primary schools within its area of jurisdiction, except that certain schools may be excluded by order of the minister. (This often happens when a school is deemed to be serving more than one local authority area.) In extreme circumstances, the minister has the power to declare an authority in default and to transfer its functions to another person or body. In practice the financial sanctions which the minister could impose by withholding subvention payments for recurrent expenditure have not yet been needed; still less has any authority actually been declared in default. With the passing of time and the gaining of experience, such an event becomes ever less likely. Moreover, the local education authorities do, in fact, exert a very consider-

1. The organization of educational planning in Tanzania is discussed in the *Report of the Unesco Education Planning Mission for Tanganyika, June to October, 1962*, Chapter 12. Paris, Unesco, 1963. (Out of print.)
2. It is important to note that the University of East Africa is not a school in the sense of these regulations. The university is constituted by an act of the Central Legislative Assembly for East Africa (University of East Africa Act—1962), as amended subsequently (1963). The responsibility of the university in determining the syllabus of study to be followed is set out in this Act.

able influence on the pattern of primary school development, within the scope of the National Development Plan, in which the national priorities for educational development are directly related to the financial contribution which the central government makes to the work of the local authorities.

The local education authorities are each required to set up a local education committee. These committees consist of not more than ten members appointed by the local education authority and not more than five appointed by the Minister of Education after consultation with the authority; of the members appointed by the authority, at least half must themselves be members of the authority. There is thus provision made for representation of local interests in the education field who are not directly represented on the local education authority, and there is also provision for the local officers of the Ministry of Education to serve as members of the education committee, though not of the authority itself. This structure under which the minister can ensure that departmental advice is considered fully, but which nevertheless allows the local education authority freedom in forwarding proposals to the minister for approval, is a feature of educational administration in Tanzania which is rapidly proving its value, especially now that the financial relationships between the Ministry of Education and the local education authorities are being geared to give the authorities a considerable incentive to conform to the objectives of the national plan.

A further feature of development planning in Tanzania is the part played by regional and district development committees whose responsibility is to ensure that local efforts planned in association with various ministries do not clash with one another or with other aspects of established policy. For this reason, each local education authority's annual development plan is submitted to the district and regional development committees; a plan can only be submitted to the Minister of Education if it is countersigned by the Regional Commissioner who, as senior representative of the central government in each Region,[1] is chairman of the Regional Development Committee. These committees must not only be made aware of the final submission; they may also make recommendations to local education authorities for consideration in drafting or in modifying their plans.

A large part of the public educational system is administered by voluntary agencies. These are usually, though not necessarily, religious bodies; each group of agencies of similar persuasion is organized on a national basis with a secretariat headed by an Education Secretary-General, whose appointment must be approved by the Minister of Education. Grant-in-aid is paid by the government in respect of the Education Secretary-General of the Tanganyika Episcopal Council (Roman Catholic), the Christian Council of Tanganyika (other Christian), the Tanganyika

1. There are seventeen such Regions in the mainland part of Tanzania.

African Parents Association, the East African Muslim Welfare Society and H.H. the Aga Khan's Education Department. In this way the channels of communication between the government and the managing agencies are established at national level. At the local level education secretaries are appointed by the agencies, their appointment being subject to the approval of the Chief Education Officer. Although the position of education secretaries is not entrenched in the constitution of the local education authorities, they are in practice adequately represented since the five appointments made by the Minister of Education to each local education committee are, characteristically, the District Education Officer and up to four education secretaries responsible for the management of voluntary agency schools in the district. The power of the committees to co-opt non-voting members or to invite them to particular meetings is frequently invoked also, so that managers of individual schools or government officials other than the District Education Officer may attend meetings. In the case of post-primary voluntary agency schools, which are not the concern of local education authorities, grants-in-aid are paid to the agencies at rates approved by the minister for both capital and recurrent expenditure. Payment of these grants-in-aid is conditional upon conformity with government policy. Effective control of the schools in matters of national policy is thus assured: in particular, admissions to all secondary schools are administered by admissions committees in the Regions which meet under the chairmanship of the regional education officers.

The ministry for local government affairs also occupies an important place in the legal structure of primary education, since that ministry is responsible for ensuring that the affairs of local authorities are properly conducted, particularly where the stewardship of public funds raised locally is concerned. Consequently, all estimates of local authority expenditure have to be approved by that ministry, to which final statements must also be submitted. At the time of writing a departmental reorganization has just been put into effect to integrate the local government division of the Ministry of Local Government and Housing with the regional administration, a step which is confidently expected to lead to improvements, since the regional commissioners are the proper officers who must approve each local authority's estimates before submission to Dar-es-Salaam.

One further ministry, the Ministry of Community Development and National Culture, is frequently concerned with education at the local level. A distinction is drawn in Tanzania between responsibility for formal education, which rests with the Minister of Education, and responsibility for non-formal education, which rests with the Minister of Community Development and National Culture; this distinction underlies the definitions of various types of school for the purposes of the education ordinance, each of which requires that the syllabus or course followed shall be approved by the Chief Education Officer. Literacy instruction and many aspects of adult education where no secular studies are included in the curriculum

are thus excluded from the brief of the Ministry of Education.[1] In discharging its responsibilities for adult education and the promotion of adult literacy, the Ministry of Community Development and National Culture may pay subventions and grants-in-aid to local authorities. The regional officers of the community development department are also intimately concerned with the local programmes of 'self-help' building, which are often directed to school building; there is, however, no formal inter-departmental relationship, apart from membership of regional and district development committees, concerned with these programmes. In practice the Ministry of Education relies upon the rules governing its contribution through subventions to local education authority recurrent revenue to influence the authorities to conform with national education priorities, which are not necessarily identical with those expressed locally through the choice of 'self-help' projects.

Other central government ministries and departments are also concerned with the pre-service training of staff in their respective fields as are inter-territorial organizations such as East African Railways and Harbours. While such activities may be classified as education in many countries, they are not the immediate concern of educational planning in Tanzania: the principal concern of the Ministry of Education is to produce an adequate flow of trainees in respect of both quality and quantity for these courses.

The principal agency responsible for implementing plans for higher education on behalf of the Tanzanian Government is the University of East Africa. The university has only recently been constituted by the Central Legislative Assembly of the three East African Governments, with effect from 1 July 1963. The legal framework within which planning has been conducted has evolved together with the university's own plans for development. In 1961, the Quinquennial Advisory Committee had recommended a pattern of development for 1962-67 which, in the light of subsequent political changes, proved inadequate for the aspirations of the newer colleges of the university. As a result, the provisional council of the university, which had been constituted by the three governments as a company operating in each of the three territories, set up the Committee on Needs and Priorities. There was no machinery in existence by which the University Development Committee was formally committed to take the requirements of the governments into account, but the membership of the committee was such that this was assured;[2] thus, for example, although the governments did not submit details of their manpower needs

1. Examples of adult education with which the Ministry of Education is closely concerned are the extramural activities of University College, Dar-es-Salaam (carried out in the Institute of Adult Education), and formal adult education, which is usually vocational in emphasis, provided through evening classes at Dar-es-Salaam Technical College.
2. Membership included the Vice-Chancellor, representatives (in practice the ministers of education) of the three governments, three members of the university senate, one chosen from each of the three constituent colleges, and the university registrar, with the principals of the three colleges in attendance.

to either committee, the report prepared by Hunter and Harbison in 1962 for the Needs and Priorities Committee was available to the governments for comment.

It remains true, however, that there is no formal relationship between the university and the governments regarding the response of the university to expressed government priorities. The balance of the relationship as it affects planning is found in paragraph 5 (1) of the University of East Africa Act (1962) as amended in 1963. The paragraph, which sets out the objects and functions of the university, includes both 'to preserve...in particular the right of a university, or a university college, to determine who may teach, what may be taught, how it shall be taught and who may be admitted to study therein' and 'to co-operate with governments or other appropriate bodies in the planned development of higher education'. Clearly these two objectives require procedure by agreement on many issues.

Although the University of East Africa is the principal agent of the three East African governments in higher education, it is not the only agent. The flow of students to and from institutions of higher education overseas has made an important contribution to meeting high-level manpower targets, although it will rapidly decline in importance in all but highly specialized fields now that the University of East Africa has become able to admit all students qualified for entry. The urgent need to co-ordinate policy on overseas students was met by the establishment of the Cabinet Committee on Higher Education, which is the ultimate authority on the award of students' bursaries. The registrar of students, who is secretary to the committee, is an officer of the Ministry of Education.

A later development, along with the establishment of the Ministry of Development and Planning, was the setting up of the Standing Advisory Committee on Manpower. One of the functions of this latter committee is to make recommendations to the Cabinet Committee on Higher Education regarding the allocation of students' bursaries between the various courses offered at the University of East Africa and elsewhere. The award of these bursaries is conditional upon the student giving an undertaking to enter employment as directed or approved by the government in the light of manpower needs for a minimum of five years after graduation. The resulting system of tied bursaries is regarded as a cornerstone of Tanzania's programme for the achievement of self-sufficiency in high-level manpower by 1980.

The conclusion drawn in 1962 by the Unesco Education Planning Mission to Tanzania that the state of the law of education is adequate and does not constitute a constraint upon development still held good three years later. The conclusion of the Unesco mission did, however, rest very much upon the minister's powers to make regulations under Section 38 (1) of the ordinance; these powers have been used, for example, in redefining a 'primary school' to fit with the development of the seven-year course under the current plan and in establishing a code for the handling of serious disciplinary offences by school pupils. Thus, the satisfactory state of the law in action continues to depend on the accurate anticipation of matters

to be covered by the provisions of the law in all those fields in which ultimately responsibility rests entirely with the government. This is the situation in all fields of education except that of the University of East Africa. In this instance (leaving aside the question as to whether the government's relationship with the University of East Africa will soon be overtaken by events leading to the constitution of University College, Dar-es-Salaam as a university) the legal provision for financial control by the government seems adequate to preserve the government's interests in full without upsetting the balance of responsibilities between the government and the university in the day-to-day conduct of the university's affairs which has already been described.

2 The administration of the educational system

The conclusion of Chapter 1—that the state of the law of education is adequate and that it does not constitute a constraint upon development—was reached only with the caveat that the successful application of the law in promoting development depends upon the accurate anticipation of matters to be covered by the provisions of the law; this is the task of those who are responsible for the administration and inspection of education.

Apart from the distinction to be made between the administrative and inspection functions, there is also a distinction to be made between the arrangements under which the Minister of Education delegates some of his power to others and the administrative arrangements which are made so that the Chief Education Officer can properly exercise his powers and can fulfil his advisory duties towards the Minister of Education. Whichever part of the administrative or inspectorial structure is being considered, there is the pressing problem of manpower shortage to be borne in mind at all stages of planning. Thus the administrative procedures needed for plan implementation must be as carefully planned as the availability of funds or the supply of teachers. This leads to what must be virtually an axiom of planning in a situation where there is an acute shortage of high-level administrative manpower; it is that future plans must be drawn up in such a way as to maximize the chance of their implementation by the administrative staff likely to become available.

Even if a small number of high-level administrators, planners and inspectors can be found through external aid channels to carry out executive and advisory functions within the central government, there is no truly acceptable substitute for local officers in the most senior posts, where responsibility for many decisions must be taken, or in the large number of posts in the field, where close acquaintance with local conditions and numbers adequate to maintain effective contact are pre-requisites for success.

There is, however, a danger inherent in accepting this axiom too easily; if the

planning choices are to be dictated by the limitations of the administrative machine, then it can fairly be said that the tail wags the dog. Thus there was concern during the recent three-year plan period 1961-64, not only to devise adequate administrative procedures for its implementation, but also to create an administrative structure which could be expected to be an adequate vehicle for the implementation of the next plan (i.e., the current five-year plan for 1964-69).

Selection and preparation of statistics

One important condition for planning is the creation of an adequate statistical service. The flow of statistical information through the various stages of plan preparation is summarized in Diagram 1. This shows how an accurate statistical description of existing educational facilities and an analysis of the costs of education which lends itself to projection into the future are essential to the process of translating the manpower and social objectives of a plan into financial terms.

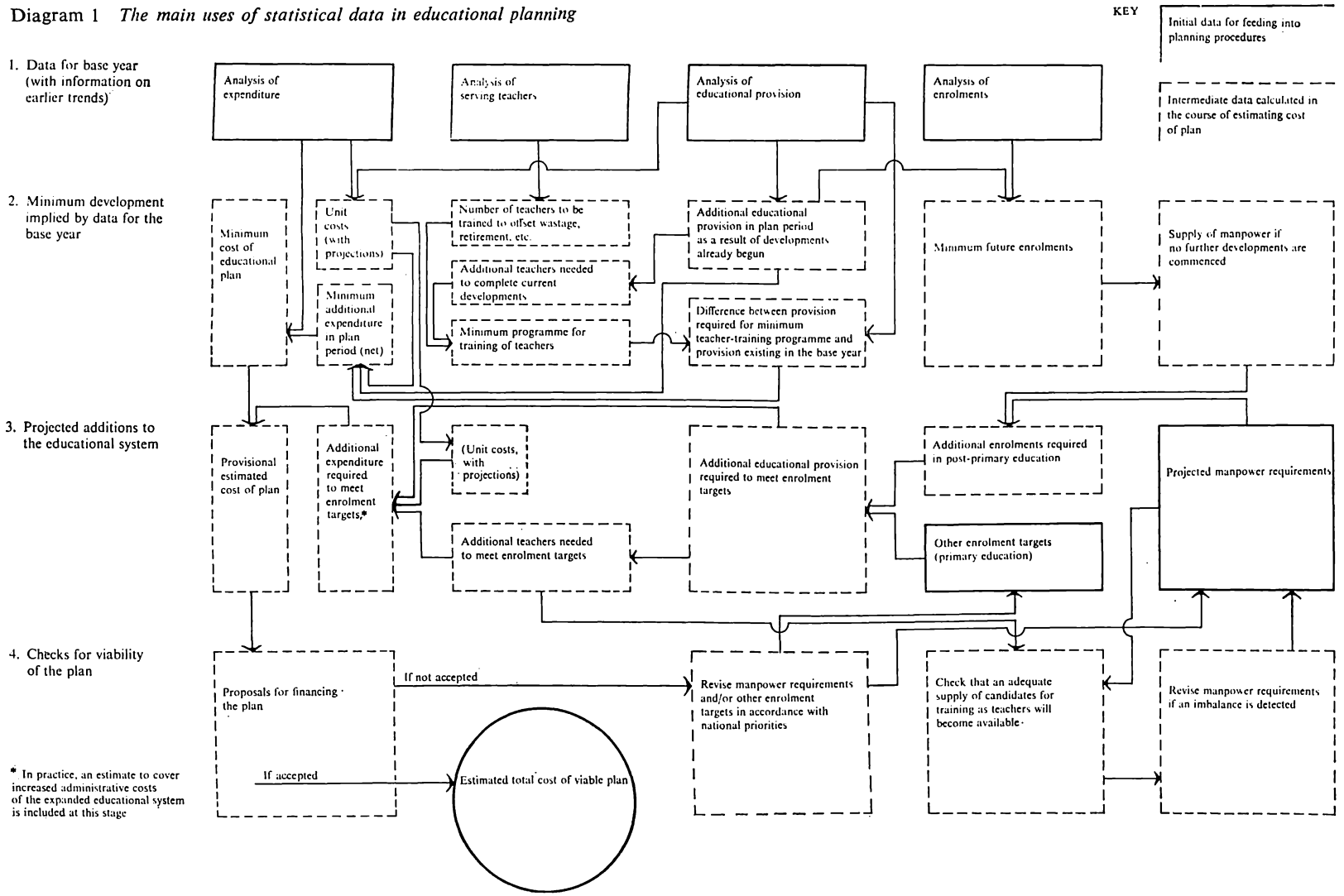
The principal categories of statistical quantities which must be either collected or estimated by educational planners are: (a) existing enrolments, for comparison with the target enrolments, to estimate the size of the development task; (b) educational provision, i.e. class-rooms, serving teachers, university places, etc.; (c) cost of making existing and projected educational provision; (d) such additional statistics as are required to ensure that the national teacher-training programme can be developed in close conformity to the requirements of the over-all plan.[1]

The first two of these groups of statistics are collected in the field where the largest part of the information, that concerned with primary education, must be collected and collated by the Ministry of Education's district education officers. Without a clear understanding of the use to which the statistics are to be put, the district education officers (who are mostly recent recruits from being headmasters of rural primary schools) would probably regard statistics as being far down their list of priorities. They would moreover find it quite impossible to give essential assistance to local education authorities in preparing their development proposals. It is recognition of these facts which has led the Ministry of Education to concentrate on the collection of the smallest practicable quantity of statistics, so that every effort can be made to ensure their quality. All newly appointed district education officers come to Dar-es-Salaam for an intensive training course of six weeks during which the importance, and the interlocking nature, of statistics, of day-to-day administration and of planning are continually stressed.

Specimens of the three principal statistical forms used for planning primary education are shown in the Appendix on page 95. The first form is

1. See Chapter 7.

Diagram 1 *The main uses of statistical data in educational planning*



essentially an inventory of educational facilities (including teachers) as they exist in the field. Form 2 illustrates the expenditure data which are collected from local authorities and used by the Ministry of Education to estimate unit costs. Form 3 shows the form which is completed by district education officers in submitting the local authorities' proposals for new development; on this form the four columns on the right-hand side summarize existing facilities, additional proposals, requirements for their implementation, and a summary of the proposed system. The forms are used for individual schools and aggregated for local authority areas so that the full financial implications can be seen (and compared with the Ministry of Education's forecast of the likely extent of development) before submission to the Minister of Education for approval.

The collection and collation of financial statistics has proved to be a rather more difficult problem. Initial attempts to collect the information in the form required for planning purposes were unsuccessful, largely because the relatively small number of field officers of the ministry who were fully conversant with the statistics required were invariably among those with the largest work loads. The collection of statistics in the form in which they arise naturally from day-to-day administration has proved to be much more successful and, provided that the interpretation is done by someone with a working knowledge of the administration, the resulting estimates of unit costs[1] have proved to be very valuable in planning.

In the absence of any relevant data for analysis it is often possible to use target expenditure rates as a method of delimiting financial commitments while encouraging the best use of available funds. This type of approach is of particular value where reorganization makes analysis of previous expenditure largely irrelevant (e.g., teachers' colleges) or where a new type of institution is to be built (e.g., University College, Dar-es-Salaam). Broad outlines are obtained by comparison with practice in other countries but the final figures are reached with direct reference to local conditions and the scope of work which they make possible.

Preparations for implementation of the plan

Another important example of preparation for planning is found in the forward planning of the subvention system, which is the financial instrument used by the minister to influence the actions of the local education authorities to which he has delegated powers in the field of primary education, so that it has been sharpened into an instrument both of administration and of planning policy.

The pre-independence arrangements by which (expatriate) regional education

1. Unit cost statistics are discussed in detail in J.B. Knight, *The Costing and Financing of Educational Development in Tanzania*, Paris, Unesco/IIEP, 1966.

officers, who were servants of the central government, administered a considerable part of the primary school system directly and the remainder of it, together with voluntary agency secondary schools and teacher-training colleges, indirectly by means of grant-in-aid, was replaced by a system under which the central government contributed a subvention, fixed in advance, towards each local authority's expenditure on education.

Initially the rate of subvention paid to each authority was fixed at the same level as government recurrent expenditure on its education system in the last year (1961) of the old system. In this way the recurrent cost of all new development became the responsibility of the local education authorities. As the local education authorities, and their advisers, the regional and district education officers, have gained experience it has become possible to make the system more sophisticated. A new financial incentive to conform to government priorities was introduced by making additions to the value of the central government subvention vary in magnitude according to easily understood formulae.[1] These reflected the priorities attached in the plan to different categories of development. The precise manner in which this would be done was not determined until very late in the preparation of the plan; the important point in the early stages of preparation was that an administrative vehicle by which planning priorities could be reflected in financial policies was made available.

The training of administrators and inspectors

The creation of the administrative machine is not, by itself, enough. Steps must also be taken to prepare the people who will run it. These are the regional and district education officers, who must be made ready to advise both the Chief Education Officer and the local education authorities. Also there is no point in launching a capital programme to foster improvements in the quality of work in the schools if there is no corresponding provision of a professional advisory service to the teachers, a need which has been met by the creation of the new cadre of primary school inspectors. The selection and training of the new district education officers and primary school inspectors was a major concern of the Ministry of Education during the 1961-64 period. A circular was issued by the Ministry of Education in February 1963 in which the functions of primary school inspectors were defined and distinguished from those of the district education officers; this was followed by a second circular which summarized the functions of the primary school inspectors as such: (a) the inspection of schools and especially of class-room work; (b) the organization of refresher courses for teachers; (c) the dissemination of

1. *Tanganyika Five-Year Plan* . . . , op. cit., Vol. II, pp. 111-115.

advice on syllabuses; teaching method, examination questions, books, etc. The functions of the district education officers were to: (a) advise and work with the local authority in the planning, development and administration of education; (b) ensure that the education ordinance and regulations are observed; (c) attend to school buildings, school equipment, school health and school feeding; (d) advise on the staffing of schools and to report on individual teachers when, for any reason, a special report is required; (e) organize and conduct examinations; (f) co-operate with the primary school inspectors in the non-teaching aspects of school inspection (i.e., organization, finance, buildings, furniture and equipment). The circular went on to emphasize that, although the functions are differentiated, they are also complementary, and it is the responsibility of the regional education officers, to whom both the primary school inspectors and the district education officers are responsible, to ensure that there are regular exchanges of information and advice between their staff members which should be a regular feature of the campaign to raise the levels of attainment in the primary schools.

This list of functions was then used as the framework of the syllabus for the training courses conducted by the Ministry of Education, which appointed three training officers for the purpose. In preparing the curriculum for these courses the training officers took particular care to establish the relevance of all topics to work in the field by the liberal use of practical studies, while ensuring that the theoretical content of the work was given its proper place; the response of the trainees to the courses has been one of the most immediately gratifying aspects of recent educational development, which has already led to an obvious improvement in the services rendered by the ministry to the schools. For the planners it has opened up many possibilities for development in the schools, particularly qualitative developments, which would have been dismissed as impractical for large-scale implementation only two years ago. The cost of such courses is insignificant when compared to the total annual government subvention for primary schools.

Ownership, management and control of schools

The problem of providing an administrative vehicle which is adequate for the purposes of the plan is not necessarily dealt with only by innovation; selective retention of some aspects of the existing education system may be essential to the effective working of the plan. It is perhaps an obviously attractive policy to a newly established government that all schools should be owned by the public authorities; there are probably conditions in some countries where the immediate adoption of such a policy seems imperative. There are, however, other countries, including Tanzania, where the advantages to be gained by allowing a variety of ownership and management of schools in a system controlled by government are

considerable. This not only provides a means by which additional effort and resources from both inside and outside the country can be directed into education; it also provides an administrative infrastructure capable of such operations as the payment of teachers, the erection of buildings and the purchase of textbooks which the government would find it difficult to replace. Thus, by their continuing participation in education the voluntary agencies, even though their past histories may invoke memories of clashes of religious or even of racial interests, are making an invaluable, indeed essential, contribution to the well-being of Tanzanian education; provided of course that the Minister of Education is not impeded in discharging his obligation under the education ordinance to ensure the progressive development of schools, they will continue to do so. The future role of the voluntary agencies in the administration of education presumably depends upon their ability to continue as effective counterparts to the government, an effectiveness which will doubtless depend at least in part on the changes which are taking place within the agencies themselves as they become increasingly Tanzanian in character and outlook.

It is not sufficient, however, merely to assert that the law of education makes government control of all schools in receipt of public funds secure; two major changes in administration were necessary if government control of educational policy was to become effective in practice. One of these was brought about by the implementation of the Unified Teaching Service (UTS); the other was the reorganization of the responsibility for the inspection of schools, so that this function was carried out by the controlling body, i.e., central government, rather than by the owners of the schools, i.e., local authorities and voluntary agencies.

The terms of the Unified Teaching Service Act along with the regulations made under its terms since it became law in 1963 make provision for the establishment of a central board made up of teachers' and employers' representatives with a secretariat provided by the Ministry of Education to consider the terms of service of all UTS members (membership being open to all Tanzanian teachers and to some non-citizens also), and to administer the contractual relationships between UTS members and their employers in accordance with 'UTS terms' of service, which were to be common to all its members. The task of supervising the administration of the UTS is largely delegated to regional boards which, like the central board, is made up of teachers' and employers' representatives with a secretariat provided by the Regional Education Officer, who is also *ex officio* chairman of the regional board. The regional boards are responsible for enrolling qualified teachers into the service and for considering recommendations for promotion, initiated either by employers or by the Regional Education Officer, for forwarding to the Chief Education Officer for approval. Although it is not essential for control purposes that the Ministry of Education should employ all teachers, it is essential that it should be able to influence their contractual relationships with their employers (especially where promotion on the grounds of professional competence

is concerned) and that this influence should not depend upon the identity of an individual teacher's employer.[1] The establishment of the Unified Teaching Service, with its uniform conditions of service for all members and powers to initiate disciplinary action conferred on regional education officers in their capacity as chairmen of the regional boards, meets this need.

The reorganization of responsibility for the inspection of schools was essential if the executive arm of government was to be accountable to the legislative branch in the disbursement of subventions and grants-in-aid to school managements. Clearly it was no longer adequate that the inspection and supervision of voluntary agency schools should be carried out mainly by voluntary agency school supervisors since this put the voluntary agencies in the invidious position of being both cashier and auditor. Therefore, quite apart from the need for a primary school inspectorate as an agent of change in the schools, it was needed so that the Chief Education Officer, and through him to the Minister of Education, could be kept fully informed of the work being carried out under his direction. All primary school inspectors are therefore now civil servants, some having been recruited from the ranks of the former government school supervisors, some from voluntary agency school supervisors and others from teaching posts. The administration of primary schools, by local education authorities or by voluntary agencies through their education secretaries, and their inspection are therefore now entirely separate functions associated with the ownership of schools and the control of educational policy respectively. With this position established,[2] it is clear that, from a planning point of view, any body which is administratively competent and willing to participate in the planned development of education should be welcome to do so.

The educational planning unit

The administrative structure which has been discussed so far has been concerned entirely with the implementation of plans. It is necessary also to make adequate administrative provision for the preparation of plans and for the control of their implementation. The *de facto* educational planning commission with a secretariat provided by an education planning unit within the education division of the Ministry of Education[3] has already been mentioned in discussing the role and powers of the Chief Education Officer in Chapter 1. The work of the planning unit is not

1. The fact that teachers can be employed by the government 'on UTS terms' is somewhat anomalous. The category of government-employed teachers will, however, become a wasting category once all schools are managed by local education authorities, voluntary agencies or boards of governors.
2. And with a substantial number of trained district education officers and primary school inspectors now serving in the field (1966).
3. As recommended by the Unesco Educational Planning Mission to Tanganyika, 1962.

restricted to the preparation of plans; it is also responsible to the Chief Education Officer for the co-ordination of their implementation. Its work can be summarized under six broad headings:

1. Assist the Minister of Education in consultations leading to the formulation of national plan objectives and to analyse and interpret them in educational terms, using statistical methods wherever these are applicable.
2. Also using statistical methods wherever they are applicable, to analyse the constraints, legal, administrative, historical[1] and professional, which must be respected or modified in reaching these objectives.
3. Formulate educational programmes accordingly, so that plan objectives can be costed in terms of both money and manpower.
4. Provide the quantitative information with educational interpretation required for decisions about priorities when resources are not adequate for implementation of the whole of the proposed plan, and, in doing so, to assist the Chief Education Officer in establishing the priorities to be given to the different projects in the various sections of the plan so as to retain the viability of the plan as a whole.
5. Advise the Chief Education Officer on all matters relating to co-ordination of plan implementation between the various sections of the Ministry of Education and between the Ministry of Education and other departments of government (notably the Treasury[2] and the Directorate for Development and Planning).
6. Advise the Chief Education Officer whenever it seems prudent to make amendments to the plan as formulated, by adjustment either of the plan targets or of their interpretation or by the introduction of new methods of implementation.

Each of these functions clearly requires an intimate knowledge of the conduct of educational processes—the phrase a 'sense of process' is perhaps more expressive of what is needed—and it is for this reason that the formulation of educational plans is regarded as a task for educators with an appreciation of priorities rather than one for specialists in the determination of priorities who, while having a more sophisticated picture of the economic and manpower situation in the country, are correspondingly less likely to be fully aware of the true possibilities for educational development.

Of these six functions, the first four are concerned mainly with the preparation of plans. They are discussed elsewhere in this study.

1. The term 'historical constraint' simply means the limitations on freedom of future action which arise directly from past actions. Examples are manpower shortages arising from past circumstances and the actual geographical distribution of school facilities with which the planners must start their work.
2. All negotiations for external aid are conducted through the Treasury.

The co-ordinating function of the planning unit

The fifth of the above functions is the one which perhaps needs more persistence than any other in its discharge; it is the co-ordinating function which becomes the main task of the planners once a plan has been approved by parliament. It is their task to prepare the briefs which are needed when money is sought to carry out the programmes and to see that the capital works programme can be organized satisfactorily; the task of reporting progress must be attended to and there is also a considerable amount of work to be done together with those responsible for secondary schools in connexion with selection processes where manpower considerations are involved. In order to fulfil these tasks the Assistant Chief Education Officer (planning) needs a supporting professional staff; in practice, the staff of the planning unit consists of the Assistant Chief Education Officer himself and three other education officers: his assistant, who is mainly concerned with organizational and financial matters, an education officer to supervise the collection and processing of statistics and an officer to supervise the school building programme.

The actual construction of school buildings is organized by the ultimate managers of the school, whether they are to be the government itself,[1] voluntary agencies or local authorities. In all cases, however, the Ministry of Education has an obvious interest in the planning of new works to take advantage of recent developments and experience, both in education and in architecture and building. The appointment of a qualified architect to serve within the educational planning unit was a fairly recent development (January 1965) intended to meet this need and to provide the Ministry of Education with professional advice in organizing the supervision of building programmes of voluntary agencies and local authorities. The appointment of this officer has also proved invaluable in developing the unit cost approach to capital programmes.

The Education Officer (statistics) is responsible for the collection and maintenance of records. He is a former District Education Officer, whose principal concerns are with the collection of statistics relating to educational administration (e.g., the organization of the distribution of examination papers for the general entrance examination for primary school leavers) as well as the statistics needed for planning and report purposes.

The head of the planning unit and his assistant are together concerned primarily with co-ordination. Naturally, in a comprehensive national plan covering a wide variety of activities, co-ordination with other government departments is carried out mainly in financial terms—the preparation of the annual development estimates is the most obvious example, but by no means the only one. In the day-to-day course of events, a swift decision for the reallocation of a relatively small amount

1. The Ministry of Housing acts as agent for the Ministry of Education in this instance.

of money or a rapid improvisation in co-operation with another department can make the difference between success and failure in bringing projects to completion in time to conform with the enrolment programme. While such flexibility can endanger the whole plan, if applied indiscriminately, its use within the plan framework and with proper consideration of the educational implications is essential if frustrating delays or expensive makeshift arrangements are to be avoided.

It is the responsibility of the Treasury to secure the government's share of the finance needed for the whole development plan, whether from internal or external sources. Whenever external aid for a project is being sought by the Treasury it is dependent upon the executing ministry or department for the preparation of draft policy statements and other documents for submission to the external agencies concerned. For example, one of the first major tasks of the planning unit (which at the time consisted of one officer only) when it was first established (in 1962) was to prepare the way[1] for a formal agreement (in 1963) between the Tanzanian Government, represented by the Treasury, and the International Development Association for a credit to be used for the construction and equipment of secondary schools. In this, as in other examples of international aid agreements, external agencies must be satisfied that the proposals under consideration form a part of the properly planned development of the educational system and that they can in fact be implemented according to plan. Once negotiations have been formally opened, points such as these can be established by preparatory correspondence and meetings between the Ministry of Education (represented by the planning unit) and the external agencies; without these preliminary contacts, it seems that the flow of effective external aid into the educational system would be minimal.

The sixth and last of the functions of the planning unit which has been listed is a function which may seem at times, under the pressure of everyday events, to lie dormant. The temptation to let it remain so is also considerable, especially because the incessant introduction of alternative proposals is a well-known tactic, throughout the world, of those who would delay decisions leading to action. Nevertheless a plan which cannot be modified in the light of experience or of new knowledge is a poor plan—a wasteful plan, if opportunities of further progress are wasted. The period of urgency in which initial plans have been prepared, in Tanzania and elsewhere, and in which the pressure to get those plans launched in practice, must be followed by a period in which more time is given to reflexion and reconsideration of what is being done. This may or may not lead to revisions of the current plan, but it cannot fail to contribute to the quality of its successors.

1. With the assistance throughout of the then Ministry of Communications, Power and Works, which was at that time responsible for government building works.

3 The educational system in 1964

The educational system in Tanzania, as illustrated in Diagram 2, consists, as in other countries, of primary and secondary schools, higher education at university and a number of sectors which are to a greater or lesser degree vocational in character and outlook. Of these sectors, technical education and teacher training are provided under the auspices of the Ministry of Education, while courses leading directly to careers in occupations other than teaching are the responsibility of the employers concerned; in practice, most of these employers are in the public sector and the various ministries[1] organize training courses for their own personnel, as do the East African inter-territorial organizations.[2]

Primary education

Within the primary educational system two sub-levels, upper and lower primary school, can be distinguished. An initial four-year course at lower primary school is followed by an upper primary school course for selected pupils.[3]

There are hardly any boarders attending lower primary schools in standards I to IV of public schools, although boarding provision is made in a few areas where a very high proportion of the population is nomadic.[4] The teachers at this

1. The Ministries of Agriculture, Health, Lands Settlement and Water Development, the Central Establishments Office (which is responsible for staffing the Civil Service) and the Ministry of Regional Administration (which has taken over the functions of the Local Government Service Commission) are most active in providing these courses.
2. For example, East African Railways and Harbours, East African Income Tax Organization, East African Posts and Telegraphs Administration, East African Common Services Organization and East African Airways.
3. In Tanzania, primary grades are referred to as 'standards' and secondary grades as 'forms'. In the towns all pupils continue from the lower primary standards to the upper primary standards without having to pass a selection examination.
4. There was a total of fourteen such classes in standard I in 1964 out of a total of over 3,000 classes.

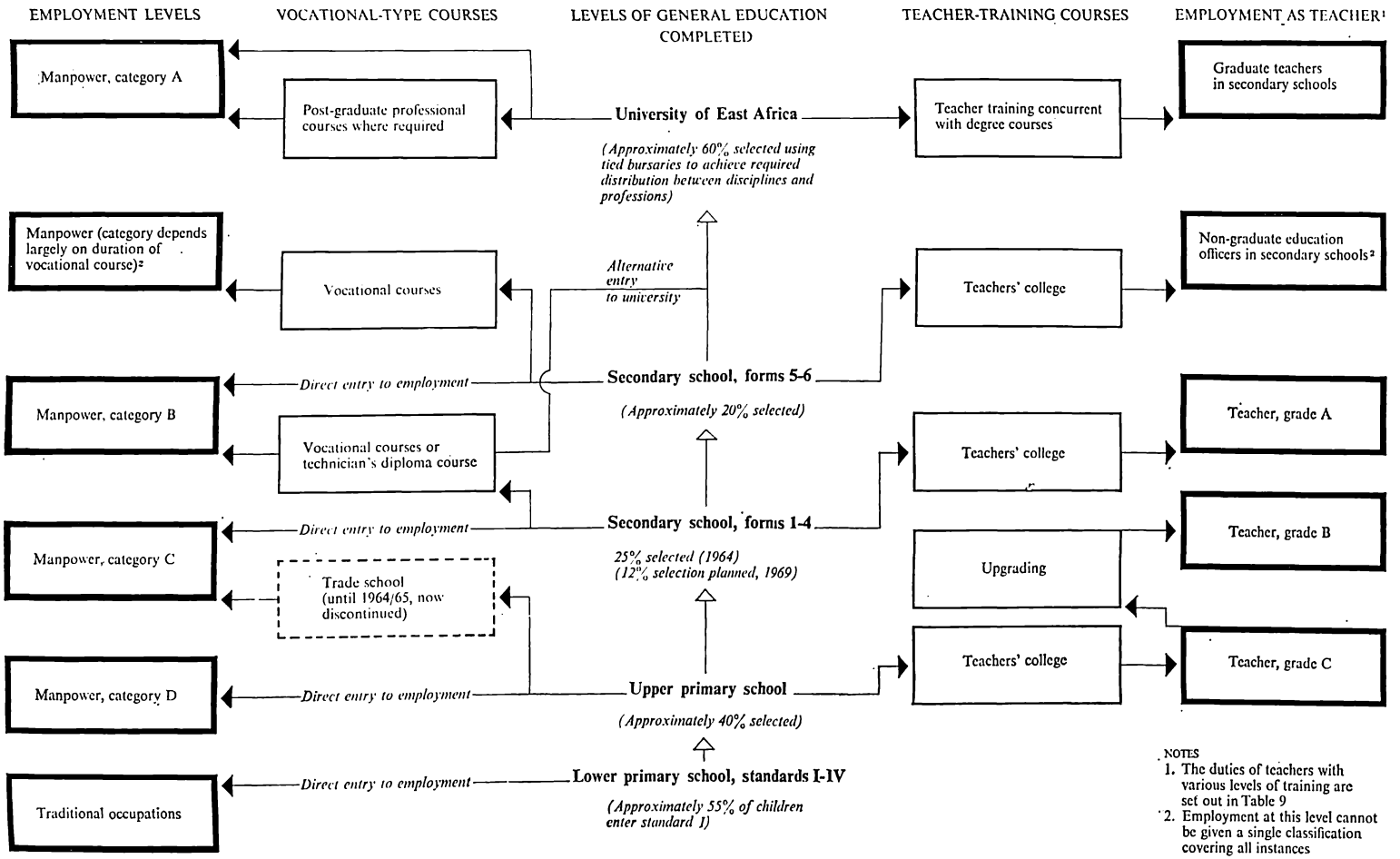


Diagram 2 *The educational system of Tanzania, showing relationships with manpower categories and the teacher-training system*

level of education are nearly all grade C teachers who have had eight years[1] of primary education followed by two years of training in a teacher-training college. Some have been promoted to higher grades, either 'on merit' or after attending government-sponsored upgrading courses, and others have attended special supplementary courses such as that provided for teachers of domestic science; the great majority of grade C teachers can, however, be regarded as being educated and trained only for teaching up to standard VI.

At the upper primary school level (standards V to VIII) where entry is selective outside the towns, there is a corresponding need for and provision of boarding school places. Whereas in 1961 nearly all standard V classes open to rural pupils were in boarding schools, the situation has now changed dramatically following the institution, under the three-year plan for 1961-64, of extended primary schools. While the number of places available for boarders (about 12,000 per annum at the time of independence) has hardly altered, hundreds of lower primary schools have been extended by the addition of upper standards for day pupils[2] so that by 1964 there were 44,000 pupils enrolled in standard V while the number of pupils in standard VIII for the first time[3] was still less than 18,000.

The staffing formula for the upper primary standards, whether in boarding or in extended primary schools, provides for a grade C teacher for standard V, a grade B teacher for standard VI and a grade A teacher for each of standards VII and VIII together with one additional grade C teacher for each school. Grade A teachers are those who have had two years of teacher training after satisfactorily completing the four-year secondary school course, while grade B teachers are those who have had two years of training but whose secondary school courses were either curtailed after two years or were not satisfactorily completed; alternatively grade B teachers are upgraded or promoted from grade C.

A feature of the current five-year plan (1964-69) is the reorganization of the primary school pyramid so that the lower primary school course of four years can be improved by the introduction of full-day attendance throughout the country in standards III and IV, while the opportunity is taken, in conjunction with a rapid expansion of training facilities for grade A teachers, to close the gap[4] between the actual pattern of staffing in upper and extended primary schools and the 'staffing formula' which is regarded as the minimum necessary to provide an adequate course at this level of instruction. At the same time, the total length in years of the full primary school course is being reduced from eight to seven.

1. Some older teachers have had less than eight years of primary education, since they entered training college when the primary school course ended after standard VI (six years of primary education).
2. This was, of course, the normal form of development in the towns, but its application in rural areas was new.
3. That is, excluding 'repeaters' from the standard VIII classes of the previous year.
4. See Table 11.

Secondary education

At the end of the full primary school course,[1] all pupils seeking to continue their education[2] are candidates for the general entrance examination; this is a selection examination, set centrally but marked and administered in the Regions, which is used principally to select pupils for entry to secondary schools, but which is also used to select entrants to grade C teacher-training courses; it has also been used to select entrants to the now discontinued full-time 'trade school' courses for pre-apprentice craftsmen. The number of secondary school places to be filled is determined with reference to projections of manpower requirements.

The basic secondary school course now lasts four years;[3] it leads up to the joint examination for school certificate and general certificate which is at present organized, set and marked by the Cambridge (England) Overseas Examinations Board. It is at the end of this basic secondary school course that the largest number of pupils leave school to enter the labour market in the middle and high-level manpower categories where shortages are most keenly felt. A large proportion of these secondary school leavers do not immediately set to work, but are instead enrolled in pre-service vocational courses organized by their ultimate employers or by public bodies interested in their field of employment. The fact that pre-service training allowances are paid to these pupils (including students at Dar-es-Salaam Technical College and those in training to become teachers) once they enter training appears to be of considerable importance in determining the career choices of some of them. This is also the level of education at which the largest number of full-time students enter the Dar-es-Salaam Technical College.

About one-sixth[4] of the pupils who reach the end of the basic secondary school course are selected to continue their studies at one of the secondary schools where provision is made[5] for a two-year course leading to the level of the Cambridge higher school certificate. The results of this examination are used in selecting entrants to the University of East Africa and, by the government, in selecting candidates for the award of bursaries for courses of higher education. Those who are not selected for university courses are usually admitted to non-university pre-service training courses (medical assistants, local government officers, village settlements officers,

1. Until 1964 this was standard VIII; in 1968 it will be standard VII. The years 1965-67 are 'change-over' years to the seven-year primary school course.
2. In practice, virtually all children who are eligible.
3. Formerly only selected pupils in the African boarding schools continued beyond the first two years.
4. The precise number is determined, as for secondary school entrants, with reference to projections of manpower requirements.
5. There is one school accommodating an annual entry of 200 pupils, where higher school certificate courses only are provided. The more usual arrangement (twelve schools in 1964) is by the provision of courses for forty pupils annually (twenty 'arts' and twenty 'science') by extension of secondary schools where school certificate courses are taught.

agricultural and veterinary officers and teachers for direct entry to the education officer, grade III cadre are among those trained in this way), while some enter directly into employment.

Higher education

Facilities for higher education are provided by the University of East Africa, which is made up of three constituent university colleges at Makerere (Uganda), Nairobi (Kenya) and Dar-es-Salaam (Tanzania). The undergraduate courses are organized with direct reference to manpower requirements and forecasts of the number of students likely to qualify for entry to the courses.[1] The number of government bursaries to be awarded for the study of any particular subject is also determined with direct reference to the manpower forecasts and the holders of bursaries are required to give an undertaking that they will serve the government, or serve as government directs, for five years after completing their studies. This 'tied bursary' scheme is designed to make sure that government expenditure on higher education produces not only the right quantity, but also the right kinds of high-level manpower. At the time of writing there are relatively few Tanzanians engaged in post-graduate study at the University of East Africa, although some are studying overseas. Places in universities outside East Africa are also used for students in courses, usually leading to specialist professional qualifications, which are not provided (for reasons of economy) at the University of East Africa.[2]

Technical education

The Dar-es-Salaam Technical College is the only institution providing post-secondary technical education in Tanzania. In addition to providing a wide variety of part-time educational and vocational courses (which, because suitable students for full-time courses were not forthcoming, constituted the main activity of the college as recently as 1963), there is a three-year course for secondary school leavers (school certificate level) leading to a technician's diploma. Although this course is intended primarily as a 'terminal' course leading directly to employment, arrangements have been made to ensure that suitable candidates can apply for admission to university engineering courses,[3] should they wish to do so.

1. See also A. C. Mwingira, *High-Level Manpower Needs of East Africa and the University of East Africa: The Role of the University of East Africa*, The East African Academy, Seminar on Higher Education, July-August 1965.
2. Such as dentistry, town planning, forestry.
3. Courses leading to the B.Sc. (engineering) degree of the University of East Africa are provided at University College, Nairobi.

4 The economic and social objectives of the national plan as they affect the educational system

The three main objectives of the current five-year plan were enunciated by the President of the Republic in his speech introducing the plan to parliament, thus: 'By 1980 (a) to raise our *per capita* income from the present £19.6 s. to £45; (b) to be fully self-sufficient in trained manpower requirements; (c) to raise the average expectation of life from the present 35 to 40 years to an expectation of 50 years.'[1]

Thus it was immediately confirmed that plans to develop the nation's supply of trained manpower would be of the first priority in the development of education. However, a first priority is not an absolute priority. The Ministry of Education has, as one of the stated objectives of its programme in the plan, the aim 'to make every effort to ensure that the standards of quality in primary education are maintained at a level adequate to lay the foundations of permanent literacy for pupils who proceed no further'. Then there are the expectations of the ordinary citizen to be met; while he may well accept, with the President, that 'this policy (priority for trained manpower) means that some of our citizens will have large amounts of money spent on their education while others will have none', no political realist can expect him to accept that there will be no expansion of primary education in a country where only just over half the children have the opportunity to start school at all. Each of these objectives must be given some weight in formulating the education plan; the question is how much. The first stage in answering the question is carried out, explicitly or implicitly, when the assumptions are drawn up which relate the stated objectives of the plan to the educational quantities from which the education programme is constructed.

The first task which must be carried out is the determination, in educational terms, of the demands to be placed on the educational system by the adoption of

1. Address by President Mwalimu Julius K. Nyerere on the Tanganyika five-year plan and review of the plan. (Address to Parliament, 12 May 1964). Dar-es-Salaam, Tanganyika Information Services, 1964.

the trained manpower objective of the plan. The second task is to make sure that the other recognized objectives, such as social objectives, are provided for within the available resources and in accordance with agreed priorities.

Manpower requirements and educational objectives

The process leading to the formulation of a manpower-based educational plan requires: (a) the conduct of a manpower survey to ascertain the current levels of employment in the various high and middle-level manpower categories; (b) the formulation of the assumptions underlying the method of forward projection of manpower requirements and the projection of requirements in the various categories; (c) the correlation of these manpower requirements with educational requirements for new entrants to the labour market.

The manpower survey

In carrying out a manpower survey certain assumptions must be made (such as the one regarding the percentage of the labour force covered by the survey). If the results of a manpower survey are accepted as a basis for government policy, so, too, are the assumptions which were made in gathering and processing the information. Alternatively, the government may wish to alter one or more of the assumptions which have been made in preparing estimates. Relatively small changes in some of the assumptions may give raise to large changes in the resulting estimates, which in turn are used as a basis for policy. Because of this it is particularly important that those responsible for taking decisions are aware of the nature of the assumptions they are, by implication, being called upon to make. In the case of a manpower survey, they will probably seek guidance principally from the ministry responsible for labour and employment matters.

Manpower projections and their educational equivalents

When we turn to the projection of manpower requirements, however, the nature of the problem is far more complex and the scope of the assumptions which must be made—given the current state of manpower forecasting as a science—is correspondingly wider. The person who is charged with responsibility for the development of education is also, by the terms of the plan, charged specifically with the task of meeting the manpower target of self-sufficiency by 1980. As a responsible

minister of education, he must be a party to the formulation of the assumption which will, in turn, define his task. His interest is the greater because, while the adoption of excessively high targets for the production of high-level manpower may force him to curtail development proposals for primary education, the adoption of deflated target figures can just as effectively prevent educational development by prolonging the shortage of teachers.

In practice the assumptions about the methods of projection have not been separated from those which are made in the last stage of the translation of the plan targets into educational demands—that of the correlation of manpower requirements with educational requirements—inasmuch as the categories of manpower were distinguished for projection purposes according to the assumed educational requirements for entry to each class. Thus, in the two manpower projections which have been supplied to the Ministry of Education[1] the estimates were expressed in terms of 'jobs normally requiring a university degree' (category A), 'jobs which normally require from one to three years of formal post-secondary (form 4) education/training' (category B) and 'jobs which normally require a secondary school education for standard performance of the full array of tasks involved in the occupation' (category C).[2] The assumptions which had to be made in allocating jobs into these three categories were essentially assumptions about the characteristics of the output of the educational system and, as such, are of direct concern both to the Ministry of Education and to the manpower planners.

The position which has been reached in practice is that, given the data provided by the manpower surveys together with the acceptance of planning for the development of trained manpower as a key objective of the plan, further clarification still seems to be needed regarding the assumptions which have been used in translating these data and objectives into targets for educational development; it seems, moreover, that the machinery for making such clarifications could be improved.

Limitations on the choice of methods for making projections

The choice of methods used for making projections is usually strictly limited by the availability of suitable data in any developing country; this was certainly the case in Tanzania, where it was well illustrated by the very simple model which was used

1. 'A Guide for the Ministry of Education in Preparing its Development Policies and Programmes', Ministry of Development Planning, September 1963, (unpublished), and *Survey of the High-Level Manpower Requirements and Resources for the Five-Year Development Plan 1964/65-1968/69* (Thomas report), Directorate of Development and Planning, Dar-es-Salaam, 1965.
2. The use of these 'category' terms is, unfortunately, easily confused with the 'grades' of teachers. A teacher, grade A, belongs to category B, and grade C to category C, while grade B teachers are a borderline case.

TABLE 1. Estimated gross requirements (replacement and expansion) by level of education (cumulative from 1962) of the non-agricultural labour force[1]

	Category A	Category B	Category C
Assumed annual percentage increase in total employment	5.8	7.5	6.8
Employment level in 1962	3 350	2 220	24 140
Net increase required 1962-70	1 900	1 740	16 660
Number required as replacements 1962-70 (retirement, death and Africanization)	1 280	710	6 260
Gross requirements 1962-70	3 180	2 450	22 920

SOURCE Unpublished data in Ministry of Education files

NOTE

1. It was pointed out by the Ministry of Development Planning that agricultural employers (as distinct from public authorities employing agricultural officers) employ few, if any, persons requiring high levels of education. Public servants are included in the table whether or not their work is concerned with agriculture

in September 1963 by the Ministry of Development Planning in the Guide for the Ministry of Education already referred to. In that instance the employment levels in the occupations covered by the Tobias survey obtaining in 1962 and forecast for 1967 were taken as data and classified according to the assumed educational requirements. Forward projections of manpower requirements were then prepared by simple extrapolation using the annual rate of growth implied by Tobias in 1962 for 1962-67[1] to estimate the demand in other years. This stage of the calculation gave rise to estimates of the required increase in employment at the different levels, to which estimates of withdrawals from the labour force were added to give estimates of the gross requirements according to level of education. The results are summarized in Table 1.

Hidden assumptions of manpower projections

Before these projections of manpower requirements could be translated into educational programmes for costing, it was necessary to check them for consistency with the type (as distinct from the size) of the development programme likely to be proposed in the educational field itself. It was at this point that the limitations of a 'social growth' type of projection[2] of future manpower requirements from existing manpower supplies became more rapidly apparent; the Ministry of Education's proposal to bring about a phased withdrawal of post-primary (i.e., grade C teachers,

1. G. Tobias, *High-Level Manpower Requirements and Resources in Tanganyika (1962-1967)*. Dar-es-Salaam, Government Printer, 1963. (Government Paper No. 2. Tobias report.)
2. The phrase '"social growth" type of projection' is used to describe projections made on the assumption that for each category of manpower, employment should rise at a steady percentage growth rate which is directly, if not explicitly, related to such parameters as the rate of growth of total wage employment or of gross domestic product.

category C manpower) teacher training and to replace it with post-secondary (i.e., grade A teachers, category B manpower) constituted a change in the educational requirements for entry to a particular form of employment. This meant in turn that the measured base of 2,220 employed in category B in 1962 (see Table 1) could no longer simply be expanded by a percentage growth formula to calculate the requirement in 1970 because a significant part of the 1970 requirement for category B manpower would arise from growth of the teaching profession, whose members were nearly all counted among the 24,140 persons employed in category C manpower jobs in 1962.

Recognition of this fact did not lead to any simple alternative formulation of the growth assumptions on which the projections were based, if only because it was quite clear that a significant proportion of the teaching profession would continue to be found among category C manpower well after 1970. (Not only were there many serving teachers who could not be instantaneously upgraded, but also there would be a considerable number of grade C teachers qualifying between 1964 and the date when grade C training would finally be discontinued.) The adjustment which was made to the estimated requirement for category B manpower was an essentially pragmatic one, reflecting the practical possibilities during the plan period of progress towards the much longer-term goal of a teaching profession of which all the members would have had a secondary education. The finally agreed figure of 5,900 as the estimated gross requirement for 1962-70 for category B (compared with the earlier estimate, in the table, of 2,450) was based on the assumption that, by 1970, all new entrants to teaching would be grade A teachers (category B manpower).

The extent of this revision also served to emphasize the interest of the Ministry of Education as a user of manpower at this level, in addition to its responsibilities as a producer; although no further revisions were made to the plan as a direct result of revisions of the estimates of manpower requirements, it is still possible that a case can be made for doing so, if only because the Ministry of Education was by no means alone among employing departments having plans for development limited not only by financial considerations, but also by the shortage of suitable recruits for training at the post-secondary level. (The Ministry of Agriculture in particular had been similarly affected.)

Caution required in the use of projections

Outside the public sector there may also be similar changes in job requirements taking place for the soundest of economic reasons.

In the section of his report headed 'Exclusions and cautions',[1] Tobias had made

1. G. Tobias, op. cit., pp. 23-24.

the point: 'Many employers told the survey team that they have installed, or are about to install, capital equipment of high productivity. They state that "cheap" labour is not "cheap" and that to continue to compete successfully in world markets, labour costs must be reduced by the use of more machinery. The net effect of these shifts may very well reduce unskilled and lower-skilled labour requirements and *increase* the need for highly skilled and technical workers above the anticipations in this survey. It is not at all certain that employers have fully thought through the educational and training implications of such a shift and it is not certain that they have stated high enough future requirements for technical and executive personnel.' It seems likely that the proposal of the Ministry of Education to replace post-primary trained teachers (category C) by post-secondary trained teachers (category B) is an example of a mechanism, analogous to that anticipated by Tobias, by which future levels of employment in categories where manpower has been particularly scarce can, and probably should, rise to meet the supply of candidates and not vice versa.

Once secondary school leavers become available in adequate numbers, category C teachers who retire are replaced not by more category C teachers, but by category B (post-secondary trained) teachers. This could happen also not only in other public service occupations, but in the private sector as well, although the mechanism is apparently somewhat different. Whereas in the past it may have been judged to be economic to pay the expatriation costs of category A manpower, it must have been comparatively difficult to justify the payment of the same expatriation costs per unit of category B manpower, since each man might be assumed to be making a somewhat smaller economic contribution. Thus if, as an arbitrary example, the case is considered for an expatriate from a European country where category B salaries in his occupation are 70 per cent of category A salaries, the cost of the category B employee, once expatriation costs of passages, housing and pay addition are included, might be as high as 85 per cent of the cost of a category A employee. There is, therefore, an incentive to economize on category B appointments until local supplies of manpower become available.

By using, as a baseline for projection of requirements, the actual employment levels in each manpower category in 1962 (just after independence and before the secondary school expansion policy of the years from 1960 onwards began to bear full fruit in increased outputs), one should therefore expect to underestimate the number of category B opportunities which would exist in the economy at its 1962 level of development. The backlog of requirements only partially fulfilled (by the employment of category C manpower or by the employment of smaller numbers of category A manpower to fill the gaps) would deflate the initial estimates; the error in estimating future requirements would then be compounded when present supply is used as the baseline for a percentage growth model of estimating future requirements.

While this particular analysis of the reasons that category B manpower requirements may have been underestimated is perhaps only a partial explanation, there are nevertheless other indications that there is in fact such a shortage. Tobias, in his survey,[1] went on to observe that 'the fact that there were only 1,152 craftsmen employed in all of construction is due *in large part* (author's italics) to the strictness of the definition applied in this survey—"fundis" were not included as construction craftsmen unless they had the full requisite training and experience needed to satisfy the definition as given . . .'[2] This, it seems, could quite properly be read as a reservation about the use of his survey's census-type data as a basis for projection, since it implies the expectation that 'fundis' will be progressively replaced by craftsmen with a background of formal training. A forecast of future requirements should, therefore, include not only growth and the replacement of existing manpower, but also the replacement, by upgrading of the educational qualifications, of manpower in lower categories.

Revision of the manpower estimates (Thomas report)

The Thomas report of 1964 shows total requirements for input to category B (including teachers) not of 5,900 for 1962-70, but of 6,562 for the shorter period 1964-69; it also shows that of the estimate of 6,562, less than 1,000 were attributable to projected employment outside the public sector. (This figure would, however, rise to nearly 1,300 if it were assumed that a quarter of the requirements for trained agricultural field officers and field assistants would enter the private sector.) It appears, therefore, that, between the times of preparation of the two surveys, an increasing number of potential requirements for category B manpower had come to light in the public sector along with the realization that secondary school outputs were at last increasing, but that the private sector may not yet, in Tobias' words, 'have fully thought through the educational and training implications . . . and it is still not certain that they have stated high enough future requirements for technical and executive personnel.'

In the private sector category 'Directors, managers and working proprietors', there is no provision at all, in an estimated requirement of 625, for any category B manpower; it is assumed that one out of four will be category A and the remainder category C. Finally, there is already evidence, at the time of writing, that the employment opportunities open to secondary school leavers are increasingly concentrated on the potential entrants to category B. Thus, in the public sector

1. G. Tobias, op. cit., p. 25.
2. Tobias defines a 'fundi' in a footnote thus: 'Swahili for "expert"—usually self-taught craftsmen with little or no mathematics, languages, drafting or technical training.'

TABLE 2. Estimated manpower requirements for categories B and C compared with opportunities in the public service

	Category B	Category C	Ratio
Public service opportunities 1965	1 569	675	2.32:1
Estimated requirements 1964-69 (all sectors)	6 562	17 262	0.38:1

SOURCES
Central Establishments Division, Office of the President, and Thomas report

it is estimated that of 3,049 opportunities for Tanzanian citizens completing the school certificate course, approximately 485 will ultimately enter university and qualify for entry to category A; 320 will continue their formal education, but will not enter category A; of the remaining 2,244 opportunities, only 675 would appear to be category C, since pre-service training is specified for the remaining 1,569 opportunities[1]. Even if it is assumed that a proportion of the pre-service training courses are so short as to disqualify participants from classification in category B, these figures are in stark contrast with the proportions indicated between the total requirements for categories B and C by the 1964 survey for the period 1964-69, which are set out in Table 2.

The category B public service total is inflated in comparison with the category C total in that it refers to pupils who will actually enter employment later than the category C entrants (the difference being the average length of formal training course for category B entrants). Even so, it is an impressive figure. The category C figure would seem correspondingly depressing until it is remembered that the public service has, naturally, already reached a more advanced stage of its development of local cadres at this level because, by definition, the supply of manpower became available earlier.

Another feature of employment opportunities at the end of 1965 is the high level of demand for school leavers who will have completed the higher school certificate course (two years' continuation of formal education beyond the level required for entry into category C). In this instance there will only be about 180 Tanzanian citizens not continuing to university, but the public service alone is offering 334 opportunities.

Details of opportunities in the private sector are by no means complete; such information as is available indicates a slightly different pattern. The expressed demand here is mainly for school certificate leavers (90 per cent of a total of just over 400 opportunities known to the Ministry of Labour six months before the pupils complete their school course) but, significantly, the descriptions of the

1. Figures collected by the Central Establishments Division of the Office of the President for circulation to prospective employers and to schools (Reference EB.9/53/236 of 7 June 1965).

opportunities nearly all specify academic requirements which would easily qualify the holders for entry into category B (at least!).

Educational planners must have a dual interest in manpower projections, arising both from the schools' responsibility to adapt, in time, to revisions of the targets and from the need to ensure that the supply of potential teachers is adequate. If, as in the case of category B, it seems to the education planners that the future requirements for one or more particular categories of manpower have been wrongly estimated, they are in a position to be among the first to draw attention to the issues at stake and to seek an early revision of the planned allocation of resources; indeed, if they do not do this, it is difficult to see how those whose concern is essentially with manpower and financial planning can be expected to produce a practical plan. Moreover, when the anticipated shortfall is to be found in the very category of manpower from which the great majority of teachers must be drawn, any ministry of education has a justifiable special interest in seeking appropriate revisions to the plan. It is, of course, a separate issue, on which endless discussion is possible, as to the extent to which the schools and colleges or the employers should carry out the task of converting category C into category B personnel by extension of their period of education and training. Nevertheless, it is always the proper concern of the educational planner to seek such adjustments of the plan (or policy changes for future plans) as are necessary to ensure that there will be a sufficient supply of pupils suitable for entry into courses which lead to category B occupations.

Possible revisions in educational planning

In practice this would suggest that there should be rather more expansion of secondary school facilities at the immediate post-primary level (form 1) so that the number who can be brought to a state of readiness for entry into category B jobs can be increased. While it is true that improvements in selection techniques, in the development of more broadly based curricula and in class-room teaching should give some improvement in the proportion of all secondary school entrants who qualify to enter category B rather than category C, it seems unlikely that an adequate number can be found from the present system to fill the category B posts satisfactorily.[1] The immediate objection to this proposal is that, as footnote 1 indicates, more category C output would arise together with the additional category B if it were adopted—and there might not be a demand for this extra category C

1. Although nearly all pupils who enter now complete the four-year secondary school course, the proportion who would reasonably be assessed by employers as meeting the 'potential' requirements for category B is probably not higher than 50 per cent, and from this 50 per cent the potential entrants to category A must be selected.

output; indeed it could be argued that additional category B output would be welcome provided that it was produced instead of a larger amount of category C output. However, as long as high and middle-level manpower only is under consideration, the objection can be countered. If the argument for transfer of jobs from category C to category B holds, so too by induction will the analogous argument for transfer of jobs from category D[1] to category C. (One way of picturing this change is that more crafts would come into the category 'modern crafts' used in the survey.) It seems reasonable to assume that such transfer over time from category D to category C will at least partly offset the transfers from category C to category B. If the assumption were made that a fixed proportion of jobs in each category should be transferred upwards each year, the net result would be no reduction in category C requirements unless category D were in fact smaller than category C. There are no figures given in the Thomas report to indicate that this is necessarily so.[2]

It is interesting however to note further that if the size of the category C requirement did not increase as fast as the supply resulting from the increased secondary school output, then a shift in relative earnings could be expected. While category B earnings would perhaps retain the same relationship to average earnings, category C earnings could be allowed to fall (relatively). The current policy on wages and incomes in Tanzania encourages trends such as these;[3] it could be argued that, by reducing the cost of employing a category C secondary school leaver in this way, he would in effect be made to repay some of the public investment made in his education; at the same time a pupil who has the choice of entering either category B or category C would have an additional incentive to conform to national manpower priorities.

Productivity assumptions in relation to educational qualifications

When the questionnaire approach is used to estimate future requirements, the replies will reflect only those changes in the assumptions relating educational qualifications to occupational requirements which have already been anticipated; the replies cannot reflect all the changes that will happen, partly because, as Tobias suggests, some concerns will overlook this factor, and partly because new concerns will

1. Described in the Thomas report as skilled manual workers who 'require a fairly high degree of manual skill, but do not require the more extensive educational base called for by "modern crafts". They (were) not therefore shown as a charge against secondary outputs.'
2. Although category D as enumerated in the Thomas report is much smaller than category C (4,060 compared with 20,910), category C covers skilled office and skilled manual workers while category D covers only the latter; thus the figures are not comparable for the present purpose.
3. By raising the minimum wages of employed persons while freezing the incomes of those in the higher income brackets.

enter the labour market. However, it is already clear, especially in Tanzania, where the public services employ such a high proportion of the nation's stock of skilled manpower, that the questionnaire method (as employed by Thomas *et al.* for the public sector in preparing his report) is superior to the simple mechanical extrapolation of growth rates over a period of radical political and social change (as supplied to the Ministry of Education in the earlier 'guideline'). The latter method fails to take account of deficiencies in the existing manpower structure and compounds the errors by an oversimplified extrapolation procedure.

A third method of establishing projections of manpower requirement is, however, in fairly common use. This method, which was used to estimate future requirements in the private sector in the 1964 survey, involves the calculation of future employment levels in each of the broad industrial divisions for which output projections were given in the five-year plan; this was done by applying an assumed productivity (per man) increase to existing average levels of gross domestic product per employed worker to give total employment, and then constructing an occupational matrix for each of the broad industrial divisions, assuming that each specific occupation (which could be classified as category A, B, C, etc.) would constitute the same proportion of employment in the industry in 1970 as it did in 1964.

To educators, who reasonably hope that education is one of the factors giving rise to improved productivity, it seems that this method avoids the pitfalls of omitting new concerns, only to introduce, by implication, very questionable assumptions about the relationship between the productivity and the educational qualifications of the labour force. Not only must one ask whether the present manpower deployment according to occupational category will be the most productive under the labour supply conditions in the years ahead; it must also be asked whether the assumed productivity improvement per man applied to the whole of the labour force can, in practice, be achieved without a related increase in the proportion of productive tasks which can only be carried out by middle and high-level manpower.

In the case of the 1964 survey the choice of a productivity increase of 2.5 per cent per annum compounded is described as fairly arbitrary. The figure is compared with 2.6 per cent per annum compounded for the United States of America over the years 1929-61, 4.4 per cent per annum compounded projected for France over the period 1959-70 and 1.0 per cent per annum compounded for Uganda for 1952-62. One possible explanation of the higher figures found or projected in the 'modern' economies of U.S.A. and France could be that greater shifts in the education/occupation matrix have occurred in these countries through the raising of the initial entry qualifications for specific high and middle-level tasks than in Uganda and that these shifts are, in those countries, linked with the higher rates of productivity increase. If this is so then a lower figure (which might well be the

Uganda figure of 1.0 per cent per annum) should have been assumed for Tanzania since no changes in the level of educational qualifications needed for entry into specific occupations (other than teaching) were postulated.[1]

The potential change in the relationships between education, occupation and output, which must occur against a background of changing economic conditions and changing content of education, is an important subject which requires detailed research before it can be incorporated with confidence into manpower forecasts. In the meantime forecasts must be used but, given the current hazards of manpower forecasting, the educators who have the responsibility for meeting the *de facto* manpower requirements in the future will need to understand the nature of the forecasts' assumptions and their inter-relations. Only by doing this and by participating fully in the process by which the education targets are set, can they be sure that extreme, or even mutually exclusive, assumptions are being avoided.

On the other hand, no education target can be reached without adequate resources, whether they are teachers, pupils qualified to benefit from the education, money or organization; without these, any argument as to whether the manpower targets are set high enough when translated into educational terms is largely academic because frustration is unavoidable. The importance of the manpower target in educational planning is therefore to be found not so much in limiting the rate of expansion of schools to precisely calculated outputs as in keeping the policy-makers fully informed about the extent to which the various parameters associated with economic development are reflected in the educational programmes.

A manpower target associated with the assumptions upon which it rests is today an irreplaceable element in educational planning as an indicator of priorities. The state of manpower forecasting, as distinct from manpower surveying, as a science is, however, still reflected more accurately in the wide divergence between estimates arising from different assumptions than in its value in determining precisely the rate at which educational developments should take place. This latter rate is probably still best determined by the availability of the necessary resources for educational development, provided that the manpower assumptions which must be made in generating the corresponding projections of employment are in close accord with the economic, social and political objectives of the development plan.

1. It is, for example, frequently observed that improvements in office efficiency in Tanzania must await the time when the normal intake to clerical positions will consist of secondary school leavers with relevant vocational training. Such a change would probably increase the proportion of category C manpower expressed as a percentage of the total labour force; by way of contrast the Thomas report can be interpreted as implying that a relatively high productivity increase can be achieved without raising the educational and training standards for entry into various kinds of employment in the private sector, a conclusion which would contradict everyday observation.

Reconciliation of manpower targets with other objectives of educational programmes

If it seems that undue attention has been devoted to the determination of manpower demands on the educational system, it should be remembered that this is due partly to the novelty of the procedures and, indeed, to the current fashion for employing them. Projects to cope with the other type of educational demand, which might be termed 'popular' rather than 'economic', must also feature in a plan if the plan is itself to be popular—but the criteria by which popular demand is assessed and the extent to which it ought to be met are subject to even wider differences of opinion than manpower estimates! There seem to be two main alternatives. Either some set of targets, such as the 'Addis Ababa targets', is adopted and the planning problem is reduced to determining the rate at which they can be achieved, or a more piecemeal approach is adopted, as in Tanzania where it is reluctantly accepted that, for reasons of cost, the primary education targets expressed at Addis Ababa are, for the present, irrelevant for medium-range planning purposes. The objectives for primary education in Tanzania can be summarized thus: (a) to fulfil all obligations implied by government approval of developments already carried out; (b) to transform the existing primary school system into one of higher quality which will be a more useful instrument of development; (c) to estimate, by political judgement, the desirable rate of expansion of the primary school system, bearing in mind that the manpower development programmes in post-primary education have economic priority, and to make provision accordingly.

There is an advantage in this latter approach in that it lends itself well to the presentation of planning choices not only as over-all priorities (e.g., manpower development taking precedence over education as a social service) but also as priorities at the effective limit of resources. Thus, when the decision-taking process is under way, a rational choice between the political and social value of £100,000 worth of identifiable primary education and the economic value of £100,000 worth of identifiable university places can be made.

In practice, therefore, the economic and social targets for education in a plan cannot be set finally in the early stages of planning, but the terms in which they are to be expressed can be set down with some precision. When, in the face of limited resources, difficult choices have to be made between several desirable objectives, then—with cause and effect illustrated as clearly as possible—the final targets can be drawn up by altering the quantities but not the qualities of the earlier drafts.

5 The process of decision in educational planning

The process of decision in educational planning falls into two distinct parts. First, there are the decisions taken by the educators themselves as to what proposals they should make in their draft proposals in response to the objectives which they have been set; second, there are the decisions and modifications which must be made subsequently to ensure that the proposed educational development plan represents a justifiable claim upon the national resources during the period of the plan.[1]

Preparation of proposals

Recognition that there will almost certainly be a need for a subsequent revision, due to financial or political constraints, of the educational and social targets adopted for a plan must not be allowed to prevent the drawing up of educational programmes to conform to provisional targets. In Tanzania the sequence followed in translating economic (i.e., manpower) and social objectives into programmes for expanding enrolments at the various levels of education is to:

1. Prepare a projection using enrolments in existing secondary schools as a guide, showing the maximum number of graduate (or graduate equivalent) persons who can be expected to enter the labour force during the plan period.
2. Establish whether a similar rate of expansion of university intakes in the later years of the plan (i.e., students do not become employed until a later planning period) is likely to meet, exceed or fall short of long-term manpower requirements and adjust accordingly.
3. Prepare a projection of entries to form 5 (higher school certificate and university entry) which is expected to produce the required number of university entrants.

1. And also to ensure that the next generation of planners is not swamped with inviolable commitments at the beginning of the next plan.

4. Prepare a projection of entries for secondary schools (form 1, school certificate course) which implies a steady growth of secondary school provision towards that required to meet long-term targets (1980). (Increased entries to a four-year course have hardly any effect upon manpower outputs during the course of a single five-year plan period.)
5. Prepare projections of the number of entries to other post-secondary courses (i.e., teacher training and technical education) having regard both to the demand for the products and to the supply of candidates.
6. Prepare projections of the primary school enrolments required to meet the social development targets of the plan.
7. Draft proposals regarding the institutional and administrative framework within which, educationally speaking, the increased enrolment programmes can be implemented while obtaining best value for money spent.

There are two aspects of this 'best value for money' approach which may require particular attention:

First, it is certainly advisable to check on the relevance of the educational requirements, as formulated, to the occupations which pupils are expected to enter. Thus the fact that a secondary education has in the past been a prerequisite for entry into certain kinds of training cannot be taken to mean that the same secondary education is the best qualification in future. It is this kind of thinking which has led to the interest, now being incorporated into the development plans of individual Tanzanian secondary schools, in broadening the secondary schools' curriculum to make sure that those pupils who do not advance to the highest levels of education can become positive assets at the middle manpower levels (i.e., primarily category C) rather than mere 'fall-outs' from an academic rat race.

Second, there is the question of the finance and organization of the actual capital programme. There are obvious advantages to be gained from planning for a steady, or steadily rising, rate of construction which are associated both with the capacity of the construction industry and with the evolution of progressively improved plans for implementation. It should also be a further advantage, when aid from external sources is to be sought to carry out the plans, to be able to draw up a financial programme showing how the phased requirement for funds is related to the programme for achieving the plan targets.[1]

1. It must, however, be recognized that the apparent tendency for some aid agreements to be limited by one or more parties to the short-term militates against the careful phasing of development plans; under these circumstances the greater value of the carefully phased programme may well be the light which it can throw on the future commitments to recurrent expenditure which the government itself is undertaking.

The cost of the plan

Once these steps have been taken planning must proceed to the next stage, which does not involve the educators alone; it is the educational planner's duty to estimate the cost of the plan as drafted, using the best available estimates of future unit costs as a basis for the estimation, but it must then be submitted, together with plans similarly prepared by other ministries and departments, to the Economic Development Commission (EDC) as a claim on national resources during the planning period under consideration. The EDC would have before it at this stage not only the projected budgets of the various ministries and departments but also forward projections of economic growth and of the resulting government revenues. These projections, like the projections of expenditure, would be based on stated assumptions and subject to scrutiny by the EDC, which would therefore be in a position to relate the cuts in expenditure (which it would have to approve in order to contain expenditure within the limit of funds likely to be available)[1] to the consequent cuts in the activities of the various ministries and departments which would have to be made.

The EDC would need to be advised on the cuts which it should consider in order to balance the books, and would naturally expect the economic advice on the choice of cuts to emanate from the ministry responsible for economic planning, so that the economic viability of the over-all plan is retained after its amendment. Similarly the plan must also be financially viable and it follows logically that the proposals for modification of the arrangements by which government activities in development are to be financed should emanate from the ministry responsible for public finance, i.e., the Treasury.[2]

Similar comments can also be made about the way in which any ministry's programme should be modified; health, agriculture, communications and education are only some of the examples. Naturally if the EDC were faced with a host of possible variations to each ministry's proposed plan, it would be unable to function effectively and the chance of producing a plan which is economically and financially viable would be greatly reduced. In order to avoid this hazard, a procedure was introduced by which each ministry was required to discuss possible amendments to its draft plan at civil servant level with representatives of the Ministry of Development Planning, Treasury representatives invariably being invited to attend. If the

1. 'Funds likely to be available' will of course differ from revenue projections according to the amount of money to be raised outside the country, the amount needed for consolidated fund services and the degree to which it is planned to budget for a surplus or deficit on current account.
2. In some countries the responsibilities for planning and finance are brought together within a single ministry, but this is not the case in Tanzania where the Ministry of Development Planning, later to become the Directorate of Development and Planning under two Ministers of State in the President's Office, is distinct from the Treasury, which is the responsibility of the Minister of Finance. A more recent change, by which development planning functions were transferred to the new Ministry of Economic Affairs and Planning, has left this situation unchanged.

civil servants reached an agreement to which their respective ministers gave support, the matter was settled; but, if agreement was not reached, as in the case of the education plan for 1964-69, discussion had to continue and points of difference had to be discussed in the EDC, i.e., at the political level.

It is probably simplest to trace the resolution of these differences by reference to the successive modifications which were made to the projections of recurrent expenditure on education over the five-year period, as prepared by the Ministry of Education and incorporated in the first draft of the plan, which was used as the basis for the initial inter-departmental meeting. These successive modifications are set out in Table 3.

TABLE 3. Successive modifications to estimates of recurrent expenditure on education 1964-69

	(£ thousand)	
Gross cost of first draft plan		58 191
(a) *Amendment* by deduction of non-government revenues for primary education other than fees		
Local authority contribution	7 706	
Voluntary agency contribution	1 062	8 768
		49 423
(b) *Agreed cuts* of		
(i) Upper primary school programme	2 540	
(ii) Government finance for secondary school programme	504	3 044
		46 379
(c) *Amendment* by deduction of anticipated collection of primary school fees		3 500
		42 879
(d) *Amendment* by agreed re-interpretation of unit costs		
(i) Primary education	1 975	
(ii) Secondary education	400	
(iii) Administration and general	121	2 496
		40 383
(e) *Amendment* by agreement to reduction of programme, reached by EDC sub-committee		
(i) Primary education	125	
(ii) Teacher training	643	
(iii) Technical education	429	1 197
		39 186
(f) *Amendment* by assumption of EACSO contribution to costs of higher education		852
		38 334
(g) *Amendment* of assumptions giving rise to anticipated savings :		
(i) Introduction of '7:4 system' (primary)[1]	400	
(ii) Modified requirement for falling unit costs in higher education	80	
(iii) Assumption of additional non-government finance for secondary education	98	578
		37 756
(h) *Amendment* of the assumed contribution to be made by local education authorities		2 250
Net recurrent cost to the government as published in the five-year plan		35 560

SOURCE Ministry of Education

NOTE

1. That is, a change from a system in which eight years of primary education are followed by four years of secondary education to one in which the length of the full primary school course is reduced to seven years

Priorities

In requesting the first submission of a draft development plan from the Ministry of Education, the Ministry of Development Planning requested an analysis of the gross cost of a plan designed *primus inter alia* to meet the manpower targets expressed in educational terms by its own Manpower Planning Unit. In response to this request a draft was submitted forecasting a gross recurrent expenditure of £58,191,000 and a gross capital expenditure of approximately £25 million; this draft plan was designed to meet the manpower targets, as assessed by the Manpower Planning Unit with modifications only to allow for the proposed upgrading in the draft plan of educational qualifications for entry into the teaching profession, and also to meet what were regarded as politically minimal requirements for the expansion of the publicly financed primary school system.

It was immediately obvious to the Ministry of Development Planning that an expenditure of this order could not be sustained as part of a balanced development plan for the country. First, it was suggested that the planned expansion of primary education was not in accordance with the manpower requirements of the country (in addition to which doubts were expressed about the availability of teachers to implement the plan). Second, it was contended that the financial implications of the plan were such that, even if they did not arise from overpricing the programmes, the 'realities' of the financial situation had to be recognized. It was also at this point that the importance of forecasting the revenue available for primary education from non-government sources was explicitly recognized by inviting the ministry responsible for the affairs of local authorities to submit a projection of the local authorities'[1] ability to contribute towards the cost of education.[2] At the same time, the opportunity was taken to deduct the element of voluntary agency contribution which was included in the estimates of gross unit costs on which the plan was based. These reductions together reduced the over-all estimate to £49,423,000 (amendment (a)).

The other issues raised at this stage were more difficult to dispose of. The case put forward by the Ministry of Education for primary school expansion did not rest on manpower grounds, but on the need to provide an adequate 'base' for the selection of secondary school pupils and on the associated public demand for extension of upper primary school facilities, so that opportunity would be spread more widely, if not actually increased; the extension of upper primary school facilities was, in terms of enrolments though not of cost, already incorporated as a central feature of the three-year plan for 1961-64 (the enrolment in standard V

1. This responsibility was carried at that time by the Ministry of Local Government and Housing.
2. The estimate submitted was based on the assumption of an annual increase in revenues available for education of 7.5 per cent.

had increased from 21,600 in 1961 to 40,500 in 1963) and there was no evidence that the local authorities would be satisfied, once new standard V classes were opened, to make only limited provision for the more expensive education in standards VII and VIII.

The questions raised by the Ministry of Development Planning at this stage regarding the pricing of the programmes were concerned with demonstrating the possibility that the methods of implementation proposed by the Ministry of Education were not in fact the most economical ones applicable to achieve the enrolment targets. However the tentative proposals put forward which concerned professional practice (such as the possibility of reducing pupil-teacher ratios in primary schools by cutting out the one 'extra' teacher allowed in schools where standard VII and VIII classes are being prepared for entry into secondary school and where, if nowhere else, some allowance must be made in the school time-table so that every teacher does not have to teach all the time) or administrative arrangements[1] were not tenable in practice and had to be abandoned. It was further maintained that the task of determining how education plans should be implemented was clearly that of the Chief Education Officer, who is responsible to the Minister of Education, whose duty it is in accordance with the Education Ordinance of 1961 to present a suitable development plan to the EDC.[2]

The differences which still had to be resolved were considerable, but there was one area where political, educational and manpower priorities did converge. As a result (amendment (b) (i)), it was agreed under political guidance that a part of the upper primary school development programme (that by which standards VII and VIII would be allowed to develop at a higher rate than standards V and VI so as to reduce the number of pupils leaving school after standard VI and to increase further the number of candidates for secondary school entry) should be omitted. At the same time (amendment (b) (ii)), proposals for anticipated external and voluntary agency assistance with the recurrent finance of secondary schools were incorporated in the estimate which was thus reduced to £46,379,000.

1. It was suggested, for example, that a suitable filtering procedure could be devised whereby the total enrolments in standards V to VIII could be prevented from rising; there was no corresponding suggestion as to how the pupils lucky enough to survive the annual selection process could reach new schools far from their homes, or how additional boarding accommodation should be financed.
2. The Education Ordinance of 1961 (paragraph 3) gives the Minister for Education responsibility 'for the promotion of education and for the progressive development of schools in the territory'.

Financial limitations

It was at this stage that the first draft of the National Development Plan was submitted to the EDC for consideration. It incorporated a proposal that the Ministry of Education would, by means of a net recurrent expenditure of £33,500,000 and a net capital expenditure of £14,000,000 (£17,800,000 gross), achieve the manpower targets necessary for development.

It was, however, calculated by the Ministry of Education that approximately £38,000,000 of government recurrent expenditure would be needed simply to maintain existing services with expansion limited to that which had already been approved in principle,[1] if the unit costs upon which the estimates were based were correct. While adjustments to the cost estimated could and should be undertaken as a matter of urgency, it was contended that cuts in the education programme itself must be a matter for political decision. The chairman of the EDC directed that there should therefore be an inter-departmental re-examination of the unit cost estimates and that any outstanding points of disagreement should be referred to an *ad hoc* sub-committee of the EDC for resolution.

By this stage of the process (February 1964) the time factor was pressing very hard indeed upon all the participants. The basic cost data used by the Ministry of Education were nevertheless subjected to re-scrutiny by both the Ministry of Development Planning and the planning unit of the Ministry of Education. Even if the resulting two sets of reasons given for proposed reductions in the unit cost estimates did not show a close correspondence to one another, the fact remained that reductions were proposed on both sides. Those about which agreement was reached (amendment (d)), together with an estimate of primary school fee revenue[2] (amendment (c)), were incorporated in the over-all estimate, which was thus reduced to £40,383,000.

The largest part of the unit cost reduction was agreed as a result of a clearer understanding of the nature of the projection of the salary estimates for primary school teachers. The projection had been based on estimates of the actual salary bill in 1962[3] distributed according to the 'approved' staffing formula over the range of the primary school from standard I to standard VIII. When drawing up the early drafts of the plan it had not been appreciated by the Ministry of Education

1. The government was already a party to an agreement to provide recurrent finance for the development of the University of East Africa and, in the schools, there was a large number of 'streams' of pupils which had been opened under the three-year plan, but which had not yet been developed to their full duration.
2. It was, by this time, clear that no major change in primary school fee policy, corresponding to the abolition of secondary school fees with effect from January 1964, was contemplated in the prevailing circumstances.
3. The change-over to local authority administration of primary education has necessarily entailed the late submission, or non-submission, of financial statistics by almost all local education authorities. It was not possible to complete an analysis of 1963 expenditures until November 1964, eight months after the cost analysis for planning purposes was undertaken.

that the maintenance of the 1962 level of average salaries (at 1962 prices) throughout the period of expansion from 1962 to 1969 would be called for only if the age structure of the teaching force remained approximately constant. In fact, the teacher supply position was such that the proportion of young teachers was bound to rise and also such that at least a temporary rise in the number of underqualified teachers (i.e., grade C where grade B or grade A were required by the establishment formula) was inevitable. Unit costs per class could therefore be expected to fall below the 1962 level, even if a significant recovery could be produced later in the plan period by the expansion of grade A teacher-training facilities.

With the teacher-training programme designed to restore the staffing strength of the schools to the 1962 level by 1969 and to prepare for major improvements thereafter, it was possible to make the assumption that the average salaries would rise from their depressed 1964 level (which could be very roughly estimated) back to the 1962 level by 1969, thus reflecting the restoration of staffing standards. This calculation which led to agreement to reduce the estimates by £1,735,000 out of £1,975,000 for primary education (the remaining £240,000 was connected with boarding costs) was, however, far from being wholly satisfactory and led to suggestions that future salary calculations would best be made with references to the salaries and numbers of teachers entering and leaving the profession.[1]

A £400,000 reduction in the estimated expenditure on secondary education was made 'in the interests of reaching agreement' and with the reservation that it should be subject to annual review by the Treasury. While the argument was not made explicit in writing at any stage, it is reasonable to assume that the possible applicability of an argument analogous to that used for primary education was borne in mind by the representatives of the Ministry of Education at the discussions.

There was also a reduction of £121,000 made in the estimated expenditure on 'administration and general', a category which includes the expanding inspection services, the salaries of an administrative staff which has been expanded in response to the needs for closer contacts at local level and a subvention to the newly established Tanganyika Libraries Board. The need for an immediate increase in expenditure was recognized, but the rate of its subsequent increase was restricted to 3 per cent per year, unless the increase were achieved by savings elsewhere.

There remained the possibility of further reductions in the plan provided that agreement to the cuts was achieved at the political level. Reference of the subcommittee of the EDC set up for the purpose still did not produce a financial reconciliation. The gap was still nearly £7,000,000 and the cuts to which the subcommittee agreed (amendment (e)) amounted to only £1,197,000 (£125,000 for a further slight reduction in the number of classes in standards VII and VIII;

1. See, for example, J. B. Knight, op. cit.

£643,000 for reductions in teacher training arising partly from the primary school cut but mainly from the excision of a proposal to train untrained teachers serving in schools outside the publicly financed education system; £429,000, agreed after the EDC sub-committee meeting, as a reduction in expenditure on technical education resulting from a proposed delay in the expansion of post-secondary technician training facilities and the transfer of a technical school to become a secondary technical school, thereby to be accommodated within the established budget for secondary education).

The remaining gap of about £5.7 million was fortuitously narrowed by the publication of the University Grants Committee Report for the University of East Africa, which could be interpreted to imply a reduction in unit cost per Tanganyikan student worth £852,000 over the five-year period (amendment (f)), and by the communication, apparently issued on the basis of financial analysis,[1] received by the Ministry of Education from the Ministry of Development Planning stating that the projected government recurrent expenditure on education over the five-year period 1964-69 would be £35,506,000. There remained a gap of £2,828,000 to be closed.

Reference back to the political authorities brought the response that the Ministry of Education should do the best it could with the proposed allocation of recurrent revenue. Only one prospect of a further reduction of unit costs seemed to offer any hope; it was clear that the *per capita* costs of university students overseas were on average about £250 per annum below those of students at the University of East Africa even when, towards the end of the plan period, considerable economies of scale could be expected to set in in East Africa. The government was already committed in full to the three-year development programme up to 1966/67 at the University of East Africa and it would obviously be uneconomical to reduce the intake of Tanganyikan students below the level which had been built up largely at government expense. The stipulation was therefore included in the plan that, unless the *per capita* cost for additional students from 1967 onwards fell below £850 per annum, the additional students would be sent overseas. This was, and still is, an unpopular stipulation; however, unless it is argued that university development within East Africa has absolute priority over all other educational development, a reasoned argument against it would be difficult to sustain. The consequent adjustment to the estimates of £80,000 (amendment (g) (ii)) may seem to be a token amount, but it is none the less important for that.

A somewhat similar amendment was made to the estimated expenditure on secondary education, by making the assumption (amendment (g) (iii)) that, of the

1. It is not known how this final figure given by the Ministry of Development Planning was arrived at. It is however possible that it was based on the figure shown in the first draft plan amended to take the loss of secondary school fee revenue (by abolition of fees) into account.

ten secondary school streams to be added in each of the last four years of the plan, two were of slightly lower priority than the other eight. It was, therefore, assumed that a total of nine[1] streams should be opened only if non-government support were forthcoming or if unanticipated savings should accrue.

The estimates for teacher training were firmly rooted in the requirements for the supply of teachers, the estimates for technical education had been cut by an amount regarded by the Ministry of Education as being quite unrelated to the national needs for technical development and the estimates for administration, inspection and special services were already artificially low. Only the estimates for primary education remained as a remote possibility for further cuts.

The political constraint militating against further cuts was considerable—the sub-committee of the EDC had been unable to agree to cuts of more than £125,000 over five years—but a further cut, valued at £2,650,000, was necessary. It was also necessary, as the Minister of Education himself stressed, to ensure that the new plan did not generate such a large collection of forward commitments for those responsible for drafting its successor as that which had been bequeathed to it by the decision during the three-year plan period to forge ahead with the expansion of upper primary school facilities.

The first draft of the plan for educational development had proposed qualitative improvements in teacher training and in the primary schools in preparation for a change-over in the early nineteen seventies to a seven-year full primary school course instead of the eight-year course which was currently undertaken in preparation for entry to the normal four-year secondary school course. A calculated risk had to be taken by bringing forward the beginning of the change-over to the seven-year system[2] from the anticipated date of 1971/72 to 1965/66, thus reducing the capital cost of conversion of the system (because of its smaller size) and cutting down the anticipated rate of growth of recurrent expenditure due to further development by eliminating the commitment to open new classes at the standard VIII level. The risk was that, for a number of years, children who had not had the chance to benefit from the improved standards in the primary schools would be candidates for entry into secondary schools in such numbers that the quality of the secondary school intake would be lowered. If this happened, the quality of the subsequent entry into high-level manpower occupations would fall. However, the steep rise in the number of candidates for selection, which could not for financial reasons be matched by a corresponding proportional rise in the number of places for new entrants to secondary schools, was believed to be adequate to ensure

1. The number 'nine' was chosen instead of 'eight' in view of the policy of developing relatively large schools, with at least three streams in each, so that donors interested in starting new schools might become interested.
2. The possibilities of a 6:6 and of a 6:5 system, as well as of the 7:4 system now adopted, were each compared on financial grounds with the current 8:4 system before the decision was taken.

that the quality of the intake would be little, if any, worse than that which would have resulted from the continuation of the existing 8:4 system, with a probably inefficient selection procedure after standard VI imposed as a financial necessity, and, consequently, a smaller number of candidates for selection.

The 'unit cost per class' approach to costing indicated a saving of recurrent revenue of about £400,000 over the five-year period (amendment (g) (i)), but this estimate shows the limitation of this particular estimating procedure rather than the amount of saving that could logically be anticipated. A moment's thought will show that a switch from one system to another does not change the salaries of the serving teachers, nor does it necessarily immediately change the requirements for new teachers; what it does change, radically, is the distribution of teachers of different grades between the classes and therefore the average cost per class—not the total salary bill due to them, unless their numbers are altered. Amendment (g) (i) in Table 3 is therefore really spurious, although it is true that the future rate of growth of expenditure is reduced by decreasing the rate at which new teachers are required after the change-over—at the rates of expansion currently envisaged in Tanzania, this saving is about £30,000 per annum for teacher training and about £30,000 per annum each year cumulative for teachers' salaries; but the gap for the five-year plan period remained at £2,650,000.[1]

A proposal to raise primary school fees by 75 per cent would hardly have been politic; the choice was therefore between curtailment of the programme or reassessment of the contribution to be made by the local education authorities. In choosing the second of these alternatives and, by implication switching to the local authorities the liability for finding £2,650,000 (equivalent to about 35 per cent in addition to that indicated by the ministry responsible for local government as their maximum capacity), it was necessary to state clearly and publicity that the financial responsibility for the rate of expansion of primary education would rest in the long run with the local authorities. The fact that the government is making any addition to the local authorities' subvention payments for education is significant in improving its powers to co-ordinate development but the chance to influence the distribution of schools, in accordance with the declared social objective of the government to assist the poorer and more remote parts of the country, has been lessened. However, once the decision had been taken that the local authorities should bear an increased proportion of the financial responsibility for education, there remained only one thing to do: the subvention system was remodelled so as to reflect the priorities attached by the government in incentives offered to the local authorities to conform with the government's wishes.[2]

1. Estimates of potential local authority expenditure based on the 7.5 per cent per annum increase formula already agreed had been increased by about £600,000 since the Ministry of Education had submitted its first draft. The real deficit was therefore just over £2,000,000.
2. Also discussed in Chapter 2 of this study and in J. B. Knight, op. cit.

Conclusions

What practical conclusion can an educational planner outside Tanzania draw from this history? Perhaps it is this: the series of adjustments which are set out in Table 3 in order of their time sequence could instead be classified in another way (Table 4).

It is quite clear that great care must be taken, when gross unit costs are used as the basis for projections, to ensure that the assumptions being made about financial contributions from services other than the central government are made the subject of explicit agreement between all those concerned in reaching a final decision on the allocation of central government funds. Of the 'cuts' which were made in the programme 70 per cent of their value was 'achieved' in this way and only 19 per cent were made as a result of explicit political choice of objectives (and amendment (e), which alone was the subject of disagreement, accounts for only 6 per cent of the total value of the modification). The modification of estimates based on unit costs accounts for an adjustment of 11 per cent. This is as least comparable to that brought about by clear political choice. Thus there seems to be far more flexibility in the estimates than there is in the range of political (or professional) choice which can be based upon them.

A second conclusion, less obvious but no less important than the first, can also be drawn. None of the amendments made before the plan was published was an amendment to the manner in which educational processes are conducted; only one, the change-over to the seven-year system, was an amendment to the way in which education is organized. When a development plan is to be published as a programme on which a government must stake its reputation with its electorate, the effect of a limitation of funds which seems, to those responsible for its implementation, to be arbitrary in character, may not be to bring forth 'bold' or 'imaginative' schemes incorporating measures designed to transform the economics of education. On the contrary, the result of an arbitrary limitation is more likely to be a 'safe' plan of limited scope based on educational processes which are fairly well under-

TABLE 4. Modifications to estimates of recurrent expenditure (1964-69,) as in Table 3 classified according to type

	(£ thousand)	
Gross cost before modification	58 191	
Net cost to the government after modification	35 506	
Total value of modifications	22 685	
Modifications by cuts in programme (amendments (b) and (e))	4 241	(19%)
Modification by refinement of 'unit cost' data (amendments (d) and (g)(ii))	2 576	(11%)
Modification by amendments to, or clarification of, arrangements for the finance of education (amendments (a), (c), (f), (g)(i), (g)(iii), and (h))	15 868	(70%)
	22 685	

stood (not least in their financial implications).[1] Necessity may be the mother of invention; but, unless a government is in the unlikely position of serving a people who will accept planning failures (or can be made to accept them), another offspring of necessity—caution—can be expected to be uppermost in its consideration.

Experiments may, by definition, not produce the expected results. It seems unreasonable therefore to expect a government, acting within financial limitations which preclude the achievement of some very modest objectives,[2] to expose its precious educational resources to the risk of experimental failure. The most that can be expected is probably 'pilot' experiments.

Fortunately, however, some countries engage in more experiments than consideration of their financial position might lead one to expect. The experiments must be chosen with an eye to the financial implications of failure as well as of success; they are therefore likely to be small in scale at first. Nevertheless the position is perhaps best summarized in this way; no ministry of education can be expected to adventure with its budget, but any ministry can be expected to foster experiments which could produce professionally viable changes as a basis for framing its future budgets. Financial stringency applied in advance over a period of years seems therefore to militate against radical changes in educational practice, unless an addition to the financial provision is made, contingent upon the conduct of 'experimental activities'. This has not been done in Tanzania, where forward estimates of recurrent expenditure are minimal. The risk is that, in applying all its available ingenuity to the problem of achieving the published plan targets with an absolute minimum of resources at its disposal, the Ministry of Education might fail to observe possible changes in educational practice which could transform the educational scene (and its economics!) in ten years' time.

The conclusion to be drawn from this relationship between financial limitations and willingness to experiment must be that a decision to experiment can only be meaningful if the corresponding decision to allocate resources for experiment is taken; indeed, that is why this discussion is found under the heading 'The process of decision in educational planning'. Without the decision to allocate resources for experiment, the experimenters' field is effectively restricted to those experiments which are cost-free (and which are, therefore, nearly always long-term in nature

1. This situation is relevant not only when major transformations are being attempted, but also whenever any new institutional arrangements are under consideration. In such cases particular care must be taken to ensure that qualitative changes in the content or conduct of education do not invalidate the financial assumptions on which a plan is based; modifications to those assumptions are nearly always implied.
2. It is, for example, difficult to allocate resources for experiment when they must be diverted from projects designed to achieve targets such as the 'Addis Ababa' targets, or the even more modest target of 'universal primary education' for four years.

because the experimenters have full-time jobs to perform apart from their experiments) or which are conducted almost entirely by agencies external to the country; it is, to say the least, doubtful whether the consideration of cost, as distinct from possible, though not guaranteed, results should be of such paramount importance in determining whether educational experiments should be undertaken.

One possible approach to the solution of this problem would be the establishment of an educational research council outside the Ministry of Education, with its funds coming from a government source also outside the Ministry of Education so that its claims do not have to be assessed in direct conflict with those of, say, primary education. Provided that such a council was empowered only to commission research projects and not to set up a permanent staff (which would probably merely result in the creation of yet another institutional interest to be mollified) it could, with suitable representation, act as a most useful catalyst to thorough educational inquiries.

6 The five-year development plan for education 1964/65-1968/69

In previous chapters of this monograph a number of topics have been discussed, all of them converging upon the central theme of the five-year plan for 1964-69. With the manpower targets set and the financial limitations settled, it is time to describe the actual plan which emerged.

Enrolment statistics for the period 1961-64 in each of the main parts of the education system are set out in Table 5. They are of particular interest as a back-

TABLE 5. Progressive development of enrolments, 1961-64

	1961	1962	1963	1964
Enrolment of pupils:				
Standard I	121 386	125 521	136 496	140 340
Standard V	19 391	26 803	40 508	43 610
Standard VIII	11 740	13 730	17 042	20 348
Total	486 470	518 663	592 104	633 678
Form 1	4 196	4 810	4 972	5 302
Form 4	1 603	1 950	2 839	3 630
Form 6	179	199	275	463
Total	11 829	14 175	17 176	19 897
Students entering teachers' colleges for all initial courses,	939	933	933	1 150
of whom:				
Students entering teachers' colleges for post-secondary courses (grade A and grade B)	17%	20%	25%	25%
Tanzanians in University of East Africa	206	218	324	415
Other Tanzanian post-secondary students (i.e., overseas students) (including universities)	1 002	1 153	1 325	1 712
Full-time engineering students at Dar-es-Salaam Technical College	22	35	80	178
Teachers in public primary schools	9 885	10 273	11 100	12 044
Teachers in public secondary schools	664	746	886	939

SOURCE Ministry of Education

ground to the plan for 1964-69 since they show up those points of the system which were growing most rapidly at the beginning of the planning period, i.e., primary, standards V-VIII; secondary, form 6 and the University of East Africa. By way of contrast with enrolments at these levels, the enrolments in primary standard I, secondary form 1 and in teachers' colleges had been rising comparatively slowly. At the secondary form 4 level enrolments had risen very fast during 1961-64 but reference to the form 1 enrolments for 1962-64 showed that the increase would be small during 1965-67.

One of the most pressing problems which the planners had to solve was that of providing for the continuation of the education of the 44,000 pupils enrolled in standard V when the corresponding enrolment in standard VIII was hardly over 20,000. There were 1,115 classes open at the standard V level and only 548 classes at standard VIII. Even if it had been either possible or advisable to cut out all further development of standard V classes, a further 1,064[1] classes would have been needed by January 1967 if all the children in standard V in 1964 were to progress to standard VIII; such a development could, if the supply of teachers would allow, add £0.6 million to the gross (all sources) annual expenditure on primary education before any other developments could be considered. Worse still, it would do so while making no significant contribution to the urgent high-level manpower needs of the economy. At first the attempt was made to accommodate most of these developments within the plan, but they had to be given the lowest priority as soon as cuts became unavoidable. However it was found possible to avoid the creation in the long run of another selection barrier in the system (after standard VI) by the introduction of the 'seven-year primary course', to which reference has already been made. The decision to advance the implementation of this reform from the early nineteen seventies to 1965-67 did however throw a heavy onus on the plans to develop 'primary schools of quality'. The importance attached to these plans can be illustrated from many speeches of the Minister of Education[2] and also in the Ministry of Education's final submission to the Directorate of Development Planning in the preparation of the second volume of the development plan where it is stated: 'The planned increase in the number of pupils passing through secondary schools will contribute most to an increase in shared national wealth if the rise in these numbers is accompanied by a rise in the number of less well qualified people associated with them in effective participation in the cash economy. The mechanical "rote" learning which has been all too common in many primary schools until now must be replaced by a more modern approach, preparing

1. Eighty for standard VI, 417 for standard VII and 567 for standard VIII.
2. For example, Budget Speech of the Minister of Education, June 1964: 'These (primary school) inspectors are indeed in the forefront of the struggle to improve the quality of primary education upon which the success of the programme for secondary school expansion depends.'

pupils who will be ready to apply their understanding gained at school to the variety of novel situations they will meet as they participate in the country's development.'[1]

Primary education

The stress which was being laid on improving the quality of primary education could not, however, exclude the need for some quantitative expansion. The enrolment of 140,000 pupils in standard I in 1964 corresponds to about 55 per cent of an annual age cohort.[2,3] Even the stipulation that this proportion should not be allowed to fall meant that about 3,000 new places in nearly seventy new classes would have to be found each year.[4] Similarly some further expansion of standard V provision would be necessary if only for reasons of equity, because some local authorities had not been able to make the expansion during the period 1961-64 when encouraged to do so by the government. Although it was financial limitations which had led the government to reduce its projected assistance to local authorities, the fact that the resulting modifications to the subvention system[5] have left the initiative for proposals with the local authorities, while giving them a strong financial incentive to conform to national priorities in respect of improving the quality of education, may well ultimately seem to be the strongest feature of the plan for primary schools; this is because it provides a system under which the national priorities can be interpreted in different ways in the light of the widely differing needs of different local authorities.

1. Development Plan of the Ministry of Education, paragraph I.5, Dar-es-Salaam, Ministry of Education. (Mimeographed.)
2. Interpolation of age structure data collected at the 1957 census and the assumption that each cohort is 2 per cent larger than its predecessor results in an estimate of between 260,000 and 280,000 children aged 8 in 1964; actual ages of entry to school vary, however, between 6 and 9 years or more.
3. The percentage in individual districts is much more difficult to estimate with reliability. While it approaches 100 per cent in most towns, it may well be below 20 per cent in a few districts and enrolments of between 30 per cent and 45 per cent of each age group are characteristic of a large number of districts.
4. The average size of standard I classes throughout the country in 1964 was 43.3 compared with a permissible maximum of 45; there was no significant prospect of improving enrolments without increasing the number of classes because the relatively few schools with less than forty-four or forty-five pupils in standard I were nearly all to be found in the more remote areas where difficulty of access to school or lack of parental interest could be seen to be the underlying reasons for low enrolments.
5. *Tanganyika Five-Year Plan* ..., op. cit. Vol. II, pp. 113-115.

Secondary education

The figures in Table 5 make it clear that the greatest achievement of the period 1961-64, when viewed in the light of the country's most pressing needs, had been the increase in secondary school enrolments to the extent that the form 4 enrolment figure of about 1,600 in 1961 could be expected to be almost trebled in four years (i.e., if form 4 enrolments in 1965 equalled form 1 enrolments in 1962). Thus, by the beginning of the 1964-69 planning period, it became possible to make plans which depended for their success on the availability of much larger numbers of secondary school leavers. In the field of education itself it was at last possible to plan the training of enough grade A teachers to meet the most pressing needs of the upper and extended primary schools, and also to look forward to the day when all students entering teachers' colleges could come from secondary schools—a major step forward in the struggle for primary schools of quality. It was also possible at last to plan post-secondary courses at the technical college without fear that the plans would be made irrelevant for lack of students. Other bodies looking for students for vocational training could also be confident for the first time that an adequate number of students would be forthcoming. The number of additional secondary school places needed to meet the anticipated manpower requirements was not in fact large; an increase of the annual entry to form 1 of about 350 pupils each year appeared to be sufficient,[1] and provision was made accordingly in the plan. The provision for increased enrolments in forms 5 and 6 was also based on the manpower projections, together with assumptions about the number who would qualify to enter university; in this latter respect particular attention was given to ensuring that the supply of pupils qualifying in science subjects would be increased. However, provision to meet purely quantitative needs could hardly be regarded as adequate; as the proportion of each age group admitted to secondary school rose,[2] so it was becoming increasingly important to provide courses which, while of a standard equal to their predecessors, would be more suitable as 'terminal' courses for pupils who would go straight into employment on leaving school. Most of the secondary schools in Tanzania in 1964 were organized as two-stream (eight classes) schools for 280 boarders with twelve or thirteen staff members, a staffing strength which hardly exceeds the minimum necessary for effective teaching of a purely 'academic' school certificate course even when the situation is not complicated by the frequent intervention of staff changes; consequently it was necessary to concentrate as much as possible of the expansion of the secondary school system as a whole into the extension of existing schools, which would thus become better prepared to teach a more diversified curriculum.

1. Although reservations have already been expressed over this figure in Chapter 4.
2. This is, of course, a strictly comparative term. Even the projected figure of 7,070 entrants to form 1 in 1969 is equivalent to only about 3 per cent of an age group.

Higher education

In the case of higher education, detailed planning is formally the concern of the university itself.[1] However, there is in the normal course of events a continuous series of relatively informal consultations between the university authorities and the government concerning the manpower development programme. Such discussions are of particular importance in relating the work of the university in the professional preparation of doctors, teachers, lawyers, engineers, agriculturalists and others for national needs. In contrast to this approach the planning of the financial limits within which the university would be expected to operate has to be included within the scope of the over-all education plan and is formally the direct concern of the government. In this instance 'target' methods of costing[2] are peculiarly appropriate. They were therefore applied to the enrolments required for manpower purposes and adopted.

The training of teachers

The plan for the training of teachers, which is discussed more fully in the next chapter, is in some respects the part of the plan which represents the sharpest break with the past. The only direction in which quantitative progress had been possible (but not particularly desirable) on any scale during the period 1961-64 was in the training of grade C teachers, because there were not enough candidates for post-secondary teacher training;[3] there was however some expansion of grade C (post-primary) training during the period 1961-64, without which there would have been a corresponding increase in the over-all shortage of teachers in the period 1964-67; but, as the next chapter will show, there was already in 1964 a considerable surplus of grade C teachers in the schools who were employed in place of grade B or grade A teachers in standards VI to VIII. Some progress had been made in increasing the proportion of new trainees who had been to secondary schools from 17 per cent to 25 per cent in 1964, but this had been barely sufficient to maintain the proportion of grade A and grade B teachers in the schools in a period when wastage, largely due to new employment opportunities in the public service, was a particularly severe problem among the more highly qualified teachers.[4] It was

1. The Ministers of Education of Tanzania, Kenya and Uganda are, of course, represented.
2. See page 24.
3. In 1964, 320 places were provided for grade A courses but it was only possible to fill 289 of these places.
4. In 1962, 1,530 out of 10,273 teachers in primary schools were grade A or grade B. Two years later, the corresponding figures were 1,774 (estimate) out of 12,044, i.e., still about 15 per cent of the total. Over the same two-year period the proportion of primary school children enrolled in standards V to VII rose from 15 per cent to over 20 per cent of total primary school enrolments.

against this background that the proposal was adopted to discontinue post-primary (grade C) teacher training in the near future and to substitute post-secondary (grade A) training, now that the supply of candidates from the secondary schools could be expected to come into balance with requirements, thus making plans for an intake of 1,500 students into training in 1969 compared with 289 in 1964 into practical propositions.

The planned changing pattern of enrolments at the principal stages of the education system is shown in Table 6. Contents of the table are taken from the official plan document.

It will be immediately noticed that there are no 'target' enrolment figures for primary education in 1969. This is because the targets for all the other parts of the education system are directly related to the calculations of government expenditure involved,[1] while the progress which local authorities will be able to make is explicitly related to their own capacity to pay a part of the cost. At the time of writing it seems likely that there will be about 160,000 pupils in standard I and between 55,000 and 60,000 in standard VII in 1969. The number enrolled in standard V is more difficult to predict, since it could be greatly affected by the

TABLE 6. Targets for the development of education, 1964-69

	1964[1]	1969	Percentage increase
Tanganyikan students entering the University of East Africa	175	528[2]	202
Pupils entering form 5 of secondary schools (higher school certificate course)	680	1 280	88
Pupils entering form 1 of secondary schools (school certificate course)	5 250	7 070[3]	35
Students entering craft courses (Moshi Technical School and grant-aided establishments)	188	350	86
Students entering teacher-training courses, grade A	320	1 500	369
Students entering teacher-training courses, grade C	920[4]	—	—
Pupils completing standard VIII (later standard VII)	18 500[5]	—	—
Pupils entering standard V	44 000[5]	—	—
Pupils entering standard I	142 000[5]	—	—

SOURCE *Tanganyika Five-Year Plan...*, op. cit., Vol. I, p. 67

NOTES

1. Provisional figures used for planning purposes, which were later superseded by figures in Table 5, are included in this column
2. A lower figure of 450 will apply if it does not prove possible to accommodate the additional students at the reduced cost (mentioned in Five-Year Plan, Chapter 4, paragraph 8)
3. Assuming adequate external aid will be forthcoming
4. To be discontinued
5. The increase in these figures will be determined largely by the capacity of local education authorities to bear their share of the recurrent cost of primary education

1. In note 3 to Table 6, the reservation about enrolments in form 1 of secondary schools is similarly due to the assumption of non-government contributions to the required revenue.

authorities' view of their financial capacities when current developments have been carried right through to standard VII; it is not, however, likely to be less than 60,000, an increase which would be achieved only partly by providing new classes, as increasing pressure for places will probably bring about a substantial increase in the average size of classes from the 1964 figure of 39.1 pupils per class towards the maximum permitted figure of 45. The discussion of the process of decision in Chapter 5 has shown the importance of recognizing the quantitative relationship between educational programmes and their revenue implications. It is therefore no accident that the table of targets in the published plan (Table 6) is immediately followed by the definitive estimates of the costs involved (Tables 7 and 8).

TABLE 7. Functional analysis of over-all financial provisions—capital expenditure

Sector of education	Gross	Net cost to government
	(£ thousand)	
Higher To finance the expansion of the University of East Africa so that all students expected to qualify for entry may do so. Also to provide a small amount of capital for the development of extramural studies	4 902	4 902
Secondary (i) To open twelve streams at form 1 in 1965, six streams in 1966, and ten streams at form 1 each year thereafter; (ii) To open three new streams at form 5 in 1965, one new stream in 1966 and again in 1967, and five new streams in 1968 and again in 1969	3 251	2 651[1]
Technical Extensions and improvements at Moshi Technical School; extensions to Dar-es-Salaam Technical College to accommodate the increased input to technician-level courses which will be required in the next planning period	1 500	1 500
Primary To assist local education authorities in converting their primary school systems to the seven-year course and to provide for controlled expansion of the lower primary schools. To improve the class-room and staff quarters at schools, particularly those in poorer districts, where it is essential that grade A teachers should be employed	5 000	2 697[2]
Teacher training To convert the existing system of training colleges into a streamlined system of ten colleges, having an annual intake of 1,500 students for grade A courses	2 000	2 000
Other	250	250
Total	16 903	14 000

SOURCE *Tanganyika Five-Year Plan* . . . , op. cit., Vol. I, p. 67

NOTES

1. These schools are already planned at no capital cost to the government
2. Local education authorities are expected to provide £2,303,000 (in cash and self-help) towards this programme

TABLE 8. Functional analysis of over-all financial provisions—recurrent expenditure

	£ thousand		£ thousand
(a) *Annual expenditure*		(b) *Expenditure on each sector*	
1964/65	5 933	Higher	4 417
1965/66	6 524	Secondary	10 002
1966/67	7 049	Technical	1 800
1967/68	7 642	Primary	13 103
1968/69	8 358	Teacher training	3 234
		Other[1]	2 950
Total	35 506	Total	35 506

NOTE
1. Including administration

SOURCE
Tanganyika Five-Year Plan..., op. cit., Vol. I, p. 68

7 Teacher requirements and supply

The successful implementation of any plan for developing the supply of teachers requires planning and forethought which goes well beyond relatively simple statistics and assumptions. Fortunately, the statistics required are generally not so complex as those which are desirable when preparing forecasts of expenditure. However, in a situation of manpower shortage, salaries and prospects for professional promotion are vitally important features; they are therefore discussed in the concluding paragraphs of this chapter.

Statistics and assumptions underlying the plan for the training of teachers

Statistical descriptions, or tenable assumptions, have to be made in respect of the following factors: (a) the number of teachers serving at the beginning of the plan period, classified according to their qualifications, which must be presumed to be directly related to the tasks of which they are capable (see Table 9); (b) the proportion of all serving teachers who should be professionally trained for their task; (c) the availability of candidates for training as teachers at various educational levels; (d) the rate of withdrawal of teachers from service in the various categories.

The number of serving teachers

In 1964, full-time teachers were recorded as serving in public schools in Tanganyika, as follows: 12,044 in primary schools, 919 in secondary schools, 152 in technical schools, including the Dar-es-Salaam Technical College, and 203 in teachers' colleges, which totals 13,318.[1]

1. Source: Ministry of Education.

TABLE 9. Training and duties of teachers

Qualification	*Method of entry*	*Usual teaching duties*
Grade C	Eight years' primary education plus two years' training	Usually teach standards I to VI
Grade B	Now produced only by upgrading of grade C teachers, but formerly mainly by two years' training of students with eight years' primary and two years' secondary education	Usually teach standards VI to VIII
Grade A	Eight years' primary plus four years' secondary education followed by two years' training	Usually teach standards VI to VIII; also forms 1 and 2 in secondary schools and forms 3 and 4 Kiswahili
Education officer	Formerly a promotion post only, except where some overseas degrees or other qualifications are held which are not recognized as equivalent to UEA graduates. New two-year course for direct entry began in 1965	Usually teach in secondary schools, forms 1 to 4
Graduate	By taking a degree recognized as equivalent to those of the University of East Africa. Professional training as a teacher is also nearly always required	Secondary schools forms 1 to 6

This total teaching force of 13,318, though almost adequate numerically to maintain the pupil-teacher ratios prescribed for classes at the various levels of education, was defective in two respects—in the proportion of Tanzanian citizens holding teaching posts in the higher levels and in the proportion of suitably qualified staff members holding posts in primary schools. The teacher-supply policy of the Tanzanian Government was designed to remedy these deficiencies in the shortest possible time. The teacher-supply position in primary education in 1964 is set out in the last line of Table 10 where it is contrasted with the number of teachers of various grades required for full staffing of urban and rural primary schools. The criterion used to assess full staffing is the establishment of teachers which would be approved by the government for each class. This requirement is related in turn to the training received by the teachers in the various grades and therefore to their assumed capacity to teach the syllabus in the various primary school standards.

TEACHERS IN PRIMARY SCHOOLS

The most important requirements which relate the teachers' qualifications to the standard of class they are expected to teach are those concerned with the language of instruction. Under the pre-independence education system, African primary education was provided in the medium of Kiswahili with a transition to English as

the medium being optional in standard VI and compulsory in standard VII. In this way pupils who went on to secondary school after standard VIII would have at least two years' experience in the English medium, used in secondary schools, before entry. In the various non-African (principally Indian) education systems, children either went through the whole primary course with English as a medium (and in any case studied English as a subject throughout, while African children

TABLE 10. Primary school teachers (1964) in rural and urban areas classified according to qualification

School category	School standard	Number of classes	Teachers required			
			A	B	C	Total
Urban schools						
(a) Half-day attendance[1]	I	174			190	
	II	174				
	III	17				
	IV	14				
(b) Full-day attendance[2]	III	156			156	
	IV	161			161	
	V	150			150	
	VI	134		134		
	VII	119	119		104	
	VIII	89	89			
Total teachers required			208	134	761	1 103
Actual teachers in post[3]			305	270	591	1 166
Rural schools						
(a) Half-day attendance[1]	I	3 057			4 440	
	II	3 008				
	III	1 443				
	IV	1 371				
(b) Full-day attendance[2]	III	1 491			1 491	
	IV	1 633			1 633	
	V	1 062			1 062	
	VI	981		981		
	VII	916	916			
	VIII	509	509		713	
Total teachers required			1 425	981	9 339	11 745
Actual teachers in post[3]			390	1 109[4]	9 379	10 878

SOURCE Ministry of Education

NOTES

1. Half-day attendance requirement for full staffing of all schools, standards I to IV, is half C
2. Full-day attendance requirement for full staffing of all schools: standards III, IV and V, is one C; standard VI, one B; standards VII and VIII, one A plus half C
3. The returns of the number of serving teachers include the category 'Other recognized qualifications'. It is estimated that in rural areas one-third of these teachers are equivalent to grade A and the remainder to grade C, in urban areas the proportion is estimated at one to one
4. About 300 of these grade B teachers were promoted from grade C in recognition of meritorious service. Since they were not given any specific preparation for teaching standards VII and VIII before promotion, they have not been counted in the discussion as teachers qualified to work in the English medium. They may in fact be teaching any standard from standard I right up to standard VIII

did not begin to study English before standard III), or, alternatively, they began the course in their own vernacular, e.g., Gujerati, and transferred to English fairly early in the course—usually by standard V; Kiswahili was not used as a medium of instruction, nor was it a compulsory subject in the curriculum, in these schools.

With the change-over to an integrated system of education, in accordance with the Education Ordinance of 1961, it was decided that syllabuses should be recognized in only two media of instruction, Kiswahili and English; it was further decided that in any school, whichever the medium selected, the other language should be taught as a subject; also there should be a common syllabus for the last two years (standards VII and VIII) of the primary school course.

The shortage of teachers in rural primary schools, which are virtually all Kiswahili-medium schools, was concentrated almost entirely among teachers qualified to use English as the medium of instruction. Of a potential requirement of 2,406 of these teachers, the estimated number serving in rural primary schools was approximately 1,200 (390 grade A, most of whom qualified for teaching by completion of a two-year course of training for which the entry requirement was school certificate, and 810 grade B teachers who had entered teacher training after successfully completing only a part of the secondary school course). These 1,200 teachers are, however, distinguished from the majority of English-medium teachers in urban primary schools in that their own first language is, characteristically, Kiswahili rather than English.[1] In the urban primary schools, a large proportion of which are former Indian schools, it would appear at first sight from Table 10 that 342 English-medium teachers are required and that there are actually 575 such teachers in service. The balance of 233 teachers, nearly all of them of Indian extraction, is not, however, simply transferable to rural primary schools. Not only is it rather unlikely that they would settle in rural areas or make satisfactory teachers of children from a different linguistic background; they are needed to teach in the urban primary schools where English is the medium in the lower standards. Thus the position in the urban schools is that there is a severe shortage of teachers who are competent to teach Kiswahili to pupils whose mother tongue is not an African language;[2] this shortage is proving in practice to be a major obstacle in the implementation of the proposal to construct a truly common syllabus for all pupils in the last two years of the primary school course.

1. The term 'Kiswahili rather than English' is used, as the mother tongue of an unknown number of these teachers is not Kiswahili but a local African vernacular, such as Kihaya or Kichagga. The point is that these teachers are better qualified to teach, in English, children who have reached standards VII and VIII through Kiswahili-medium classes in the lower standards; a teacher who does not habitually use Kiswahili as his *lingua franca* is considered to be at a disadvantage in these circumstances.
2. While many teachers, including all African teachers, speak Kiswahili fluently, few of them have been trained as teachers of the language. The standard of teaching of Kiswahili to children who speak the language can probably be greatly improved through the training of teachers. The skills of teaching Kiswahili as a second language are only now becoming a focus of interest.

Temporary arrangements have been made to ease the actual numerical shortage of teachers in rural primary schools (estimated at 867 from Table 10); of the 713 posts established for a 'third' teacher in standards VII and VIII about 450 are not filled, thus freeing an equivalent number of grade C teachers; about 120 United States Peace Corps teachers entered service (as English-medium teachers) just after the return was completed and the remainder of the deficit has been met largely by permitting half-day attendance in the lower standards for more classes than the official 'establishment' figures would indicate. As a consequence there is now relatively little English-medium teaching in standard VI and, in some cases, there are classes in standards VII and VIII which have to be conducted largely in Kiswahili by teachers who are not familiar with the subject-matter taught in standards VII and VIII (and which are, therefore, all too frequently mere revision of work done in the lower standards) because of the shortage of suitably qualified teachers.

As a consequence of these contrasting situations found in rural and urban primary schools, two of the principal objectives of the national teacher-training programme can be identified: (a) to expand rapidly the provision of training facilities for teachers capable of using English as a medium; and (b) to make suitable provision for the training of teachers to teach Kiswahili as a subject both to those who use the language as an everyday means of communication and to those to whom it is, at best, a second language.

TEACHERS IN SECONDARY SCHOOLS

In secondary education the teacher-supply position is quite different from that found in primary education. The 'establishment formula' allows for the provision of one and a half teachers per class, this figure to include leave reliefs, and suggests, further, that of each four teachers employed against the establishment for school certificate classes (forms 1 to 4, formerly known as standard IX and XII) two shall be graduates, one other shall be of education officer rank but not usually a graduate and one shall be a grade A teacher. All teachers employed against the establishment for higher school certificate classes (university entry—forms 5 and 6) should be graduates. In addition to these establishment allowances, each school where girls are in attendance may have one additional teacher on the staff to teach domestic science. For 1964, the establishment formula gives a total requirement of 929 teachers—497 graduates, 203 other education officers, 203 grade A teachers and twenty-six others with qualifications to teach domestic science.

The staffing strength in the schools as of June 1964 is set out in Table 11.

As in the case of the primary schools, there is a small over-all shortage of staff, but this becomes larger when allowance is made for the sixty-one laboratory assistants, who are not teachers, and the thirty-two 'other teachers', most of whom

TABLE 11. Teachers in secondary schools, 1964

Teachers	Tanzanian citizens	Others	Total
Holders of degrees,[1] with a professional teaching qualification	13[2]	323	336
Holders of university degrees			
(a) with a professional qualification	10	109	119
(b) without a professional qualification	10	120	130
Holders of diplomas[3]	39	42	81
Grade A teachers (or equivalent)	108	9	117
Teachers of domestic science or handicrafts, not otherwise classified	14	—	14
Other teachers	32	29	61
Laboratory assistants	61	—	61
Total	287	632	919

NOTES
1. Recognized as equivalent to those of the University of East Africa
2. Of these thirteen teachers, three did not hold professional teaching qualifications
3. Equivalent to those formerly awarded by Makerere College

SOURCE
Ministry of Education

(if they were citizens) were pupils who had completed the higher school certificate course at the end of 1963 and were waiting to enter the university in July 1964 or (if they were not citizens) were auxiliaries provided under such schemes as voluntary service overseas; such teachers, although they gave valuable assistance in teaching, were not counted against the establishments of the schools in which they were serving or approved for purposes of grant-in-aid unless they were graduates. The effective supply of teachers was, therefore, approximately 800 to fill 929 posts; in other words, one post in six is vacant. If the incidence of overseas leave were evenly spread over the year this situation would not become too serious, since absence from duty of one in seven of overseas teachers is allowed for in setting the establishment formula. However, the return from which the figures which have been discussed are taken was made in May-June 1964, before the period (July-October) in which the incidence of leave is usually heaviest. There must, therefore, have been considerable difficulty in the schools during the latter part of 1964, especially after the opening of the university year in July.

It is, however, not the numerical shortage of staff which is most serious in secondary education, nor, as in primary education, do the formal qualifications of the teachers actually in service fall far short of 'establishment' requirements.[1] The serious shortages were of graduate Tanzanians in particular and, more generally, of experienced teachers having high academic qualifications who are likely to remain in Tanzania long enough to give continuity until an adequate supply of

1. This is, of course, a matter of opinion turning largely upon the value placed upon graduates whose degrees are not recognized as equivalent to those of the University of East Africa.

Tanzanian graduates is forthcoming. There were less than 200 Tanzanian teachers in secondary schools[1] and over half of these were grade A teachers. Of the 323 qualified graduates, 145 were serving two-year contracts under the Teachers for East Africa scheme and several others were recent recruits. Consequently teacher-supply policy in secondary education is concentrated on the following objectives: (a) the training of a large number of Tanzanian graduates as teachers; (b) the encouragement, especially during the interim period before the results of the university-expansion policy bear fruit, of the recruitment of expatriates who are willing to serve for more than one two-year tour and of the recruitment for direct entry to senior posts of experienced teachers from overseas.

One further difficulty which awaits solution is that of the provision of teachers having not only the right qualifications but also the right teaching subjects. The constraint in this case is largely one of the supply of suitable candidates for training as teachers of science subjects and of languages.

TEACHERS IN TECHNICAL EDUCATION

The technical education sector is small in comparison with secondary education, the total number of staff employed being 152. As in the case of secondary education, however, the teacher-supply position (Table 12) reflects the virtual absence of Tanzanian citizens from the senior posts for which high qualifications are required.

The high proportion of teachers holding relatively low qualifications as assistant technical instructors or junior assistant technical instructors[2] is not in itself

TABLE 12. Teachers in technical education, 1964

Teachers	Tanzanian citizens	Others	Total
Education officers (i.e., graduate equivalents)	4	75[1]	79
Grade A teachers	6	—	6
Technical assistants	20	—	20
Junior technical assistants	47	—	47
Total	77	75	152

NOTE
1. This total includes twenty teachers provided through external aid channels at no cost to the Tanzanian Government. The remaining fifty-five are charged against the ordinary government establishment

SOURCE
Ministry of Education

1. From Table 11, i.e., 287 less sixty-one laboratory assistants and thirty-two 'other teachers'; it is also likely that considerably more than twenty of the 'holders of other degrees' are in fact Tanzanian citizens; however, of 229 others in this category a substantial proportion are teachers in the former Indian secondary schools who will have already become Tanzanian citizens, although they are not shown as such in Table 11.
2. Regarded as broadly equivalent for salary purposes to grade B and grade C teachers respectively.

serious, since it reflects the amount of individual attention which must be given in the practical work associated with craft training. As in the case of secondary education the most serious deficiency is in the number of highly qualified Tanzanian citizens—a deficiency which is seen to be even more serious when the current trend away from craft training as an educational responsibility towards an emphasis on technical education is taken into account. A shortage of indigenous teachers suitable for work in technical education cannot, however, be remedied easily within the country in its pre-industrial phase, partly because there have been very few opportunities for Tanzanian citizens to gain the necessary industrial experience and partly because the supply of suitable candidates is itself very restricted, a problem which is discussed later.

STAFF IN TEACHERS' COLLEGES

The pattern of staffing in teachers' colleges (Table 13) is also very similar to that in secondary education. In this case, too, the shortage is one of highly qualified and experienced Tanzanian citizens. The predominance of Tanzanian teachers with qualifications little higher than those of their students is recognized as a weakness which must be cured.

It is, however, also recognized that the art of training Tanzanian teachers must be nurtured largely in Tanzania itself. One of the reasons for the establishment of the Institute of Education, bringing together the University College (through its department of education) and the teachers' colleges, is to provide a mechanism through which successful and experienced teachers can develop their interest in the training of teachers. It is perhaps true, nevertheless, that the dependence upon skilled expatriate tutors will last longer in teacher training than in other sectors. Avenues of promotion for primary school teachers are not broad within the teaching

TABLE 13. Staffing in teachers' colleges, 1964

	Tanzanian citizens	Others	Total
Trained graduates	6	42	48
Other graduates	2	54	56
Makerere diploma and equivalent	19	—	19
Grade A	22	9	31
Grade B	31	—	31
Grade C	15	—	15
Other	3	—	3
Total	98	105	203

SOURCE Ministry of Education

profession and it is by careful conservation of the opportunities arising in teacher training that the best hope of retaining the best teachers (who might otherwise seek promotion outside teaching) within the education system lies. This is especially true now that most of the administrative and inspectorial positions have been filled by teachers with as much as twenty years of their careers still ahead of them.

The professional training of teachers

The assumption made by the Tanzanian Government in formulating its policy with respect to the professional training of teachers is simple enough to state. Since a far larger part of the money spent on placing a teacher in front of a class is spent on the teachers' salary once he is working than on his initial training, and since it is believed that the trained teacher gives significantly better value for money, regulations have been made to the effect that grant-in-aid shall be payable only for teachers whose professional qualifications are recognized by the ministry.[1] It follows that the number of teachers to be trained should be made equal to the total number of vacancies expected to arise in the schools, either by the withdrawal or transfer of serving teachers or by the expansion of the system of publicly financed schools.

The availability of candidates for training as teachers

The assumption that all teachers shall be professionally trained is, of course, tenable only if there is an adequate supply of students for training or an extra-territorial supply of trained teachers. Experience of the job-allocation procedures for secondary school leavers (form 4 level) in 1962 and 1963, combined with the rapid secondary school expansion in the period 1960-64,[2] indicated at the time when the five-year plan, 1964-69, was being prepared that there was likely to be a supply of these secondary school leavers for teacher training which would be adequate or nearly adequate to fill all the vacancies in primary schools for which public finance could be foreseen, provided that the rate of withdrawal and retirement from teaching remained at about the same level as in 1961-64. This encouraging conclusion had been quite beyond the bounds of possibility three years earlier when the previous plan was in preparation.

In 1964, the situation regarding the training of secondary school teachers was

1. Most of the graduates listed in Tables 11, 12 and 13 as having no professional training were either already in service when the regulation was brought into force or they are teachers who, while holding no formal qualifications, have gained valuable teaching experience before coming to Tanzania.
2. The number of candidates for school certificate were 1,359 in 1960; 1,603 in 1961; 1,947 in 1962; 2,839 in 1963; and 3,630 in 1964.

not dissimilar from that regarding post-secondary trainees for primary education three years before. While it was becoming possible to plan on the assumption that a significant proportion of university graduates would become teachers during the forthcoming plan period, it was not possible to predict a supply of trainees which would be adequate to meet the full requirements of the secondary schools, in which requirements for graduates were planned to increase by about sixty each year in addition to the large number of recruits needed to replace departing expatriates. A small number of grade A teachers are appointed each year to secondary school posts in accordance with the establishment formula and there is also a new course for form 6 leavers who have not succeeded in gaining university places. This latter course, leading to qualification as education officer, grade III, is facing difficulties over the supply of suitable students, especially for science, because the competition for the limited number of these form 6 leavers is particularly intense. The solution of the difficulty over science students is, however, already in sight; enrolments in post-school certificate science courses have risen and will continue to rise so that they form four-sevenths of all enrolments at this level. Even if there is no improvement shown in the current somewhat pessimistic estimate of the number of these science pupils who will qualify to enter the university, the continuation of the present allocation of 30 per cent of science bursaries to intending teachers should bring about a balance between demand and local supply in the middle of the 1970s.

The greater difficulty may be found in recruiting suitable teachers of language (and literature). The number of African pupils who study these subjects in preparation for university entry is almost negligible and the number who opt for teaching is even smaller. In this instance it is clear that action must be taken in the secondary schools to ensure that the subject balance of the arts intake to university education courses is not seriously overweighted with students of history, geography and economics. It is, to say the least, doubtful whether a conventional 'literature' course would or should be acceptable. The answer may lie in the formation of a course of study covering the three languages of most immediate interest in use in Tanzania, i.e., Swahili, English and French.

The supply of candidates for professional preparation for work in technical education and in teachers' colleges does not come directly from the ranks of school pupils. Consequently, quantitative estimates of the size of these sources of supply are meaningless. In technical education current efforts are concentrated on the selection of those who, having enjoyed only restricted educational opportunities in the past, have shown in their work in technical education that they could profit from further training overseas in an industrial setting which Tanzania is not yet able to provide. Since the number of such potential trainees is strictly limited by the small size of the technical education undertaking today, efforts are already being made to attract people with industrial experience into teaching; but, so far, no

suitable candidates with significant experience have come forward. However, this, too, is a limited field for recruitment until larger numbers of Tanzanian citizens reach the technician level in industry. Only when the recent expansion of intakes to post-secondary technical education[1] results in a larger number of technicians, some of whom are attracted to teaching, can the current dependence upon expatriate teachers in technical education be greatly modified.

The supply of suitable teachers for work in the training of teachers is critical to the success of any teacher-supply programme. It is apparent that efforts to recruit enough teacher trainers for immediate needs from the ranks of serving Tanzanian teachers would not only block the promotion prospects for future successful primary school teachers but would also seriously threaten standards in the schools—the latter both because a fair proportion of appointments would be bound to be unsatisfactory,[2] with effect on the standards achieved in the teachers' colleges, and because the schools can ill afford to part with their more gifted teachers. This situation seems to be well understood by the countries and agencies most deeply involved in supplying teachers to Tanzania. Since the plan, as adopted for 1964-69, requires that between 250 and 300 education officers shall be serving in teachers' colleges by 1970 (a total to be compared with one of just over 100 in 1964), it is already clear that in this sector of education the already high degree of dependence upon expatriates will not only last longer than in other sectors, but will also become greatly intensified before large-scale localization of the staff by teachers of proved value in the schools becomes professionally feasible.

The rate of withdrawal of teachers from service

During the recent period of rapid expansion of the education system, accompanied by rapid expansion in many other fields, it has been peculiarly difficult to estimate the rate of withdrawal from the teaching profession. In the case of primary education, the number of serving grade C teachers has been growing at the rate of about 500 per annum and that of grade B teachers by 200 while the number of grade A teachers has not greatly changed. This net annual increase of 700 teachers is only about 100 less than the net annual output of the teachers' colleges in recent years. Such a low net rate of withdrawal of teachers from service has undoubtedly been achieved partly because rapid expansion was made during the three-year plan period both in areas which have been the traditional suppliers of teachers to the whole country and in the towns. In both these cases there seems to have been a reserve of unemployed teachers, particularly women, who could return

1. Nil in 1961; 12 in 1962; 53 in 1963; 106 in 1964; 190 in 1965.
2. In this connexion it must be remembered that with the coming of independence a large number of the most gifted teachers have been promoted to administrative posts (not only in education) and others have been transferred to other activities, such as politics and commerce.

to work only if a school was opened near their homes, or those of their husbands. The net withdrawal rate, once this reserve is taken up, seems more likely to be something over 300 per annum.

In secondary education, where expatriates on two-year contracts form such a large proportion of the total number of graduates, the rate at which graduate teachers have to be replaced (or persuaded to accept a second contract) is expected to rise to 180 per annum. In technical education the withdrawal rate will be determined largely by decisions still to be reached about the curricula of the former trade schools. In teacher training too the rate is more likely to be determined by the progress of reorganization than by any other factor. (The proposed reorganization is discussed below.)

The outline plan for the training of teachers

Primary school teachers

Against the background discussed above, it was possible to make proposals as to the type and emphasis of teacher-training to be undertaken, while leaving the precise size of the undertaking to be a matter for later determination in the light of financial limitations.

The first basic statistical fact to be taken into account is wastage; in this instance a rough estimate of the current extent of wastage (net) can be made by comparing the annual rate of growth of each category of the teaching force with the annual output of the teachers' colleges. In the case of grade C teachers, the cadre was growing at a rate of about 500 annually between 1962 and 1964 when the output of the colleges was between 700 and 750 each year, indicating a net annual wastage of 200 to 250. While this figure was fairly easy to establish, projection into the future was a more intractable problem; it was clear that wastage would increase as the number of long-service teachers and of women teachers increased, but there was not a firm foundation for any estimate of the rate of increase, which was in practice assumed to be twenty per year. At this stage it must, however, be emphasized that the difficulty over wastage statistics is not so serious in a country where over two-thirds of the requirement for new teachers is derived from the opening of new schools and only one-third to meet wastage requirement, as it is in economically more advanced countries where the proportion of each year's output of teachers which is needed simply to maintain the staffing strength in existing schools can rise to well over half of the total.

The second basic fact to be taken into account was the shortage of grade A teachers and the third was the likelihood that candidates for entry to grade A courses could at last be expected to be available. So in primary education the

decision was taken that the training of grade C teachers—of whom there was already a surplus within the teaching force—should be stopped as soon as possible and that the existing small colleges should be replaced by a smaller number of colleges, each to have at least 240 students,[1] in which secondary school leavers would be trained to become grade A teachers.[2] In this way the disturbing shortage of teachers qualified to teach in the upper primary standards could be eliminated and this step could then be followed by a programme of curricular improvement in the lower standards which would depend for its success on the introduction of the more highly educated grade A teachers. The standard of education of the teachers themselves would be further improved by the consolidation of teacher training into larger colleges, each able, by virtue of a minimum establishment of about twenty staff members, to provide a full and varied academic and professional curriculum which is beyond the reach of colleges today where they may have as few as six or seven staff members.

The actual number to be trained was more difficult to determine than the type of course which should be given in view of the financial uncertainty associated with the rate of expansion of primary schools. Over the five-year period there was a clear need for about 1,500 to bring in the 'seven-year course' and an undetermined number for expansion of the system. One way in which this last number can be estimated is by reference to the addition which can be made to subvention to local authorities on account of approved expansion. These additions were expected to average about £100 per class[3] and provision was made in the plan for subvention additions totalling £230,000,[4] equivalent to about 2,300 teachers. It was also estimated that about fifty teachers each year (education officer, grade III, and grade A) would take posts in secondary schools, i.e. 250 teachers over the five-year period. The total requirement[5] for teachers was, therefore, about 5,550. To meet this requirement a plan was drawn up under which the proportion of the requirement to be met by grade C teachers would be cut to the minimum, while the rate of training grade A teachers would be increased as quickly as possible (see Table 14).

There remained only the question of how large the intakes to the teachers' colleges in 1968 and 1969 should be. (These teachers would begin to teach in 1970 and 1971.) It was clear that an output of less than 1,200 teachers per annum in the

1. There is also an effective maximum size of a college if satisfactory arrangements for teaching practice and for its supervision are to be made. In some parts of Tanzania there will probably be real difficulty in organizing teaching practice for 240, while in others communications and population densities are more favourable. Colleges of up to 400 students are envisaged.
2. Nearly all of these grade A teachers will teach in primary schools, but a few will enter secondary schools each year.
3. Standard subvention additions of £67 or £100 for a grade C teacher and £100 or £133 for a grade B teacher.
4. For project education, 4,200; and for education, 4,400, in Volume II of the plan.
5. Including 1,500 teachers to replace those withdrawing from service.

TABLE 14. Number of teachers expected to qualify for service in the years 1965-69

Teachers newly qualified in January	1965[1]	1966[1]	1967	1968	1969	Total
Grade A (and education officer III)	233	310	600	720	840	2 703
Grade C	705	860	620	530	120	2 835
Total	938	1 170	1 220	1 250	960	5 538

NOTE
1. Actual enrolment figures 1964; grade A figures include grade B students who entered direct from secondary schools

SOURCE
Ministry of Education

1970s would be defensible only in the face of the most severe of financial situations and this figure was therefore adopted for planning purposes for the 1968 intake. The further expansion of the total intake to 1,500 students in 1969 was intended primarily to enable the government to encourage a more rapid expansion of primary school facilities in the next plan period if financial circumstances allow, thus ensuring that the next plan need not be so severely limited by the prospective supply of qualified teachers as its forerunners have been.

Secondary school teachers

In secondary education the policy adopted is to train every available undergraduate student to become a teacher by means of a course run concurrently with their degree course by the department of education at University College, Dar-es-Salaam. The limitation on the total number of students available is set by the manpower requirements of competing occupations; the current arrangement is that 50 per cent of bursaries awarded to arts students are reserved for those who agree to undertake the education course and up to 30 per cent of the bursaries for science students are similarly reserved. Since all holders of government bursaries have to sign an undertaking either to serve the government or to find employment approved by the government in the five years following graduation, the future supply of graduate teachers seems fairly well assured. However, the first graduates from this scheme will not graduate until April 1967 and their number will only become adequate to meet the needs of expansion (sixty per annum) from 1968 onwards; the replacement of expatriate graduates cannot be expected to be completed before an average rate of input to the schools has been maintained at an average of over 200 per annum for five or six years.

If the rate of expansion of secondary education remains the same in the period 1969-74 as that now projected for 1964-69, the number of posts established for graduates in 1974 will be about 1,100.[1] To meet this requirement there may be

1. That is, 500 in 1964 and sixty per annum for ten years = 1,100.

about 150 of the current teaching force still in service (mostly holders of 'other degrees' who will have become Tanzanian citizens) and the output of the University of East Africa. If it is assumed that the bursary arrangements for education courses are continued throughout the period 1964-74, then nearly 1,000 arts graduates and just over 500 science graduates can be expected to become available for the secondary schools[1] to fill some 950 posts, half of them for holders of degrees including mathematics or science. Thus, even if some wastage is allowed for, it seems that the supply of science teachers will be roughly in balance with demand in 1974 and that the proportion of arts undergraduates required to take education courses can be reduced in the not too distant future.

The situation will, however, change rather dramatically when the replacement of expatriates has been completed. Even with a reduced output of 'arts' teachers, the number of trained teachers graduating in 1974 will be between 200 and 250, of whom 120 will be science teachers. It is in preparation for this point that grave decisions will have to be taken. Either the rate of expansion of secondary schools will have to be approximately tripled—increasing the rate of creation of graduate posts from sixty per annum to about 180—or the proportion of graduates allowed under the establishment formula can be increased, or the rate of producing secondary school teachers will have to be cut, with effect from the university intake of 1972.

The first of these alternatives is obviously attractive, but its implications in terms of increased annual recurrent expenditure will have to be considered carefully in terms of priorities. The second has potential advantages in the quality of teaching to be offered in secondary schools but would be difficult to implement, except in the case of new posts; the third is clearly the least attractive alternative, except perhaps if it is applied to a small extent as a temporary measure. To the extent that the alternative of increasing the rate of expansion is adopted, there will be considerable implications for the planning either of additional capital developments or of ways and means of making a more intensive use of existing teaching facilities, a possibility which should become increasingly practical as the concentration of population and of upper primary day schools in the vicinity of secondary schools proceeds.

Teachers for technical education

Plans for the generation of a supply of indigenous teachers for technical education depend, as has been seen above, largely upon the supply of candidates with suitable experience. The four Tanzanian education officers recorded as serving in June 1964 will be joined by thirty-four others, for whom arrangements have already

1. Estimates calculated by application of the bursary allocation assumptions to the projection of university intakes for 1966-71 given in: A.C. Mwingira, op. cit., 1965.

TABLE 15. Overseas teacher-training programme—technical education

Number of trainees and type of experience before going overseas	Expected date of return to Tanzania					
	July 1964	Dec. 1964	July 1965	Dec. 1965	July 1967	July 1969
Junior assistant technical instructors (14):						
with city and guilds qualifications	1	1			1	
without city and guilds qualifications		4	1	6		
Other recruits (20):						
with secondary education and technician training						4
with craft training and city and guilds qualifications[1]					16	
Total (34):	1	5	1	6	17	4

NOTE
1. The sixteen trainees included here who will not be recruited from among serving teachers will each have less than one year of industrial experience before entering their teacher training

SOURCE
Ministry of Education

been completed, by 1969. It is significant that fourteen of these new technical teachers will be drawn from the ranks of serving teachers, that twenty will be recruited with little or no industrial experience and that no candidates have so far been found in industry who have any length of experience behind them and who are both suitable and willing to become technical teachers (Table 15).

From these somewhat dismal figures illustrating the limitations on the supply of suitable candidates for technical teaching it is clear that dependence on expatriates must continue, especially if there is to be expansion of technical education. In recruiting the necessary expatriates particular care is being taken to seek out those with a special concern for developing technical education in accordance with Tanzania's own needs; in this connexion it is the current policy to seek arrangements with institutions in developed countries under which secondments of experienced teachers are made to Tanzania during the period in which counterparts are being trained.

The immediate prospects for recruiting more candidates for technical teacher training are bleak, but these are expected to improve once the expanded output from the post-secondary technician courses at Dar-es-Salaam Technical College have begun to gain working industrial experience. In the meantime, as an element of technical education is developed within the general secondary school curriculum, there are proposals to organize a course in teaching vocational subjects at Dar-es-Salaam Teachers' College in association with the general teacher-training programme. The use of the technical college for teaching practice in this connexion will help to create stronger links and greater understanding between technical education and the rest of the education system.

Staff for teachers' colleges

It has already been pointed out that the prospects of finding an adequate number of suitably qualified and experienced Tanzanian teachers for transfer to the teachers' colleges are far from bright. It is nevertheless regarded as most important that advance plans should be made to seize opportunities when they arise. With this end, among others, in view considerable advances have been made recently in opening up avenues of promotion for primary school teachers. It is now possible for primary school teachers who enter the profession as grade A teachers (or with lower qualifications) to gain promotion to education officer grades, not only in administrative capacities but also in purely professional capacities as primary school inspectors or as tutors in teachers' colleges. One of the functions of the new Institute of Education, in which the University College, Dar-es-Salaam, is associated with all the teachers' colleges and with the Ministry of Education, will be to supervise and co-ordinate the professional studies leading up to promotion into teacher-training posts. Overseas courses for selected serving teachers are also used as a means of bringing teachers into contact with educational developments elsewhere. It remains true, however, that, given the paucity of Tanzanian teachers now serving in teachers' colleges who have both the academic qualifications required to teach post-secondary students and adequate professional experience of work in primary schools, the dependence upon expatriates in this sector must continue for a considerable time. It is perhaps in teacher training that the factors of professional experience of working conditions in Tanzania and continuity of service among tutorial staff are most important. Special efforts are therefore being made for teacher training to make inter-governmental arrangements and arrangements with the managing agencies of the teachers' colleges which will give the greatest possible continuity while the most promising Tanzanian candidates for teacher-training posts are gaining the necessary preliminary experience.

The upgrading of serving teachers

One further aspect of prospects for the supply of teachers which must be taken into account is that of upgrading, which can take place either by promotion 'on merit' or by promotion as the result of performance in examination. Two approaches to the provision of upgrading courses for serving grade C teachers have been tried. In the first of these approaches about 130 teachers were selected each year for full-time in-service courses at a teachers' college. The method—however successful it may have been in giving special preparation for teaching in the upper standards of the primary school—was expensive because teachers were seconded on full salary and unpopular because so few teachers could be selected for participation. It was,

therefore, replaced by a system under which teachers undertook a correspondence course covering the academic aspects of the course followed by an examination; teachers selected as a result of this examination were then admitted to short professional courses held during vacations at the teachers' colleges.

At the time of writing there are considerable doubts about the efficacy of this procedure. The first and most obvious question is whether a correspondence course on academic subjects can be used as a reliable selector of teachers who will merit promotion on professional grounds. The second question—concerning the whole purpose of upgrading—is whether it is intended to fit teachers to teach higher standards or to improve teachers' work with the standards already familiar to them. Now that the plan to train large numbers of grade A teachers whose work will not be restricted to the upper standards has been adopted, it would seem that the second purpose is rapidly becoming more relevant. In these circumstances the work of primary school inspectors (who are employees of the Ministry of Education, not of the local education authorities) in organizing in-service courses throughout the year would seem to be most clearly relevant. In this way it will be possible to work towards widespread improvements in professional standards and to select candidates for courses leading to promotion on the basis of their professional interests and capacities rather than their ability to absorb and reproduce exercises from a correspondence course.

The upgrading of teachers in higher grades has not presented a great problem so far, although it may do so in future. The reason is connected largely with the rapid promotion rates which have been associated with the Africanization of posts of administrative responsibility. Teachers gaining headships of secondary schools or posts as regional and district education officers have usually been promoted in consequence. The recruitment of large numbers of grade A teachers, who will naturally compare their own promotion prospects with those of their peers in other occupations, can be expected to give rise to pressures for the organization of upgrading courses (particularly for candidates headships of primary schools), but no institutional arrangements have been made so far to meet this need.

The salaries of teachers and their conditions of service in relation to teacher supply

Perhaps one of the most remarkable features of teacher supply in Tanzania is the fact that it is possible to reach broad policy conclusions without direct reference to the salaries of teachers or to comparisons with the terms of service found in other occupations which can be expected to compete for the services of school leavers and university graduates. This situation arises directly from the adoption by the government of the salary structure recommended in the Adu report of 1961, under

which entry points to the various careers in the public service were fixed not so much in accordance with the nature of the job but largely by direct reference to the educational qualifications held by appointees. Since a very large proportion of those holding educational qualifications are in fact employed in the public service, this approach to the setting of entry points has made considerations of initial salary relatively unimportant in recruiting local Tanzanian teachers.

As a result, other aspects of the terms of service and prospects of new appointees have become correspondingly more important. New recruits to the teaching profession seem to have been regarded as being at a disadvantage by comparison with their peers in promotion prospects and in the fact that nearly all teachers must, of necessity, work in rural areas.

A salary award was made with effect from the beginning of 1965 but, although the entry point for grade A teachers was raised by 10 per cent from £300 per annum to £330 per annum[1] the greater part of the award, estimated to cost the government £400,000 in a full year, went to pay salary increases to the lowest paid grade C teachers,[2] an award which reflects the objective of the government to achieve a more equal distribution of income among wage and salary earners rather than a concern to enhance the attraction of a particular occupation.

The 10 per cent award at the entry point of grade A teachers can be expected to help somewhat in attracting higher-quality applications for admission to teachers' colleges (provided of course that it is not followed by parallel increases in other branches of the public service); however, the confidence of the Ministry of Education that the large number of recruits for whom training provision will be made[3] can be attracted into teaching does not rest on the initial salary considerations or on the prospect of high salaries gained without promotion. (The highest point of the salary scale for grade A teachers remained unchanged by the recent salary award and the length of the scale was only slightly reduced, from eighteen points to fifteen points.) The trend which seems to be currently running in favour of the recruitment of teachers at this level is that by which the promotion prospects in competing occupations are now declining[4] for new entrants while the size of the secondary school output is increasing. This may, of itself, be sufficient to ensure that an adequate number of teachers is recruited for the primary schools, but the quality of the recruits and the ability of the schools to retain the service of the best of them

1. And for education officers, grade III (non-graduate) from £468 to £540.
2. The entry point for grade C teachers was raised from £141 per annum to £180 per annum.
3. The published plan makes provision for intakes of secondary school leavers to teachers' colleges of 600, 720, 840, 1,200 and 1,500 students in the years 1965-69 (inclusive) compared with 320 in 1964.
4. In the years immediately after independence opportunities for promotion of Tanzanian citizens, particularly Africans, were greatest in fields where Tanzanian citizens were taking posts of responsibility for the first time. The proportion of educated Tanzanians who were teachers was very high; consequently the promotion prospects in teaching for young teachers were relatively poor.

once their period of obligation to serve the government is past[1] seems likely to depend to a considerable extent on the way in which the teaching service, for primary school teachers as well as others, is moulded to provide a career structure with promotion opportunities adequate in both quantity and value to make the carreer prospects of the newly trained teachers fully comparable with those of men and women entering other occupations at the same levels of education.

The distribution of teachers

One other step which is being taken in the course of implementing the five-year plan is to provide fringe benefits, in the form of good-quality housing at low rental, for primary school teachers who are willing to serve in the remote and less popular areas. Tanzania is certainly not alone in having problems of maldistribution of the best-quality teachers, who tend to concentrate particularly in those areas from which teachers have traditionally been recruited. The application of quotas of promotions to each area may result in some less qualified teachers being promoted before some of their more skilled colleagues in the more attractive parts of the country. If this helps to retain the services of some of the more gifted teachers in difficult areas, there is every reason to believe that this mechanism should be used deliberately to discriminate in favour of the less attractive part of the country if a serious attempt is to be made to develop the potential of children throughout the country. The importance of the supply of good-quality teachers to individual parts of the country is seen to be particularly great when the political fact that secondary school places must be equitably distributed between the various Regions of the country is taken into account. Failure to provide an adequate primary education in some areas because of failure to achieve a satisfactory distribution of teachers can lead to a real waste of the resources devoted to secondary education, simply because the proportion of pupils admitted whose primary educational experience has been thereby limited or distorted is considerably increased. Such pupils must, of necessity, have a reduced chance of taking full benefit from the secondary education courses.

In considering the problem of distribution of teachers the possibility of central control of the postings of individual teachers is bound to arise. Current policy in Tanzania is by implication to reject this possibility.

The adoption of the Adu report recommendations that all teachers should receive the same salaries whether employed by the government (as civil servants), local education authorities or voluntary agencies did not, of itself, lead to the establishment of strictly comparable conditions for all teachers. This was because

1. Plans for teachers and other cadres of trained manpower to serve 'on national service terms' for a period immediately after completing their training have recently been announced.

government teachers (many of whom have been seconded to local education authority services since these services were set up in 1962) retained some fringe benefits, of which the most important were travel allowances on leave and disturbance allowances in the event of their being transferred to a new post, which other teachers did not enjoy as of right.

The process of establishing strict comparability of terms of services among teachers was, however, given a strong impetus by the restriction of the salary award of January 1965 to government teachers and members of the Unified Teaching Service.[1] These terms, which are advantageous to all teachers, include the protection of a member's employment (by a given employer though not necessarily in a given school) and, *ipso facto*, restrict the power of the government to direct the postings of all but its own employees and new entrants to the service; the latter are strictly rationed between the local education authorities. No further appointments of Tanzanian citizens to teaching posts in the government service except on Unified Teaching Service terms are being made, and the condition is laid down that whenever a government teacher is offered a promotion (other than to an administrative or inspectorate post) it can only be made if the teacher joins the Unified Teaching Service. The Government arrangement by which initial postings can be controlled may prove adequate to prevent actual vacancies in established posts from clustering in the most backward districts; but it is hardly likely to help those districts which need to concentrate on quality of education in order to overcome their handicaps, unless vigorous efforts are made in other directions as well: promotion prospects must be enhanced, housing and working conditions improved, and better communications provided in the areas which are most affected by the shortage of teachers.

Salaries of graduates

The salaries of Tanzanian graduate teachers are very strictly governed by Adu report principles and there has been no change in the salary scales at this level since the 'Adu' structure was adopted. No amount of manipulation of the salary structure will increase the total supply of local graduates which is limited by the history of the education system and the cost of university places today, not by any lack of inclination for degree courses. The policy of freezing the salary level for newly qualified graduates has much to commend it—if government policy is aimed at making the supply of graduates come more nearly into balance with requirements and if no further inducements are needed to ensure that university places are filled, there is an obvious logic in resisting the argument of shortage for a salary increase

1. See Chapter 2.

which would simply increase the price of high-level manpower and therefore of future development.

The establishment of equality in salary treatment for new Tanzanian graduates in general does not, however, solve the problem of allocation of the graduates between the competing occupations open to them. This is the underlying reason why a system of tied bursaries for university study has been introduced, under which students are offered bursaries covering the major part (or all) of the cost of their attendance at university only on condition that they agree to serve as the government directs for five years after graduation. As in the case of primary schools the prospects of secondary schools attracting high-quality teachers and retaining their staff beyond the period of obligation to the government will probably depend on such factors as the promotion policy which is followed by the Ministry of Education, and on the conditions under which the teachers will have to work.

Salaries of expatriate teachers

The salary position of expatriate graduates, whose employment seems essential for about nine years ahead, is quite different from that of Tanzanian teachers. While it is the clear policy of the government to pay to expatriates from local funds only the same basic salary as is paid to Tanzanians in equivalent posts, it is also easily recognized that the cost of living for expatriates is significantly higher than for Tanzanians; but the overseas addition which is paid to expatriates is more clearly related to the market rates in their countries of origin than to the cost of living in Tanzania. This addition is paid in most cases by the Tanzanian Government, which is then reimbursed by the sponsoring government, although some countries prefer to supply teachers 'in kind', making direct contracts with the teachers.

In recruiting expatriate teachers from a variety of overseas services, Tanzania is competing in a variety of markets in which different prices prevail. The salary which may be needed to attract a graduate physics teacher with three years' experience capable of teaching up to university-entry level will depend to a considerable extent on his country of origin. Thus the recent award of a 12.5 per cent salary increase payable as overseas addition to United Kingdom civil servants (including teachers) in Tanzania may have been just adequate to attract a particular teacher from the United Kingdom but not adequate to attract a teacher of similar quality and experience from the United States of America or Australia. (The even more recent award of a 13 per cent salary increase to teachers in the United Kingdom will probably make recruitment from that source immediately more difficult.) The difficulties which can arise when people are receiving very different salaries for apparently very similar jobs do not need elaboration. It seems clear, however, that, unless all expatriate teachers are to be recruited from one source (which would be

quite contrary to declared government policy), they will have to be paid differently. Some system by which the expatriate cost of living element could be recognized, equalized and paid in Tanzania for all expatriates while the inducement element of an expatriate's salary could be paid in his country of origin, should not be beyond the wit of man to devise. The introduction of such a system, combined with a policy of promotion designed to ensure that total emoluments remain sufficient to attract an adequate number of teachers to Tanzania and that the best expatriate teachers are given ample reason in terms of career prospects on their return home to extend their service over periods of four to eight years, can contribute at least as much to the sound foundations of the expanded secondary school technical education and teachers' college systems as the more tangible benefits of bricks and mortar.

Appendix

CATEGORY A - Pink Form
,, B - Blue ,,
,, C - Yellow ,,

Kalamazoo Summarizer TAWS LTD. 05110-14X9½

NAME OF SCHOOL
SHULE

Form No. KALAR 2
TAREHE
DATE

Shule za Primary - HABARI ZA NAFASI NA WALIMU.
Wilaya/Mji

Primary Schools - RETURN OF ACCOMMODATION & TEACHERS
District/Town

CATEGORY

Mwenye shule Government/L.E.A./T.E.C. (Roman Catholic) C.C.T. (Other Christian) / Muslim/T.A.P.A./Aga Khan/Other Management
* Assisted (Approved Development) PINK FORM - Assisted (non-approved Development) BLUE FORM - Unassisted YELLOW FORM
* NOTE: ABOVE CLASSIFICATION APPLIES TO (I) THE WHOLE SCHOOL or (II) SOME STANDARDS ONLY - Strike out (I) or (II)

KISWAHILI / ENGLISH - MEDIUM OF INSTRUCTION IN STD. I - VI

A.	JUMLA YA MADARASA (STREAMS) - Darasa la I	A.	NUMBER OF STREAMS PROVIDED - Stand. I
	II		,, II
	III (Nusu siku tu)		,, III (half - day session only)
	IV (,, ,,)		IV (,, ,,)
	Darasa la III (Siku nzima tu)		Std. III (full - day ,, ,,)
	IV (,, ,, ,,)		IV (,, ,,)
	V		V
	VI		VI
	VII		VII
	VIII		VIII
B	IDADI YA NAFASI KATIKA MABWENI YA SHULE ZA UPPER PRIMARY	B.	NO. OF PLACES IN UPPER PRIMARY SCHOOLS FOR WHICH BOARDING IS PROVIDED
	Wavulana - Darasa la V		Boys - STD. V
	VI		VI
	VII		VII
	VIII		VIII
	Wasichana - Darasa la V		Girls - STD. V
	VI		VI
	VII		VII
	VIII		VIII

FORM 1 Primary school facilities and teachers

Forms of different colours are used by schools with different status according to the Government subvention system for education. This is to facilitate later collation of the statistics with financial data (Form 2) in calculating unit costs Subsequent preparation of district summaries is carried out by district education officers

Original size of form, 13.5 × 9 in.

C. IDADI YA WAALIMU - WENYE CHETI CHA GRADE "A" - WAKIUME	C. TEACHERS EMPLOYED - GRADE "A" Qualification - MEN
WAKIKE	- WOMEN
" "B" - WAKIUME	" "B" " - MEN
WAKIKE	- WOMEN
" " "C" - WAKIUME	" "C" " - MEN
WAKIKE	- WOMEN
Wenye vyeti vingine vinavyo kubaliwa na Idara ya elimu - WAKIUME	Other recognised professional qualifications - MEN
WAKIKE	- WOMEN
Wasio na " WAKIUME	Without " - MEN
" " " WAKIKE	" " - WOMEN
JUMLA YA WAALIMU (WAKIUME NA WAKIKE)	TOTAL NO. OF TEACHERS (MEN & WOMEN)
D. MAENDELEO YA MWAKA HUU	D. DEVELOPMENTS IN CURRENT SCHOOL YEAR
(a) Madarasa mapya yallyofunguliwa pamoja NA WALIMU	(a) New classrooms opened WITH TEACHERS
- darasa la I	Std. I
" " II	" II
Kwa madarasa mapya: " " III (nusu siku tu)	For new classes: " III (half - day sessions only)
" " IV (" " ")	" IV (" " ")
" " III (siku nzima tu)	" III (full - time " ")
" " IV (" " ")	" IV (" " ")
Chumba cha tatu (kwa masomo ya siku nzima kwa darasa la III na la IV	Third classroom (for full - time teaching for Std. III and IV
- darasa la V	- Std. V
VI	" VI
VII	VII
" VIII	" VIII
(b) Jumla ya walimu walioajiriwa ambao hawa kuwa wakifundisha katika shule hii mwaka uliopita	(b) Teachers employed who were not in the same school last year. TOTAL
AMBAO - (I) Waalimu wapya wallotoka T.T.C.	OF WHOM (I) Newly qualified from T.T.C.
(II) Wengineo	(II) Others

REVENUE AND EXPENDITURE - PUBLIC (ASSISTED) SCHOOLS - YEAR

Form No. KALAR 5.

ENTER ALL AMOUNTS IN SHILLINGS ONLY - OMIT CENTS

LOCAL EDUCATION AUTHORITY / VOLUNTARY AGENCY

ITEM NO.	RECURRENT REVENUE AND EXPENDITURE	LOCAL AUTHORITY SCHOOLS	VOLUNTARY AGENCY SCHOOLS		TOTAL
			PAID DIRECTLY BY L. A. OR L. A GRANT	PAID BY V.A ADDITIONAL TO GRANT ASSISTANCE	
I	Teachers' Salaries and Responsibility Allowances				
1	L. A. Teachers				
2	Government Seconded teachers				
3	V. A. Teachers				
II	School Equipment and Materials				
4	Materials purchased by L.A. } excluding expenditure of "equipment grants" for				
5	Grants-in-aid to V.A. } new class-rooms				
III	Maintenance of Buildings				
6	School Buildings and furniture-L.A. } excluding expenditure of "equipment grants" for				
7	Grants-in-aid to V.A. Schools } new class-rooms				
IV	Administrative Expenses				
8	Clerical Staff				
9	Stationery and office expenses				
10	Examination expenses				
11	Committee and Miscellaneous				
12	Teachers' allowances, tranport, leave travel				
	SUB-TOTAL HEADING I - IV (i.e Approved Expenditure)				
V	Boarding Fees Remission				
13	Paid to other L. As				
14	" " V. As				
VI	Services, Boarding, Water, Light etc.				
15	Foodstuffs				
16	Wages of cooks and auxiliary staff				
17	Water, fuel and light				
18	Equipment and miscellaneous material				
VII	Teachers' Houses				
19	Repairs and maintenance				
VIII	Miscellaneous and Approved Expenditure				
20	School uniforms				
21	Transport of schoolchildren				
22					

IX		TOTAL RECURRENT EXPENDITURE
X	23	REVENUE COLLECTED of which - Govt. subvention (L. As) or L.A. Grants-in-aid (V. As)
	24	Day-pupils' fees from parents
	25	Boarding pupils fees form parents
	26	„ „ „ - remissions from (other) L.E.As.
	27	Donations etc.,
	28	Rents collected from Teachers' houses
XI		Revenue made available from own sources
	29	Local Treasury
	30	Voluntary funds
		TOTAL RECURRENT REVENUE (for educ. purposes)
XX		CAPITAL REVENUE AND EXPENDITURE
	101	Cash grants-in-aid for permanent classrooms - V.A
	102	„ „ „ „ teachers' houses - V.A
	103	Cash payments for construction of permanent class-rooms - L.A.
	104	„ „ „ „ teachers' houses - L.A.
	105	Cash grants to assist with self-help semi-permanent classrooms - V.A
	106	„ „ „ „ teachers' houses - V.A
	107	Cash payments in respect of self-help semi-permanent classrooms - L.A.
	108	„ „ „ „ teachers' houses - L.A.
	109	„ „ „ „ „ „ miscellaneous ancilliary buildings-V.A and L.A
	110	TOTAL CAPITAL EXPENDITURE
	111	Permanent classroom grants from Govt. } MIN. OF EDUCATION
	112	Teachers' houses „ „ „ }
	113	Equipment and material „ „ „ }
	114	Other cash grants from Govt. Sources
	115	Donations and miscellaneous
	116	Allocated from Local Treasury
	117	„ „ Voluntary Agency funds
	118	
	119	
	120	
	121	TOTAL CAPITAL REVENUE

FORM 2 Primary education financial data

District education officers complete one form for each local authority
Blocking of the columns on the right is used as an aid to subsequent analysis
Original size of form, 13.5 × 11 in.

Form No. KALAR, 4.

PRIMARY SCHOOLS DEVELOPMENT PLAN ___ DISTRICT/TOWN

Class-rooms opening January 196___

Total No. of Pages in Plan ___ No. of this page

TOP COPY to MIN. of EDUCATION 2ND COPY to R.E.O.
3RD ,, to Executive Officer/Town Clerk 4TH ,, D.E.O.

ENTER ANY REMARKS OVERLEAF

		PRESENT CLASSES (Approved Only) 1	TO BE ADDED * (newly aided or closed) 2	NEW BUILDINGS NEEDED 3	TOTAL CLASSES (For App. next year) 4
A. PROPOSED CHANGES *	STD. I				
* In Column 2, classes to be CLOSED must be entered in RED (and must be SUBTRACTED from totals when plans are summarized to prepare District/Town DEV. PLAN)	II				
	III (Half-day sessions only)				
	IV (,, ,, ,,)				
	III (Full-day ,,)				
	IV (,, ,, ,,)				
SCHOOL	3RD Class-room				
NUMBER	V Wherever BOARDING and/or				
AGENCY	VI Domestic SCIENCE provision				
BOYS/GIRLS/CO-EDUCATIONAL	VII is made enter "X" in the				
	VIII column(s) "B" and "D" as applicable.				

B D		PRESENT STRENGTH 5	NEW ESTABLISHMENT NEEDED 6	EXTRA BUDGET (in £'S) 7	NO. OF TEACHERS NEXT YEAR 8
	B (i) PROVISIONS IN ESTIMATES - TEACHERS (Recurrent Provision)				
	Teachers GRADE "A" and E.O.				
	,, "B"				
	,, "C"				

		EXISTING 9	PROPOSED NEW WORK 10	TOTAL COST (in £'S) 11	PROPOSED FINAL POSITION 12
	B (ii) PROVISION IN ESTIMATES - BUILDINGS (Capital Provision)				
	Semi-permanent Class-rooms				
	Permanent Class-rooms				
	Teachers' houses				
	Amount of capital grant expected from Government				

C. CERTIFICATES.

(i) Certified agreed by L.E.A. Education Committee on ___ and estimates submitted accordingly (Signed.) ___ Chairman, Educ. Comm.

(ii) Certified included in estimates submitted for approval to the Ministry of Local Government (Signed.) ___ Chairman of Council

(iii) (Applicable to summarized plan for whole District/Town only.)
Approved ___ Reg. Commissioner.

FORM 3 Primary education development

This form is used to prepare planning applications for new primary schools or extensions. The forms are completed by district education officers and printed in groups of four with interleaved carbon paper so that all concerned with the application get immediate copies
Details of existing facilities are here collated with staff and financial requirements for development
Original size of form, 11 × 6 in.

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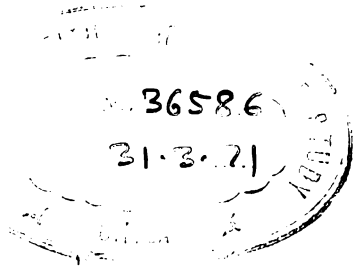

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Educational Planning: a Directory of Training and Research Institutions
1964. Also available in French

Educational Planning: a Bibliography
1964. Also available in French

Educational Planning: an Inventory of Major Research Needs
1965. Also available in French

Problems and Strategies of Educational Planning: Lessons from Latin America
1965. Also available in Spanish

New Educational Media in Action: Case Studies for Planners
Three volumes. In preparation

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W. Schramm, P. H. Coombs, F. Kahnert, J. Lyle
In preparation. Also to be available in French and Spanish

Fundamentals of Educational Planning
Series of booklets, in preparation. Full current list of titles available on request. Also to be published in French

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