PAUL G. CLARK

development planning in east africa

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DEVELOPMENT PLANNING
IN EAST AFRICA

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By
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PREFACE

All authors naturally hope that their winged words will in the end interest many readers, perhaps for quite unanticipated reasons. At various points during the writing process, however, an author often finds himself thinking about particular groups of people with whom he has been in contact. In writing this book, I have had three groups of potential readers particularly in mind.

To begin with, I hope that my analysis of recent economic problems in Kenya, Uganda, and Tanzania, and of the scope for accelerating material progress through more effective development planning, will be relevant to the practical concerns of government officials and private leaders in East Africa who are already engaged in development activities. An academic economist's attempt to consider the development process as a comprehensive whole, using statistical information wherever possible and trying to deal concretely with policy issues, may offer at least a fresh vantage point for practical decision-makers.

I have also had very much in mind the possible interests of students at the three university colleges in Kampala, Nairobi and Dar es Salaam (and perhaps in other underdeveloped countries), who are preparing for future positions of responsibility affecting economic development. I hope that in presenting general techniques of development planning, working through a detailed statistical projection model for the East African economies, and applying economic tools to analysing the actual development plans of the three governments, this book may prove to be helpful to them.

Thirdly, professional economists throughout the world concerned with economic development are aware that the published literature includes very few studies of operational experience with development planning. I hope that my analysis may be a small contribution to this large and inadequately treated subject. In this connection, I would suggest that the Kenya, Uganda, and Tanzania economies are (in a meaningful sense) at a comparatively early stage of development, and that both similarities and differences between development planning in East Africa and in other underdeveloped countries may be of considerable theoretical interest.

This book was written during the two years (mid-1963 to mid-1965) which I spent as Director of Economic Research at the East African Institute of Social Research, Makerere University College, Uganda. These two years were for me personally an extremely stimulating and gratifying experience, and I am indebted to many people who directly or indirectly contributed to what I have written. First and foremost, there are the members of our economic development research group, whose individual research studies gradually built up a degree of shared appreciation of development problems

i

DEVELOPMENT PLANNING IN EAST AFRICA

CONTENTS

List of Tables

CHAPTER I THE ELEMENTS OF COMPREHENSIVE PLANNING

Development efforts in East Africa are in transition from a phase of public project planning to a phase of comprehensive planning for the economy as a whole. The governments of Kenya, Uganda, and Tanzania share the widespread conviction in underdeveloped countries that through comprehensive planning they can markedly accelerate past rates of material progress in their economies. They also have other motives for planning—to increase rapidly participation by Africans in modern economic activities previously conducted largely by Europeans and Asians; to attain greater scope for autonomy in national economic policies, which is often interpreted as increasing the share of domestic manufacturing and decreasing the share of export agriculture in the national product; and to implement a philosophy of African socialism, emphasising social welfare uses of both public and private enterprise. The three governments are undertaking this transition with different national styles, yet a common movement toward comprehensive planning seems clearly under way.

Naturally the transition is not accomplished overnight. In the subsequent chapters I shall discuss various aspects of the status of development planning in East Africa as of mid-1965. It may help to place the present situation in context by examining first the essential elements of comprehensive planning. These elements are defined fundamentally by the nature of the problems to be solved in guiding an economy as a whole on a path of accelerated growth. They are also indicated by the experience of other underdeveloped countries in Asia, Latin America, and Africa which initiated development planning earlier.

Public Project Planning and Comprehensive Planning[1]

Let me begin by suggesting the main ways in which comprehensive planning will diverge from the methodology of "the old plans" in East Africa. By the old plans I refer to the Uganda five-year plan for fiscal years 1961/62-1965/66, the Tanganyika three-year plan for 1961/62-1963/64 and the Kenya three-year plan with a one-year extension for 1960/61-1963/64.[2] Correspondingly "the new plans" are the Tanzania five-year plan for 1964/65-1968/69, the

Kenya six-year plan for 1964/65-1969/70 (which is being revised for the remaining five years), and the Uganda second five-year plan for 1966/67-1970/71 (which is not yet completed).[3] All the new plans attempt a major advance towards comprehensive planning, though unevenly as we shall see, and illustrate the transition which is taking place.

First, a comprehensive plan would be based on explicit quantitative analysis of desired objectives for the economy as a whole, from which the development activities of the immediate plan-period are derived. By contrast, the method of constructing the old plans was essentially that of selecting and adding together the public projects which appeared most promising within a rough estimate of the total amount which might possibly be financed. It is true that both the Tanganyika and Uganda plans took advantage of broad economic surveys undertaken by visiting IBRD missions, but the roughly projected rates of growth of gross domestic product in the plans were essentially independent of the sets of public projects finally included.

Second, a comprehensive plan would embrace private investment as well as public expenditures, and would set targets for private economic activity needed to accomplish the plan objectives. By contrast, the old plans covered expenditures by only the central government and some public agencies, plus limited private participation in certain public projects. There is a chapter in the Uganda plan about private investment intentions, but it is based on an experimental survey and is related only tangentially to the plan proper. None of the plans provides a set of targets for all the main branches of private economic activity.

Third, a comprehensive plan would place greater emphasis on implementation procedures, and particularly on policy instruments designed to induce private actions in accordance with the plan. By contrast, the old plans presume that public expenditures will be implemented through normal budgetary procedures of the Ministries of Finance, and that economic policy instruments will be adjusted separately if and when the need becomes apparent.

In the circumstances of East Africa, a special implementation problem arises from the fact that some of the most important policy instruments which might guide the path of economic development in the three countries are kept essentially uniform because of the common market. I refer in particular to rates of customs duty,

2

by which protection policies are implemented; to monetary and credit policies, which have been operated through the common currency board (but are now to be governed by separate central banks); to the level and structure of business taxation, which might be a key instrument of industrialisation policy; and to investment in railways and communications, now operated as common services. The gap between separate national development plans and essentially uniform policies for these key instruments is at present a source of tension among the three countries, as discussed in Chapter VII. The trend toward comprehensive planning seems bound to bridge this gap, either by completely disrupting the present degree of economic integration, so that these instruments can be used to carry out the national development plans, or by coordinating the separate development plans, in particular areas, so as to employ some common instruments more energetically and effectively.

These three points of contrast between public project planning and comprehensive planning should not be interpreted as sharply critical of either the old plans or the imperfections of the new ones. There are obviously many practical difficulties to be surmounted in introducing a more ambitious methodology, and the process takes time. But what seems definite is that the East African governments wish to carry forward the transition already under way.

Designing a Comprehensive Plan

Designing a plan consists fundamentally in making decisions —decisions about the entire range of development activities which the government wishes to commit itself to undertake in the current plan-period. The programme of activities is then commonly presented in a plan document. These decisions are predominantly quantitative, and accordingly a well-worked-out comprehensive plan will depend upon a wide variety of quantitative economic calculations. I find it convenient to distinguish three main functions of a comprehensive plan, and correspondingly three main kinds of quantitative calculations to be used in its design.

The first function is to determine how large a total programme of development activities the economy can support in the current plan-period, what main lines of activity are to be undertaken and how much progress seems realistically attainable in the economy as a whole. In short, the first function is to make the strategic decisions around which the specifics of the plan are built.

3

The quantitative economic calculations most closely associated with this first function are aggregative analyses of past trends in the economy and aggregative projections of future prospects under the development plan. These calculations provide a set of aggregative targets which are judged to be the maximum attainable during the current plan-period, and towards which all development activities are directed. By the word "aggregative" here, let me make it clear that I do not refer only to national income and product, but further to such major aggregates as total exports, total imports, total government tax revenues, total government capital formation, total borrowing and assistance from abroad, total private capital formation, total non-agricultural labour force, total production of selected major agricultural crops, and total supply of people with secondary and higher education. Techniques of making aggregative projections, employing such empirical relationships as marginal capital-output ratios, income-elasticities of demand for major categories of consumer goods, marginal tax rates, and trained manpower requirements, have been described elsewhere.[4] They are part of the common tool-kit of development planners today.

The size of the development programme which is supportable and the amount of progress which is attainable will be limited by one or more of four potential constraints—total domestic saving plus foreign capital, total foreign exchange receipts, total government revenue, and total supply of educated manpower. Ideally the development strategy should be adjusted until the plan is at the limit simultaneously of all four constraints. That is, expected voluntary saving and foreign capital plus acceptable compulsory saving should balance the necessary public and private investment; planned export promotion and import substitution should be consistent with rising import needs; acceptable government taxes and domestic borrowing plus the financial counterpart of foreign aid should cover both the recurrent and development budgets; and graduates from the educational system plus hired foreigners should balance the additional needs for educated manpower in all fields of employment.

In East Africa the new plans have advanced furthest in handling this first (strategic) function. All the plans focus on the desired growth of the economy as a whole, not simply on a set of public projects, and establish growth targets notably above those achieved in the past. Serious attempts have been made to check

4

the compatibility of the plan with the savings-investment balance, the balance of payments, the government budget, and the educated manpower balance. The underlying aggregative projections still leave scope for technical improvement, and some of the expectations of the future are doubtless over-optimistic. But the new plans are recognisably comprehensive plans.

The second main function of a comprehensive plan is to make sure that the development activities to be undertaken in all the sectors of the economy are consistent with each other and feasible within the resources available. This function of sector coordination is one of the main advantages to be sought by introducing planning to supplement unguided development of the economy. If major expenditures are to be made in improving the transportation system, requiring imported transportation equipment and fuels, then expanded export earnings must be planned to finance them; if exports are to be expanded, then broader agricultural extension services may have to be provided; if extension services are to be extended, then larger expenditures are needed for training agricultural technicians in secondary schools and the university; and so on. At the same time, the development activities in all sectors must obviously fit the resources at the country's disposal, so that the plan can be implemented without costly disruption and without leaving some sectors partly idle because of bottlenecks. As already suggested, the most critical resources are investible capital, foreign exchange, government revenue and educated manpower.

The most refined techniques for carrying out quantitative calculations aimed at this second function are the inter-industry and linear programming tables which are being experimented with in such countries as India, the U.A.R. and Colombia. These tables pull together into a single consistent statistical framework detailed data on the inputs and outputs of 30-100 sectors of the economy, showing how output in each sector depends on inputs from the others and on the critical resources employed. Thus it is possible to calculate, for a given set of output targets in those sectors producing finished goods and services, the necessary outputs, inputs, and resources employed in all sectors of the economy. A single solution is automatically consistent; it can be readily checked for feasibility and alternative solutions can be compared.[5]

In East Africa the function of sector coordination has been approached more simply and partially. Consistency among sector

5

programmes, commonly formulated by separate working parties or individual ministries, has only been checked on an *ad hoc* basis for those inter-dependencies which the planners recognise. At the present stage of development, such a simple and partial approach in the new plans is doubtless sufficient. Sectors are much less interdependent than in more industrialised economies, as most produce predominantly for final demands like consumption rather than for intermediate demands from other sectors; an inter-industry table would have a great many zeros in it. Large export and import trade with the rest of the world economy permits a great deal of flexibility in the pattern of sector expansion. Looking to future plans, however, particularly in Kenya, which is already more industrially advanced, it seems likely that the more refined and systematic inter-industry approach to sector coordination will become increasingly necessary. Its use will be a further step in comprehensive planning.

The third main function of a comprehensive plan is to select the individual development activities, or projects, which contribute most to attainment of the aggregative and sector targets. In part this function consists in comparing alternative possible projects for producing essentially the same output. If a hydroelectric plant is being designed, a choice may have to be made between alternative heights of the dam, or between present and future installation of generating units not immediately needed to meet present demands. In part this function may consist in comparing rather different alternative projects within the same broadly-defined sector. If additional transportation capacity between an inland producing area and a country's major port is being considered, it may be necessary to choose between expanding the rolling stock of the existing railroad and upgrading the traffic capacity of the existing road system. And in part this function may even include comparison between alternative projects in different sectors of the economy. If obtaining more foreign exchange for imported capital equipment is accepted as a target, it may be relevant to choose between a project for expanding production of an agricultural export crop and a project for manufacturing more textile products domestically.

The quantitative calculations helpful in performing this third function fall under the general heading of project analysis. A project analysis can take various forms; the benefit-cost ratio

commonly employed in multi-purpose water resource projects may look rather different from the rate of return on investment commonly employed in industrial project decisions. But whatever the form, in essence project analysis calculates the net increase in national product for the economy as a whole from a particular project, taking into account both the value of its outputs or services and the cost of all its inputs including capital, in terms of their potential contribution to national product in other uses. It does so in a systematic way which permits comparison with alternative projects.[6]

The new plans in East Africa have made less progress in dealing with this third function of systematic project selection than in establishing the aggregative plan strategy. The plans are somewhat uneven, with development activities in some sectors comparatively well worked out, using information adequate for evaluating them, but in other sectors simply sketched. The unevenness stems largely from differences in the quality of previous work in the various ministries; amid the pressures of drafting the new plans the central planning organisations have simply lacked the time and experience to establish uniform and systematic procedures for project screening. I would suggest that the most significant technical advance in comprehensive planning which is attainable in the next few years is to do so. Fortunately it seems likely that improvement in project selection procedures will be a natural concomitant of energetic implementation of the new plans.

An important theoretical problem in comparing projects is that of taking account of the true scarcity values of factor and material inputs which they absorb—that is, the values which these inputs could produce in other alternative uses. Economists often suggest that in countries which have embarked on energetic development programmes and which have imperfectly functioning market systems, the scarcity values (or shadow prices) of such critical resources as foreign exchange or educated manpower may be above their market prices, while the scarcity values of such abundant resources as untrained manpower may be below market prices. If this is so, then the ranking of alternative projects absorbing different combinations of inputs, in terms of the net increases in national product which they promise, can be much affected by evaluating them with scarcity values rather than market prices. Making quantitative estimates of such scarcity values is clearly

7

not easy. The most practicable approach is likely to be a series of *ad hoc* estimates of prices which might balance supply and demand for the various resources as rapid development proceeded.[7]

Until recently in East Africa it appears that scarcity values (except perhaps for untrained manpower, with value actually below price) probably did not diverge substantially from their market prices. For example, export earnings adequately covered import demands, and the supply of (expatriate) educated manpower seemed adequate prior to Africanisation. Fundamentally, the rate of growth was not being pressed to the limit of the four constraints noted above. In the years ahead, however, if more comprehensive planning does succeed in accelerating the rate of growth until the East African economies run up against these constraints, the scarcity values of capital, foreign exchange, government revenue, and educated manpower will be above their market prices. Thus while systematic project screening procedures would be an important improvement even using market prices, by introducing greater uniformity of criteria within and between sectors, it would also be helpful to go further by making quantitative estimates of key scarcity values for use in project analysis.

Implementing the Plan

As more and more nations have accumulated experience with development efforts, it has become almost a platitude that effective implementation is even more challenging than wise design of a comprehensive plan. Within government, implementation involves continuing day-to-day action, year after year, by thousands of officials in hundreds of offices. Civil servants will recognise that even with the best will in the world it is extremely difficult for all parts of the governmental structure to carry forward the actions for which they are responsible promptly and in ways which mesh with rather than interfere with actions by other offices.

Outside government, the private actions needed for successful economic development are of course even more decentralised and diverse. Nations such as those in East Africa, which maintain a mixed economy of private and public enterprises, to preserve the advantages of cost-conscious decentralised initiative and simplified central administration, must employ fiscal, monetary and regulatory policies to induce desired private actions. The question continually arises: are private agricultural producers, traders, industrial

8

managers, or bankers responding in the ways required for the development plan?

Quantitative economic calculations can make some contribution to effective implementation, in both government and private spheres, by providing a battery of measures of results as the plan unfolds. For example, in implementing a transportation programme in a region it would be revealing to keep track simultaneously of how many miles of realigned roads the Ministry of Works is completing, how many train-miles are being scheduled by the Railways and Harbours Administration, how many acres agricultural producers are shifting from subsistence crops, and how many lorries private trucking firms are being induced to invest in. One can also suggest certain general points about the kinds of quantitative measures of results to devise. First, the measures should whenever possible be measures of outputs rather than inputs. Particularly within government, there is a tendency to measure development progress in terms of budgetary expenditures. Yet how much more relevant it is to measure results of the activities of the Ministry of Education in terms of numbers of graduates with different levels of training, rather than in terms of expenditures on buildings or teachers' salaries. Output measures also provide an invitation to calculate costs per unit of output, which can be very suggestive in choosing among alternative activities, such as alternative ways of organising secondary education. Second, measures of results will be most useful for plan implementation if their scope is sufficiently narrow to be related to activities of particular government agencies or particular groups of private producers. Lagging activities need to be identified before they can be corrected.

The most important actions involved in effective implementation of a comprehensive plan, however, are (a) centralised organisation and procedures for supervising planned development activities throughout the government, and (b) energetic and coherent use of economic policy instruments to guide decentralised private development activities. In East Africa under the new plans centralised supervision of plan implementation is still in a somewhat formative state. All three governments have established development planning in new ministries separate from Finance, the traditional locus of such central supervision as existed; Tanzania at first went furthest by establishing a Directorate of Development Planning in the President's office, with three ministers and implicitly

9

some authority in development matters over regular ministries. But the scope in practice for centralised plan supervision remains to be evolved during the course of the three governments' new plans. In addition to the public administration problems of fitting new forms of central surveillance into regular ministry operations while expediting rather than inhibiting action, and of course endemic rivalries among ministries, a basic political issue is the priority to be given in the immediate future to economic development relative to other government goals, such as improved public welfare services and greater international prestige.

The new plans in East Africa are perhaps least advanced in their use of economic policy instruments to guide plan implementation. Greater attention still tends to be given to the government's own development expenditures than to changes in general tax rates needed to finance an appropriate share of development budgets, monetary policies needed to promote bank lending to both public and private borrowers, business regulations needed to stimulate a greater flow of private saving into investment, or adjustments in the tariff structure needed to induce the projected degree of import substitution in manufacturing. This general underemphasis on economic policy instruments may stem in part from the fact that certain policies involve negotiations with common market partners, and in part from the governments' reluctance to spell out in the plan document future implementing actions such as tax changes. But during the course of the new plans it seems likely that the need for more energetic use of economic policy instruments, as a vital element of the comprehensive planning process, will be increasingly recognised.

Footnotes

1. Portions of this chapter have been published previously in my article, "Towards More Comprehensive Planning in East Africa", *East African Economic Review*, December, 1963. The article places greater emphasis on the uses of quantitative techniques.
2. See Uganda Government, *The First Five-Year Development Plan, 1961/62-1965/66;* Tanganyika Government, *Development Plan for Tanganyika, 1961/62-1963/64;* Kenya Government, *The Development Programme 1960/63,* and *Development Estimates for the Year 1963/64.* There were earlier plans going back to post-World War II years.
3. See Tanzania Government, *Tanganyika Five-Year Plan for Economic and Social Development,* 1964; Kenya Government, *Development Plan 1964-1970,* 1964. The new Uganda plan is expected to be published early in 1966. Note that I shall refer throughout to Tanzania even though the new plan and the economic data refer only to the former Tanganyika, without Zanzibar.

4. Various U.N. publications do an excellent job of exposition. See UN (ECAFE), *Programming Techniques for Economic Development*, 1960; UN (ECAFE), *Formulating Industrial Development Programs*, 1961; UN (ECLA), *An Introduction to the Technique of Programming*, 1955; and UN (ECLA), *The Economic Development of Colombia*, 1957 (a detailed illustration).
5. A standard exposition of these techniques is H.B. Chenery and P. G. Clark, *Interindustry Economics*, Wiley, 1959. See also the U.N. sources cited in footnote 4.
6. Project analysis techniques are described in various U.N. publications. See UN (ECAFE), *Formulating Industrial Development Programmes*, 1961; and UN (ECLA), *Manual on Economic Development Projects*, 1958.
7. Jan Tinbergen, *The Design of Development*, Johns Hopkins, 1958, has a good discussion of scarcity values, called accounting prices in his terminology, especially in chapter III. See also the U.N. sources cited in footnote 6.

CHAPTER II. TRENDS IN THE UGANDA, TANZANIA AND KENYA ECONOMIES.

The new and more ambitious development plans of the East African governments are designed to alter significantly the previously proceeding trends in the three economies. The fundamental desired change is of course to accelerate markedly the overall rates of growth, but as part of this process the new plans also visualise significant structural changes. These desired effects of the new plans are examined in subsequent chapters. The old plans, by contrast, appear to have had very little effect either on the rates of growth or on the structures of the economies.

What have been the previously proceeding trends in the three East African economies? To examine this question, about fifty standardised statistical series for the years 1954 to 1964 are assembled in Tables II-A (Uganda), II-B (Tanzania), and II-C (Kenya) at the end of this chapter. These constitute the basic economic data which we shall use here for interpreting recent economic trends, and also later for construction of statistical projection models. From these basic data, certain key indicators of economic trends are summarised in text Tables II-1 (Uganda), II-2 (Tanzania), and II-3 (Kenya), immediately following. Table II-4 also presents a summary of the balance of payments and foreign exchange reserves for East Africa as a whole since 1956.

Before examining the trends over time, however, let us note a few general points of comparison among the three economies, as reflected in the tables.[1] Measured in terms of monetary gross domestic product, the Kenya economy is in the order of one and a half times as large as Uganda and one and a third times as large as Tanzania. We neglect subsistence product here because the statistical estimates are not sufficiently reliable to warrant distinctions among the three countries, and because the development process is presumably reflected almost entirely in monetised activities. The three countries' populations are roughly $7\frac{1}{2}$ million for Uganda, 9 million for Kenya, and 10 million for Tanzania. This implies that average monetary product per capita is highest in Kenya, next in Uganda, and lowest in Tanzania; actually the high Kenya average derives largely from the European and Asian communities, so that the average monetary income of Kenya Africans is apparently

13

about the same as Tanzania, and well below Uganda.[2] Kenya's economy, moreover, is more industrialised, with an urban product (i.e., in mining and manufacturing, transport and power, commerce and services, and government) in the order of twice that in the other two countries, and with urban employment about $2\frac{1}{2}$ times as great.

The trade patterns of the three countries (which include interterritorial trade) are distinctive. Kenya is highly dependent on imports, which amount to over 40 per cent of monetary GDP, has a comparatively large share of non-agricultural exports (especially in interterritorial trade) in her total, and tends to have a substantial negative balance of trade. Tanzania is similarly dependent on imports, but has predominantly agricultural exports, and tends to have a modest positive balance of trade. Uganda is distinctly less dependent on imports than the other two (though still over 30 per cent), like Tanzania has predominantly agricultural exports, but tends to have a substantial positive balance of trade (though it would be smaller if valued at her border rather than Mombasa). Rates of gross investment in the three countries have fluctuated markedly in different years, as we shall examine further below; the only comparative point to note here is that the role of public investment (including parastatal organisations) has been significantly larger in Uganda than in the other two countries. Finally, the shares of government current expenditures and tax revenues are broadly similar in the three countries, with Kenya's a little higher, reflecting a little more extensive government services.

Table II-1. Uganda: Indicators of Economic Trends[a]

(£ million, unless otherwise indicated)

	1954	1958	1962	1964	Rate of Growth 54-58 (%)	Rate of Growth 58-62 (%)	Rate of Growth 62-64 (%)
GDP, monetary	93.0	106.3	107.9	148.9	+3.4	+0.4	+17.5
GDP volume	79.1	95.1	107.2	131.7	+4.7	+3.0[e]	+10.8[e]
Ag. product	56.6	57.2	50.0	75.0	+0.0	—3.3	+22.5
Urban product	32.5	44.9	54.0	70.5	+8.4	+4.7	+14.2
Gross investment	18.5	20.2	16.4	24.3	+2.2	—5.1	+21.7
Public investment	14.4	12.1	9.1		—4.3	—6.9	
Investment: ratio to GDP volume	23%[c]	21%	15%	18%			
Capital-output ratio[b]					3.6	3.8	
Urban employment (th)	123.1	134.8	131.2	h	+2.3	—0.7	h
Construction empl. (th)	45.4	36.6	28.6	h	—5.0	—6.0	h

14

	1954	1958	1962	1964	54-58	58-62	62-64
Exports	48.6	52.6	48.0	76.1	+2.0	—2.3	+25.9
Ag. exp. volume	34.0	37.4	37.7	46.5	+2.4	+0.2[e]	+11.1[e]
Imports	28.4	34.3	33.9	46.4	+4.8	—0.5	+17.0
Imports: ratio to GDP ..	30%	32%	31%	31%			
Balance of trade	20.2	18.3	14.1	29.7			
Bal. on curr. acct.		7.8	—2.2	5.7[f]			
Gov. current expend. ..	13.3	19.1	23.2	29.7	+9.5	+5.0	+13.1
Gov. tax revenue	19.8	21.8	24.3	33.9	+2.4	+2.8	+18.1
Taxes: ratio to GDP ..	21%	20%	23%	23%			
Gov. financial bal.	6.4	2.4	2.2	3.9			
Gov. capital expend. ..	6.6	6.0	4.7	12.4			
Retail prices (index) ..	100[d]	96	85	94	—1.3	—2.8	+5.1
Cost of living (index) ..	100	116	126	134	+3.6	+2.1	+3.0

(a) For detailed series and definitional notes see Table II-A.
(b) Capital-output ratio 54-58 is cumulative gross investment 54-57, less estimated retirement at 7 per cent of GDP volume, divided by increase in GDP volume between 54 and 58; similarly for other time-periods.
(c) 28 per cent in 1955.
(d) 1955.
(e) If 1962 is adjusted upward £5 million for normal cotton crop, 1958-62 rates of growth of GDP volume and ag. export volume become 4.2% and 3.4%, 1962-64 become 8.2% and 4.4%.
(f) 1963.
(h) Total employment decreased in 1963, increased in 1964, but remained below 1962.
(i) National accounts, investment and budget figures preliminary.

Table II-2. Tanzania: Indicators of Economic Trends[a]
(£ million, unless otherwise indicated)

		1954	1958	1962[c]	1964[e]	Rate of Growth 54-58 (%)	Rate of Growth 58-62 (%)	Rate of Growth 62-64 (%)
GDP monetary	.. ..	79.1	97.9	123.3 (134.0)	171.7	+5.5	+5.9	+13.1
GDP volume	.. ..	74.8	101.8	124.7 (135.4)	159.3	+8.0	+5.2	+8.5
Ag. product ..	.. ..	35.1	39.2	48.5 (49.7)	68.0	+2.8	+5.5	+1.70
Urban product	.. ..	37.8	52.6	66.8 (78.3)	96.2	+8.6	+6.2	+10.9
Gross investment	.. ..	21.8	22.7	24.4	30.6	+1.0	+4.2	+11.9
Public investment	.. ..	10.2	8.5	9.5	11.4	—4.5	+2.8	+9.5
Investment: ratio to GDP volume	.. ..	29%	22%	20% (18%)	19%			
Capital-output ratio[b]						2.6	2.8	
Non-ag. employment (th)	..	191.0	177.5	172.0 (204.1)	197.8	—1.8	—0.8	—1.6
Exports	.. ..	38.8	46.4	56.0	76.5	+4.6	+4.8	+16.9
Ag. exp. volume	.. ..	28.6	42.4	46.8	51.5	+10.3	+2.5	+4.9
Imports	.. ..	37.8	42.6	51.5	59.7	+3.0	+4.8	+7.7
Imports: ratio to GDP	..	48%	44%	42%	35%			

15

		1954	1958	1962	1964	54-58	58-62	62-64
Balance of trade	.. ..	1.0	3.8	4.5	16.9			
Bal. on curr. acct.	.. ..		—5.4	—7.0	+6.4d			
Gov. curr. expend.	.. ..	14.3	17.3	20.1	27.8	+4.9	+3.8	+17.6
Gov. tax revenue	.. ..	17.7	20.5	25.1	34.6	+3.7	+5.2	+17.4
Taxes: ratio to GDP	..	22%	21%	20% (19%)	20%			
Gov. financial balance	..	2.7	1.0	1.5	1.6			
Gov. capital expend.	..	3.3	5.2	5.7	10.0			
Retail prices (index)	..	100	104	103	105	+1.0	—0.2	+1.0
Cost of living (index)	..	100	112	—	—	+2.9	—	—

(*a*) For detailed series and definitional notes see Table II-B.
(*b*) For definition see Table II-1, note b.
(*c*) Revised figures in parentheses are comparable to 1964.
(*d*) 1963.
(*e*) National accounts, investment, and budget figures preliminary. Budget figures are partly estimated from statements in budget speech.

Table II-3. Kenya: Indicators of Economic Trends[a]
(£ million, unless otherwise indicated)

		1954	1958	1962	1964	Rate of Growth 54-58 (%)	Rate of Growth 58-62 (%)	Rate of Growth 62-64 (%)
GDP monetary	..	112.4	155.5	180.9	209.2	+8.4	+3.9	+7.5
GDP volume	..	110.7	156.2	179.3	204.3	+9.0	+3.5	+6.8
Ag. product	..	28.4	34.6	39.9	48.4	+5.1	+3.6	+10.1
Urban product	..	77.8	112.5	134.3	156.5	+9.7	+4.5	+7.9
Gross investment	..	35.3	40.0	33.3	32.8	+3.2	—1.4	—0.7
Public investment	..	16.7	13.3	12.8	9.8	—5.5	—1.0	—12.5
Investment: ratio to GDP volume	..	32%	26%	19%	16%			
Capital-output ratio[b]						2.9	4.6	
Urban empl. (th)	..	298.7	322.8	323.2	330.8	+2.0	+0.0	+1.2
Constr. empl. (th)	..	22.6	20.9	12.6	8.2	—1.9	—11.9	—19.4
Exports	.. ..	28.6	46.2	62.5	79.4	+12.7	+7.8	+12.7
Ag. exp. volume	..	19.1	35.3	40.0	44.5	+16.6	+3.2	+5.5
Imports	.. ..	65.6	66.3	76.8	88.0	+0.3	+3.8	+7.0
Imports: ratio to GDP		58%	43%	42%	42%			
Balance of trade	..	—37.1	—20.1	—14.4	—8.5			
Bal. on curr. acct.	..		—18.6	—4.8	+1.4c			
Gov. curr. expend.	..		34.0	41.0	47.1		+4.8	+7.2
Gov. tax revenue	..		37.7	45.0	50.3		+4.5	+5.7
Taxes: ratio to GDP			24%	25%	24%			
Gov. financial bal.	..		+1.2	—0.6	—2.0			
Gov. capital expend.			8.0	9.4	8.8d			
Retail prices (index)	..		100	108	108		+1.9	+0.0
Cost of living (index)		100	111	122	124	+2.6	+2.4	+0.8

(*a*) For detailed series and definitional notes see Table II-C.
(*b*) For definition see Table II-1, note b.
(*c*) 1963.
(*d*) Excluding Settlement.

Economic Trends in Three Time-Periods

It seems meaningful to distinguish three time-periods in the recent economic history of the East African economies. (*a*) In the mid-fifties, as reflected in the indicators for the years 1954-58, the economies were growing relatively rapidly, with expanding volumes of agricultural exports, with relatively high rates of investment (though already declining), and with relatively satisfactory trends in most aspects of the economies. (*b*) In the late-fifties and early-sixties, as reflected in the indicators for 1958-62, the economies suffered serious retardation in their rates of growth, with agricultural exports sluggish, with rates of investment depressed to much lower levels, and with trends in most aspects of the economies adversely affected. (*c*) In the mid-sixties, as reflected in the indicators for 1962-64, the economies have again been growing quite rapidly, but almost entirely under the impact of an abrupt rise in export earnings, due to both price and volume increases, and with little change in investment rates. Of course, there are differences among the three countries, as we shall note, and there is always some arbitrariness in defining time-periods in economic series, but I think this is a meaningful framework for analysing the economic setting of the old and new development plans. It should also be kept in mind that since populations have been growing two to three per cent per year, rates of growth in per capita output have been about that much less than the figures examined below.

In Uganda the rates of growth in GDP volume (i.e. monetary GDP corrected for agricultural export prices[3]) were 4.7 per cent, 3.0 per cent, and 10.8 per cent in the three periods. Uganda, however, suffered the greatest impact of the adverse trends in world prices up until 1962, so that her monetary GDP at actual prices rose even more slowly, and was virtually stagnant from 1958 to 1962. On the other hand, the abrupt rise from 1962 to 1964 included in her case a substantial rise in volume of agricultural exports (though part probably consisted of coffee smuggled from Congo and Tanzania) as well as in their prices. Tanzania grew consistently more rapidly than Uganda up until the last two years, with rates of growth in GDP volume of 8.0 per cent, 5.2 per cent and 8.5 per cent in the three periods. She also experienced less adverse trends and a different time pattern in export prices, so that her monetary GDP at actual prices consistently expanded in the 5-6 per cent range, even before the recent export boom. Kenya

17

also grew at higher rates than Uganda, with a pattern broadly similar to Tanzania's, though with greater retardation in the years 1958 to 1962, and with much less of a boom in the last two years. Her rates of growth in GDP volume were 9.0 per cent, 3.5 per cent and 6.8 per cent in the three periods. She also had the most stable export prices, so that her monetary GDP in actual prices generally moved similarly to GDP volume.

The most disturbing trend, in all three countries and over all three periods, has been a continued decline in rates of investment, with only a slight pick-up during the most recent boom. In Uganda it fell from 28 per cent of GDP volume in 1955 to 21 per cent in 1958 to 15 per cent in 1962 to 18 per cent in 1964. Tanzania has done somewhat better, but her corresponding percentage rates were 29 per cent, 22 per cent, 18 per cent and 19 per cent. Kenya started higher, in part due to the Emergency, but has fallen lower—from 32 per cent to 26 per cent to 19 per cent to 16 per cent. Despite her lower rates of investment, Uganda still had generally a higher capital-output ratio than the other two countries, though Kenya's jumped higher in the retardation period. In all three, public investment has taken the lead (negatively!) in the contraction process. The decline in rates of investment up to 1962 was partly the effect of slowing real growth due to unfavourable export trends, and partly a separate cause of the slowdown; obviously the two forces interact. The failure of rates of investment to rise much during the export boom of 1963-64 is particularly worrisome. In future, as recognised in the new plans, raising rates of investment is essential in order to accelerate real growth in the economies, and public investment will probably have to take the lead in improving past trends.

Through both the period of reasonably rapid overall growth, 1954-58, and the period of retardation, 1958-62, urban product in all three countries has tended to expand more rapidly than agricultural product (the latter at actual prices, though the generalisation still holds at constant prices). The extent of this structural change has varied with the overall rate of growth, being greater when the economies grew more rapidly. Moreover, only during the earlier period of reasonably rapid overall growth has the expansion of urban product been sufficient to require any increase at all in urban employment (i.e. employment in mining and manufacturing, transport and power, commerce and services, and government—the

18

same sectors as for urban product). The general employment problem has been further intensified by steady declines in construc- tion employment, due to falling rates of investment. Though the data are rough and incomplete, simply as an order of magnitude I might suggest that urban product per man employed has apparently been rising at 5-7 per cent per year in the three East African countries, and only when economic conditions have expanded urban product more rapidly than 5-7 per cent has there been any job creation at all. During the export boom of 1963-64, athough the growth of urban product accelerated substantially, employment has not followed. Urban product per man employed has apparently shot up at 12-14 per cent per year in Uganda and Tanzania, and in Kenya only a government-sponsored agreement to expand employment has kept the rise in product per man in the former 5-7 per cent range. This phenomenon is presumably due to more efficient utilisation of labour force and plant capacity as output rises, and to employment adjustments in response to recent un- usually rapid wage increases. As to the future, it seems clear that both structural changes in the relations between urban product and agricultural product, and future expansion of urban employment, depend very much on accelerating overall rates of growth in the East African economies. Beyond that, employment prospects may also demand modifications in recent output-employment-wage patterns.

Turning to trade patterns, we have already noted that varying short-term trends in export volume and in export prices have been major elements of the variations in overall growth rates among the three time-periods. Over the decade there has been a remark- ably limited degree of overall import substitution, as indicated by the ratio of imports to GDP—particularly since the import content of gross investment is much higher than of other uses of GDP, so that the falling rate of investment, particularly of equipment, would itself tend to pull down the overall import ratio.[4] Uganda's import ratio remained in the 30-32 per cent range from 1954 to 1962, despite a falling share of construction materials and equipment, and continued unchanged during the export boom of the last two years. Tanzania's overall import ratio fell from 48 per cent to 44 per cent to 42 per cent to 35 per cent, but much of the decline can be attributed to the lagging rate of investment. Kenya's overall import ratio was unusually high in the Emergency year 1954,

and then dropped and remained around 42 per cent from 1958 to 1962 and then to 1964. If in the future rates of investment are pushed up, as indicated by the new plans, this would tend to raise overall import ratios in all three countries, unless offset by a greater degree of import substitution than in the past. On the other hand, during the export boom of 1963-64 the balances of trade of all three countries became much more positive, presumably temporarily.

Government current expenditure tended to expand more rapidly than monetary GDP in Uganda during 1954-58 and 1958-62, whereas in Tanzania and Kenya it tended to rise less rapidly or at the same pace. Correspondingly, the ratio of total taxes to GDP had to be raised a little in Uganda, even though the government financial balance was permitted to fall, whereas in the other two countries it tended to decline or remain steady. In all three countries, however, the income elasticity of the tax structure was such that tax rates had to be continually raised, particularly in the form of higher customs duties.[5] During the export boom of 1963-64 Uganda's tax revenue rose dramatically, about 40 per cent over two fiscal years, followed closely by Tanzania's, while Kenya's tax revenue expanded less than a third as fast. In the easier revenue situation, both Uganda and Tanzania also raised government current expenditure dramatically; Uganda's rise of about 30 per cent over two fiscal years still permitted some increase in the government financial balance (including transfers and non-tax revenues), but this was not the case in Tanzania. Kenya held the rise in government current expenditure to less than half Uganda's, but the government financial balance still moved into a larger deficit. With the export boom ending in 1965, all three of the countries would clearly face grave difficulties in retaining a significant surplus of tax revenue over current expenditure to use for development.

Information on general price trends is quite incomplete for the East African countries. Retail price indexes, for a limited number of commodities consumed by low-income workers in the capital cities, appear to have been remarkably stable. Cost of living indexes, for the range of goods consumed by European civil servants, which include wages for services and duties on imported goods, have been creeping up in the range of 2-3 per cent per year.

The balance of payments for East Africa as a whole is summarised in Table II-4, and brings out several notable phenomena of recent years, which are not reflected in the trade data discussed

Table II-4. East Africa: Balance of Payments and Reserves. (£ million)

	1956	1957	1958	1959	1960	1961	1962	1963	1964
Balance of Payments [a]									
Merchandise, including gold	−15.0	−23.3	+0.5	+ 5.9	+2.1	+1.0	+4.7	+26.1	
Invisibles	−13.0	−17.1	−17.5	−18.0	−12.7	−11.0	−17.2	−12.5	
Current account	−28.0	−40.4	−17.0	−12.1	−10.6	−10.0	−12.5	+13.6	
Grants and public capital	+22.0	+18.5	+15.3	+4.3	+20.7	+33.2	+42.2	+27.9	
Long-term private capital	+21.6	+14.8	+10.2	+10.4	+21.0	+3.9	+0.9	+1.5	
Short-term private, errors and omissions	−14.8	+2.0	−7.8	−6.9	−47.0	−20.8	−24.7	−44.7	
E.A.C.B. and banks (gain/minus)	−0.8	+5.1	−0.8	+4.2	+15.9	−6.4	−5.8	+1.9	
Sterling Assets, June 30 [b]									
E.A.C.B.	53.9	57.3	51.2	48.6	47.7	49.6	51.6	60.9	59.9
Commercial banks		19.6	14.2	19.2	−2.1	7.0	2.4	2.8	−6.4

a. 1956-60: A.G.T. Carter, "The Balance of Payments of East Africa 1965-61", *E.A. Econ. Rev.*, Dec., 1963; 1961-63: EACSO, *Economic and Statistical Review*, June, 1964.
b. EACSO, *Economic and Statistical Review*, various issues.

above (and which are also not synchronised with the time-periods referred to there). The most dramatic is the shift in average net outflow of short-term private capital plus errors and omissions (which at least when large is presumably mainly unrecorded capital and investment income transactions) from around—£8 million 1956-59 to around—£34 million 1960-63. This shift was initially associated with political uncertainties surrounding Kenya's passage to independence, but it is notable that the outflow has risen again in 1963 and 1964, during the export boom. At the same time the average recorded inflow of long-term private capital fell off from around +£14 million to around +£2 million (considering only 1961-63), while the average inflow of grants and public capital rose from around +£15 million to around +£31 million. Thus even though East Africa's balance on current account has shown a notable trend to becoming less negative, these shifts on the capital account have tended to pull down total foreign exchange reserves. The cumulative decline in reserves has fallen entirely on the sterling assets of the commercial banks, rather than on those of the E.A. Currency Board. These trends of capital flows in the balance of payments of course interact with the trends in gross domestic investment examined above.

Constraints on Development in the Recent Past.[6]

I have suggested in the previous chapter that there are four potential constraints on the size of a development programme, and hence on the rate of growth which can be generated in the economy. (*a*) Total voluntary and compulsory domestic saving plus foreign capital must balance the necessary public and private investment for the target rate of growth. (*b*) Total foreign exchange receipts must balance the rising import needs of a rapidly growing, high-investment economy. (*c*) Total government revenue from taxes, domestic borrowing and the financial counterpart of foreign aid must balance expenditures on both recurrent and development budgets. (*d*) Total supply of educated manpower, national and expatriate, must balance the specialised employment needs of a rapidly growing, modernising economy. If a country's economy were completely flexible, or if its development plan were nicely adjusted to generate the maximum rate of growth attainable, then all four of these potential constraints would be applying simultaneously. Since the East African economies, like other under-

22

developed countries, are far from completely flexible, however, and since the old plans were limited, it is quite possible that only one (or possibly two) of these four constraints is the critical constraint during a particular time-period. If this critical constraint could be eased all by itself, the other three would already permit a more ambitious development programme.

Can one make a reasonable judgment as to which of these four possible constraints has been the tightest in the periods of retardation (1958-62) and export boom (1963-64), i.e., in the years before the new plans? Of course the situation is complex. Fundamentally, comparing present living standards with levels of material well-being which are desirable to attain, domestic and foreign capital, foreign exchange, government finance, and educated manpower are all terribly scarce. Even recognising that the East African economies have many internal rigidities and adjustment problems, it might just happen that several constraints were simultaneously operative. Or the available empirical evidence simply may not permit a reliable distinction among the four possible constraints.

Nonetheless I think a reasonable conclusion is that government finance has been the tightest constraint in East Africa up to the start of the new plans. If additional governmental finance could have been obtained from domestic sources or foreign aid, it seems likely that development programmes could have been enlarged without being promptly checked by lack of domestic saving plus capital inflow, foreign exchange, or educated manpower.

To begin with, the evidence seems very strong that domestic saving plus foreign capital inflow has not been the critical constraint. The trends during the retardation period—slower rates of growth, falling shares of investment, declining urban and construction employment—suggest that the economies were operating significantly below capacity. This is clearly the case in industries like cement, where capacity and output are well-defined. The export boom of 1963-64 has so far had remarkably little effect on these symptoms, though it has surely brought into use part of the previous excess capacity. I think we can be reasonably confident that most non-agricultural enterprises in manufacturing, transport, commerce, and construction would still be quite prepared to expand output at least ten or twenty per cent if demand for their products increased.

To put the point another way, the risk of general excess—demand inflation in East Africa has been negligible. Trends in

23

prices may be generally characterised as stable retail prices of basic goods and services (especially domestic foodstuffs) consumed by the mass of the urban population, and slowly rising prices of the particular goods and services (including indirect taxes) consumed by high-income groups. This is not at all the picture of economies on the verge of general excess-demand inflation, but rather of economies with more stable prices than most countries in the world, changing the pattern of their relative wages and prices. Wages have risen unusually rapidly, but this is surely not due to excess demand in the job markets.

Thus if additional finance could have been found to enlarge development programmes, it seems very likely that rising public investment would have led to more rapidly rising GDP without inflation. Domestic saving would then rise along with GDP, appearing either in the form of tax revenues or of voluntary saving. Thus rising public investment would generate the momentum in the economy needed to call forth additional private saving and private investment.

It is true that there is an important piece of evidence which casts doubt on this suggestion—the recent net outflow of private capital from East Africa. But a more rapid rate of growth of GDP would itself have provided an important counterforce to this capital flight. If in the end the outflow had to be checked by exchange controls on residents' capital transactions (which the three governments actually did impose in mid-1965), some of this unused private saving would also seek profitable domestic uses.

The evidence about the foreign exchange constraint is, at first sight, somewhat ambiguous. If it had been the critical barrier to enlarging development programmes, we would expect to observe several related symptoms: (*a*) imports rising substantially faster than export earnings, (*b*) pressure on domestic production capacity and prices, (*c*) declining foreign exchange reserves, (*d*) capital flight due to fear of inflation and devaluation, and (*e*) deliberate government cutbacks in development expenditures as part of a campaign to protect foreign exchange reserves.

Symptoms (*a*), (*b*), and (*e*) have not been features of the recent past. Balances of trade and balances on current account have tended to improve in the retardation period (except for Uganda), and of course shifted markedly in a positive direction during the export boom of the last two years. There has been general slack

24

in the economies, as just noted, and governments have been trying to speed up their development expenditures, as noted in the next chapter. On the other hand, symptoms (*c*) and (*d*) have been in evidence. However, it is generally recognised that the motivation for recent capital flight has not been fear of inflation and devaluation, but concern about political problems. In turn capital rather than current transactions have been the entire cause of the declining foreign exchange reserves. If this unusual capital flight were reduced either by the pull of more rapidly growing GDP or by exchange controls, East Africa's fundamentally healthy foreign exchange situation would be obvious. Thus I feel it is clear that foreign exchange has not been the tightest constraint in the past.

The evidence about government finance seems both clearer and more restrictive. If it were the critical barrier, we would expect to observe a different pattern of symptoms: (*a*) small and declining surpluses of tax revenues over current expenditures, (*b*) general slack in the economy, (*c*) ease in the current account of the balance of payments, (*d*) shortfalls in public investment and (*e*) postponement of development projects due to delays in arranging foreign finance.

All of these symptoms were apparent in the period of retardation (1958-62). In 1963 and 1964 the abrupt increases in tax revenues in Uganda, and to a lesser extent, Tanzania, have permitted modest tax contributions to development, but rising demands for current expenditures have quickly eaten into these temporary windfalls. The other symptoms have continued during the export boom.

My conclusion that government finance, whether from domestic or foreign sources, has been the critical constraint on development efforts in East Africa is not usual in economists' discussions. Our tradition is to stress "real" factors, such as the availability of domestic saving plus foreign capital, and largely to take it for granted that "purely financial" factors can be adjusted if there is will and understanding.

But in underdeveloped economies highly resistant institutional and political obstacles to raising government finance often do exist. Thus in East Africa the currency board monetary system, even after the liberalisation of recent years, and the under-developed state of financial markets make it quite difficult for the governments to, say, double annual rates of domestic borrowing. Moreover, the existing structure of the East African tax systems clearly is not

25

adequate to provide suitably elastic revenues for the development process, yet every major adjustment is hedged in with serious administrative and political difficulties which can only be surmounted gradually.[7] Finally, the availability of foreign finance is largely an externally given factor, and customary administrative practices in foreign aid programmes may make domestic finance for local costs of development projects a more restrictive problem than foreign finance for import costs.

One can criticise the existing situation, arguing that slow progress in overcoming such institutional and political obstacles, at least to raising domestic finance, does reflect lack of will and understanding among the national leadership. But one must recognise the seriousness of these obstacles. The point remains that lack of government finance, whether from domestic or foreign sources, can be the operative constraint directly on public investment and indirectly on the development programme as a whole.

Turning to the fourth possible constraint, it seems quite doubtful that educated manpower could have been the critical barrier to enlarged development programmes during the period of retardation (1958-62). In those mainly pre-independence years, of course, such manpower was predominantly expatriate. The last two years of export boom have roughly corresponded with the first years of independence, in which there has been a major turnover of expatriates, and Africanisation at least in the civil service has proceeded reasonably rapidly. As the proportion of new holders of specialist positions has risen abruptly, this has led to a temporary tightening of the manpower constraint, in terms of experience. There has now been superimposed on this transitional manpower problem the expanding and innovating demands of much more ambitious development plans. On balance I would suggest, though tentatively, that if in 1963 and 1964 additional finance had been promptly available, the stock of educated manpower would still have permitted some expansion of development programmes. But in future the situation seems likely to be quite different.

This analysis has an interesting implication for the role of foreign aid in supporting accelerated development. Foreign aid typically eases in some degree all four of these constraints. It supplements domestic saving in releasing resources for gross investment, it provides these resources in the form of foreign exchange, it transfers these resources to the government supplementing

domestic finance and it typically includes specialised manpower *via* technical assistance. The implication of this analysis is that, during the years preceding the new plans, the key contribution of foreign aid to East Africa has been to ease the government finance constraint. It is a paradox that as resources from abroad have come to be thought of as "foreign aid" rather than "grants from the colonial government", recognition of their financial significance has tended to be somewhat obscured.

Constraints in the Future

The new, more ambitious development plans of the East African governments are bound to press more severely on all four potential constraints. As noted in the previous chapter, effective comprehensive planning ought to adjust the development programme until it is at the limit simultaneously of all four constraints. Judgments about how tight the various constraints may be in the future therefore necessarily depend on analysing the new plans, which we shall undertake in future chapters. Here let me make only a few preliminary comments.

First, since in the recent past the critical constraint appears to have been government finance, the task of *initiating* accelerated development under the new plans depends very much on raising additional finance for the development budgets. If this is accomplished, it will begin to increase the rate of growth and alter the economic trends discussed above, and thus to push up against the other constraints. But the first step is to finance enlarged development budgets.

Second, there is ground for optimism that if the foreign exchange, government finance and educated manpower constraints are satisfied, domestic saving and foreign capital inflow can rise fairly steadily to support the required gross investment, and GDP can grow at much higher rates than in the recent past without risking excess-demand inflation. After all, as noted above, in the mid-fifties Kenya and Tanzania were successfully expanding GDP volume in the order of 8-9 per cent per year without inflation, while Uganda was growing at about 5 per cent; during the recent favourable export boom, all three countries have been growing in the 7-9 per cent range. A fundamental question is whether supplies of domestic foodstuffs would expand sufficiently rapidly to meet the rising demands of the urban population. But though no one can

27

be confident about the elasticity of supply of foodstuffs from peasant cultivators, the problem was apparently surmounted in the past. Even if a modest rise in the relative price of foodstuffs nonetheless occurred, it would doubtless help to call forth supply as well as to distribute part of rising urban incomes to the rural population. Rising urban and rural incomes could reasonably be expected to generate additional domestic savings, as in the mid-fifties, and in an environment of general economic expansion foreign capital could reasonably be expected to flow in again in larger amounts.

Third, educated manpower may well prove to be the critical constraint in the future, as the governments attempt to implement the much more ambitious new plans. Two points of clarification should be made, however. To begin with, if a shortage of specialised manpower held back expanded development activities for which foreign exchange and government finance were readily available, the underlying cause would be administrative and political resistance to using some of the (now surplus) foreign exchange and finance to import the necessary manpower. East Africa's demand for specialised manpower is only a tiny fraction of the world supply. After everything has been done to expand the training of nationals both inside and outside the schools, it would be quite possible to meet any remaining shortage during the plan period by multiplying, if necessary, the number of expatriates employed on contract, whether by direct hire or by foreign aid. Of course, hiring terms which depart from normal civil service practices, and campaigns to find more expatriates when, at the same time, Africanisation is a major goal, would be awkward to introduce. But it should be clear that reluctance to employ awkward measures, however understandable, is the underlying difficulty, given foreign exchange and finance.

We may also note that if educated manpower becomes the most critical constraint, its effects are perhaps more likely to take the form of delays and mistakes by harassed and inexperienced government officials administering development activities than the form of a general lack of suitable people to fill operating positions throughout the economy. Difficulties of the latter type would lower the efficiency of development activities undertaken, but difficulties of the former type may prevent development activities going forward at all, not least at the stage of arranging for their financing. Thus here a shortage of educated manpower merges with the problems of

energetic and decisive organisation, and commitment to develop-
ment goals, in the government as a whole. Alleviation of these
problems unfortunately involves more than simply finding suitable
people for government posts, whether nationals emerging from the
educational system or expatriates imported temporarily from abroad.

But to repeat, which of the four potential constraints may be
expected to be tightest in the future depends on the nature of the
new plans, as examined in later chapters. Ideally, the plans should
be designed to push similarly on all four. Anticipating the later
discussion, it seems likely that in actuality the saving-investment
balance and the balance of payments will be manageable, and that
government finance and educated manpower will be the two critical
constraints.

Footnotes.

1. See B. Van Arkadie, forthcoming book on *The Structure and Growth of the East African Economies,* for a much fuller discussion of both the structural characteristics of the three economies and their development over time. His analytical framework is presented in "Nature of Structural Analysis of East African Economies", EAISR *Conference Papers,* Jan., 1965; and in several of his working papers for the Economic Development Research Project.

2. D. P. Ghai, "Some Aspects of Income Distribution in East Africa", *E.A. Economic Review,* Dec., 1965.

3. The only official estimates of domestic product at constant prices are for Uganda, in Uganda Govt., *The Real Growth of the Economy of Uganda 1954-62,* 1964. My figures for GDP volume, deflated only for ag. export prices, follow a time-pattern 1954-62 similar to the figures in *Real Product,* but at a somewhat higher level—a 34 per cent increase over the eight years compared to a 26 per cent one. The main difference is in services and government; however, the conceptual problem in deflating gross product in these sectors is thorny, and the implicit assumption that prices of "real services" haven't risen (used here) seems as justifiable as the implicit assumption that "productivity" per employee in these sectors has remained un-changed (used in *Real Product).* For my analysis and for inter-country comparisons I have continued to use figures deflated only for the main variable, agricultural export prices.

4. B. Van Arkadie, "Import substitution and Export Promotion as Aids to Industrialisation in East Africa", *E.A. Economic Review,* Dec., 1964.

5. D. P. Ghai, *Taxation for Development: a Case Study of Uganda,* East African Publishing House, 1966. For a key chapter see his "Economic Growth and Tax Revenues in Uganda 1962-70", EAISR *Conference Papers,* Jan., 1965.

6. Portions of this section appeared previously in my paper, "Foreign Aid, Domestic Finance, and the Development Plan", in *Proceedings, Univ. of E.A. Conference on Foreign Aid,* Dar es Salaam, 1964.

7. D. P. Ghai, *op. cit.* See also D. P. Ghai, "Tax Structure for Rapid Econo-mic Growth in East Africa", *Problems of Economic Development in East Africa,* African Contemporary Monographs No. 2, East African Publishing House, 1965.

TABLE II-A. Uganda: Principal Economic Data 1954-1964—(£ thousand unless otherwise indicated)

	54	55	56	57	58	59	60	61	62	63	64[u]
)P, monetary	93,022	96,412	101,778	109,375	106,347	107,746	110,536	111,749	107,928	128.5	148.9
)ort price adjust.[a]	−13,940	−14,936	−10,316	−13,515	−11,219	− 4,643	0	+416	−758	− 2,997	−17,188
)P volume[a]	79,082	81,476	91,462	95,860	95,128	103,103	110,536	112,165	107,170	125.5	131.7
. product[b]	56,584	53,626	56,397	61,443	47,228	56,974	55,628	55,694	50,026	65.4	75.0
. prod. volume[a]	42,644	38,690	46,081	47,928	46,009	52,331	55,628	56,114	49,268	62.4	57.8
ban product[b]	32,512	38,443	40,025	44,020	44,928	46,939	51,073	52,505	53,994	59.9	70.5
inufacturing[c]	6,164	7,848	8,203	7,594	7,565	7,871	7,960	8,372	8,816	9.6	13.2
insport & power	4,670	5,527	5,245	5,934	6,808	7,327	8,087	7,916	8,278	9.0	9.3
mm. & services	18,412	20,808	21,629	24,978	24,984	25,698	28,497	29,583	29,642	34.3	39.1
vernment[d]	3,266	4,260	4,948	5,514	5,571	6,043	6,529	6,634	7,258	7.0	8.9
nstruction prod.[b]	3,926	4,343	5,356	3,912	4,191	3,833	3,835	3,550	3,908	3.5	3.5
oss invest. (£mil)	18.5	23.2	21.7	20.8	20.2	17.4	19.0	17.2	16.4	20.1	24.3
nstruction (£mil)	12.1	13.4	11.7	12.6	12.1	10.6	10.3	8.9	8.5	10.3	11.2
uipment (£mil)	6.4	9.9	10.0	8.2	8.1	6.8	8.7	8.3	7.9	9.8	13.1
blic invest. t (£mil)	14.4	16.2	13.3	12.5	12.1	11.1	10.6	9.7	9.1	9.6	
ports[e]	48,565	50,185	45,963	52,157	52,614	48,455	49,620	48,113	48,005	62,739	76,092
:. exports[f]	47,923	49,653	44,685	49,050	58,581	43,291	42,977	40,971	38,481	52,946	63,643
:. exp. volume[a]	33,983	34,717	34,369	35,535	37,362	38,648	42,977	41,387	37,723	49,949	46,455
'd. exports[f]	191	128	189	2,135	3,054	4,030	5,307	5,080	6,208	6,770	10,434
-exports	453	403	1,090	975	980	1,137	1,338	2,062	3,317	3,023	2,015
ports[g]	28,415	37,941	33,245	35,425	34,323	32,045	32,643	33,983	33,946	40,855	46,409
od[h]	3,751	4,110	4,623	6,240	6,779	5,498	5,304	5,472	5,225	5,478	6,838
'd. cons. goods[h]	12,069	12,885	11,784	13,353	12,260	11,595	12,296	13,700	13,260	16,139	17,395
hicles[h]	3,007	3,739	2,669	2,554	2,276	2,697	3,053	2,450	2,794	3,739	3,625
ermed. goods[h]	1,513	2,331	2,166	2,294	2,451	2,550	2,726	3,065	3,835	3,987	4,739
els[h]	1,660	1,944	1,992	2,229	2,293	2,143	2,135	2,114	2,492	2,404	2,478
nstr. materials[h]	2,674	5,362	3.077	2,969	2,582	2,541	2,192	2,092	1,646	2,391	2,590
uipment[h]	3,741	7,336	6,904	5,786	5,684	5,021	4.937	5,090	4,892	6,719	8,742
il. of trade	20,150	12,244	12,718	16,732	18,291	16,410	16,977	14,130	14,059	21,884	29,683
il. on curr. acct. i (£mil)	—	—	—	6.56	7.82	3.95	5.04	2.06	−2.20	5.71	—

TABLE II-A.   Uganda: Principal Economic Data 1954-1964—(£ thousand unless otherwise indicated)   (Continued)

	54	55	56	57	58	59	60	61	62	63	64[u]
Gov. current expend.[j]	13,347	15,089	15,701	17,492	19,067	19,052	19,165	20,540	23,247	24,952	29,677
Gov. current transfers[j]	523	627	670	800	855	900	1,807	4,129	4,764	4,577	6,001
Govt. capital expend.[k]	6,616	6,799	6,973	6,574	6,010	5,466	5,140	4,834	4,668	5,979	12,402
Govt. tax revenue[m]	19,817	21,003	22,900	21,612	21,849	20,352	19,170	18,848	24,302	29,845	33,878
Direct taxes	2,917	3,729	3,772	3,668	3,757	4,222	4,156	4,177	3,906	3,775	4,335
Export taxes	6,390	5,226	7,106	5,406	5,917	4,054	2,550	1,800	3,285	7,866	9,742
Customs duties	4,140	4,379	5,064	4,191	5,400	5,586	6,241	6,373	9,038	8,955	10,900
Excise & other rev.[m]	6,370	7,669	7,958	8,347	6,775	6,490	6,223	6,498	8,073	7,137	8,552
Gov. non-tax rev.[m]	502	135	151	412	487	256	1,002	3,497	5,914	5,381	5,705
Gov. econ. balance[n]	6,470	5,914	7,199	4,120	2,782	1,300	5	− 1,692	1,055	4,893	4,201
Gov. finan. balance[n]	6,449	5,422	6,680	3,732	2,414	656	--800	− 2,325	2,205	5,697	3,905
Private income[o]	73,205	75,490	78,878	87,763	84,498	87,394	91,366	92,901	83,626	98.7	115.0
Consumption, other uses[p]	41,025	45,879	51,659	54,351	48,789	54,884	55,394	59,879	54,222	61.6	65.2
Employment[q] (no.)	224,782	226,284	225,729	226,916	228,399	224,260	228,889	220,999	216,773	208,350	214.4
Ag. employment[q] (no.)	56,235	59,941	62,034	56,702	56,993	55,361	55,361	54,346	56,914	56,085	
Urban employ.[q] (no.)	123,099	125,861	126,588	135,030	134,764	137,121	139,872	138,099	131,224	126,446	
Construction empl.[q] (no.)	45,448	40,482	37,107	35,184	36,642	31,778	29,204	28,554	28,635	25,819	
Retail prices[r]	121	100	98	90	96	94	85	105	85	87	94
Cost of living[s]	100	104	115	115	116	118	118	121	126	131	134

Table II-B. Tanzania: Principal Economic Data 1954—1964. (£ thousand, unless otherwise indicated)

	1954	1955	1956	1957	1958	1959	1960	1961	1962	62 rev u	1963	1964
GDP, monetary	79,088	81,760	89,335	92,941	97,945	106,231	114,447	115,448	123,297	133,997	156,375	171,697
Export price adjustment a	—4,283	—654	—2,178	+1,148	+3.820	+2,173	—2,391	+869	+1,405	+1,405	—8,967	—12,367
GDP volume a	74,805	81,106	86,157	94,089	101,765	108,404	112,056	116,317	124,702	135,402	135,492	159,330
Agricultural product b	35,120	36,569	41,415	40,299	39,220	44,543	48,138	43,100	48,475	49,651	62,790	68,020
Agricultural product volume a	30,837	35,915	38,237	41,447	43,040	46,716	45,747	43,969	49,880	51,056	53,823	55,653
Urban product b	37,791	41,456	43,094	47,200	52,636	56,051	59,940	63,981	66,811	78,260	87,228	96,214
Manufacturing c	8,335	9,145	9,040	10,711	12,936	13,672	14,511	14,964	15,356	12,842	12,509	14,642
Transport and power	8,688	9,273	9,944	10,822	12,392	13,347	14,474	15,286	15,704	10,835	10,928	11,723
Commerce and services	13,113	14,326	14,775	15,22	15,9862	17,280	17,689	18,077	18,415 }	54,583	63,791	69,849
Government d	7,655	8,712	9,335	10,495	11,326	11,752	13,266	15,654	17,336 }	6,086	6,357	7,463
Construction prod. b	6,177	3,735	4,826	5,442	6,089	5,637	6,369	8,367	8,011			
Gross investment	21,755	24,653	23,284	24,136	22,720	21,826	22,227	26,080	24,401		24,509	30,581
Construction	11,215	11,424	12,292	12,826	12,537	11,360	11,855	14,628	15,458		15,626	19,153
Equipment	9,540	13,229	10,992	11,310	10,183	10,466	13,372	11,452	8,9943		8,883	11,446
Public investment t	10,214	10,904	9,323	9,834	8,483	8,060	7,824	10,803	9,549		8,124	11,442
Exports e	38,849	39,103	48,316	43,126	46,411	49,792	58,923	52,839	55,969		68,561	76,546
Agricultural exports f	32,835	33,334	42,905	37,121	38,621	41,296	50,201	42,572	45,419		58,785	63,898
Agricultural export volume a	28,552	32,680	39,727	38,269	42,441	43,469	47,810	43,441	46,824		49,818	51,531
Mfd. exports f	4,469	4,554	3,988	4,390	5,691	6,565	6,976	8,315	8,215		8,191	11,344
Re-exports	1,545	1,215	1,423	1,615	2,099	1,931	1,746	1,952	2,335		1,585	1,303
Imports g	37,817	49,144	42,234	47,001	42,606	42,555	46,999	50,291	51,503		52,776	59,676
Food h	7,704	7,606	7,798	9,134	8,906	7,482	7,851	9,805	10,207		8,769	8,176
Mfd. cons. goods h	13,540	17,133	13,774	15,999	13,352	14,540	16,429	17,469	18,869		20,425	23,173
Vehicles h	2,083	3,681	2,850	3,052	2,749	3,187	3,946	3,136	3,451		3,893	2,575
Intermed. goods h	2,324	2,591	2,386	2,331	2,455	2,450	2,832	3,123	3,731		4,370	7,065
Fuels h	2,687	3,076	3,455	4,102	4,125	3,673	3,939	3,578	3,870		3,802	3,803
Constr. materials h	3,480	5,253	3,652	4,943	3,932	4,035	3,950	4,935	3,726		2,882	3,368
Equipment h	6,001	9,803	8,319	7,440	7,087	7,099	8,054	8,246	7,649		8,662	1,518

Table II-B. Tanzania: Principal Economic Data 1954-1964. (£ thousand, unless otherwise indicated). (Continued)

	1954	1955	1956	1957	1958	1959	1960	1961	1962	62rev.u	1963	1964v
Balance of trade (£ mil)	1,032	—10,041	6,082	—3,875	3,805	7,237	11,924	2,548	4,466		15,785	16,870
Bal. on current acct.i (£ mil)	—	—	—	—5.61	—5.42	—0.78	+4.10	—5.86	—7.03		+6.39	—
Govt. current expend i	14,327	16,877	16,228	16,741	17,311	18,288	18,321	21,084	20,080		22,957	27.8
Govt. current transfers j	1,244	1,315	1,595	1,943	2,214	2,860	2,693	3,626	3,505		4,158	5.2
Govt. capital expend. k	3,337	5,084	5,282	5,454	5,159	3,939	5,672	7,341	5,674		7,263	10.0
Govt. tax revenue m	17,651	17,824	17,780	19,891	20,503	22,529	21,908	22,185	25,133		30,222	34.6
Direct taxes	5,907	6,016	5,579	6,061	5,394	5,561	6,135	6,073	6,184		7,034	7.5
Export taxes	505	28	24	25	24	46	62	55	100		907	1.4
Customs duties	4,820	5,527	4,999	5,312	6,691	7,771	7,695	8,066	10,100		10,408	11.7
Excises, other taxes	6,149	6,253	7,178	8,493	8,394	9,151	8,016	7,991	8,749		11,873	14.0
Govt. non-tax. rev. m	616	666	700	—	—	—	53	—	—			
Govt. econ. balance n	3,324	947	1,552	3,150	3,192	4,241	3,587	1,101	5,053		7,265	6.8
Govt. financial balance n	2,696	298	657	1,207	978	1,381	947	—2,525	1,548		3,107	1.6
Private income o	61,437	63,936	71,555	73,050	77,342	83,702	92,539	93,263	98,164		126.153	137.1
Consumption, other uses p	41,974	50,271	43,741	55,939	54,109	58,880	61,975	65,736	74,350		93,124	96.4
Employment q (no.)	409,094	384,100	394,209	390,470	390,547	393,268	388,446	383,117	368,816	397,028	340,344	351,227
Agricultural employment q (no.)	218,094	201,350	207,112	211,351	213,092	220,199	199,021	220,467	196,820	192,924	155,506	153,410
Urban employment q (no.)								139,844	132,022	188,382	173,870	186,276
	{ 191,000	181,750	187,097	179,119	177,455	173,069	189,425 }					
Construction empl. q (no.)								40,806	39,974	15,722	10,968	11,541
Retail prices r	100	97	95	100	104	102	103	104	103		103	105
Cost of living s	100	103	105	109	112	113	—	—	—		—	—

Table II-C. Kenya: Principal Economic Data 1954-1964 (£ thousand, unless otherwise indicated).

				1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964[u]
nonetary ..	..	..	..	112,450	134,740	145,150	154,220	155,500	161,760	175,320	176,810	180,870	192.43	209.21
t price adjustment[a]		..	..	—1,720	—3,469	—4,562	—1,469	+ 706	—1,715	0	+1,615	—1,599	—1,382	—4,889
volume[a]	..	..	..	110,730	131,271	140,588	152,751	156,206	160,045	175,320	178,425	179,271	191.05	204.32
:oduct[b]	..	..	..	28,390	29,140	35,050	33,540	34,600	35,580	40,000	38,720	39,860	44.39	48.42
roduct volume[a]	..	..	..	26,670	25,671	30,488	32,071	35,306	33,865	40,000	40,335	38,261	43.01	43.53
1 product[b] ..	..	..	..	77,750	97,560	100,760	111,050	112,530	118,240	127,460	130,290	134,250	143.15	156.51
.facturing[c]	..	..	..	15,030	18,720	19,540	21,060	21.750	21,350	22,710	23,580	23,870	25.27	27.32
port and power	..	..	..	13,080	16,630	17,530	20,730	20,050	21,590	23,130	23,990	25,550	28.22	29.44
n. and services	..	..	..	35,700	42,910	44,880	49,070	50,270	53,770	56,700	55,720	56,710	60.86	66.76
rnment[d]	..	..	..	13,940	19,300	18,810	20,190	20,460	21,530	23,170	27,000	28,120	28.80	32.99
truction prod.[b]	..	..	..	6,310	8,040	9,340	9,630	8,380	7,940	7,860	7,800	6,760	4.89	4.28
s investment (£ mil.)	..	..		35.27	43.81	45.68	45.62	40.02	40.33	41.41	31.89	33.33	30.40	32.80
truction (£ mil.)		..	..	20.74	24.11	25.91	27.33	24.31	24.52	23.13	18.09	18.53	14.30	15.30
pment (£ mil.)		..	..	14.53	19.70	19.77	18.30	15.70	15.79	18.28	13.80	14.80	16.10	18.50
c investment[t] (£ mil.)	..	..	..	16.73	18.97	14.93	16.44	13.34	13.64	14.41	14.46	12.83	9.80	9.80
rts[e]	..	..	..	28,577	34,051	42,012	42,685	46,149	50,682	53,968	57,692	62,467	70,769	79,428
xports[f]	..	..	..	20,828	25,147	31,401	30,849	34,588	36,015	38,533	38,762	41,576	47,435	49,339
xp. volume[a]	..	..	..	19,108	21,678	26,839	29,380	35,294	34,300	38,553	40,377	39,977	46,053	44,450
. exports[f]	..	..	..	5,241	6,554	6,560	6,949	7,637	9,588	10,409	12,512	13,656	16,187	23,656
xports	..	..	..	2,509	2,350	4,051	4,887	3,924	5,079	5,006	6,418	7,235	7,147	6,434
rts[g]	..	..	.:	65,648	77,559	73,855	76,516	66,263	66,996	77,064	75,932	76,834	82,850	87,949
d[h]	..	..	..					9,518					12.03	
.. cons. goods[h]	..	..	..					20,235					26.96	
icles[h] ..	..	..	..					4,942					6.41	
rmed. goods[h]	..	..	..					7,440					11.22	
ls[h]	..	..	..					8,524					8.74	
istr. materials[h]	..	..	..					4,802					3.66	
iipment[h]	..	..	..					10,802					13.82	
. of trade	..	..	..	—37,071	—43,508	—31,843	—33,831	—20,114	—16,314	—19,372	—18,240	—14,367	—12,081	—8,521
. curr. acct.[i] (£ mil.)		..	..				—35.22	—18.61	—13.3	—18.6	—5.3	—4.8	+1.4	

Table II-C. Kenya: Principal Economic Data 1954-1964. (£ thousand, unless otherwise indicated) (Continued)

			1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964[u]
ovt. current expenditure[j]	..	..				34,609	33,987	34,001	38,319	39,321	41,014	43.75	47.08
ovt. current transfers[i]		..				3,857	4,105	4,253	4,946	6,245	7,256	10.67	9.70
ovt. capital expenditure[k]	..	..				5,891	8,016	8,016	8,105	7,677	9,397	14.08	15.98
ovt. tax revenue[m]	..	..				35,442	37,743	37,877	38,059	40,947	44,973	48.52	50.30
irect taxes	..	..				14,093	14,149	12,442	11,798	12,090	12,407	13.38	13.64
xport taxes ..	..	..				—	—	—	—	—	10	—	.30
ustoms duties	..	..				8,113	9,543	10,659	10,001	11,711	13,757	13.67	14.30
xcise and other rev.	..	..				13,236	13,745	16,776	16,260	17,146	18,799	21.47	22.06
ovt. non-tax rev.[m]	..	..				3,000	1,547	1,662	4,336	4,870	2,650	5.10	4.47
ovt. econ. balance[n]	..	..				833	3,756	3,876	—260	1,626	3,959	4.77	3.22
ovt. finan. balance[n]	..	..				—24	1,198	1,285	—870	251	—647	—.80	—2.01
rivate income[o]	..	..				118,778	117,757	123,883	137,261	135,863	135,897	143.91	159.1
onsumption, other uses[p]	..	..				107,822	101,607	103,743	118,687	123,839	120,893	130.46	137.85
mployment[q] (th)	..	..	544.4	615.1	596.7	614.4	593.2	596.9	622.2	589.8	591.3	533.3	547.3
gricultural employment[q] (th) ..		..	223.1	247.9	235.2	253.4	249.5	251.7	271.8	252.0	245.5	219.7	208.3
rban employ.[q] (th)	..	..	298.7	341.8	332.0	336.8	322.8	326.3	329.3	319.9	323.2	303.2	330.8
onstruction empl.[q] (th)	..	..	22.6	25.4	29.5	24.2	20.9	18.9	21.1	17.9	12.6	10.4	8.2
etail prices[r]	..	..	—	—	—	—	100	101	103	105	108	108	108
ost of living[s]	..	..	100	106	108	111	111	112	113	115	122	122	124

Notes to Table II—A:

Sources: Statistical Abstract, Annual Trade Report, Background to the Budget, various years.

(a) Export price adjustment is difference between ag. exports at 1960-62 prices and ag. exports at current prices. Deflator to 1960-62 prices is implicit index derived from value at current prices and value at 1960-62 prices for twelve major commodities; see Y. Kyesimira, "Comparison of Agricultural Export Achievements in the East African Countries", EDRP 47, 1.10.64, E.A.I.S.R. This same adjustment is used to obtain GDP volume, ag. product volume and ag. export volume, by adding the adjustment algebraically to the corresponding current-price figure.

(b) Ag. product includes cotton ginning, coffee curing, sugar manufacture, forestry, fishing, hunting. Urban product includes all other elements of monetary GDP except construction product.

(c) Manufacturing includes mining.

(d) Government includes miscellaneous services provided by public authorities.

(e) Exports include domestic exports, inter-territorial exports, re-exports.

(f) Ag. exports include SITC 0,1,2,4. Mfd. exports include SITC 3, 5, 6, 7, 8, 9. Neither includes re-exports.

(g) Imports include net imports, inter-territorial imports.

(h) Commodity classification of imports is obtained by starting with SITC classes and transferring entire value of selected commodities on basis of assumed principal end use. Food is all of SITC 0, 1, 4. Mfd. cons. goods is part of SITC 5, 6, 7, 8, 9. Vehicles is part of SITC 6, 7. Intermed. goods is part of SITC 2, 5, 6, 8, 9. Fuels is all of SITC 3. Construction materials is part of SITC 2, 6, 7, 8. Equipment is part of SITC 7, 8.

(i) See P. Newman, "Foreign Investment and Economic Growth: The Case of East Africa, 1963-1970—Description of Data Used", *Proceedings, U. of E.A. Conference on Foreign Aid,* forthcoming.

(j) Central government expenditure data are for fiscal year beginning in each calendar year. Gov. current expenditure is reported recurrent expenditures less pensions and gratuities, overseas addition, public debt transactions. Gov. current transfers is pensions and gratuities, overseas addition, public debt transactions other than UEB (which is also excluded from revenue).

(k) Gov. capital expenditure is reported non-recurrent expenditures less public debt transactions.

(m) Central government revenue data are for fiscal year beginning in each calendar year. Gov. tax revenue is reported recurrent and non-recurrent less public debt transactions including UEB, reimbursements, grants from abroad. Gov. non-tax rev. is reimbursements plus recurrent grants.

(n) Gov. economic balance is gov. tax revenue less gov. current expenditure. Gov. financial balance is econ. balance plus non-tax revenue less current transfers.

(o) Private income is monetary GDP less gov. tax revenue.

(p) Consumption and other uses is monetary GDP plus imports minus exports, gross investment, and gov. current expenditure.

(q) Employment is African employees, in thousands. Breakdown among ag., urban, construction corresponds to product classes in footnote b.

(r) Retail price index is for African markets, Kampala, month of June, base 1957 = 100 shifted to June, 1955.

(s) Cost of living index is for European civil servants, Kampala, month of June, base 1951 = 100 shifted to June, 1954.

(t) Public investment includes central gov., local gov., EACSO, UEB, UDC.

(u) National accounts, investment and budget figures preliminary.

Notes to Table II-B:
Sources: Statistical Abstract, Annual Trade Report, Budget Survey, various years. Data are actually for the mainland only, i.e., the former Tanganyika.

(*a*) See Table II-A.
(*b*)   „
(*c*)   „
(*d*) Government includes only public administration and defence.
(*e*) See Table II-A.
(*f*)   „
(*g*)   „
(*h*)   „
(*i*)   „
(*j*) Central government expenditure data are for fiscal year beginning in each calendar year. Gov. current expenditure is reported current expenditure less public debt, pensions and gratuities, poll tax transfers. Gov. current transfers is public debt plus pensions and gratuities. Note expenditures are net of reimbursements beginning 1957-58.
(*k*) Gov. capital expenditure is reported development expenditure.
(*m*) Central government revenue data are for fiscal year beginning in each calendar year. Gov. tax revenue is reported total revenue less poll tax transfers, reimbursements, UK grants, foreign grants for development. Gov. non-tax revenue is reimbursements plus UK grants; note these are netted out beginning 1957-58.
(*n*) See Table II-A.
(*o*)   „
(*p*)   „
(*q*) Employment is African employees, in thousands. Breakdown among ag., urban, construction corresponds to product classes in footnote b, but breakdown between urban and construction is available only beginning 1961. Figures 1962 rev. to 1964 are for all races.
(*r*) Retail price index is for wage earners, Dar es Salaam, month of June, base Dec., 1951 = 100 shifted to June, 1954, seasonally adjusted.
(*s*) Cost of living index (excluding rent), Dar es Salaam, base Dec., 1950 = 100 shifted to 1954. Not available after 1959.
(*t*) Public investment includes central government, local authorities, EACSO agencies.
(*u*) Revised national accounts concepts and estimates, and employment figures for all races with revised sector classification.
(*v*) National accounts, investment, and budget figures preliminary. Budget figures are partly estimated from statements in budget speech.

Notes to Table II-C:
Sources: Statistical Abstract, Annual Trade Report, Economic Survey, various years.

(*a*) See Table II-A.
(*b*)   „
(*c*)   „
(*d*)   „
(*e*)   „
(*f*)   „
(*g*)   „
(*h*)   „
(*i*) For source 57-58, see Table II-A; for later years, Gov. of Kenya, *Economic Survey, 1964*.
(*j*) Central government expenditure data are for fiscal year beginning in each calendar year. Gov. current expenditure is reported recurrent expenditures less public debt and pensions and gratuities. Gov. current transfers is public debt plus pensions and gratuities.
(*k*) Gov. capital expenditure is reported development expenditure.

37

(*m*) Central government revenue data are for fiscal year beginning in each calendar year. Gov. tax revenue is reported recurrent revenue, less grants from overseas and recurrent U.K. aid, plus miscellaneous development revenue. Gov. non-tax revenue is grants from overseas and recurrent U.K. aid.

(*n*) See Table II-A.

(*o*)   ,,

(*p*)   ,,

(*q*) Employment is employees of all races, in thousands. Construction includes only private, so urban includes public construction employees; to this extent breakdown departs from product classes in footnote b. Urban also includes domestics.

(*r*) Retail price index is for wage earners, Nairobi, month of December, base Oct.—Dec. 1958 = 100.

(*s*) Cost of living index is for European civil servants, Nairobi, month of December, base Aug., 1939 = 100 shifted to Dec., 1954.

(*t*) Public investment includes central government, local authorities, U.K. government, and EACSO agencies.

(*u*) National accounts, investment and budget figures preliminary.

CHAPTER III: THE OLD PLANS

While development plans have been periodically prepared by all three East African governments throughout the post-war years, the plans prior to those issued in 1964 by the Tanzania and Kenya governments can all be reasonably characterised as public project plans. As noted in the first chapter, "the old plans"[1] were constructed essentially by selecting and adding together attractive public projects within an estimated total available financing, rather than by deriving the current development programme from the desired future evolution of the economy as a whole. They covered expenditures by the central government, plus (perhaps) some public agencies, but did not cover private investment nor set targets for private economic activity. They presumed that central government expenditures would be implemented through standard budgetary procedures, and did not attempt to establish implementation procedures embracing the entire economy or to design a range of policy instruments for inducing supporting private actions. In all these respects "the new plans"[2] have moved very much further toward comprehensive development planning.

The point of examining the old plans, however, is not to criticise them, non-historically, from the standpoint of a comprehensive approach, but to describe them in a standardised way, as the bases from which the new plans have evolved. The old plans, examined in this chapter, and the recent economic trends, discussed in the previous chapter, provide the setting for the much more ambitious development efforts now being launched.

Nature and Size

The old Kenya plan was initially prepared for the three fiscal years 1960/61 to 1962/63. Its opening words were:

> The development programme for the three years 1960/63 has been prepared on similar lines to the 1954/57 and the 1957/60 programmes, and it is not proposed to repeat general observations on the need for planning or on the past history of development in Kenya ... It is sufficient to say that the main purposes behind the formulation of a capital budget on a three-year basis are continuity in planning, and the co-ordination and clarification of the objectives of such planning.[3]

39

It proposed a programme of central government development expenditure which was slightly *smaller* than in the previous three years. The plan gave no information about investment in railways and communications by E.A.C.S.O. agencies, or about investment in electric power by private companies, though partly owned by the government. Later, as part of the transition to independence, the plan was simply extended for a fourth fiscal year. The programme for 1963/64 was quite similar to the earlier years, with the notable exception that the extraordinary Settlement programme had already been added on to the plan and was by this time building up to a specially-financed budget of over £6 million. The resulting four-year development plan is summarised in Table III-1. Note that the table is in a standard form which we shall use for comparison with the other old plans, and with the new plans in Chapter VI; adjustments have been made in a few figures, such as including contractor-financed roads, to improve comparability.

The old Tanganyika plan was adopted a year later, during the time of transition to independence, for the three fiscal years 1961/62 to 1963/64. It commented:

> "The reality of economic planning in the hustle and bustle of a fast developing African country bears little or no relation to the theoretical work on elegant models, constructed in statistical laboratories, of more developed countries. In Tanganyika, it has not even proved possible to follow the 'programming' approach, which starts from overall targets of gross domestic product . . . On the other hand, . . . the plan is based on an extensive survey of the economy prepared by the World Bank Mission and on several subsidiary economic and statistical studies . . .4"

The plan, which is summarised in Table III-2, provided for central government development expenditure about half as large again as in the previous years. It gave some information about private participation in electric power and a tourist hotel, but nothing about railways and communications under E.A.C.S.O., and assumed that the economy would continue to grow at about five per cent per year, with private investment rising proportionately.

The old Uganda plan was adopted still later, well after the start of the five fiscal years to which it referred, 1961/62 to 1965/66. It constituted at least a first step in the transition from public project planning to comprehensive planning. In conception it reached

40

towards comprehensiveness, notably in the chapter dealing with
'The Aim' (accelerate the growth of gross national product, while
diversifying the economy and assuring equitable distribution),
'The Strategy' (emphasise increasing production through efficient
investment and education), and 'The Tactics' (stating policies
toward public enterprise, private enterprise, land tenure, external
trade, Ugandanisation, popular cooperation and foreign and
domestic financing).[5] In execution, however, it moved only a
modest way. Like Tanganyika, it projected central government
development expenditure, as summarised in Table III-3, about
half again as large as in the previous years. Investment by public
agencies was fully covered, though in very round figures, and the
chapter on private investment simply described the results of an
experimental survey of investment intentions, mainly revealing the
common pattern that intentions fall off for years further in the
future. After establishing the central government programme and
the other investment estimates, the plan estimated separately, by
two rough methods, that it would result in expanding gross domestic
product somewhere between $3\frac{1}{2}$ per cent and 5 per cent per year.

Table III-1: Kenya Development Plan, 1960/61—1963/64: Composition by
Economic Sector and Type of Organisation (£ th)

		Central Govt.		Public Agencies	
	Total	Recurr.	Capital	Public Sources	Private Sources
Agriculture	6,657	2,249	4,408		
Livestock and Fishing	1,191	557	634		
Land and Water	4,041	1,433	2,608		
Settlement	10,559a		10,559a		
Forests	1,601	1,231	370		
Game and Tourism	249		249		
Mining and Mapping	116	116			
Manufacturing	150		150		
Commerce and Co-ops. Credit	48	48			
Electric Power	b				b
Roads	8,371c		8,371c		
Railway	b			b	
Airports	599		599		
Posts and Tel.	b			b	
Education	2,634		2,634		
Health	877		877		
Social Services	54		54		
Information	d		d		
Housing	1,446		1,446		

41

Defence and Police	..	..	1,591		1,591
Administration	..	..	5,101	1,400	3,701
Local Govt.	..	..	4,120		4,120

Reserve

TOTAL	..	38,846ac	7,034	31,812ac	b b
(excl. Settlement)	..				

Notes:

(*a*) Sum of actual expenditures 1960/61 and 1961/62, estimated expenditures 1962/63, budgeted expenditures 1963/64. Settlement is not included in total.

(*b*) Estimates of private investment in electric power and of EACSO expenditures not stated.

(*c*) Roads figure includes 3000 of contractor finance not counted in plan.

(*d*) Included in administration.

Source: Kenya Government, *The Development Programme 1960/63* (Sessional Paper No. 4 of 1959/60); *Development Estimates for the year 1963/64.*)

Table III-2: **Tanganyika Development Plan, 1961/62-1963/64: Composition by Economic Sector and Type of Organisation (£ th)**

				Central Govt.		*Public Agencies*	
			Total	*Recurr.*	*Capital*	*Public Sources*	*Private Sources*
Agriculture	..	..	2,620	*a*	2,620		
Livestock & Fishing	..	..	595	*a*	595		
Land and Water	..	..	1,515	*a*	1,515		
Settlement ..	..	..	—		—		
Forests	..	..	533	*a*	533		
Game and Tourism	..	..	782	*a*	482		300
Mining and Mapping	..	..	478	183	295		
Manufacturing	..	..	570b		570		*b*
Commerce and Co-ops.	..	..	342	35	307		
Credit	..	..	50		50		
Electric Power	..	..	4,878		1,878		3,000
Roads	..	..	5,317c		5,317c		
Railway	..	..	*d*			*d*	
Airports	..	..	205		205		
Posts and Tel.	..	..	*d*			*d*	
Education	..	..	3,270	350	2,920		
Health	..	..	954		954		
Social Services	..	..	229	81	148		
Information	..	..	151		151		
Housing	..	..	552		552		
Defence & Police	..	..	2,380		2,380		
Administration	..	..	1,100		1,100		
Local Govt.	..	..	1,859		1,859		
Reserve	..	..					
TOTAL	..	28,380c	649a	24,431c	*d*	3,300b

Notes:

(*a*) Breakdown between recurrent and capital costs to be charged to development budget not stated in plan. Agriculture excludes 250 charged to recurrent budget.

42

(*b*) Estimates of direct foreign lending to Development Corp. and of private participation in projects not stated.

(*c*) Roads figure includes 1150 of contractor finance, not counted in plan. Hence total differs from published total by this amount.

(*d*) Estimates of EACSO expenditures not stated.

Source: Tanganyika Government, *Development Plan for Tanganyika, 1961/62-1963/64.*

Table III-3. Uganda Development Plan, 1961/62-1965/66: Composition by Economic Sector and Type of Organisation (£ th)

				Central Govt.		Public Agencies	
			Total	*Recurr.*	*Capital*	*Public Sources*	*Private Sources*
Agriculture	..	..	..	11,515	818	3,047 {	7,200[a] 250	200[a]
Livestock and Fishing	..	..	1,822	434	1,388		
Land and Water	..	..	..	953		953		
Settlement	..	..	..	—		—		
Forests	..	..	..	342	52	290		
Game and Tourism	..	..	603	51	251	300[a]	
Mining and Mapping	..	..	504	100	234	95[a]	75[a]
Manufacturing	..	..	..	6,800			4,300[a]	2,500[a]
Commerce and Co-ops.	..	..	1,133	198	235	700[a]	
Credit	..	..	..	3,300			3,300	
Electric Power	..	..	..	4,500			4,500	
Roads	..	..	..	7,180		7,180		
Railway	..	..	..	3,000			3,000	
Airports	..	..	..	329	3[b]	329		
Posts and Tel.	..	..	..	500			500	
Education	..	..	..	6,673 { 1,127 351[b]		5,546		
Health	..	..	..	2,300	714[b]	2,300		
Social Services	..	..	..	386	83[b]	386		
Information	..	..	..	689	429[b]	689		
Housing	..	..	..	507		507		
Defence and Police	..	..	3,277	1,296[b]	3,277		
Administration	..	..	..	1,990	913[b]	1,990		
Local Govt.	..	..	..	7,547		5,547	2,000	
Reserve	..	..	..	..	2,000		2,000		
		TOTAL	..	67,850[c]	2,780	36,149	26,145	2,775

Notes:

(*a*) Uganda Development Corp. projects total 15,370, including the private participation of 2,775.

(*b*) Recurrent costs to be covered in recurrent budget, not charged to development budget. Within education, recurrent costs of secondary expansion are charged to development.

(*c*) Total excludes recurrent costs indicated in note b, and hence differs from published total of 71,641, but is consistent with required development financing.

Source: Uganda Government, *The First Five-Year Development Plan, 1961/62-1965/66.*

Comparing the sizes of the three countries' plans presents some difficulties, in view of the different time periods covered and the differences in scope. A meaningful comparison can be made, however, of average annual development expenditure by the central governments, derived from the standardised format of Tables III-1, III-2, and III-3 and presented in Table III-4 below. The old plans projected annual expenditures of £9.7 million for Kenya, £8.4 million for Tanganyika, and £7.8 million for Uganda. Relative to monetary GDP in 1962, during the plans, this works out to 7.2 per cent for Uganda, 6.8 per cent for Tanganyika, but only 5.4 per cent for Kenya. Thus for a reasonably comparable range of central government activities, Uganda and Tanganyika were planning on a distinctly higher rate of development expenditure than Kenya.

At the same time, some other differences among the three countries should be noted. Kenya's special land problems led to her extraordinary Settlement programme, for which the budget rose from 0 per cent in the first year to 3.4 per cent (again referred to 1962 GDP) in the last year. However, in terms of their effects on the economy these expenditures are mainly redistributive rather than expansionary, and in terms of financing they have attracted foreign grants and loans which were probably in large part uniquely available for this purpose. Uganda's substantial planned investment by autonomous public agencies amount to an additional 5.4 per cent of 1962 GDP. However, this mainly reflects the historical role played by the Uganda Development Corporation, the Uganda Electricity Board, and the Uganda Credit and Savings Bank; Kenya and Tanganyika have been more fortunate in finding private enterprises to carry out these investments as well as others. As noted in the last chapter, total investment rates have been higher in Kenya and Tanganyika than in Uganda. Finally, it may be noted that some recurrent expenditures are explicitly charged to the development budget in all three countries. The differences in reporting practices are such that I do not feel able to draw any inferences from the proportion of recurrent expenditure listed in the tables, but it should be kept in mind that the content of central government development expenditure is rather different from the content of gross investment by public agencies or private enterprises.

44

Composition of Development Expenditure

There are some quite interesting differences in the sector composition of planned central government development expenditures in the three countries, as presented in Table III-4. The sector compositions reflect implicit differences in the strategies being pursued, even though such differences in emphasis may not be stressed in the texts of the old plans.

The first point to note is that Kenya planned to devote a much larger share to agriculture than the other two countries—about 35 per cent compared to 21 per cent for Tanganyika and 18 per cent for Uganda. This represented a significantly greater emphasis on directly productive activities in the sector which was already the core of the economy.

The next point is that all three of the central government programmes devoted very little to directly productive activities in non-agricultural sectors—tourism, mining, manufacturing, commerce and co-operatives, credit. Of course Uganda also projected some £15.4 million of investment in manufacturing and estate agriculture by the autonomous U.D.C., which if accomplished would constitute a major acceleration of its activities and a much larger public investment in these sectors than in the other two countries.

The central government expenditures shown for Tanganyika included part of the initial financing of a similar autonomous Tanganyika Development Corporation. Thus in the old plans all three governments continued to rely on autonomous public agencies or private enterprises for development activities in these sectors.

Moreover, emphasis on economic infrastructures was rather similar in the three old plans. Planned expenditures on roads and airports were in the range of 19 per cent to 23 per cent of the totals, and the direct expenditure on electric power in Tanganyika had its counterpart in expenditure by public agencies and private enterprises in the other two countries.

The fourth point brings out a more striking difference in strategy: Uganda planned to devote about 27 per cent of her total programme to education and welfare activities, Tanganyika about 20 per cent, and Kenya about 13 per cent. This general difference of emphasis among the three countries applied both to education, which has a significant productive as well as welfare effect, and to the other activities, which are of mainly welfare significance.

45

Table III-4. Comparison of Sector Composition of Kenya, Tanganyika, and Uganda "Old Plans": Average Annual Expenditures by Central Governments (£ th. and %)

	Average Annual Expend.			Percentages		
	Kenya	*Tang.*	*Uganda*	*Kenya*	*Tang.*	*Uganda*
Agriculture	1,664	873	773	17.1	10.4	9.9
Livestock and Fishing	298	198	364	3.1	2.4	4.7
Land and Water	1,010	505	191	10.4	6.0	2.5
Settlement	2,640a	—	—	a	—	—
Forests	400	178	6	4.1	2.1	0.9
Game and Tourism	62	161	60	0.6	1.9	0.8
Mining and Mapping	29	159	67	0.3	1.9	0.9
Manufacturing	38	190	—	0.4	2.3	—
Commerce and Co-ops.	12	114	87	0.1	1.4	1.1
Credit	—	17	—	—	0.2	—
Electric Power	—	626	—	—	7.5	—
Roads	2,094	1,772	1,436	21.6	21.2	18.4
Railway	—	—	—	—	—	—
Airports	150	68	66	1.5	0.8	0.9
Posts and Tel.	—	—	—	—	—	—
Education	658	1,090	1,335	6.8	13.0	17.1
Health	219	318	460	2.3	3.8	5.9
Social Services	14	76	77	0.1	0.9	1.0
Information	—	50	138	—	0.6	1.8
Housing	362	184	101	3.7	2.2	1.3
Defence and Police	398	793	655	4.1	9.5	8.4
Administration	1,275	367	398	13.1	4.4	5.1
Local Govt.	1,030	620	1,109	10.6	7.4	14.2
Reserve	—	—	400	—	—	5.1
TOTAL	9,712a	8,360	7,786	100.0	100.0	100.0

Notes:
(a) Settlement not included in total.

Finally, Kenya and Uganda each planned to devote about 28 per cent of their total programmes to general government services, while Tanganyika aimed at only 21 per cent. From the standpoint of economic development, these expenditures may be considered mainly for consumption purposes.

Thus overall it seems possible to make a meaningful generalisation about the comparative strategies implied in the three old plans. Kenya placed relatively great emphasis on directly productive activities in agriculture, relatively little on education and welfare, and envisioned substantial expenditure on general government services. Uganda placed the least emphasis (relatively) on directly productive activities in agriculture, the most on education and welfare activities, and envisioned similar expenditure

46

on general government services. Tanganyika was more or less in the middle with respect to agriculture on the one hand and education and welfare on the other, and planned the least expenditure on general government services.

Within the individual sectors listed in Table III-4 there are also some interesting differences in tactics implied in the particular projects selected. Let me give just one illustration, comparing the content of expenditure in agriculture, livestock and fishing, and land and water in Uganda and Tanganyika.[6] The largest project in the old Uganda plan was the cotton spraying subsidy scheme, an effort to up-grade the technological level of peasant cotton culture throughout the country by introducing relatively simple non-agricultural inputs. Uganda allocated about four times as much as Tanganyika to promoting use of agricultural equipment, and planned to spend much more on tsetse control as the means of raising livestock production. On the other hand, Tanganyika planned to place relatively greater stress on training agricultural staff, on general extension as distinguished from specific cash crop development programmes and on land and irrigation works. These inter-country differences in tactics are in part reactions to different objective conditions, such as Tanganyika's greater aridity. But they are also in part results of different subjective judgments by agricultural officials of what activities will pay off. It would require a detailed study of project histories to make a meaningful evaluation, but these tactical differences constitute in effect a set of experiments, the results of which in each country should be of keen interest to the others.

Planned and Actual Expenditures

Plans express intentions, but actual development expenditure may diverge from the plan for a variety of reasons. In the economic circumstances of East Africa, as discussed in the previous chapter, shortfalls have not occurred because of campaigns to conserve foreign exchange or because of lack of total saving and rising inflationary pressure. They have occurred, however, because of shortage of government finance and because of slowness in administration. Comparisons of planned and actual development expenditures for the three countries are presented in Table III-5, III-6, and III-7. Note that for data reasons it has been necessary to modify the format and totals in certain respects from Table III-4.

47

Table III-5. Kenya Development Plan, 1960/61—1963/64: Comparison of Planned and Actual Expenditures (£ th.)

	Planned Average Annual Expend.	*1960/61 Actual*	*1961/62 Actual*	*1962/63 Actual*	*1963/64 Revised Estimates*
Agriculture	1,664	1,803	1,809	1,808	2,383
Livestock and Fishing	298	362	765	641	169
Land and Water	1,010	769	756	943	906
Settlement	2,640a	95a	1,005a	3,604a	7,470a
Forests	400	423	405	402	516
Game and Tourism	62	55	64	65	51
Mining and Mapping	29	35	29	33	—
Manufacturing	38	—	2	25	1
Commerce and Co-ops.	12	24	24	—	—
Credit	—	—	—	—	—
Electric Power	—	—	—	—	—
Roads	1,344b	994	1,160	1,315	1,891
Railway	—	—	—	—	—
Airports	150	189	266	110	40
Posts & Tel.	—	—	—	—	—
Education	658	681	603	467	418
Health	219	267	157	150	160
Social Services	14	15	11	4	9
Information	—	89	17	21	28
Housing	362	690	419	581	215
Defence and Police	398	636	373	225	189
Administration	1,275	1,504	1,200	816	1,204
Local Govt.	1,030	929	923	585	463
Total (excl. Settlement)	8,962ab	9,467	8,985	8,188	8,643
Budgeted expenditure		10,128	9,834	9,234	8,402

Notes

(a) Settlement not included in total.

(b) Contractor financed roads not included.

Source: Kenya Government, *Development Estimates for the Year 1963/64; Development Estimates for the Year 1964/65.*

Table III-6. Tanganyika Development Plan, 1961/62-1963/64: Comparison of Planned and Actual Expenditures by Ministriesa (£ th.)

	Planned Average Annual Expend.	*1961/62 Actual*	*1962/63 Actual*	*1963/64 Actual*
Agriculture	954	739		
Veterinary	106	146	1,180	1,255
Water and Irrigation	764	593		
Lands and Wildlife	255	224	230	230
Forests	178	170	140	172

Comm. and Industry	..	..	..	365	217	171	885
Electric Power (Works)	..	..	..	626	650	600	500
Roads (Works)	..	..	..	1,389c	1,216	1,027	977
Airports (Works)	..	..	..	68	47	27	105
Education	..	..	..	..	1,090	1,172	1,058	1,042
Health	..	..	..	..	318	230	58	154
Social Services (Co-ops, C.D., Labour, Nat. Culture)	..	..	..	165	167	278	323
Defence and Police	..	..	..	793	628	270	689
Administration (Vice-President., Justice)			417	535	381	379
Local Government	..	..	..	489	617	283	551
TOTAL	..			7,977c	7,352	5,704	7,263
Budgeted expenditure	..	..	..		8,210	8,344	12,668
Finance assured	..	..	..			5,520d	9,918d

Notes:
 (a) Figures are for ministries or departments within ministries, with names in parentheses if not apparent. Note: expenditures by Works for other ministries are allocated to them.
 (c) Contractor financed roads not included.
 (d) Based on statements in the budget and the budget speech.

Source: Tanganyika Government Appropriation Accounts, Revenue Statements, Accounts of the Funds, and other Public Accounts for the Year 1961/62; same, for the Year 1962/63; same, for the Year 1963/64.

Table III-7. Uganda Development Plan, 1961/62-1965/66: Comparison of Planned and Actual Expenditures by Ministries First Three Years (£ th.)

					Planned Average Annual Expend.	*1961/62 Actual*	*1962/63 Actual*	*1963/64 Revised Estimates*
Agriculture	..	..	..	..	941	318	1,216	1,362
Animal Industry	..	..	..	372	158	180	413
Min. and Water Resources		..	..	374b	303	271	395
Roads and Airports (Works)		..	..	1,793	1,602	441e	129e
Education	..	..	..	..	1,335	468	978	1,822
Health	..	..	..	..	460	892	296	357
Community Development	..	..	..	97	36	84	190
Information	..	..	..	..	191	79	233	362
Housing and Labour	..	..	..	101	c	517e	414e
Defence and Police	..	..	..	655	489	332	791
Administration (Prime Minister, Justice, and Finance)	..	..	..	88	114c	78	109
Regional Administration	..	..	..	1,109	362c	264	558
Reserve	..	..	..	..	400	—	—	—
TOTAL	..				7,916b	4,824	4,787	7,003
Budgeted expenditure	..	..	..		5,465	6,381	9,730
Finance assured	..	..	..				7,530d

Actual development expenditure under the old Kenya plan
had almost no shortfall, ending up at about 98 per cent of the
planned level. Each year (except the last) there was a moderate
shortfall relative to the budgeted expenditure, but the budget was
regularly pushed sufficiently ahead that the final outcome for all
four years was very close to the plan. Moreover, the sector
composition of actual expenditure ended up quite similar to that
envisioned in the plan. Thus though the Kenya plan was smaller
in size relative to the economy than in the other two countries,
it was fully carried out. In addition, the extraordinary Settlement
programme built up from nothing to a rate of actual expenditure
of over £7 million.

In Tanganyika actual development expenditure had a moderate
shortfall, and came out at about 85 per cent of the plan. The
shortfall was concentrated in the fiscal year 1962/63, and was
largely due to lack of finance; in that year the government introduced
a complete freeze on starting new projects. In his budget speech,
the Minister of Finance discussed in a quite illuminating way the
financial problems involved in shifting from complete reliance on
U.K. financing, provided largely on a programme basis and often
after expenditure had been initiated, to a system of foreign aid
from many sources, largely on a project basis and with the necessity
of complete agreement before initiating expenditure.[7] At the same
time, in both the last two years the approved budget ran far ahead
of the assured financing and the rate of expenditure realistically
attainable. The overall shortfall was distributed fairly evenly
among sectors.

In Uganda, finally, there has been a quite large shortfall during
the first three years of the old plan; actual expenditure was about

78 per cent of total budgeted expenditure in the first three years, or about 70 per cent of planned average annual expenditure during the five years. As in Tanganyika, lack of finance in fiscal year 1962/63 was an important causal factor; though a rise in expenditure was budgeted in that year funds were not actually released by the Ministry of Finance, and this slowdown carried over to affect 1963-64. Moreover, in Uganda the shortfall was sharply concentrated in two sectors—roads, where central government expenditure was squeezed very sharply, and local government, where proposed development assistance was cut back decisively. Then in 1964/65 (not shown in Table III-7), buoyant tax revenues from Uganda's export boom very much eased the financial constraint, and expenditure (according to the revised estimate) rose to £12.4 million; at least temporarily administrative rather than financial problems became operative. The government has also added, net, about £28 million of expenditure to the original plan, when and if financing is available.[8] The largest relative increases are for agriculture, health, defence and police. As of June, 1965, however, it seemed likely to the writer that most of these additions would carry over into the new plan beginning in 1966/67, along with some original projects, so that despite acceleration of expenditures there would still be some shortfall from the old plan.

These departures of actual development expenditures from the plans suggest some qualifications to the comparisons among Kenya, Tanganyika and Uganda noted above. With respect to size, the spread in terms of actual expenditure between Tanganyika (5.8 per cent of 1962 GDP) and Kenya (5.3 per cent) is much narrower, and as a consequence of the shortfalls Uganda (5.0 per cent) is actually similar to Kenya. With respect to sector composition, the main modifications are that Uganda's actual share for economic infrastructures has been distinctly less than in the other two countries, and that her share for general government administration has actually been something like Tanganyika's rather than Kenya's.

Financing

In view of the importance of the financial constraint in East African circumstances, it is particularly relevant to examine the planned and actual sources of finance for the old plans. The plans in all three countries expected to draw heavily on foreign financing,

51

though in different degrees. As shown in Tables III-8, III-9, and III-10, Kenya planned something approaching 90 per cent foreign financing, Tanganyika about 79 per cent and Uganda about 73 per cent. (The Kenya figures exclude Settlement, which is almost entirely supported by foreign grants and loans.) Among the domestic sources, drawing down existing funds and hoped-for domestic borrowing bulked larger than taxation and other domestic revenue. None of the old plans projected as much as £1 million per year from these latter two sources.

As the plans have actually worked out, Tanganyika and Uganda have found themselves able to allocate more tax revenues to their development budgets—Tanganyika raising the figure from £1.0 to £3.4 million over the three years, and Uganda from £2.8 million over five years to £3.0 million in the first three years, and an additional £4.7 million in 1964/65. This (combined with the shortfalls) has lowered the share of actual foreign financing to 59 per cent in the case of Uganda and something like 73 per cent in the case of Tanganyika. Note that these percentages refer to utilisation of foreign grants and loans for actual expenditure, not to their initial approval. Kenya, on the other hand, has not had to allocate additional tax revenues to development, and her proportion of foreign financing has apparently been even higher than planned. All three countries have obtained more foreign grants than expected, which means that at least during the years bridging independence the terms of foreign financing have been relatively easy.

Table III-8. Kenya Development Plan, 1960/61-1963/64: Planned and Actual Financing (£ mil.)

					Plan: Central Govt.	Actual: Central Govt.
Taxation	..	..	..	..	0.7	0.3
Other domestic revenue	..	..	..	..	1.4	0.2
Drawing down funds	..	..	..	..	0.6	1.0
Domestic borrowing	..	..	..	..	0.9[a]	c
Percentage Domestic	..	..	..	..	10%	4%
Foreign grants	..	..	..	..	6.5	8.1
Foreign loans	..	..	..	..	3.0	25.7[c]
Foreign assistance in negotiation		..	..	..	21.6[a]	
Balance not covered	..	..	..	..	1.2	
Settlement	..	..	..	..	10.6[b]	9.1[b]
Percentage Foreign	..	..	..	..	90%	96%
			TOTAL	..	35.8[ab]	35.3[bc]

52

Notes:
   (*a*) Domestic borrowing and total do not include estimated contractor finance for roads of 3.0. Foreign assistance in negotiation is entire loan programme and includes some domestic borrowing.
   (*b*) Settlement is almost entirely foreign financed. It is not included in total.
   (*c*) Domestic borrowing and total do not include actual contractor finance for roads of 4.8. Foreign loans are residual, and include some domestic borrowing.

Source: Kenya Plan; Kenya Government, *Appropriation Accounts, Other Public Accounts, and Accounts of the Funds for the Year 1963/64;* same, for 1960/61, 1961/62, 1962/63.

Table III-9. Tanganyika Development Plan, 1961/62-1963/64: Planned and Actual Financing (£ mil.)

	Plan: Central Govt.	*Actual: Central Govt.*
Taxation	1.0	1.1
Other domestic revenue	—	2.3
Drawing down funds	—	—
Domestic borrowing	4.0[b]	2.0[c]
Percentage Domestic	21%	27%
Foreign grants	7.5[a]	9.4
Foreign loans	11.5[a]	5.6
Foreign assistance in negotiation	a	
Balance not covered	—	—
Percentage Foreign	79%	73%
TOTAL	24.0[b]	20.3

Notes:
   (*a*) Expected grants and loans are taken from the plan, but the plan text and the 1961/62 budget speech indicate that 2.5 grants and 8.8 loans were not assured.
   (*b*) Domestic borrowing and hence the total do not include estimated contractor financing of road projects of 1.1.
   (*c*) Unsecured deficit.

Source: Tanganyika Plan; Tanganyika Government, *Budget Survey 1964/65;* same, *1965/66;* Tanganyika Government, *Estimates of Revenue and Expenditure, 1963/64.*

Table III-10. Uganda Development Plan, 1961/62—1965/66: Planned and Actual Financing First Three Years (£ mil.)

	Plan (5 yrs.)		*Actual (3 yrs.)*[d]
	Central Govt.	*Agencies*	*Central Govt.*
Taxation	1.1	2.0[c]	1.7
Other domestic revenue	1.7	12.4[ab]	1.3
Drawing down funds	3.9	1.2	2.8
Domestic borrowing	3.8	4.1[a]	1.0
Percentage Domestic	27%	68%	41%

53

Foreign grants ..	..	..	..	5.1	4.4
Foreign loans ..	..	..	..	5.2	2.3[b]	5.4
Foreign assistance in negotiation		..	7.0	2.7[a]	
Balance not covered	..	..	..	11.2	4.2[a]	
Percentage Foreign	..	..	..	73%	32%	59%
	TOTAL	..	39.0	28.9[a]	16.6

Notes.

    (*a*) Estimated financing for Uganda Development Corporation projects con-
        sists of 7.2 from operating surpluses (in other domestic revenue) 2.7 from
        foreign loans in negotiation, 2.8 from private participation (in domestic
        borrowing), 2.7 not covered.
    (*b*) Estimated financing for Uganda Electricity Board 2.2 from operating
        surpluses, 2.3 from foreign borrowing.
    (*c*) Local government revenue.
    (*d*) Figures are actual for 1961/62 and 1962/63, revised estimates for 1963/64.

Source: Uganda Plan; Uganda Government., *Financial Statement and Revenue
      Estimates 1964/65;* same, 1963/64.

The heavy reliance on foreign financing in the old plans has
two notable implications. First, if difficulties arise in making
arrangements for foreign finance which has been expected, a
country's actual development expenditure is almost sure to be
held back below the planned level. The experience of both
Tanganyika and Uganda demonstrates this risk, which could be
diminished if a larger proportion of domestic financing were assured,
and particularly if domestic sources were more flexible from year
to year. Of course, if a country is fortunate enough to be able to
obtain foreign finance at a steady rate to cover nearly all its develop-
ment expenditure, as Kenya seems to have been under the old
plan, that is splendid, but it is an unlikely situation for ambitious
plans.

Second, under the old plans foreign finance clearly covered
much more than the direct import content of the central government
development expenditure. I shall suggest in the next chapter
that a reasonable estimate of *direct plus indirect* import content for
Uganda and Tanganyika, allowing for both induced domestic
consumption and required domestic investment during rapid
growth, is in the range of 60-80 per cent. Thus in Uganda and
Tanganyika the actual foreign finance used for the old plans pro-
bably more or less covered the normal indirect imports as well
(I refer to normal indirect imports because in the economic circum-
stances of retarded growth which were actually experienced, indirect

54

imports would be substantially diminished.) In Kenya the actual foreign finance went further, but her direct and indirect import requirements are also higher. If in future foreign finance were available only for the direct import content of development expenditure, this would constitute a major change from the past, and pose much more stringent financing problems for the East African governments.

Impact on Trends in the Economies

Broadly speaking, the old plans were designed to carry forward and reinforce the previous growth trends in the East African economies, and did not attempt markedly to accelerate these trends. As they worked out in practice, they have not been able to offset the forces of general economic retardation operating in the period 1958-62, as discussed in the last chapter, and the fortunate export boom in 1963 and 1964 must be reckoned as fundamentally independent of the plans.

The principal shortcomings of the old plans—in relation to the goal of substantially accelerating economic development which the governments *now* propose—may be summarised as follows. First, central government expenditure programmes were too modest in size to accomplish more. The old Kenya plan projected a fall in the share of GDP devoted to these activities, and apart from the extraordinary Settlement programme has operated as planned. Uganda planned a rise, but has not been able to finance and implement it in practice. Tanganyika accomplished an increase in the share of central government development expenditure in GDP, but only from about five to about six per cent. In an economic setting of stagnant or declining private investment, the old plans could not prevent an overall decline in the gross investment rate, as noted in the last chapter. In that kind of setting, to accelerate growth government investment would have had to play a major leading and energising role.

Second, the old plans did not aim at any significant structural changes in the economies, either in altering past trends in the relations between agricultural product and employment and urban product and employment, or in modifying existing relations among exports, domestic production, and import demands. Uganda perhaps attempted to do most in the urban sectors, through the medium of autonomous public corporations, while Kenya attempted

55

most to reinforce the agricultural sector. But though there are differences among the three countries, in general the old plans continued to emphasise general government services, education and welfare, and economic infrastructures. As noted in the last chapter, sector shifts have actually tended to slow down compared to the mid-fifties, and (if allowance is made for the effect of the lower investment rate) there has been very little overall import substitution.

Finally, the old plans did not attempt to be comprehensive. They did not start from future objectives for the economy as a whole and derive the plan as the means to attain them, nor cover private investment and private expansion targets, nor try to extend implementation procedures through a suitable range of policy instruments to the entire economy. Of course making a plan comprehensive in no way guarantees that it will succeed in substantially accelerating the rate of growth of the economy as a whole. But in the light of experience with the old plans in recent economic circumstances in East Africa, it is reasonable to conclude that a major advance toward comprehensiveness may be at least a necessary condition for more rapid economic development.

Footnotes:

1. See footnote 2 in Chapter I, and sources for Tables III-1, III-2, and III-3 in this chapter.
2. See footnote 3 in Chapter I.
3. Kenya Government, *The Development Programme 1960/63, p.1.*
4. Tanganyika Government, *Development Plan for Tanganyika 1961/62-1963/64,* p.1.
5. Uganda Government, *The First Five-Year Development Plan, 1961/62-1965/66,* pp. 8-14.
6. For more specific details see Table 4 and text discussion in my paper, "Coordination of Development Plans in East Africa", *E.A.I.S.R. Conference Papers,* Jan., 1964.
7. Tanganyika Government, *Budget Speech* of the Minister of Finance, 1962/63.
8. *Uganda Government, Background to the Budget, 1965/66.*

CHAPTER IV: A STATISTICAL PROJECTION MODEL FOR THE EAST AFRICAN ECONOMIES

Starting from the status of development planning in "the old plans", and given the desire of the East African governments to accelerate recent rates of economic growth substantially through more comprehensive planning, the most important improvement immediately attainable is to introduce more inclusive and coherent aggregative plan frameworks. As noted in the first chapter, the aggregative analysis should provide a set of aggregative targets for the economy during the plan—consistent with each other, compatible with past economic relationships or identifiable changes in them due to policy measures, and judged to be the maximum attainable during the current plan-period. The targets specify such economic variables as national income and product, total exports and imports, government tax revenues, capital formation by government, public agencies, and private enterprises, total borrowing and assistance from abroad, non-agricultural employment, output of major agricultural products and total supply of educated manpower. Defining the set of aggregative targets should first pose, and then be based upon, the key strategic decisions which the government has to make in establishing a viable development plan. The set of targets in turn provides the plan framework toward which all specific development activities are directed.

The purpose of this chapter is to present an aggregative model for the East African economies which can be used in making this kind of aggregative projection for development planning, which can be calculated with available statistical series, and which can be applied in comparisons among the three economies. The model will then be applied in the next chapter to making a projection of the Uganda economy to 1981, suitable for defining at least an initial draft framework for the new Uganda plan, and in the following chapter to analysing the new Tanzania and Kenya plans.

Desirable Characteristics of a Model for East Africa[1]

The model should first of all be designed for making intermediate-term economic projections which will highlight the key strategic decisions necessary for the plan to succeed. The model should specify the network of linkages between the desired objec-

tives for the economy as a whole and the development expenditures and policies subject to government decision. In principle the model might be used either to estimate, from given objectives, the 'required' development expenditures and policies to attain them, or from given development actions, the 'expected' attainment of objectives. In practice such a model is commonly used in a process of successive approximation, and the final judgment that the actions and the objectives are consistent and feasible must include an admixture of hunch and hope as well as the statistical calculations. The underlying projection model, however, should make explicit those structural aspects of the economy which are believed to have a continuity of their own, and which, therefore, impose tests of consistency and feasibility on the government's planned development expenditures and policies.

A practical projection model must be adapted to available statistical series. In the three East African countries the main bodies of statistical information available for a model are gross domestic product estimates built up from the product side for various sectors, merchandise export and import data derived from customs operations, rather rough estimates of gross capital formation with little detail, central government revenue and expenditure accounts using budgetary definitions for fiscal years and reported employment figures for various sectors. Two major pieces of statistical information which are frequently used in development models for higher-stage underdeveloped countries, as in Latin America, are lacking here: independent gross domestic product estimates built up from the expenditure side for all final demands including household consumption, and input-output estimates linking final demands, intermediate demands and gross product in the various sectors. However, for the present stage of development in East Africa it may be possible to design a simplified projection model which leaps over the missing pieces and yet is quite useful for analysis with the observations we have.

In view of the present extensive economic cooperation among the East African countries, and the interest in further coordination of development efforts, it may be especially interesting to have a general projection model which can be applied with a limited number adaptations to all three countries. This would permit standardised comparisons of economic structures, of past growth, and of future plans.[2]

Definition and Rationale of the Model

The model is presented systematically in algebraic form in the Appendix to this chapter. Before examining it in detail, however, let us note certain general characteristics. First, it is a sector model distinguishing six producing sectors of the economy, seven kinds of imports, two classes of exports, four forms of capital formation, four kinds of government taxes and certain other variables. Thus it embodies substantially more specific information than a purely aggregative model but still much less detail than is involved in planning development actions within ministries. Second, it portrays an economy in which everything depends, by way of the structural relationships among its parts, upon five autonomous variables: the quantity of agricultural exports, the prices of those exports, the value of manufactured exports, import substitution in manufactured products and central government current expenditures. In particular, it specifies that required capital formation is derived within the model from implied increases in domestic production. Third, the parameters describing the structural relationships among parts of economy must each be projected into the future. Some are assumed to remain unchanged or to follow a time-trend, while others are assumed to be adjustable by government policy. Fourth, it is a linear model; capital formation, though in principle non-linear, is represented by a linear approximation depending on a tentative initial estimate of rate of growth. Thus though the algebra is somewhat laborious, it is mathematically simple. Finally, the model is designed to emphasize three potential constraints on development expenditures and policies: the balance of trade, which depends mainly on the various import parameters; the government budget surplus or deficit, which depends mainly on the tax revenue parameters; and the required saving, which depends mainly on the capital formation parameters.

The 37 variables of the model are defined in the first section of the Appendix, and only a few points of definition need comment here. Both imports and exports include interterritorial trade, and many transfers have been made among the SITC classes of imports to arrive at somewhat more homogeneous import categories. It is assumed that import substitution can affect food, consumer manufactures, intermediate goods, and construction materials, but not consumer vehicles, fuel, and equipment. Agricultural exports, agricultural product, and GDP are adjusted for changes in prices

of agricultural exports, which clearly are a key phenomenon in the Uganda economy; given the ambiguity of information on domestic prices and the lack of any pronounced general price trend 1954-62, however, no other price adjustments seemed justified. Government expenditure and tax revenue are first adjusted to exclude capital and transfer transactions from the budgetary data. Then the figures for the fiscal year beginning in any calendar year are used in conjunction with production and trade figures for the calendar year, to reflect crudely the lag of cash expenditures behind use of resources and of revenues behind tax obligations. A variable which appears in many relationships is private income, defined as the current value of gross domestic product less government tax revenue.

The model itself is presented in the second section of the Appendix; there are 11 accounting identities and five autonomous variables, leaving 21 functional equations. Let us examine the rationale of these functional equations with some care.

The gross product variables for the various producing sectors are treated either as functions of particular final demands, or of private income and hence implicitly of consumer spending, or of gross product in other sectors and hence implicitly of intermediate demands. Thus government product and construction product are treated simply as proportions of government current expenditure and construction investment, respectively. Agricultural product, measured in constant prices, is assumed to be a function primarily of the volume of agricultural exports, but also of manufactured exports and import substitution, reflecting agricultural inputs into manufacturing, and of private income, reflecting domestic consumer demands. Manufacturing product is of course partly a function of manufactured exports and import substitution, but mainly of private income and hence domestic consumer demands. Services product is treated as entirely dependent on private income. Transport product, on the other hand, is assumed to depend on intermediate demands stemming from agricultural product at constant prices and manufacturing product. From the standpoint of methodology, the fundamental question about the model is whether these simplified relationships for the various producing sectors adequately represent the more complex interconnections with final demands and intermediate demands which actually exist.

The seven import variables are also treated in a variety of ways. The three kinds of consumer imports—food, manufactures

60

and vehicles—are assumed to be functions simply of private income; the reason for distinguishing the three kinds rather than combining them is to permit different degrees of import substitution in projecting the import parameters. Intermediate imports are treated partly as a function of manufactured exports and import substitution, reflecting imported inputs directly into manufacturing, but mainly of GDP volume. Fuel imports are related only to GDP volume. Construction material imports and equipment imports are assumed to depend upon construction investment and equipment investment, respectively; since these import parameters are comparatively high and since the rate of investment in the model varies substantially with the rate of growth of GDP, construction and equipment imports are comparatively variable elements of the overall import bill. It may be noted that import substitution must be estimated independently before the model is used in projection, in the course of specifying the future import parameters; the changes in these parameters then define the import substitution variable, which as we have seen affects manufacturing product, agricultural product, and intermediate imports.

Construction investment and equipment investment, with the breakdown between public and private investment handled separately, are in principle functions of marginal net capital-output ratios tied to increases in gross product and of retirement coefficients tied to the level of gross product. These non-linear functions are approximated, however, by linear functions. Thus construction investment and equipment investment are actually projected in assumed ratios to gross product, the ratios being raised or lowered according to the rate of growth which is expected to result from the projection; if the expected rate of growth should prove to be substantially in error, the investment parameters must be adjusted in a second approximation. The model specifies that investment depends, not on GDP for the entire economy, but on urban gross product, the sum of gross product in government, manufacturing, services and transport. Thus a small amount of capital formation in agriculture is ignored—Tanzania figures suggest not more than ten per cent of the total—but the model properly emphasizes that required investment depends mainly on non-agricultural expansion.

The four forms of government tax revenue are derived in the model from revenue coefficients, in principles set in the tax laws,

and appropriate tax base variables appearing in the model. Export tax revenue is treated as a function of the current value of agricultural exports; revenue thus varies proportionately with changes in quantity, but the revenue coefficient must be adjusted independently for changes in agricultural export prices. Customs revenue is treated simply as a proportion of the value of imports; the parameter can be adjusted for changes in the mix of high-duty and low-duty imports. Direct tax revenue and indirect (i.e. excises and all other) tax revenue are related to private income, representing the tax base for the former and the presumed influence of consumer demands for the latter; in a projection the two coefficients can be adjusted separately for tax policy changes.[3]

Employment is not explicitly treated in the model as presented here, but could be readily added as a supplementary variable or variables related to sector gross products, after allowance for trends in productivity per employee.

The third section of the Appendix lists the parameters of the model. In general they can be calculated from observed ratios in the years 1954-62; in a projection they are either assumed to carry over unchanged, or to follow a simple time-trend, or to be adjusted as a result of some specific policy influence like import substitution. Two further points about certain of the parameters may be noted. The parameters representing the direct affect of manufactured exports and import substitution on manufacturing product, agricultural product, and intermediate imports are estimated roughly from proportions which appear to prevail for all manufacturing in the 1961 Kenya Census of Manufacturing. The retirement coefficients for construction and equipment are estimated on the basis of assumed useful lives, past rates of growth and past investment rates. These retirement coefficients were then used with actual gross investment and actual increases in urban gross product during the two four-year periods 1954-58 and 1958-62 to calculate marginal capital-output ratios. It was some comfort to find that for Uganda and Tanzania the results were not dissimilar in the two periods, even though the rate of investment and rate of growth were much lower in 1958-62; Kenya presumably built up even more excess capacity than the others in the retardation period.[4]

The last section of the Appendix sets forth some of the algebraic relationships to be used in calculations with the model. The algebra is somewhat laborious but mathematically simple. In the

end, as shown in the last three reduced form equations for GDP, government tax revenue, and imports, all of the parts of the model depend on the five autonomous variables and linear combinations of the projected parameters.

The conception of the development process in East Africa which is embodied in the model has the following major emphases. Various producing sectors, particularly agricultural and non-agricultural, have different effects on imports, investment requirements and tax revenues. What happens domestically is influenced largely though not entirely by agricultural export quantities and prices. Required capital formation both public and private is determined by the rate of growth of domestic production, and the import bill is quite sensitive to variations in capital formation. Import substitution in manufactures is a prime potential source of structural change. Government development actions can affect significantly government current expenditure, the share of public investment, tax revenue coefficients and the extent of import substitution, but not other structural parameters of the economy. Finally, progress in development is limited by one of three potential constraints: the balance of trade, the government budget surplus or deficit, and the saving implied by required capital formation.[5]

Estimating Future Parameters and Autonomous Variables

Using the model to make intermediate-term projections for development planning involves two preparatory sets of operations: estimating the 25 future parameters and projecting independently the five autonomous variables. In some parts of the model the two operations interact.

Estimating the future parameters should in principle stick closely to the observed past parameters, since these are conceived to represent those structural aspects of the economy which have a continuity of their own. Adjustments of some past parameters may be needed, however, to reflect three kinds of predictable structural change: simple time trends which are observed in the data and are compatible with our understanding of the economy, changes due to government policy and expected alterations in the growth of those autonomous variables which interact with a few of the parameters. Table IV-1 presents the observed parameters for Uganda for the three years 1954, 1958 and 1962,[6] and in the last two columns the assumed parameters for a 'moderate' projection

63

and an 'ambitious' projection to 1981. The rationale for the latter set of parameters will be discussed in the next chapter. To illustrate the procedure, however, let us examine the logic suggested in the table for estimating the future parameters of the 'moderate' projection.

Table IV-1. Comparison of Actual Uganda Parameters 1954-62 and Assumed Parameters for 'Moderate' and 'Ambitious' Projections

	1954	1958	1962	'Moderate' Projection	'Ambitious' projection
al (assumed)	1.0	1.0	1.0	1.0	1.0
$a3$ (assumed)	.3	.3	.3	.3	.3
$m2 = Pa^* - al\ Ea^* - a3(Em+Sm)/Y$	.118	.0915	.131	.131	.131
$g = Pg/G$	.426	.514	.609	.740a	.740a
$m2$ (assumed)	.5	.5	.5	.5	.6h
$m1 = Pm - m2(Em+Sm)/Y$	.0829	.0715	.0649	.0649	.0649
$s = Ps/Y$	.218	.240	.269	.313a	.313
$t = Pt/Pa^* + Pm$	.0957	.127	.132	.132	.132a
$h = Pk/K$	.324	.364	.466	.546a	.546
$c1 = Ma/Y$	.0512	.0802	.0618	.0558b	.0309a
$c2 = Mm/Y$	.165	.145	.157	.141b	.0785f
$c3 = Mv/Y$	.0411	.0269e	.0331	.0331	.0331f
$i3$ (assumed)	.2	.2	.2	.2	.1h
$i1 = Mi - i3(Em+Sm)/GDP^*$	.0187	.0193	.0246	.0221b	.0116f
$i2 = Mf/GDP^*$	.0210	.0241	.0217	.0217	.0217
$j1 = Mk/K$	.221	.225	.198	.178b	.05g
$j2 = Mq/Q$	.585e	.702	.689	.689	.689
$k' = K/U$	.372	.256	.158	.285c	.355i
$q' = Q/U$	.196	.180	.135	.215c	.245i
$p1 = Kp/K$	.653	.496	.458	.458	.458
$p2 = Qp/Q$	.891	.926	.944	.944	.944
$r1 = Rd/Y$	.0398	.0496	.0467	.0467	.0537k
$r2 = Re/Ea$	.133	.122	.0792	.139d	.16j
$r3 = Rm/M$	.146	.148	.228	.308a	.354k
$r4 = Ri/Y$	.0784	.0787	.0841	.090a	.104k

Notes.
(a) Assumes trend continues.
(b) Assumes 10% import substitution.
(c) Assumes a 7% average annual rate of growth of urban gross product, compared to about 8% in 1954-58 and 4% in 1958-62.
(d) Assumes 1963 parameter of .160 will decline with 1% per year price fall.
(e) Considered unrepresentative in relation to preceding or following years.
(f) Assumes 50% import substitution.
(g) Assumes 75% import substitution.
(h) Assumes shift of 50% of intermediate imports from i3 to m2.
(i) Assumes as first approximation a 9% average annual rate of growth of urban gross product.
(j) Assumes export tax rates raised 33%, offsetting 25% decline in prices, giving same effective tax rate as 1963.
(k) Assumes tax rates raised 15% in addition to trends implying rise of 0% for direct taxes, 7% for indirect taxes, 35% for customs duties. Overall rate rise for all taxes is about 30% including trends.

To begin with, the parameters al, reflecting the relation between agricultural exports and agricultural product, both at constant

prices, and a3, m2 and i3, reflecting the direct impacts of manufactured exports and import substitution, are simply assumed from independent evidence, leaving certain residuals to be explained by the calculated parameters. Among the six gross product parameters, a2, ml, and t—for agriculture, manufacturing, and transport—show some variation over the years 1954-62, but this seems compatible with a presumption of constancy, so the future parameters are assumed the same as in 1962. The other gross product parameters, g, s, and h—for government, services, and construction—show a reasonably clear upward time-trend 1954-62, and this is understandable as a rise in wages and profits relative to material inputs in these sectors, so the future parameters are projected with a continuing trend.

Among the seven import parameters, c3, i2, and j2—for vehicles, fuel, and equipment—are presumed not to be subject to import substitution, and as the observed parameters 1954-62 appear compatible with this presumption, their future values are assumed to continue at the 1962 level. On the other hand, cl, c2, il, and jl—for food, consumer manufactures, intermediate goods, and construction materials—are presumed to be subject to import substitution, and even though this was not reflected in the observations for 1954-62, a ten per cent fall in these coefficients is assumed for the 'moderate' projection. Such a change would depend on appropriate development policies promoting import substitution in manufactures, and a more refined assumption ought to take account of the specific policies which the government expects to pursue. The value for the import substitution variable Sm, implied by these parameter changes, is about £2.3 million at 1962 levels of GDP.

Turning to the four tax revenue parameters, rl for direct taxes is simply projected at the 1962 figure; despite the progressive structure of the personal income tax rates, its narrow tax base, and its modest yield relative to business income and graduated personal taxes, do not seem to imply any significant change in the direct tax parameter. On the other hand, r3 and r4 for customs duties and indirect taxes are assumed to continue to rise in line with the trends observed in the calculated parameters 1958-62. This of course implies continuing changes in tax rates; it represents a judgment that raising additional revenue from these sources is politically and economically attractive, and that future Finance

65

Ministers are likely to continue the pattern of behaviour of the recent past. Finally, r2 for export taxes is estimated on the basis of assumed export prices with present tax rates, which make yields highly elastic with respect to prices. Thus largely due to the fluctuation in coffee prices, the observed r2 parameter fell from about 12 per cent in 1958 to about 8 per cent in 1962, and then jumped to about 16 per cent in 1963. The estimated future parameter starts from the 1963 level of agricultural export prices and assumes an average annual fall of 1 per cent from the 1963 level From the standpoint of methodology one could make almost any assumption about future tax revenue parameters, as they are clearly subject to government policy decision. But it may be especially interesting to examine the budgetary implications of these 'expected' tax decisions in a context of resumed expansion of both government expenditure and GDP.

The investment parameters k' and q'—for construction and equipment, respectively—depend on the rate of growth of U, urban gross product, and hence in a projection on the tentative initial estimate of this rate of growth derived from the five autonomous variables. They cannot be estimated simply from past observed parameters unless the past rate of growth is expected to continue unchanged. In the tables the assumption for the 'moderate' projection is that U recovers to a rate of growth a little below that of 1954-58, but nearly double that of 1958-62.

The other operation in using the model for projection is to project the five autonomous variables on the basis of *ad hoc* considerations. Agricultural export volume, Ea*, depends mainly on domestic supply conditions, and should be checked with past trends; in the 'moderate' projection a rate of growth of 4 per cent per annum is assumed, which is approximately equal to the trend from 1949-50 average to 1962-63 average. On the other hand, the export price adjustment, T, depends on world markets; here a decrease of 1 per cent per annum is assumed, which compares with 3 per cent 1954-63 and 0 per cent 1949-50 average to 1962-63 average. Manufactured exports, Em, should consider both past trends and expected new developments; in the circumstances of Uganda the range of products involved in manufactured exports is sufficiently narrow that a main-product approach, particularly for copper, is feasible. Government current expenditure, G, is in principle entirely a policy variable, though in practice it is reasonable

to check its trend relative to that of GDP. Finally, the import substitution variable, Sm, is derived at the base-year level of GDP from the assumed changes in import coefficients, which depend in principle on the import substitution policies pursued; the base-year value must then be projected forward on the basis of the tentative initial estimate of GDP growth.

It is clear that at a number of points the two operations—projecting the autonomous variables and estimating the future parameters—interact with each other. In practice, the procedure is first to project the autonomous variables, then to make a tentative initial estimate of the rate of growth of GDP which will result, based on their trends compared to the past, and then to use this initial estimate in setting the parameters, particularly for gross investment. If when the projection is actually calculated this initial estimate of GDP growth proves substantially in error, further adjustments in the parameters and a revised calculation would have to be made.

Structure of the East African Economies as Expressed in the Model

Once a statistical projection model has been fitted with data for a country's economy,[7] it can provide an illuminating picture of the economic structure, either for changes over time or in comparison with other countries. This structural analysis can be carried out at three levels of generality: at the level of the principal variables of the model and the broad relationships among them, at the level of the individual parameters and at the level of the reduced-form 'multipliers' showing the direct and indirect effects of the autonomous variables *via* the entire network of equations and parameters in the model.

Certain major features of the three economies are immediately apparent in the principal variables of the model and a few simple ratios among them. These have been summarised in Table II-1, II-2, and II-3, and structural characteristics at this level of generality have already been discussed in Chapter II.

Much more specific structural comparisons can be made at the level of the individual parameters, which are presented in Table IV-2 both as calculated for a recent year and as assumed for projections. At the same time, we must be cautious in interpreting individual parameters as calculated, because even though they are conceptually identical, differences in definitions and estimating procedures in the three countries' statistical data (particularly in

the national accounts) introduce varying degrees of non-comparability.[8] The sectoral gross product parameters, from a1 to h in the table, are perhaps most affected by such statistical differences. The only differences which I feel confident reflect real differences are the comparatively high transport parameter for Tanzania and the distinctly high services and transport parameters for Kenya.

Table IV-2. Comparison of Calculated 1962 Parameters, and Assumed Parameters for Projections, for Uganda, Tanzania and Kenya Economies

	1962 Parameters			Projected Parameters		
	Uganda	Tanz.	Kenya[i]	Uganda 'Moderate' Projec.[n]	Tanz. 'Model' Projec.[o]	Kenya 'Model' Projec.[o]
a1 (assumed)	1.0	1.0	.9[p]	1.0	1.0	.9
a3 (assumed)	.3	.3	.15[j]	.3	.3	.15
$a2 = Pa^*-a1 Ea^*$ $-a3$ (Em+Sm)/Y ..	.131	.0158	.0156[q]	.131	.0200	.015
g = Pg/G	.609	.883	.706	.740[a]	.920[a]	.800[a]
m2 (assumed)	.5	.5	.55[j]	.5	.5	.55
m1 = Pm-m2(Em+Sm)/Y	.0649	.112	.120	.0649	.112	.120
s = Ps/Y	.269	.183	.413[r]	.313[a]	.183	.413
$t = Pt/Pa^*+Pm$ ..	.132	.241	.401[r]	.132	.241	.401
h = Pk/K	.466	.567	.365	.546[a]	.650[a]	.385[a]
c1 = Ma/Y	.0618	.102	.0817[m]	.0558[b]	.068[e]	.0613[s]
c2 = Mm/Y	.157	.188	.183[m]	.141[b]	.126[e]	.137[s]
c3 = Mv/Y	.0331	.034	.0435[m]	.0331	.023[e]	.0435
i3 (assumed)	.2	.2	.3[j]	.2	.2	.3
i1 = Mi-i3 (Em+Sm) GDP*	.0246	.0167	.33[m]	.0221[b]	.0100[f]	.0313[t]
i2 = Mf/GDP* ..	.0217	.0310	.0455[m]	.0217	.0250[s]	.0432[t]
j1 = Mk/K	.198	.300[k]	.277[m]	.178[b]	.180[f]	.263[t]
j2 = Mq/Q	.689	.604	.875[m]	.689	.604	.857
k' = K/U	.158	.211	.138	.285[c]	.320[h]	.184[u]
q' = Q/U	.135	.191	.110	.215[c]	.270[h]	.158[u]
p1 = Kp/K	.458	.372	.470	.458	.372	.470
p2 = Qp/Q	.944	.879	.912	.944	.879	.912
r1 = Rd/Y	.0467	.058	.091	.0467	.058	.091
r2 = Re/Ea	.0792	.021[m]	.005[m]	.139[d]	.021	.005
r3 = Rm/M	.228	.179	.18	.308[a]	.230[a]	.220[a]
r4 = Ri/Y	.0841	.083	.14	.090[a]	.083	.160[a]

Notes.

(a) Assumes trend continues.
(b) Assumes 10% import substitution.
(c) Assumes as first approximation 7% average annual rate of growth of urban gross product, compared to about 8% in 1954-58 and 4% in 1958-62. Derived from $k = K/\triangle U = 3.5$, $q = Q/\triangle U = 1.5$, Ret K = .04U, Ret Q = .11U.
(d) Assumes 1963 parameter of .160 will decline with 1% per year price fall.
(e) Assumes 33% import substitution.
(f) Assumes 40% import substitution.
(g) Assumes 20% import substitution, recognizing large crude oil content of local refining.

68

(*h*) Assumes as first approximation 10% average annual rate of growth of urban gross product, as in Plan. Derived from $k = K/\triangle U = 2.8$, $q = Q/\triangle U = 1.6$, Ret K = .04U, Ret Q = .11U.

(*i*) Kenya parameters are for 1963 rather than 1962.

(*j*) Rounded values, summing to 1.0, of estimates prepared by C.W. Howe and H. Karani, "A Projection Model for the Kenya Economy", *East African Economic Review*, June 1965, weighting manufacturing industries according to their 1963 shares in Kenya's manufactured exports.

(*k*) 1961-62 average.

(*m*) 1963.

(*n*) Uganda 'moderate' projection is used here, as more relevant for comparative purposes than the 'ambitious' projection discussed in Chapter V, though it differs from the other countries' projections in covering a longer period (1981 rather than 1970) and in the assumptions about changes in parameters.

(*o*) Tanzania and Kenya 'model' projections are designed to express in terms of the model the assumptions of their new plans. See Chapter VI for further discussion.

(*p*) Rounded value estimated by C.W. Howe and H. Karani, *loc.cit.*

(*q*) 1961.

(*r*) 1961-63 average.

(*s*) Assumes 25% import substitution.

(*t*) Assumes 5% import substitution.

(*u*) Assumes as first approximation 6% rate of growth of urban product, $k = K/\triangle U = 2.4$, $q = Q/\triangle U = .8$, Ret K = .04U, Ret. Q = .11U.

The import parameters from c1 to j2, on the other hand, show some meaningful differences. Tanzania's comparatively high import dependence in 1962 is shown to be concentrated in her imports of food products and manufactured consumer goods, while Kenya's is concentrated in her imports of intermediate goods. At the same time the Tanzania projection model, following the guidelines of the official plan, assumes a much higher future degree of import substitution than does the Kenya model or the 'moderate' Uganda model. However, it is only a little more than in the 'ambitious' Uganda model examined in the next chapter.

The 1962 investment parameters, from k' to p2, simply reflect the fact that the recent investment rate in Tanzania has been higher than in Uganda and Kenya. The differences in investment parameters for the projection models are more interesting. They reflect marginal capital-output ratios which are lowest for Tanzania, next for Kenya, and highest for Uganda. They also reflect initial estimates of the rate of growth of urban gross product which are highest in Tanzania, lower and similar for Uganda and Kenya. The latter factor is more powerful than the former, so Tanzania ends up with the highest projected investment parameters, then Uganda and then Kenya. (Again it should be noted that the 'ambitious' Uganda model examined in the next chapter is more like Tanzania in this respect.)

Finally, the tax parameters from rl to r4 bring out the distinctively high reliance on export taxes in Uganda, the relatively low average rate of duty on Tanzania's mix of imports, including inter-territorial goods and Kenya's distinctively high reliance on direct taxes and other indirect taxes, as well as the low average rate of customs duty on her import mix. Looking at the projection parameters, Tanzania appears to have an overall tax structure which is distinctly less income-elastic than either Uganda's or Kenya's.

The ultimate impacts on the three economies of changes in autonomous variables like agricultural exports cannot, of course, be determined from the individual parameters. The direct and indirect effects of such changes depend on all the parameters and the entire network of relationship expressed in the model. At this third level of structural analysis, therefore, Table IV-3 presents some of the most interesting of these 'multipliers', i.e. the parameters of the reduced-form equations obtained by solving the full model algebraically. It should be noted that the multipliers have been calculated for the projection models, and these include the effects of estimated future parameter changes.

Table IV-3. Some Significant Multipliers in the Models of the Uganda, Tanzania, and Kenya Economies [a],[b]

	Uganda	Tanzania	Kenya
A. Increase in GDP per unit increase in:			
Agric. export volume (Ea*)	2.07	1.94	2.44
Export prices (T)[c]	1.80	1.51	1.90
Import substitution or mfd. exports (Sm, Em)	1.83	1.68	1.89
Government current expenditure (G) ..	1.60	1.66	1.61
B. Increase in government tax revenue (R) per unit increase in:			
Agric. export volume (Ea*)	.53	.37	.65
Export prices (T)[c]	.46	.28	.49
Import substitution or mfd. exports (Sm. Em)	.44	.37	.57
Government current expenditure (G) ..	.36	.34	.44
C. Increase in imports (M) per unit increase in:			
Agric. export volume (Ea*)	.59	.57	.88
Export prices (T)[c]	.54	.44	.71
Import substitution or mfd. exports (Sm, Em)	.83	.79	1.06
Government current expenditure (G) ..	.60	.65	.67

Notes:
(a) With the parameters listed in Table IV-2. See footnotes n and o of that table for comment on the models used.
(b) Multipliers are parameters of the reduced form equations obtained by solving the full model with all its parameters. See part D of the Appendix.
(c) Represents an increase in agricultural export prices sufficient for a unit increase in value, with quantity constant. No adjustment is made for the effect of higher prices on effective tax rates, however.

First, let us examine the GDP multipliers, that is the amount of GDP which is generated directly and indirectly by the various autonomous variables, as shown in section A of the table. Uganda's multiplier of 2.07 for agricultural export volume asserts that a rise of £1 million in the quantity of agricultural exports will lead directly to a rise of £1 million in agricultural product and indirectly to a further rise of a little more than £1 million in other sectors of the economy to increase the volume of transportation, to satisfy the demands arising from increased private income, to provide the capital formation needed to expand domestic production and so on. The multiplier for agricultural export prices is somewhat lower, essentially because it has no immediate link with increased transport, and operates only through increased private income and capital formation.[9] Uganda's multiplier for import substitution or manufactured exports is about the same as for agricultural export prices, because of two main offsetting effects: the larger import content of manufactured products tends to lower the multiplier while the higher investment requirement tends to raise it.

For all three East African countries the GDP multiplier for agricultural export volume is higher than for any other autonomous demand, which is a point of some interest. It is in the order of 2.0 for Uganda and Tanzania, 2.4. for Kenya (higher because of induced transport and services), with the other GDP multipliers ranging down to about 1.5. Considering that both induced consumption and induced investment are included, these are remarkably low GDP multipliers, and reflects mainly the East African economies' heavy dependence on imports. Comparing the three countries, the fact that Tanzania's GDP multipliers are consistently lowest represents largely her relatively great import dependence, while for Kenya spread effects in transport and services offset high import dependence.

Second, the amount of government tax revenue resulting directly and indirectly from the various autonomous variables is a relevant question for financial planning. For all three countries the tax revenue multipliers shown in section B of the table are strikingly high, ranging from about 35 per cent to about 60 per cent. (Note that they are stated per unit of each autonomous variable; to state them per unit of GDP each must be divided by the corresponding GDP multiplier).[10] Comparing the three countries, Tanzania's direct and indirect revenue yields are distinctly below Uganda's,

which reflects the comparatively low income-elasticity of her tax structure noted above, while Kenya's are above Uganda's.

Third, the magnitude of direct and indirect import requirements stemming from the various autonomous variables may have considerable policy significance. It is a highly relevant observation in weighing the ultimate impact of development projects, and in foreign aid negotiations may be an important point at issue. For Uganda and Tanzania direct and indirect import requirements appear to be in the order of 60 per cent for agricultural exports and government expenditures, jumping to about 80 per cent for import substitution and manufactured exports. For Kenya import requirements are consistently higher, and reach over 100 per cent of the autonomous demand (56 per cent of the resulting GDP) for import substitutes or manufactured exports.[11] Thus allowing for induced domestic incomes and rising investment requirements, quite large fractions of additional demands emerge ultimately as imports.[12] Comparing the three countries, Tanzania's relatively high import content of GDP is roughly compensated for by her lower GDP multipliers, so her ultimate import multipliers work out to be remarkably similar to Uganda's. But Kenya's high import content of GDP, particularly for intermediate goods and capital goods, combined with high GDP multipliers, make her import requirements distinctly the highest of the three countries.

Footnotes:

1. Portions of this chapter have been published previously in my article, "The Rationale and Uses of a Projection Model for the East African Economies", *East African Economic Review*, June, 1965.

2. Some modifications of the general model may be appropriate for use in a particular country, or course. C. W. Howe and H. Karani have applied what is in many ways a more refined version of this model to Kenya. See their paper, "A Projection Model for the Kenya Economy", *East African Economic Review*, June, 1965. For the sake of greater comparability between countries, however, in this monograph I have used the same model for Kenya as for Uganda and Tanzania.

3. A national accounting point may be noted here. Customs and indirect tax revenue are not included conceptually in GDP at factor cost, but constitute part of the margin between GDP at factor cost and at market prices. Thus in principle we should deduct only direct and export taxes from GDP at factor cost to arrive at the variable called private income. Since the East African statistics do not provide an independent estimate of GDP at market prices on which to base the model, however, and since changes in customs duties and indirect taxes probably would affect consumer demands out of a given GDP at factor cost, I have preferred in the model to subtract all taxes to obtain private income. I am indebted to Brian Van Arkadie for clarifying discussion on this point.

4. For Uganda, the results were 3.5 and 4.3 for construction, 1.4 and 1.0 for equipment, in the two periods; for Tanzania, 2.9 and 2.8 for construction, 1.8 and 1.4 for equipment, respectively; for Kenya, 2.4 and 3.2 for construction, and .85 and .45 for equipment, respectively.

5. The fact that the model does not explicitly treat educated manpower as a potential constraint is a weakness. Manpower needs can be examined, however, in a supplementary analysis tied to the model. See E.R. Rado and A. R. Jolly, "The Demand for Manpower—An East African Case Study", *Journal of Development Studies*, March, 1965. See also Chapter V, section on manpower.

6. Parameters for intervening years were also examined, but are not reproduced here.

7. I am indebted to a number of people for contributing to the statistical calculations. For Uganda, Isaiah Kinyenye, then a student at Makerere, carried out much of the data work. For Tanzania, John Kinyunyu, economist at the Tanzania Directorate of Development Planning, offered extremely valuable help and co-operation. Note that although the model was applied only to Tanganyika, the mainland part of Tanzania, the new name is used in this and the following chapters. For Kenya, I am indebted to C.W. Howe and H. Karani (article cited in footnote 2) for many of the data series, and to Anne Cooper, research assistant at E.A.I.S.R., for other data work and for fitting the model.

8. The Kenya parameters shown here differ from those of the Howe-Karani model, *loc. cit.*, because of both conceptual and statistical differences. For the sake of greater comparability with Uganda and Tanzania, I have generally calculated the Kenya parameters by the same procedures as for the other countries. However, for three parameters significantly affecting the reduced-form results of the model—i3, m2, and a3, representing intermediate imports, manufacturing inputs, and agricultural inputs into domestic manufacturing of exports or import substitutes— I have used rounded values originally estimated by them. For Uganda and Tanzania, I have represented the input pattern for future import substitution (which is more important than present manufactured exports in their case) by estimates derived from the whole range of Kenya manufacturing industries in the 1961 industrial census. For Kenya, however, Howe and Karani obtained different estimates of these parameters, by weighting industries according to their share of manufactured exports (which are of course already highly important in Kenya) rather than their share of manufacturing output. In particular, their estimates indicated a higher direct import content for the products moving into exports than for manufactured products in general, and a lower agricultural content. For these three parameters I have therefore used rounded values of their estimates.

9. A technical point to note here is that the GDP multipliers refer to current value of GDP. For agricultural export prices, the multiplier with respect to GDP volume would be only .80, since the initial unit increase in prices would not affect GDP volume. This distinction does not matter for the other autonomous variables.

10. It should also be recognised that the tax parameters are quite aggregative and proportional. For much more precise estimates see D.P. Ghai, *Taxation for Development: a Case Study of Uganda*, East African Publishing House, 1966.

11. Kenya's is higher by 10% simply because of her higher i3 import parameter, as noted in footnote 8. Since i3 specifies direct intermediate-goods imports for import substitution or manufactured exports, the remainder represents indirect requirements.

12 However, with the exception of Kenya's import multiplier for import substitution or manufactured exports, they are all less than 100%. Therefore a unit increase of expenditure in the domestic economy, even if financed entirely by monetary expansion, does not lead *ceteris paribus* to an equal drain on foreign exchange, as is sometimes implied in simplified monetary analyses. I am indebted to Clive Gray, of the Kenya Ministry of Finance, for discussion clarifying this point.

A PROJECTION MODEL FOR THE EAST AFRICAN ECONOMIES. ADAPTED TO AVAILABLE STATISTICS

A. Variables

GDP	=	Gross Domestic Product = monetary GDP at factor cost
Pa	=	gross product of agriculture = agriculture, cotton ginning, coffee curing, sugar manufacture, forestry, fishing, hunting
Pm	=	gross product of manufacturing = mining, manufacture of food products, miscellaneous manufacturing
Pk	=	gross product of construction = construction
Pt	=	gross product of transport = transport, communication, electricity
Ps	=	gross product of services = commerce, miscellaneous services (private), rents
Pg	=	gross product of government = government administration, miscellaneous services (public), local government
U	=	urban gross product = Pg + Pm + Ps + Pt
M	=	imports = net imports, interterritorial imports
Ma	=	imports of food = SITC 0, 1, 4
Mm	=	imports of consumer manufactures = SITC 5 (part), 6 (part), 7 (part), 8 (part), 9 (part)
Mv	=	imports of consumer vehicles = SITC 6 (part), 7 (part)
Mi	=	imports of intermediate goods = SITC 2 (part), 5 (part), 6 (part), 8 (part), 9 (part)
Mf	=	imports of fuel = SITC 3
Mk	=	imports of construction materials = SITC 2 (part), 6 (part), 7 (part), 8 (part)
Mq	=	imports of equipment = SITC 7 (part), 8 (part)
E	=	exports = domestic exports, inter-territorial exports
Ea	=	agricultural exports = SITC 0, 1, 2, 4
Em	=	manufactured exports = SITC 3, 5, 6, 7, 8, 9
T	=	export price adjustment = Ea (1960-62 prices) less Ea
Ea*	=	agricultural exports volume = Ea + T
Pa*	=	gross product of agriculture volume = Pa + T
GDP*	=	Gross Domestic Product volume = GDP + T
K	=	construction investment = gross capital formation: government construction plus private construction
Kg	=	government construction = central government buildings, local government, common services organisation
Kp	=	private construction = remainder: urban building, rural industrial building and construction
Q	=	equipment investment = gross capital formation: government equipment plus private equipment
Qg	=	government equipment = central government: plant, equipment, and vehicles
Qp	=	private equipment = remainder plant, equipment, and vehicles
G	=	government current expenditures = actual recurrent expenditures less public debt transactions, pensions and gratuities, overseas addition, for fiscal year beginning in any calendar year
R	=	government tax revenue = actual recurrent and non-recurrent revenue, less public debt transactions, reimbursements, and grants from abroad, for fiscal year beginning in any calendar year
Rd	=	revenue from direct taxes
Re	=	revenue from export taxes
Rm	=	revenue from customs
Ri	=	revenue from indirect taxes = excises, licences and fees, rents and interest, miscellaneous, contributions from local funds

75

Y   =   private income = Gross Domestic Product less government revenue

Sm   =   import substitution in manufactures = decrease in imports of food, consumer manufactures, intermediate goods, and construction materials compared to what imports would be with unchanged import coefficients

B. The Model

$Pa + Pg + Pm + Ps + Pt + Pk = GDP$
$Pg + Pm + Ps + Pt = U$
$Ma + Mm + Mv + Mi + Mf + Mk + Mq = M$
$Ea + Em = E$
$Ea + T = Ea^*$
$Pa + T = Pa^*$
$GDP + T = GDP^*$
$Kg + Kp = K$
$Qg + Qp = Q$
$Rd + Re + Rm + Ri = R$
$GDP - R = Y$
Ea^*, T, Em, Sm, G are autonomous
$Pa^* = a1\ Ea^* + a2\ Y + a3\ (Em + Sm)$
$Pg = gG$
$Pm = m1\ Y + m2\ (Em + Sm)$
$Ps = s\ Y$
$Pt = t\ (Pa^* + Pm)$
$Pk = h\ K$
$Ma = c1\ Y$
$Mm = c2\ Y$
$Mv = c3\ Y$
$Mi = i1\ GDP^* + i3\ (Em + Sm)$
$Mf = i2\ GDP^*$
$Mk = j1\ K$
$Mq = j2\ Q$
$K = k1\ \triangle U + k2U = k'U$

> *Note:* The parameter k' is derived as an approximation depending upon the capital coefficient $k1$, the retirement coefficient $k2$, and the estimated rate of growth of U.

$Q = q1\ \triangle U + q2\ U = q'U$
$Kp = p1\ K$
$Qp = p2\ Q$
$Rd = r1\ Y$
$Re = r2\ Ea$
$Rm = r3\ M$
$Ri = r4\ Y$

C. Parameters

> *Note:* Most parameters are estimated as simple ratios from annual observations for the years 1954-62. Some are estimated independently, as noted below. All must be projected for future years.

$a1 = 1.0$

> *Note:* a1 treats the full value of agricultural exports as part of the gross product of agriculture.

$$a2 = \frac{Pa^* - a1\ Ea^* - a3\ (Em + Sm)}{Y}$$

$g = Pg/G$
$a3 = .30$
$m2 = .50$
$i3 = .20$

Note: a3, m2, and i3 are estimated from the approximate proportion in 1961 value of output of all manufacturing in Kenya of (*a*) domestic agricultural inputs, (*b*) manufacturing value added plus domestic non-agricultural inputs, (*c*) imported inputs.

$$m1 = \frac{Pm - m2 \, (Em + Sm)}{Y}$$

$s = Ps/Y$
$t = Pt/(Pa^* + Pm)$
$h = Pk/K$
$c1 = Ma/Y$
$c2 = Mm/Y$
$c3 = Mc/Y$

$$i1 = \frac{Mi - i3 \, (Em + Sm)}{GDP^*}$$

$i2 \;=\; Mf/GDP^*$
$j1 \;=\; Mk/K$
$j2 \;=\; Mq/Q$
$p1 \;=\; Kp/K$
$p2 \;=\; Qp/Q$
$r1 \;=\; Rd/Y$
$r2 \;=\; Re/Ea$

Note: r2 for projection is adjusted separately for change in export price adjustment (T)

$r3 \;=\; Rm/M$
$r4 \;=\; Ri/Y$

Values of k′ and q′ for various annual rates of growth of urban gross product (U) in Uganda model

				3%	5%	7%	9%	11%
k′	..	..	..	.145	.215	.285	.355	.425
q′	..	..	..	.155	.185	.215	.245	.275

Note: Assumes retirement rates k2 = .04 U and q2 = .11 U, which are estimated assuming approximately a 40-year life for construction and a 10-year life for equipment, with both stocks growing at an average annual rate of about 5%, and with the ratio of investment to gross product in the past about the same as in the 1950's. Assumes net capital-output ratios k1 = 3.5 and q1 = 1.5, which are estimated from calculated net ratios over 4-year sub-periods 1954-58 and 1958-62. Values of k′ and q′ for Tanzania assume k1 = 2.8 and q1 = 1.6; for Kenya k1 = 2.4 and q1 = 0.8

D. Some Key Relationships

$b1 \;=\; a1 \, (1 + t + hk't)$
$b2 \;=\; a3 + (m2 + ta3 + tm2) \, (1 + hk')$
$b4 \;=\; g \, (1 + hk')$
$b5 \;=\; a2 + (m1 + ta2 + tm1) \, (1 + hk')$
$b6 \;=\; r2 + r3ta1 \, (j1k' + j2q')$
$b7 \;=\; r2 - r3 \, (i1 + i2)$
$b8 \;=\; r3i3 + r3 \, (m2 + ta3 + tm2) \, (j1k' + j2q')$
$b10 \;=\; (r3) \, (g) \, (j1k' + j2q')$
$b11 \;=\; (r1 + r4) + r3(c1 + c2 + c3) + r3 \, (m1 + s + ta2 + tm1) \, (j1k' + j2q') + r3(i1 + i2)$
$b12 \;=\; 1 + (r1 + r4) + r3 \, (c1 + c2 + c3) + r3 \, (m1 + s + ta2 + tm1) \, (j1k' + j2q')$
$b13 \;=\; ta1 \, (j1k' + j2q')$
$b14 \;=\; i1 + i2$
$b15 \;=\; i3 + (m2 + ta3 + tm2) \, (j1k' + j2q')$

77

$b16 = g(j1k' + j2q')$

$b17 = (c1 + c2 + c3) + (m1 + s + ta2 + tm1)(j1k' + j2q') + (i1 + i2)$

$b18 = (c1 + c2 + c3) + (m1 + s + ta2 + tm1)(j1k' + j2q')$

$$GDP = \left[\frac{1}{b12 - b5b12 + b5b11}\right] (b12b1 - b5b6) Ea^*$$
$$- (b12 - b5b7)T + (b12b2 - b5b8)(Em + Sm)$$
$$+ (b12b4 - b5b10) G]$$

$$R = \left[\frac{1}{b12 - b5b12 + b5b11}\right] (b11b1 + b6 - b5b6)Ea^*$$
$$- (b11 + b7 - b5b7)T + (b11b2 + b8 - b5b8)(Em + Sm)$$
$$+ (b11b4 + b10 - b5b10)G]$$

$$M = \left[\frac{1}{b12 - b5b12 + b5b11}\right]$$

$$\left\{\begin{array}{l} [b17(b12b1 - b5b6) - b18(b11b1 + b6 - b5b6) \\ \quad + b13(b12 - b5b12 + b5b11)]\, Ea^* \\[4pt] -[b17(b12 - b5b7) - b18(b11 + b7 - b5b7) \\ \quad + b14(b12 - b5b12 + b5b11)]\, T \\[4pt] +[b17(b12b2 - b5b8) - b18(b11b2 + b8 - b5b8) \\ \quad + b15(b12 - b5b12 + b5b11)]\, (Em + Sm) \\[4pt] +[b17(b12b4 - b5b10) - b18(b11b4 + b10 - b5b10) \\ \quad + b16(b12 - b5b12 + b5b11)]\, G \end{array}\right\}$$

CHAPTER V: DEVELOPMENT GOALS FOR UGANDA IN 1981

The rate of growth of the Uganda economy during the period of general economic retardation, 1958-1962, was distressingly slow, as discussed in Chapter II. The abrupt increase of incomes during the export boom, 1963-1964, was dramatic and gratifying, but was almost entirely due to a jump in the value of agricultural exports which could not reasonably be expected to continue, rather than to any pervasive effects of the first three years of the old plan, as discussed in Chapter III. The question naturally arises: would it be possible to transform this picture, and to guide the Uganda economy onto a path of markedly accelerated economic growth? Or to put the question more operationally: assuming more normal export conditions in the future, what would be the conditions necessary for shifting to a markedly accelerated path?

During the years 1964 and 1965 the planning officials of the Uganda government were engaged in preparing the new development plan for fiscal years 1966/67-1970/71. At an early stage a 'desirable' goal of doubling per capital income over the next three five-year plans, from 1966 to 1981, was suggested. The analysis described in this chapter was prepared unofficially by members of the economics research group at the East African Institute of Social Research, as a contribution to the government's consideration of the feasibility of this goal.[1] Subsequently, after accommodating this 1981 analysis and other official projections, and further work in translating the 1981 objectives into guidelines for the 1966-71 plan, planning officials proposed an initial plan framework which was broadly similar to that presented here. The government, as reported in the press, approved this longer term goal and initial framework, and directed that detailed feasibility be further examined in the course of working out the specifics of the new plan.[2]

From the standpoint of methodology, the statistical projection model discussed in the last chapter was designed just for the purpose of making aggregative projections of this kind, as part of the comprehensive planning process. The projection should highlight the strategic decisions which the government needs to make to embark on such an ambitious plan—the size of the development programme, the lines of development activity to be emphasised, and the main

79

directions of government economic policy—and should sketch a broad picture of the progress which seems attainable. The following analysis of development goals for Uganda in 1891 may also serve to illustrate this first function of comprehensive development planning.

The Growth Objective and Other Goals

The central objective around which this analysis is built is to double per capita income during the period covered by the next three five-year plans, 1966-1981. The purpose of the analysis is to examine the conditions necessary for achievement of this objective.

Doubling per capita income implies a rate of growth of gross domestic product in the monetary sector of about 8.4 per cent per year from 1966 to 1981. Such a rate of growth is near the upper end of the range of growth achievements of other countries throughout the world in the last twenty years. It is essentially the same as that projected in the new Tanzania plan. Above all, this objective is ambitious in comparison with past experience. If Uganda is to be developed, however, past experience must not be continued.

This ambitious goal cannot be achieved by simple reproduction of past growth patterns. It will require achievement of investment rates higher than have been previously thought possible, a changing industrial structure, new patterns of employment, changes in the composition of imports and exports, substantially increased tax rates, and high rates of domestic saving and capital inflow. The organisation of such a transformation will be the task of several successive five-year plans. In devising the plan for 1966-71, however, it will be helpful to have a longer view of where the economy is going. Unless such a view is asserted at the outset, horizons are likely to be set by past experience and goals limited by immediate possibilities. This analysis, therefore, attempts to draw a picture of the possible economy of 1981, and of the path to be taken to reach it.

In addition to the central objective of high growth there are other goals the government may wish to set. Some other goals might be:

    (*a*) expansion of employment opportunities at a faster rate than the growth of population, so that the employed labour force can become an increasing proportion of the population;

(*b*) expansion of education so that by 1981 the supply of
Ugandans will be sufficient to fill substantially all high
level professional and managerial posts;

(*c*) extension of welfare and community service throughout
the country, so that by 1981 certain minimum facilities
will be available to all of the people;

(*d*) provision of adequate conditions for urban living by many
more Africans, so that by 1981 the main towns are as
much as three times as large as today, with some minimum
standard of housing and facilities;

(*e*) a relative shift from dependence on exports toward sales
in the domestic market for agricultural producers, who
will continue to constitute the majority of the population.

Progress toward all of these goals is compatible with the
central growth objective, but it must be stressed that only by
attaining a high rate of overall economic growth can progress be
acceptably rapid.

Magnitude of the Investment Effort

To begin the process of economic transformation, an investment
effort will be required greater than any in previous Uganda experi-
ence. It will also be necessary to improve rapidly the accumulated
education and productive skills of the labour force, as discussed in a
later section of this chapter. But expanding the stock of capital
much more rapidly than in the past is certainly an essential condition.
Moreover, if the annual *rate of growth* of output is to be raised
dramatically, the *proportion* of output devoted to capital formation
rather than to other uses (i.e., the rate of investment) must be
sharply increased.

How much the rate of investment will have to be increased
depends on the net capital-output ratio, specifying the net invest-
ment needed to provide additional capital per unit of additional
output, and the retirement rate, specifying the investment needed
to replace capital being retired. In the projection model being
used here, the net capital–output ratios and the retirement rates,
for construction and tor equipment separately, are defined relative
to urban product rather than to total GDP, and have been estimated
from calculated ratios in the past sub-periods 1954-58 and 1958-62.[3]
However, to facilitate interpretation, we may note that these
investment parameters can be approximated by an overall capital-

output ratio of 3.0, and a retirement rate of 7 per cent, both relative to monetary GDP. The implicit overall capital-output ratio is lower than in the past in Uganda, but higher than in the past in the other East African countries.[4]

The key implication of these investment parameters is that the target growth rate of 8.4 per cent per year after 1966 will require an investment rate of 32 per cent of monetary GDP. This represents about twice the recent share of investment in gross product. Moreover if the goals for all three five-year plans are to be attained, this high investment rate must be achieved within the period of the next five-year plan. Any slack in present utilisation of capital may help in the transition; but it would not be prudent to aim at anything less than a doubling of the investment rate by 1971.

Recent years may not provide the most relevant indication of whether this ambitious development effort is attainable, however. Uganda has achieved much higher rates of capital formation in the past. In 1955, for example, investment was about 28 per cent of GDP volume (agricultural exports at 1960-62 prices), as noted in Chapter II. In general in East Africa, the investment rates achieved during the mid-fifties were near the effort envisaged for Uganda in the future. Note Kenya's 32 per cent rate and Tanganyika's 29 per cent rate in 1954.

It is important to realize that although reaching a higher investment rate will reduce the *share* of resources available for consumption and other current uses, achievement of the higher growth rate will in a few years provide a higher level of output from which higher absolute consumption standards can be enjoyed than if the investment rate had continued low. During the next several years, the phase of 'shifting gears' while the share of investment is being raised, the development effort requires restraint on consumption; consumption increases absolutely, but is below what could be enjoyed if the development effort were not increased. The model projection indicates that by 1971, however, the temporary shortfall in consumption and other current uses can be more than made up, and thereafter the gains mount rapidly.

If the high growth objective is to be achieved, it is essential that the public be persuaded to accept restraint on the increase of consumption in the early years. To accept restraint they must be persuaded that they will eventually reap the benefits in higher

levels of living. This job of education and persuasion will form an important element in the success of the next three five-year plans. One contribution of a long-range perspective to 1981 is to show the ultimate returns from the efforts needed in the near future. The task of persuading the public to accept restraint is of course more likely to be successful if part of the investment programme is seen to be creating facilities near to popular desires and aspirations, such as schools and hospitals.

How is this increase in capital formation to be brought about? It has been characteristic of the Uganda economy, as noted in Chapter II, that a high proportion of capital formation has been carried out under public auspices, including public agencies like the U.D.C. and the U.E.B. as well as the central government. In the past, something like 60-70 per cent of investment has been public. In the future, it seems likely that the share of public investment will need to be if anything higher than in the past, as the government takes the lead in raising total capital formation. If the public sector simply plays the same relative role as in the past, it should invest about 20 per cent of total product, while the private sector would be responsible for investing about 12 per cent. Investment by the central government itself ought to increase from £5 million in 1962 to about £23 million by 1971 and £54 million by 1981.

The leading role for public agencies has both advantages and disadvantages. The major disadvantage is the tremendous responsibility it places on the shoulders of the public authorities to organise large investment projects, to raise tax revenues rapidly and increase the budgetary contribution to development investment, and to tap energetically both foreign and domestic sources of lending for development. The advantage is that the public sector is more susceptible to planning control than the private sector. In particular, the high rates of public investment implied by this programme will doubtless require the Uganda Development Corporation and any similar organisations created in the future to extend their activities in new areas.

Continuing reliance on extensive public investment still implies a dramatic expansion of private investment compared to the recent past —from about £5 million in 1962 to as much as £22 million in 1971 and £52 million in 1981. The specific opportunities for private investment can only be spelled out in the detailed prepara-

tion of the five-year plan, but if private investment can be expanded at the same rate as public investment it will be a considerable achievement.

High Growth and Structural Changes

The specifics of the 1981 projection for the Uganda economy, using the statistical projection model, are discussed in the next two sections. Summarising these results, there are four major structural changes, besides raising the rate of investment, which are involved. These four additional elements of development strategy are stressed in this section.

(i) *Effect of the high investment rate on the economic structure.*— Raising the rate of investment would not only expand future capacity to produce, but also affect the composition of current output. As investment expands as a proportion of GDP, so do those industries which produce investment goods.

The effects of a high investment rate in the case of Uganda will depend very much on the composition of the investment as between construction and building or machinery and equipment. Many of the building materials used in the construction industry are already produced in Uganda. Cement, some structural steel, bricks, and asbestos products are all manufactured domestically. Also, construction itself is a substantial source of wage income for Uganda workers, and to an increasing extent results in profits for local contracting firms. In the future, extending the range of building materials produced domestically is likely to be one of the most economically attractive fields for new manufacturing activity. Therefore rising investment in the form of construction and building will directly affect domestic product, and indirectly provide considerable impetus to other domestic industries. By contrast, most machinery and equipment is imported and is unlikely to be attractive to produce domestically during the time-span being considered here. Therefore rising investment in the form of machinery and equipment will mainly have a direct impact on the import bill, with little indirect stimulus to the rest of the economy.

On the other hand, it is true that once installed and in use, regardless of whether domestically produced or imported, machinery and equipment tend to be more productive in creating additional capacity than is construction. Thus if it were possible to reduce the proportion of construction in total investment, relative to

84

machinery and equipment, this would reduce the overall capital-output ratio, and hence a lower rate of investment might suffice to support the target rate of growth. It is sometimes suggested that this would be a desirable principle of development strategy. Something may be done in the project-screening stage to hold down capital costs generally by economizing on new buildings in all sectors. But in order to have a significant aggregative effect on the composition of total investment, the main operational thrust of this strategy would have to be to expand more rapidly those sectors with low construction costs and less rapidly those with high construction costs. In practice a pronounced reduction in the share of construction in total investment would probably require explicit government restraint on private investment in housing.

All things considered, in the present stage of development in Uganda extending the linkages among domestic industries is a promising approach, and it seems wise to plan on a composition of investment in the future not far different from the past, i.e., about three-fifths construction and two-fifths equipment. If anything the share of construction may tend to rise, because of the prominent role projected for central government investment, which is almost entirely construction. If this judgment is correct, then the construction industry will have to expand more dramatically than any other sector of the economy—nearly four times by 1971 and thirteen times by 1981. At the same time, a very sharp rise in equipment imports will be needed.

The future expansion of the construction industry also relates closely to two of the other development goals mentioned above. If one object of the plan is to develop the urban environment to provide for an increasing proportion of Africans living in large towns, rapid growth of housing construction is clearly implied. With suitable public policies, moreover, housing construction and rental is attractive as a field for small-scale private investment. The alternative view would assert that housing development should have a low priority, to hold down the required investment rate, and that the primary aim should be expansion of actual manufacturing facilities leaving the urban dweller in the meantime to find what accommodation he can. This issue of goals will of course have to be settled by political leaders.

The second point involves employment objectives, as discussed further in a later section. From this point of view the construction

industry has the desirable property that it is a heavy user of labour and that its rapid expansion would provide a great increase in the number of available jobs. At the moment, every £1 million of construction spending provides employment for about 3,000 workers, which is about twice the ratio for other non-agricultural sectors. Moreover, construction is not one of those industries in which labour saving shifts in technique are likely to be considerable.

(ii) *Import substitution and the growth of manufacturing.*—The second major structural change required for a high-growth economy is the growth of manufacturing to supply many goods currently imported. This is an important element of development strategy for two reasons. First, in order to achieve the marked expansion in imports of equipment required by a high investment rate it will be necessary to restrain the rise of other items in the import bill, so as to keep within the foreign exchange constraint, including conceivable foreign borrowing. Second, in order to attain the target rate of growth for overall GDP, given the likely limits on the rate of growth of agricultural exports even with ambitious agricultural efforts (see below), some non-agricultural sector besides construction must take the lead in expanding at *above* the target rate. A more rapid advance in industrialisation is needed for its effect on domestic incomes as well as for its effect on the balance of payments.

The expanding market for the manufacturing sector can be divided into three categories: (*a*) growth in domestic demands already supplied by existing industries as incomes rise; (*b*) import substitution in processed foods, consumer goods (particularly non-durables), intermediate goods other than fuels, and construction materials; (*c*) growth in manufactured exports. Simple growth of demand with rising incomes will be a large factor absolutely if the objective of doubling per capita incomes by 1981 is attained, but (given the income elasticities for the limited range of manufactured products currently produced) will not suffice to make manufacturing a leading sector. Manufactured exports which can be sold competitively in world markets are likely to be quite limited at the present stage of development, so growth of such exports is likely to depend mainly on sales within the East African Common Market (or other preferential arrangements), with imports approximately balancing exports. Thus a substantial degree of import

substitution, i.e. a rise in the share of domestic products in a growing market for manufactured goods from all sources, is a necessary condition for making manufacturing a leading sector. Import substitution in this relative sense is also the only way to restrain the growth of other imports and release foreign exchange for capital equipment.[5]

The import substitution projected in the model is very considerable — 50 per cent in food products, manufactured consumer goods, and intermediate goods other than fuels, and 75 per cent in construction materials. These are 1981 percentages, but by 1971 something approaching half of this degree of import substitution ought to be established. Fulfilling this condition will involve production of many goods which have not previously been produced in Uganda, as well as expanding existing industries to supply a rising snare of their markets. Inspection of Uganda's current import bill suggests that the largest field of manufacturing expansion in terms of value must be textiles and clothing. In so far as textiles and clothing are still imported by 1981, they should come from other parts of East Africa on the basis of local specialisation, Uganda's inter-territorial imports having their counterpart in other inter-territorial exports. Food products and building materials will follow textiles and clothing in terms of increased output value. There must also be numerous light industries, each individually of small value, but taken together making a significant contribution to Uganda's industrialisation.

(iii) *Accelerated agricultural expansion.*—The agricultural sector probably will not be able to keep pace with the target overall rate of growth of the economy; there will be a relative shift to other sectors, particularly construction and manufacturing, as sources of income and output. Nonetheless the present weight of agriculture in the economy is so substantial that an accelerated rate of growth in agriculture is a necessary condition for attaining the ambitious overall growth objective. Moreover, agriculture offers the most direct way of raising incomes for the bulk of the population, as well as the most immediately accessible opportunities for raising productivity by intensification of existing development efforts.

Within the agricultural sector there there will be a slow but steady relative shift toward domestic markets and away from export markets. Nonetheless the key to the necessary growth

87

performance of agriculture up to 1981 will still be an accelerated rate of growth of the volume of agricultural exports. Agricultural exports will also continue to be the main source of foreign exchange earnings, which provide the means of acquiring the machinery and equipment for the sharply higher investment rate. The projection model assumes that it will be feasible to raise the long-term trend in agricultural export volume about a quarter, from about 4 per cent per year over the whole period 1949-50 to 1962-63 to about 5 per cent per year from the 1963 peak[6]. Since the International Coffee Agreement is likely to limit the rate of growth of the quantity of coffee exports to much less than that (perhaps 1-2 per cent per year), this implies that other agricultural exports would have to be expanded still more rapidly (perhaps 8-9 per cent per year). The essential constraint on achieving this export target is the pace at which government efforts can induce productivity improvements and changed output patterns in peasant agriculture.

The other factor affecting Uganda's returns from agricultural exports, and hence the attainable rise in gross product in the agricultural sector, is of course world prices. Any prediction of prospects for agricultural export earnings is inevitably subject to uncertainty. In the past Uganda has suffered greatly from declining prices in her export markets. Part of this experience was due to the reaction from the unusually high price levels of the Korean War commodities boom, and future price declines are unlikely to be of the magnitude experienced from 1954 to 1962. However, it would be foolhardy to expect the high prices of 1963 and 1964 to continue, and not to make a substantial allowance for future price declines. The adjustment made here is for a 1 per cent decline in agricultural export prices per annum, after 1963, which is less than from 1954 to 1962, but implies 1981 prices about 10 per cent below the 1960-62 low.

Future returns from agricultural exports are dependent not only on the behaviour of world prices but also on Uganda's success in adjusting individual commodity outputs to fit changing price conditions. If agricultural output expansion can be biased toward products with firmer price prospects, and toward higher qualities, the resulting revenue performance may be expected to be more favourable than in the past, in which Uganda has been notably unsuccessful in making such shifts. Agricultural planning should therefore be concerned with influencing the composition of output

88

as well as with expanding the total physical volume.

An important element of possible future structural change which ought to be investigated further is the character of agricultural inputs. Uganda has in the past made only meagre use of fertilizers, insecticides, and agricultural machinery. If sharp changes in these patterns prove economically attractive, they would have an effect on the future import bill, and might increase the range for local manufacturing, particularly of chemicals.

The shift toward domestic markets in the agricultural sector will come partly as a result of increased demand for agricultural inputs in the manufacturing sector (e.g. cotton for local manufacture) and partly as a result of increased production of food products for sale, as a result of substitution for existing food imports and of the increasing urban population. Thus this shift depends on achievement of the other structural changes involved in attaining the high-growth path.

(iv) *Role of the government and the budget*.—In addition to the leading role for government in raising the overall investment rate, it must be expected that government current expenditure will increase at a faster rate than in the years of economic retardation. The suggestion in the projection is that government current expenditure will grow at a slightly lower rate than overall monetary domestic product, but that this will still be half again the rate of expansion in the 1958-62 period.

Many of the services provided by government are essential aids to economic growth. Accelerated expansion of secondary and higher education, for example, will be necessary to provide the additional educated manpower needed to sustain the desired growth rates in capital and output. Expending government services also contributes to spreading the benefits of growth among a far wider group than the direct beneficiaries of development projects, and therefore provides an incentive among the population at large to support the plan.

The government is therefore faced with a necessity to raise finance both to cover the costs of expanding current services and to provide a substantial budgetary contribution to development investment. The projection indicates that during the next five-year plan (1966-71) effective tax rates will have to be raised by about

89

30 per cent. This early increase in tax rates, as a key condition for success of the plan, will be its most unpopular feature. It will demand widespread understanding of the ultimate objectives of the plan to gain public support.

How this increase is allocated among different tax sources is partly a matter of political choice, but a reasonable pattern may be as follows: Part of the increase can take the form of increases in customs duties, which will have as its objective protection of new industries as well as revenue increases from continuing imports. The changed composition of imports will almost surely require that duties be extended to goods now lightly taxed (intermediate goods and perhaps capital goods) if adequate revenue is to be found. In addition local industries ought to carry an increasing burden of indirect tax to compensate for the loss of customs revenue as import substitution proceeds. Direct taxes will also have to be increased, though this adjustment will be eased because the types of income subject to direct tax will probably be rising faster than total incomes. Finally, export taxes should be raised or extended to new products to offset the effect of declines in export prices. In fact, if the plan is to succeed it is unlikely that rates for any category of tax can be left at present levels.

The underlying objective is to keep planned government borrowing, both foreign and domestic, within limits which are likely to be financially feasible. It would be quite unrealistic to plan on expanding such borrowing in the same proportion as the necessary rise of government investment—over four times by 1971 and over ten times by 1981. The projection still implies a tripling of government borrowing during the course of the three plans. It should be remembered that other public agencies in the industrial development field will also be heavy borrowers, particularly from foreign sources, if the plan is to succeed. A significant contribution may come from monetary creation to support more rapid growth, and gradually over time from additional borrowing in domestic financial markets. But at the present stage of development the main emphasis must be on raising additional tax revenues to keep the financial problem within bounds. Adjusting to the financial constraint in this way will of course at the same time help to restrain too-early improvement of consumption standards (and thus meet the overall saving constraint) and to encourage import substitution (and thus meet the foreign exchange constraint).

90

Use of the Projection Model to Analyse Conditions for Doubling Per Capita Income.

Let us now turn to a more technical examination of how these major implications for a strategy of doubling per capita income in Uganda are derived from the projection model. A list of estimated conditions as specified in the model is given in Table V-1. The parameters employed are given in Table IV-1 in the previous Chapter, in the column for the 'ambitious' projection. The estimated effects throughout the economy by 1981 are presented in Table V-2. The specific details of the 'ambitous' projection can be traced in these three tables, but here let me sketch the logical sequence of analysis.

Table V-1. Estimated Conditions for Doubling per capita Income in Uganda 1966-1981

Condition.	*Implications.*
1. *Monetary GDP* increases 8.4% p.a. after 1966, i.e. 4.6 times 1962-81.	Population increases at 2.6% p.a. Non-monetary product increases at 4.7% p.a. Monetary product increases 19% in 1963, 4% p.a. 1963-66, both adjusted for export prices.
2. *Agricultural export volume* increases 5.0% p.a. after 1963, i.e. 3.2 times 1962-81.	Rate of increase is a fourth higher than actual average rate (at 1960-62 prices) from 1949/50 to 1962/63, despite likely effect of Coffee Agreement on quantity.
3. *Agricultural export prices* decrease 1% p.a. after 1963, i.e. to an index of 88.5 in 1981 (1960-62 = 100).	Rate of decrease compares with 3% p.a. 1954-63, 0% p.a. 1949/50-1962/63; assumes Coffee Agreement stabilizes prices on quota sales.
4. *Manufactured exports* increase 7% p.a. less £3 mil. decrease in copper, i.e. 3.1 times 1962-81.	Rate of increase approximately equivalent to £3 mil. every 4 years, as 1954-58 and 1958-62.
5. *Government current expenditure* increases 7% p.a., i.e. 3.6 times 1962-81.	Rate of increase approximately half again that in 1958-62, somewhat less than 1954-58.
6. *Import substitution* replaces half of imports of food, manufactured consumer goods, and intermediate goods, three-fourths of construction materials, none of vehicles, fuel, equipment.	Substitution compares with almost none 1954-62. Imports replaced are about £12 mil. at 1962 level of GDP, £37 mil. at 1981 level.
7. *Capital formation* increases to 32% of GDP volume within period of next 5-Year Plan.	Share of capital formation compares with 15% in 1962, 28% in 1955. Required capital formation is derived from capital-output ratios and re-retirement rates in model similar to 1954-58, with tentative 9% p.a. growth of urban product; parameters approximate an overall capital-output ratio of 3.0 and a retirement rate of 7% of GDP.

91

8. *Tax rates* increase about 30% on average within period of next 5-Year Plan.

Increase for taxes other than export taxes is about double recent trends in effective yields, and is highest for customs duties, next for indirect, next for direct.
Increase for export taxes offsets effect of falling prices.

Table V-2. Estimated effects of Doubling per capita Income in Uganda 1966-81

	1962[m] (mil. £)	1981 (mil.£)	Ratio of 1981 to 1962	Annual Rate of growth 1962-81 (%)	Share of Total 1962-81 (%)
GDP, monetary	106.4	484.7	4.6	8.2	
GDP volume[a] ..	105.6	498.4	4.7	8.5	
Agricultural product ..	49.9	170.5	3.4	6.7	47–35[d]
Urban product ..	52.6	263.2	5.0	8.9	49–54[d]
Construction product[b] ..	3.9	51.0	13.2	15.7	4–11[d]
Manufacturing product ..	8.6	57.7	6.7	10.6	8–12[d]
Services product[b] ..	22.8	114.7	5.0	8.9	21–24[d]
Government product[bc] ..	13.4	58.9	4.4	8.1	12–12[d]
Transport product ..	7.8	31.9	4.1	7.7	7–6[d]
Gross investment ..	15.4	157.9	10.2	(17.8)[e]	
Construction ..	8.3	93.4	11.2		
Equipment	7.1	64.5	9.1		
Government investment ..	4.9	54.3	11.1	(18.8)[e]	
Gross invest./GDP volume	(14.6%)	(31.7%)			
Ag. export volume[a] ..	37.7	119.2	3.2	6.2	
Agricultural exports ..	38.5	105.5	2.7	5.4	
Manufactured exports ..	6.2	19.4	3.1	6.2	
Mfd. import substitution[f] ..	—	37.2			
Food imports ..	5.2	11.3	2.2		15–9[g]
Mfd. consumer imports ..	13.3	28.8	2.2		39–23[g]
Vehicle imports ..	2.8	12.1	4.3		8–10[g]
Intermediate imports ..	3.8	11.4	3.0		11–9[g]
Fuel imports ..	2.3	10.8	4.7		7– 9[g]
Constr. mat. imports ..	1.6	4.7	2.8		5– 4[g]
Equipment imports ..	4.9	44.4	9.1		14–36[g]
Total exports[k] ..	44.7	125.0	2.8	5.6	
Total imports	33.9	123.6	3.6	7.0	
Balance of trade[k]	+10.7	+1.4			
Imports/GDP	(31.9%)	(25.5%)			
Direct tax revenue	4.0	19.7	5.0		18–17[h]
Export tax revenue	3.0	16.9	5.5		14–14[h]
Customs revenue	7.7	43.7	5.7		35–37[h]
Indirect tax revenue	7.1	38.0	5.4		33–32[h]
Govt. current expend. ..	22.0	79.6	3.6	7.0	
Govt. tax revenue ..	21.8	118.4	5.4	9.3	
Govt. econ. bal. (R-G) ..	.2	+38.8			
Govt. borrowing (Ig-(R-G))	5.1	15.5			
Revenue/GDP	(20.5%)	(24.4%)			
Consumption and other uses[i]	58.2	245.8	4.2	7.9(5.9)[i]	

Notes.
- (*a*) Agricultural exports at 1960-62 prices.
- (*b*) Projects continuing rise in share of value-added in value of output.
- (*c*) Includes public educational and medical services.
- (*d*) Share of GDP.
- (*e*) Approximate rate of growth to 1971, assuming 'steady-growth' rate of investment attained then. Implies 1971 gross investment about £67 mil., govt. investment £23 mil.
- (*f*) Defined only for changes from 1962.
- (*g*) Share of total imports.
- (*h*) Share of total tax revenue.
- (*i*) $GDP + M - E - I - G$.
- (*j*) Approximate rate of growth to 1971. Implies 1971 consumption about £8 mil. Note includes large increase in 1963.
- (*k*) Excluding re-exports.
- (*m*) 1962 base for projection used a number of preliminary figures. Revisions are shown in Table II-A, but have not been corrected here.

First, the central growth objective of doubling per capita income from 1966 to 1981, in conjunction with independent estimates of population increase, of the growth of non-monetary subsistence product, of the large actual GDP increase in 1963, and of likely increases 1963-1966, establish the growth target. It is to raise monetary GDP 4.6 times from the 1962 base year to 1981—from £106 to £485 million.

Next, three of the autonomous variables can be projected independently—agricultural export volume, agricultural export prices, and manufactured exports. Specifics are given in Tables V-1 and V-2, and the general rationale of these projections as the most that can reasonably be hoped for has been discussed above.[7] Similarly, many of the parameters of the model can be projected independently, either as unchanged or as following a simple time-trend. These are the parameters which are presumed to be unaffected by government policy measures or the desired shift to a high-growth path—the gross product parameters, the import parameters for commodity categories in which foreign supplies are likely to retain a strong comparative advantage, and (by assumption) the parameters specifying public and private shares in construction and equipment investment.

This leaves the other two autonomous variables—government current expenditure and the manufactured import substitution variable—and the other parameters of the model, which reflect

93

government policies and the desired shift to a high-growth path, to be adjusted to fit the 1981 GDP target. More than one combination of adjustments is possible to reach the specified GDP, and a combination must be suggested which appears reasonable in each individual adjustment as well as in the final outcome for the balance of trade and the government budget. The construction and equipment parameters are adjusted upwards as specified by the net capital-output ratios and a tentative initial estimate of the rate of growth of urban product. The import parameters for food products, manufactured consumer goods, intermediate goods, and construction materials are adjusted downward to represent a degree of import substitution which appears reasonably attainable by energetic government policies, which implies a large enough value of manufactured import substitution to attain the GDP target, and which is tentatively estimated to limit sufficiently the adverse shift in the balance of trade. Government current expenditure is projected at a rate which is consistent with the GDP target and the other autonomous variables, and which is assumed to be politically reasonable. The several tax parameters are adjusted upward, with a pattern of tax sources reflecting previous trends, by an amount which is tentatively estimated to contain government borrowing for the development budget to a reasonable level, and which restrains the rise of private income and hence domestic demands within the GDP target. Details about all the parameters are given in Table IV-1.

Computationally, once the parameters are set the reduced-form multipliers can be calculated,[8] and the projected autonomous variables determine the implied 1981 values of all the other variables, as set forth in Table V-2.

Finally, since at several points in adjusting the parameters tentative estimates of the outcome of the calculations were referred to, these tentative estimates must be checked for consistency with the calculated results. If a significant inconsistency appears, the affected parameters and the projection would have to be readjusted in a second approximation. It is also highly relevant to check that the adverse shift in the balance of trade is consistent with the rise in government borrowing for the development budget, implying that the more rapidly growing economy is pressing similarly against both the foreign exchange and the public finance constraints.

The Uganda Economy in 1981

The economy which will emerge by 1981 if this ambitious development effort is successful may be pictured in terms of the results of the projection. The estimated effects on most of the variables of the model are presented in Table V-2.

The main consequences for the structure of production are as follows:

(a) Gross domestic product in the monetary economy would be 4.6 times as large as in 1962;

(b) Urban product plus construction product would rise from 53 per cent to 65 per cent of monetary GDP;

(c) Construction is the most rapidly growing industry, expanding thirteen-fold by 1981. It is followed by manufacturing, with a seven-fold expansion;

(d) Agriculture expands more rapidly than in the past, with a three-fold increase in product, but declines in relative importance. The domestic market rises from about a fifth to about two-fifths of agricultural sales. Non-monetary subsistence product in agriculture still rises, but falls relatively from 29 per cent to 14 per cent of total GDP;

(e) Services, government, and transport expand between five and four times—more rapidly than agriculture but less rapidly than manufacturing.

This changing internal structure would be combined with a changing relationship between Uganda and the world economy:

(a) Import substitution would reduce imports from 32 per cent to 25 per cent of gross domestic product. Despite this extensive import substitution, the value of imports in all the major classes would at least double;

(b) Changes in the composition of imports by major classes would be marked. The largest changes would occur in the case of equipment (rising from 14 per cent to 36 per cent of total imports) and food and manufactured consumption goods (falling from 54 per cent to 32 per cent of total imports). In addition, the product-mix within classes would be altered. The composition of consumer goods imports would shift sharply away from non-durables;

(c) Agricultural exports would rise more slowly than manufactured exports,[7] allowing for declining export prices,

95

but would still be the main source of foreign exchange earnings;

(*d*) With exports increasing in value a little less than three-fold and imports expanding more than three-fold, the balance of trade would change adversely by about £10 million. This would require an increase in the annual inflow of foreign capital of about this amount, net of increased payments on past borrowing and any other increases in payments for invisibles.

The changing pattern of government revenue and expenditure may be summarised as follows:—

(*a*) Government tax revenue increases about five-fold, and the share of government revenue in domestic product rises from 20 per cent to 24 per cent;

(*b*) The projection assumes little change in composition of tax revenues. This depends on tax rate adjustments which more than compensate for the effects on present tax bases of manufactured import substitution, the shift toward capital equipment imports, and some decline in agricultural export prices;

(*c*) Government current expenditure nearly quadruples. It would not rise as fast as tax revenue, however, allowing for much increased government saving, as reflected in the government economic balance;

(*d*) In addition to higher government saving, however, it would be necessary to increase government borrowing from £5 million to about £15 million annually, net of carrying charges on the past debt. This increased need for finance in the budget is consistent with the increased need for capital inflow in the balance of trade.

Differences Between a 'Moderate' and an 'Ambitious' Plan

An illuminating comparison can be made with the situation which would exist if the conditions for doubling per capita income, as examined here, were *not* fully carried out. The alternative 'moderate' projection might consist of 4 per cent (the long-run trend) instead of 5 per cent annual growth in the volume of agricultural exports, 10 per cent instead of 50 per cent import substitution, a rise in the share of investment in gross domestic product to 26 per cent rather than 32 per cent, and tax rates increasing by 15 per cent

instead of 30 per cent. Such a programme could be viewed as a less demanding alternative, although it would still be a greater expansion effort than Uganda has achieved in recent years.

What would be the characteristics of such an alternative programme? Detailed tables comparable to those of the 'ambitious' projection are not reproduced here, but the main points of contrast are these:

(a) Per capita income would not be doubled, although growth would accelerate compared with the 1958-1962 experience. Monetary GDP would grow at 6.4 per cent per annum, resulting in a 50 per cent rise in per capita income by 1981 rather than the desired doubling;

(b) The change in structure of production by sector and the composition of imports would be far less striking;

(c) The small degree of import substitution would not only limit the shift toward manufacturing, but because of rising requirements for equipment could not avoid an increase in the share of imports in gross domestic product, from 32 per cent to 34 per cent;

(d) As a result of the rise in imports and the poorer agricultural export performance, the balance of trade changes adversely by about £25 million, requiring what seems to be an impossibly large increase in annual inflow of foreign capital. A greater degree of import substitution, or more rapid growth of agricultural export volume despite the effect of the International Coffee Agreement, seem to be essential conditions for sustaining even 'moderate' growth within a bearable balance of payments;

(e) Tax revenues would still rise a little faster than current expenditures, permitting some government saving. But with the expansion of government investment to £16 million in 1971 and £33 million in 1981, as required in the 'moderate' projection, government borrowing would have to rise to about £25 million annually, which again seems impossibly large. Higher taxes and more government saving also seem to be essential conditions for even the 'moderate' growth path.

A conclusion suggested by this comparison is that although the 'ambitious' growth objective is more demanding, it is also in some ways more self-sustaining. The various parts of a high-growth

programme based on structural change reinforce each other, while
the achievements which can be expected are considerable enough
to make the effort worthwhile.

Manpower and Employment

The analysis to this point has focused on expansion of output,
mobilization of capital resources, and structural changes in the
economy. Even in this initial broad view, however, it is important
to consider the place of the labour force in the 1981 perspective.

The labour force comes into the plan in two quite different
ways. On the one hand, the question must be raised whether there
will be enough educated manpower available to operate the addi-
tional capital and produce the desired outputs. In Uganda there
is likely to be a serious continuing problem, at least till 1981, of
ensuring an adequate supply, with the right quantities and types of
skill, of people with secondary and higher education. This question
is largely the province of detailed manpower and educational
planning, starting from a finer analysis of the industrial composition
of future development, and only some broad indications of the
problem can be given here.

On the other hand, the question can be reversed and posed in
the form, "Is the planned growth likely to provide enough job
opportunities to satisfy popular aspirations?" This employment
question is likely to be particularly pressing for people with primary
education or less. Here some meaningful points can be made even
in aggregative terms.

Some guidelines on prospective needs for 'Category I' manpower,
normally requiring people with university degrees or similar higher
education, if the ambitious growth objective considered here is
attained, have been prepared by Rado and Jolly.[9] The discussion
which follows simply summarises and comments on their work.
Their central calculation is that if GDP volume is to grow at 8.5
per cent per year from 1962 to 1981, as indicated in the projection,
and if a further goal of 100 per cent Ugandanisation of 'Category I'
positions is to be achieved by 1981, then the rate of increase of
entrants into university-level education from 1965 to 1978 must be
about 27 per cent per year. This would be a tremendously rapid
pace of expansion for higher education, and naturally poses sharply
the question whether the educated manpower constraint would
simply prevent attaining the high-growth objective.

Nonetheless there are reasonable grounds for believing that, provided policy-makers give a suitably high priority to easing the educated manpower constraint one way or another, the economic growth objective can be achieved with a somewhat less phenomenal pace of expansion of university education in Uganda. To begin with, one striking result of the Rado-Jolly analysis is that there is a pronounced trade-off between the desired rate of increase of, university entrants and the target percentage of Ugandanisation. The 1962 position starts with half Europeans in 'Category I' posts, and it is assumed that foreigners are entirely replaced and fill none of the increased demands. Thus keeping everything else unchanged, lowering the target to about 60 per cent Ugandanisation would reduce the calculated annual rise in entrants to about 20 per cent. Next, the manpower demand projection posits an elasticity of 1.1 between the rate of growth of monetary GDP and the rate of growth of 'Category I' manpower. This is a reasonable norm derived from a serious cross-section study of national statistical data by Professor Tinbergen.[10] But educated manpower requirements are almost surely more flexible than other factor inputs, so that in face of a shortage it should be possible to operate under pressure with less than the norm despite some loss of general efficiency. Thus if between 1962 and 1981 Uganda could get by with an elasticity of about .75, this would offer another possibility of reducing the annual rise in university entrants to around 20 per cent. Finally, it would doubtless be possible to supply some part of the demand through other channels than the present one university in Uganda—both through other specialised institutions of higher education at home and through continuing to send a proportion of Uganda students abroad.

Despite these grounds for believing that the educated manpower constraint is not insurmountable, the urgency of a truly ambitious programme for expanding Uganda's educated manpower at what may appear to be a phenomenal pace, as an integral part of a plan to double per capita incomes by 1981, is clear. Expansion of higher education in the order of 20 per cent per year is conservative, not fantastic. Manpower planning is above all the field where it is essential to have a long-term perspective in setting the activities of the next plan.[11]

Turning now to the employment problem, for people with primary education or less, the situation is quite different. As

noted in Chapter II, urban employment has declined since 1958, and construction employment since 1954. The reason for this discouraging performance was partly the retardation in growth of output and partly the continuing rise in productivity per worker. The data available are not good enough at present to be very precise as in analysing changes in productivity. It seems that output per worker in the urban sectors has risen at between 5 per cent and 6 per cent per year during both 1954-58 and 1958-1962. If this trend in productivity continues in the future, then it would take a 5-6 per cent annual increase in urban product just to maintain employment at the existing level. With greater investment and perhaps more rapidly rising wages in the future, the trend of productivity per worker might of course rise.

The employment problem is compounded by population growth. For the past decade the proportion of the total population employed in wage-paying jobs in Uganda has been declining. In the future it may be expected that the number of people aspiring to paid employment will grow faster than the total population, partly as a result of the expansion of primary education. Moreover, the economy currently provides many fewer jobs than would be desirable, in view of the number of unemployed and under-employed. Therefore for the future political leaders may well consider expansion of employment opportunities as urgent a goal as expanding output per capita. They may also examine policy measures to alter past employment-output relationships.

The desire to increase employment opportunities faster than population is another justification of the high-growth objective. Achievement of the 1981 goals would imply an annual increase of urban product of about 9 per cent per year, which should enable employment in the urban sectors to grow faster than population. Moreover, the overall employment effect depends not only on the overall growth of output and the rise of productivity within each sector, but also on the shift in composition of output between sectors. If there is a shift in output toward industries which use relatively more labour, employment will rise more rapidly. The major shift of that character which occurs in the projected pattern of output expansion is the marked growth in construction. In 1962 construction accounted for only 7 per cent of total non-agricultural output but provided 17 per cent of total non-agricultural employment. Allowing for the shift toward the construction industry, and

assuming (perhaps on the low side) that the rise in productivity in both the urban sectors and construction will average 5 per cent per year, the projected non-agricultural labour force in 1981 would be 2.9 times that of 1962. This represents a rate of growth of 5.7 per cent per year, which is over twice the projected rate of growth of population. Thus achievement of the high-growth objective for 1981, provided the trend in productivity per worker remains unchanged, might bring about a significant improvement in the employment situation, something which has not been achieved in recent years.

'*Shifting Gears*' *in the next Five-Year Plan*

If the objective of doubling per capita income is to be achieved over three plan periods, it is essential that the economy be shifted into the high-growth path during the next five-year plan. In particular, the rate of investment must be raised from the recent 15 per cent of GDP to the high-growth rate of around 32 per cent of GDP by 1971, so that the economy can continue at this pace for the remaining decade until 1981. At the same time, all of the necessary structural changes must be energetically initiated.

To accomplish this transition during the next five-year plan, as noted in Table V-2, gross investment should be expanded at about 18 per cent per year up to 1971, and then continue to rise at about 9 per cent thereafter. This rate of rise implies that cumulative gross investment during the five fiscal years of the plan should be about £230 million, and government investment about £87 million. It is an obvious question whether this amount of gross investment, with the rate rising over the period rather than doubling immediately, will suffice to support the desired rate of growth of 8.4 per cent per year during the next plan itself. The implied overall capital-output ratio during just these five years would be roughly 2.3, which is distinctly below the 'normal' 3.0 implied in the longer-term projection.[12] There are, however, reasonable grounds for hoping that this unusual performance would be possible during the 'shifting of gears' phase. The economy has been operating with reserves of productive capacity built up during the retardation period and not yet fully utilised, which can be exploited during the transition. The export boom of 1963 and 1964 has provided a cushion from which it ought to be easier to expand taxes and saving than from the depressed base of 1962. Not least, political and administrative

energies focused during the last few years on the pressing problems of the first years of independence may increasingly be allocated to the tasks of economic expansion and innovation.

The 'shifting gears' phase will involve a complex of adjustments affecting all parts of the economy. Five key points of government strategy deserve particular emphasis here:

(*a*) To expand the development budget by four or five times by 1971, and to reinforce the momentum generated by government investment by stimulating corresponding expansion of other public and of private investment;

(*b*) To make adjustments in the tariff structure, initiate a wide range of manufacturing projects by the U.D.C. and other public agencies, and adopt tax and other policies stimulating to private manufacturing, which together will be adequate to establish import substitution in food products, manufactured consumer goods, intermediate goods, and construction materials approaching 25 per cent by 1971;

(*c*) To adopt agricultural programmes capable of raising the rate of growth of all agricultural exports at least a fourth above the past long-term average, which given the International Coffee Agreement implies at least doubling exports of products other than coffee in the eight years 1963-1971;

(*d*) To adopt an educational programme expanding enrolments at higher and secondary levels at rates which, as an order of magnitude, imply doubling every three to five years;

(*e*) To initiate at the start of the plan period a schedule for raising effective tax rates about 30 per cent on the average within the first few years, while adapting the tax structure to obtain this additional revenue despite the impact on present tax bases of manufactured import substitution, a rising share of capital equipment imports, and some continuing decline in agricultural export prices.

Above all, the next five-year plan will demand a dynamic effort of imagination and leadership to dramatise to everyone involved in making economic decisions in Uganda the extensive adjustments required to make the next plan a successful advance toward 1981 goals.

Footnotes:

1 The paper on which this chapter is based was originally written jointly by Brian Van Arkadie and myself. I have rewritten it to fit into the outline of this monograph, but of course its ideas still reflect contributions from both of us. I am grateful to him for permitting me to use it here.

2 Uganda planning officials with whom we worked most closely at the time the analysis was originally prepared were John Kakonge, Director of Planning, J. Ilett, J. Waddimba, and G. Nkojo of the planning bureau, and Miss A. Martens of the statistics department. We appreciate their interest and help, but remain responsible for the judgments expressed.

3 See Chapter IV, pp. 6-7.

4 See B. Van Arkadie and P. Ndegwa, "Future Trade, Balance of Payments, and Aid Requirements of East Africa", *Proceedings, Univ. of East Africa Conference on Foreign Aid*, Dar es Salaam, Sept. 1964, for discussion of overall capital-output ratios in East Africa. See also Kenya Government, *The Growth of the Economy, 1954-62*.

5 See B. Van Arkadie, "Import Substitution and Export Promotion as Aids to Industrialisation in East Africa", *East African Economic Review*, Dec. 1964.

6 See Y. Kyesimira, "Agricultural Export Development in East Africa", *E.A.I.S.R. Conference Papers*, Jan. 1965.

7 Since the projection for manufactured exports was made, new ore reserves have been proved and copper exports are not now expected to decline.

8 The reduced form equation for GDP in the 'ambitious' projection is GDP $= 2.11$ Ea* $+ 1.82$ T $+ 2.19$ (Em $+$ Sm) $+ 1.69$ G. These GDP multipliers can be compared with those in Table IV-3.

9 E. Rado & R. Jolly, "The Demand for Manpower: An East African Case Study", *Journal of Development Studies*, March, 1965.

10 J. Tinbergen, "Financial Aspects of Educational Expansion in Developing Regions", Conference of the OECD Study Group on the Economics of Education, Sept. 1964; cited in Rado & Jolly, *loc. cit.*

11 See A. R. Jolly, *Planning Education in Developing Countries*, East African Publishing House, 1966.

12 Calculated from gross investment of £230 million, retirement of £56 million (projected at 5 per cent per year from the assumed £10 million in 1966), GDP volume rising from £142 million in 1966 to £216 million in 1971.

CHAPTER VI: THE NEW PLANS

The new development plans of the three East African countries all constitute major advances in comprehensive planning. The focus of attention has clearly been shifted from a programme of public projects to the desired growth objectives and the development activities and policies needed to attain them in the economy as a whole. The design of the new plans has also been much improved technically. Particularly with respect to the first function of a comprehensive plan discussed in Chapter I—that of making the strategic decisions about the magnitude and directions of development, using aggregative analyses and projections—the new plans are far superior to the old ones. On the other hand it is true that with respect to the third function—that of systematically selecting development activities which contribute most to attaining aggregative and sector targets, using various forms of project analysis —there has been very little advance as yet. Above all, the crucial test of plan implementation is just beginning. As of June 1965 (after one year of experience with the new plans in Tanzania and Kenya, and after the year in which the old plan was markedly expanded in Uganda), centralised organisation and procedures for supervising planned development activities throughout the governments were not yet firmly established, and use of economic policy instruments to guide decentralised private development activities was still only loosely related to plan goals. I shall examine certain aspects of plan implementation more fully in the next chapter.

Of course these generalisations about the new plans apply in somewhat varying degrees to the three countries, and are judgments expressed as of June 1965. The Tanzania five-year plan for 1964/65-1968/69 has formally been in operation for one year, but content adjustments and implementation arrangements are still being made. The Kenya six-year plan for 1964/65-1969/70 has also had one year of operation, but it was intended to be adjusted and filled out in a new plan for the last five years, and this revision will probably appear towards the end of 1965. The Uganda five-year plan for 1966/67-1970/71 will not appear until 1966, so comments at this time can be based only on a few public statements about the initial draft framework for the new plan and on implementation arrangements during the final two years of the much-expanded old

plan. Let us now turn to examining the new Tanzania and Kenya plans in some detail.

The New Tanzania Plan

The Tanzania five-year plan for 1964/65-1968/69 is dramatically more comprehensive and more ambitious than the previous plan discussed in Chapter III. A sense of the change in character of the plan may be obtained from statements by the Minister of State for Development Planning in introducing it:

> The Five-Year Plan 1964/69 differs from previous plans in so far as it is the first comprehensive and long-term plan. It can be termed a comprehensive plan because all the sectors of activity, Public and Private, Economic and Social, National and Regional are involved in the development effort and have been assigned objectives, the technical and economic feasibility of which has been checked in advance ... The planning method can be said to be long-term because it has framed the Five-Year Plan as a first stage within the longer perspective which embraces by 1980 a vision of Tanganyika as a nation of 14 million inhabitants enjoying twice the present average individual income, an expectancy of life at birth of 50 instead of the present 35 to 40 years, and a level of education qualifying all those needed to fill the main positions in the country ... It is firstly a guide which enables all those involved in the development of the country to play their part to the full in harmony with their fellow citizens to their own benefit as well as that of the community as a whole. Secondly, it is a touchstone for gauging progress in the various sectors of the economy and thus a means of discovering in time any corrective steps that may be necessary to restore balanced development. Finally, it constitutes for the Government a means of assessing the probable consequences of a political or administrative decision on the pace of development.[1]

Some of these statements may be rather sweeping, but they aptly characterise the transition in the approach to development planning which has been undertaken.

Preparation of the plan involved four main stages, extending over something more than a year. First, a tentative structure of the economy in 1980 was estimated, if certain socio-economic goals were to be attained, notably doubling of per capita product.

106

From this long-term projection intermediate objectives for the successive five-year plans were derived. Second, 'maximum feasible' sector production targets for 1970 were estimated. In the case of agriculture, these were estimated product by product in consultation with Regional Development Committees, and the outcome was to raise initial estimates. In the case of manufacturing, alternative targets depending on the degree of import substitution (within the East African Common Market as well as in external trade) were estimated. Investment requirements were estimated from adjusted past capital-output ratios, and discussions were held with the Chambers of Commerce about private investment intentions and goals. Third, ministry development expenditure proposals, initially drafted without financial ceilings, were adjusted in the light of three estimated constraints: sustainable tax-financed current expenditures in the government budget, assuming steady improvement in efficiency of the civil service in implementing development activities; attainable foreign and domestic borrowing, allowing for debt service; and overall high-level manpower requirements, implying the residual needs for expatriate personnel. The projected structure of the economy in 1970 was then estimated so as to accommodate all of these elements in what was judged to be an attainable pattern. The resulting outline plan was approved by the government. Fourth, government ministries, the Chamber of Commerce, and the Regional Development Committees were informed of the targets and expenditures indicated in the outline plan, and asked to prepare and submit specific development activities consistent with the outline. The ministries' projects were then embodied in the final plan as approved by the Government.[2]

Consistency of all these interdependent estimates was checked, as is commonly done in practice, by a process of successive approximations, working simultaneously from the supply and the demand sides. Two main statistical tables were used: a uses-resources table for a lengthy list of major products and sector outputs, and an aggregative financial income-expenditure table including external transactions.[3] The interconnections among the sector output projections to 1970, the estimated 1970 balance of payments, the investment needs over the five fiscal years, and government recurrent revenues and expenditures in the final year are not fully presented in the published plan, however. An explicit statistical projection model of the sort discussed in Chapter IV was not used, but in the

next section I shall apply the model to the official plan in an attempt to bring out some of these interconnections.

The main features of the new Tanzania plan, in quantitative plans, are summarised in Table VI-1. Similar tables will be examined in later sections for Kenya and Uganda. Tanzania hopes to accelerate the annual rate of growth of monetary gross domestic product, in constant prices, from about 5 per cent during the recent period of retardation to something in the order of 8 to 9 per cent. Since agricultural export prices are assumed, perhaps optimistically, to remain higher than in the 1960-62 base period, the rate of growth in current prices is a little higher. This is clearly an ambitious objective, but is actually not far above the performance of the economy during the previous period of rapid growth in the mid-fifties, and during the export boom of 1963 and 1964. There is a good deal of emphasis in the plan on structural changes associated with industrialisation, but if we examine monetised activities, as in the table, agricultural product is projected to accelerate nearly as much as urban product. In an economy in which agriculture has the weight it has in Tanzania, an ambitious overall growth objective must involve acceleration of agricultural expansion even if industrialisation is particularly emphasised. The plan does not specify the rise in urban employment which is expected to result, but unless the disappointing experience during the 1963-64 export boom can be altered, insufficient job creation may well be a problem.

Table VI-1. Tanzania: Features of the New Plan.

	Recent Past or Old Plan[a]	Future Est. or New Plan[b]
GDP volume (growth rate, %)	+5.2	+8.5
GDP monetary (growth rate, %)	+5.9	+8.8
Ag. product (growth rate, %)	+5.5	+7.3
Urban product (growth rate, %)	+6.2	+8.8
Urban employment (growth rate, %)	−0.8[c]	n.s.
Gross investment (£ mil.)	£24.4	£85.0
Invest./GDP volume (%)	20%	33%
Capital—output ratio	2.6—2.8	2.3[i]
Govt. investment (£ mil.)	£ 9.5	£32.0
Other public invest. (£ mil.)		£23.6[f]
Private investment (£ mil.)	£14.9	£29.4[f]
Govt. devel. expend. (ann. ave., £ mil.)	£6.8	£14.5[g]
Development/GDP volume (%)	5.8%[d]	7.4%[g]
Foreign finance (ann. ave., £ mil.)	£5.0[e]	£11.3[h]
Domes. finance (ann. ave., £ mil.)	£1.8[e]	£3.2[h]

The plan anticipates that gross investment will have to increase about three and a half times by 1970 in order to support the accelerated expansion of the economy, and that the rate of investment will have to go up from around 20 per cent of GDP in the recent past to over 30 per cent. Again this is an ambitious objective, though still not far above the peak investment rates in the mid-fifties. The composition of planned investment is notably different from the past, however, with central government investment, and particularly other public investment by such agencies as the National Development Corporation and the National Housing Corporation, projected to expand much more rapidly than private investment (even though the latter doubles). The strains within government of this changed pattern will doubtless be significant. The implied overall capital-output ratio over the five years is still moderately below that in the past.

Looking at the central government's own development expenditures, they are projected approximately to double as an annual rate during the new plan compared to the old plan, and to rise as a share of GDP from under 6 per cent to about $7\frac{1}{2}$ per cent. But in addition about two-fifths of the burgeoning investment by other public agencies is expected to be provided by the central government, and if this is included the share of GDP for the development budget

109

rises to over 10 per cent. The new plan assumes that nearly four-fifths of the finance for the development budget can be obtained as foreign grants and loans, which is similar to the proportion in the past but implies an absolute rise from about £5 million a year to about £16 million, including government participation in other public agencies.

The projected sector composition of total gross investment during the plan period is summarised in Table VI-2. Considering the five broad groups of sectors outlined in the table, the largest share—over 35 per cent—is projected for directly productive non-agricultural sectors such as manufacturing and commerce. This is in line with the emphasis in the plan upon industrialisation, and it may be noted that even with the substantial role anticipated for public agencies the principal form of this investment is expected

Table VI-2: Tanzania Development Plan, 1964/65-1968/69: Composition by Economic Sector and Type of Organisation. (£ th.)

	Total	Central Government	Other Public Agencies	Private Enterprises
Agriculture	25,509	14,055[a]	3,054[a]	8,400
Livestock and Fishing				
Land and Water Settlement	11,906	11,006	900	
Forests	1,023	923	100	
Game and Tourism	1,681	417	273	991
Mining and Mapping	5,300	400	1,800	3,100
Manufacturing	51,370	200	6,570	34,600
Commerce and Coops.	31,811	372	2,930	28,509
Credit	b		b	
Electric Power	7,064	64	7,000	
Roads	13,350	12,050	1,300	
Railway	15,540	40	15,500	
Airports	2,721	1,221	1,500	
Posts and Telecommunications	1,000		1,000	
Education	18,133	14,333	3,400	400
Health	6,205	1,805	1,400	3,000
Social Services	3,829	2,429	1,100	300
Information	400	400		
Housing	41,748	5,448	19,300	17,000
Defence and Police	5,210	5,210		
Administration	2,000	2,000		
Local Government	200		200	
TOTAL	246,000	72,373[c]	77,327[d]	96,300

110

Notes:

(*a*) Total of £17.1 mil. for central government and public agencies is allocated £10.2 million for transformation activities associated with irrigation and resettlement, £6.9 million for improvement activities in existing agriculture.

(*b*) Co-operative Bank lending of £7.5 million is distributed among producing sectors.

(*c*) Total for central government excludes £29,627 th. contribution to public enterprises.

(*d*) Total for other public agencies includes £29,627 th. for Co-operative Bank, TANESCO, N.H.C. and T.D.C./T.A.C. provided by central government, £19,700 th. provided from own resources, £10,000 th. for local government, £18,000 th. for E.A.C.S.O. agencies.

Source: Tanzania Government, *Tanganyika Five-year Plan for Economic and Social Development, 1st July, 1964—30th June, 1968.*

to be by private enterprises. The next largest share—a little under 30 per cent—is allotted to education and welfare services, but notably to housing, the bulk of which is expected to be organised under public auspices. Economic infrastructures and directly productive investment in agriculture are projected to have shares of something over 15 per cent each, while general government services are allotted less than 5 per cent.

The percentages just noted are of course shares of total gross investment, including that by other public agencies, which is financed to some degree autonomously, and by private enterprises, which despite consultations while the plan was being drafted remain largely hopes of future investment decisions. A comparison with the old plan can only be made for the central government's own development expenditures, by comparing Table III-4 in Chapter III with Table VI-9 later in this chapter.[4] There are two notable increases in emphasis in the central government's new programme. Agriculture is given a share of about 36 per cent, compared to 21 per cent in the old plan; while education and welfare activities receive a share of about 34 per cent, compared to the earlier 20 per cent. Thus even though only a modest part of total gross investment is expected to flow into agriculture, the central government's own development activities in agriculture are to be expanded dramatically—from about £1.8 to about £5.2 million per year. The shares of other groups of sectors are correspondingly reduced. Among the economic infrastructures, even a smaller share for roads still constitutes an absolute rise of about a third in planned annual expenditures, but the allocation to general government services is reduced both relatively and absolutely.

The anticipated pattern of financing of the new Tanzania plan is indicated in Table VI-3. As noted above, the proportions of foreign and domestic finance which are hoped for—78 per cent and 22 per cent—are similar to those in the old plan, but including central government contributions to other public investment, the absolute values are about three times as high on an annual basis. Since the plan estimates that about half the central government's expenditures will be for local costs rather than foreign exchange costs, if the plan is to be carried out it will clearly be necessary either for foreign grants and loans to cover a substantial portion of local costs of projects, or for the share of domestic finance to be raised.

Table VI-3. Tanzania Development Plan, 1964/65-1968/69: Planned Financing
(£ mil.)

	Central Government	Public Agencies	Private Enterprises
Taxation	8.6	3.4	—
Other domestic revenue	—	5.0a	72.0
Domestic borrowing	13.9	10.6b	4.0
Percentage domestic	22%	40%d	79%
Foreign grants	8.0	—	3.4
Foreign loans	71.5	28.7c	16.9
Foreign assistance in negotiation	e		
Balance not covered	e		
Percentage foreign	78%	60%d	21%
Sub-total	102.0	47.0	
Central government contribution	—29.6	+29.6	
Total	72.4	77.3	96.3

Notes:
(a) Includes £4.0 mil. self-help by local government, £1.0 mil. operating surpluses of public enterprises.
(b) Includes £2.6 mil. by local government, £8.0 mil. by public enterprises.
(c) Includes £18.0 mil. by EACSO agencies, £10.7 mil. by public enterprises.
(d) Excluding local government, percentage domestic is 24%, percentage foreign 76%.
(e) Not specified in published Plan.
Source: See Table VI-2.

The manpower analysis in the published plan implies that the problem of obtaining sufficient numbers of high-level personnel, normally requiring secondary, post-secondary, or university education, should be manageable. A vigorous programme of government

action is outlined along four lines: systematic job analyses to improve utilisation of present personnel; expanded in-service training schemes; expanded formal education, including doubling Form 4 leavers and quadrupling Form 6 leavers over the five years; and energetic recruitment of additional expatriates for residual shortages. But with these actions the projection is that the gap between supply and demand of secondary leavers will be substantially narrowed, if not closed, and that the shortage of Tanzanian university graduates—about half the demand—can be filled by a practicable rise in hiring of expatriates. Thus for staff, professional and administrative posts in the government, a position of roughly 250 Tanzanians, 600 expatriates, and 300 vacancies is projected to become one of roughly 800 Tanzanians and 700 expatriates. Given the somewhat flexible nature of the educated manpower constraint, whether this analysis is on the optimistic side or not is difficult to judge prior to the test of experience.

Analysis of the New Tanzania Plan using the Projection Model.[5]

An intriguing exercise is to use the statistical projection model developed in Chapter IV to make a 1970 projection of the Tanzania economy, trying to make the same assumptions about autonomous demand and parameter changes as in the official plan, and then to compare the model projection with the 1970 estimates in the published plan. In principle, a statistical projection model of the sort presented here should permit a more comprehensive and explicit test of internal consistency. In practice, given the imperfections of the model, I can only hope that comparing the model with the plan will be informative and suggestive. It may bring out some of the implicit interconnections within the economy not spelled out in the published plan, and perhaps suggest some likely problems of implementation.

The assumed conditions for the model projection are summarised in Table VI-4, along with certain implications for their orders of magnitude, in comparison with the past. These assumed conditions are extracted in so far as possible from the published plan, though to get them in the form needed for the model involved a variety of inferences, some of which may be doubtful. The projections for agricultural export volume, agricultural export prices, government expenditures, and mineral exports are reasonably straightforward. The plan implies that the volume of agricultural

113

exports will grow more rapidly than in the period of retardation and than in 1963-64, but in line with the longer run trend. It assumes that export prices will be comparatively favourable—about 6 per cent above 1962 levels in 1970. It projects that the rate of rise of government expenditures will be markedly restrained, compared to the free-wheeling period of export boom, and as noted above, that there will be a steady rise in efficiency of the civil service in implementing development activities. Finally, mineral exports are expected to grow more slowly than in the past.

Table. VI-4. Assumed Conditions for Tanzania 1970 Projection Using Model.

Condition	*Implications*
1. *Agricultural export volume* increases as stated in Plan for production of 8 major crops, less estimated domestic use of sisal and cotton; other ag. exports projected in same proportion.	Rate of increase 5.7% p.a., compared to 2.5% 1958-62, 5.7% p.a. from 1954/55 ave. to 1962/63 ave.
2. *Agricultural export prices* remain above 1962 for 8 major crops, as stated in Plan. Fall of 1% p.a. assumed for other ag. exports.	Price index for 8 major crops is 106, above 1962 for all but cotton. Compares with no significant price trend 54/55 ave. to 62/63 ave.
3. *Government current expenditure* increases 4.6% p.a. from 1964/65, as stated in Plan.	Rate of increase over entire period is 6.7% p.a., because of marked increases in last two years.
4. *Manufactured exports* increase as stated in Plan for production of minerals; other exports, largely inter-territorial, assumed from Plan figures for major industrial projects.	Rate of increase 6.8% p.a., lower than 1958-62 because of limited known mineral resources, despite assumed inter-territorial exports of manufactured products.
5. *Import substitution* replaces 33% of imports of food, manufactured consumer goods, vehicles; 40% of construction materials, intermediate goods; 20% of fuels; none of equipment. Based on output values of manufactured products stated in Plan, reduced for intermediate goods to assumed maximum 40% substitution, reduced for fuels to reflect large crude oil content of local refining.	Substitution compares with roughly 12% for all imports combined over 8 years 54-62. Imports replaced are about £13 mil. at 1962 level of GDP, about £27 mil. at 1970 level; note includes inter-territorial as well as foreign imports.
6. *Capital formation* increases to 32% of real GDP by 1970. Based on relationships in model which approximate a capital-output ratio of 2.7 around 1970 and a retirement rate of 7% of GDP.	Share of capital formation compares with 21% in 1962, 29% in 1954, 33% for 1970 stated in Plan. Capital-output ratio around 1970 is similar to 2.6 1954-58 and 2.8 1958-62. Because snare of capital formation rises gradually, implicit capital-output ratio during five years of Plan 1964/65 to 1968/69 is about 2.3.

114

7. *Tax rates* rise in line with trend for customs duties (about 30% rise despite changed import mix), are raised by 1963 sisal and coffee export taxes, are unchanged for direct and indirect taxes.

Share of revenue in GDP rises slightly, compared to Plan assumption that revenue rises about 2/3 of rate of GDP.

The assumed conditions for import substitution were more difficult to establish from the published plan. The plan provides a detailed list of expected manufactured products in 1970, specifying both value of output and value added, but after allowing for present output and guessed interterritorial exports from some major projects like the Land-Rover plant, the remaining output still implied what seemed an implausibly high degree of import substitution. In particular, the expected output of intermediate goods appeared to involve more than 100 per cent substitution for this category of imports. Therefore in the model projection, import substitution in intermediate goods has been assumed to be (only) 40 per cent. For other categories of substitutable imports, the corresponding proportions are 40 per cent, 33 per cent, or 20 per cent, which are roughly consistent with the expected outputs of those products listed in the plan.

The investment parameters adopted for the model projection imply that capital formation must rise to about 32 per cent of GDP volume by 1970—half again as high a proportion as in the recent past. This is in line with the plan, as discussed above. It may be noted that the 2.7 capital-output ratio in 1970 is in line with Tanzania's past experience, but because the plan projects a gradual rather than an abrupt rise in the share of investment, the implicit capital-output ratio over the five fiscal years 1964/65 to 1968/69 is lower—about 2.3.[6]

On the other hand, the tax parameters used in the model projection are consciously set higher than those indicated in the plan. The published document does not give any revenue estimates, but suggests in the text that revenue is likely to rise at only about two-thirds the rate of growth of GDP. If this assumption were adopted, the model would surely project an excessively large expansion of private income and demand. For the projection, therefore, it is assumed that effective rates of customs duties continue to go up in line with the recent trend, while the other tax parameters are unchanged.

Turning now to the results of the 1970 projection, the projected

115

values for most of the variables of the model are set forth in Table VI-5, with comparisons wherever available to the official plan. Generalising very broadly, the model gives a similar picture of expected developments in the Tanzania economy by 1970, if the assumed conditions stated in the plan are realised. This is hardly surprising, unless either the model or the plan were very ineptly put together. Let us examine the comparison in more detail, however, to see if any suggestive points emerge.

Table VI-5. Comparison of 1970 Projection Using Model and Official Tanzania Plan.

	Model Projection		Plan Projection	Rates of growth[c] or shares of appropriate totals (%)	
	1962[i] (mil. £)	1970 (mil. £)	1970 (mil £)	Model Projec.	Plan Projec.
GDP, monetary	123.3	286.9	264.6[b]	+9.9	+8.8
GDP volume[a]	124.7	282.1	259.8	+9.5	+8.5
Agricultural product[a]	48.5	94.6	86.5	+7.7	+7.3
Urban product	68.2	155.2	154.8	+9.6	+8.8
Construction product	8.0	32.3[d]	e	+16.7	+12.7
Manufacturing product	15.4	46.6	e	+13.1	+11.1
Services product	18.4	42.0	e	+9.6	+8.4
Government product	17.3	32.6[d]	e	+7.3	+8.0
Transport product	15.7	31.0	e	+7.9	+8.5
Gross investment	26.8	91.6	85.0	+14.6	+14.6
Construction	14.1	49.7	f	+15.0	f
Equipment	12.7	41.9	f	+14.2	f
Government investment	10.4	36.3	32.0	+14.9	+18.4
Investment/GDP volume	21%	32%	33%		
Agric. export volume[a]	46.8	77.4	f	+5.7	f
Agricultural exports	45.4	82.2	f	+6.8	f
Manufactured exports	8.2	14.8	f	+6.8	f
Manufactured import substitution[g]		27.1	f		
Food imports	10.2	15.6	f	20–15%	f
Mfd. consumer imports	18.9	28.9	f	37–28%	f
Vehicle imports	3.5	5.3	f	7–5%	f
Intermediate imports	3.7	11.2	f	7–11%	f
Fuel imports	3.9	7.1	f	8.7%	f
Constr. mat. imports	3.7	8.9	f	7.9%	f
Equipment imports	7.6	25.3	f	15.25%	f
Total exports	53.6	97.0	95.0	+6.8	+6.8
Total imports	51.5	102.3	100.0	+8.0	+7.5
Balance of trade	+2.1	—5.3	—5.0		
Imports/GDP	(42%)	(36%)	(38%)		

Direct tax revenue	5.8	13.3	f	25–23%	f
Export tax revenue ..	0.1	1.7	f	0–3%	f
Customs revenue	9.2	23.5	f	39–41%	f
Indirect tax revenue ..	8.3	19.0	f	35–33%	f
Govt. current expenditure	19.6	35.4	35.0	+6.7	+5.6
Govt. tax revenue	23.4	57.6	37.9	+10.5	+5.3
Govt. econ. bal. (R-G) ..	3.8	22.2	2.9		
Govt. borrowing (I-(R-G))	6.7	14.1	29.1		
Revenue/GDP	19%	20%	14%		
Consumption and other uses[h]	74.7	165.2	145.1	+9.2	+7.4

Notes:
(a) Agricultural exports at 1960-62 prices.
(b) Calculated from GDP volume by adding additional value of agricultural exports due to higher prices, as estimated in Model.
(c) Rates of growth for Model are calculated as if over 9 years, for closer comparability with Plan. Because of new base-year estimates, Plan figures for 60-62 average are close to previous official figures for 1962 used in Model. Model projection largely uses absolute figures from Plan in projecting autonomous variables, so its projection 62 to 70 is comparable to Plan projection 60-62 to 70.
(d) Projects continuing rise in share of value-added in value of output.
(e) Absolute figures within non-agriculture aren't comparable because of differences in base-year estimates and definitions. Rates of growth are presumably less affected by these base-year differences.
(f) Not specified in published Plan.
(g) Defined only for changes from 1962.
(h) GDP + M − E − I −G.
(i) 1962 base-year figures include some preliminary estimates; they are corrected in Tables II-B and II-2, but not in projection.

First, the model projection indicates a somewhat higher GDP and consumption than does the plan, even though the plan already specifies an 8.5 per cent of growth. Since GDP in the model is fundamentally a measure of demand, this suggests that the anticipated 1970 investment rate and import substitution (even after the latter has been pruned as indicated above) may be so high as to threaten some excess demand pressure. This prospect is made more likely on the supply side by the implicit low capital-output ratio over the entire interval between 1962 and 1970, though present under-utilisation of capacity might permit the low ratio. If this implication should prove correct, i.e. if the economy actually presses against the constraint of domestic saving plus capital inflow, what would be needed to bring demand and supply into closer balance would be either less import substitution and greater foreign capital inflow, or more severe tax restraint on private consumption demand.

Second, the model projection suggests somewhat greater divergence among sector rates of growth outside agriculture than

117

does the plan. In particular, I think it is a valid inference that the construction sector will have to grow more rapidly than the plan projects, if the share of investment in GDP is raised as much as assumed, and particularly if government investment expands more rapidly than private investment.[7] In many respects this leading role for construction can be helpful in the development process. Expanding construction doesn't demand great technological innovation, does open up opportunities for domestic production of construction materials, and is likely to have a comparatively favourable effect on employment opportuntities.

Third, the composition of imports (which is specified in the model projection but not in the published plan) is likely to change dramatically under the combined influence of differential import substitution and differential growth of domestic demand for the various categories of goods. Thus the share of the three categories of consumer goods imports may be expected to drop from two-thirds to half of the total, the share of intermediate goods (despite extensive import substitution) to rise, and the share of capital equipment imports to jump from 15 per cent to 25 per cent. In addition to our intrinsic interest in the composition of imports, we may note that this shift from presently high-duty imports to presently low-duty imports will raise a need for adjusting the customs structure substantially, if tax revenue from this source is to be maintained and indeed increased relative to total value of imports.

Fourth, 1970 total exports, total imports, and balance of trade in the model projection are remarkably similar to those in the published plan. They imply an increased need for inflow of foreign capital, net of changes in invisibles and carrying charges on past inflows, of less than £10 million. If these non-merchandise transactions are as projected in the plan, and if the foreign capital inflows both public and private follow the hoped-for pattern indicated in Table VI-3, the foreign exchange constraint would be readily satisfied. If excess demand pressure rises, however, and import substitution is less than hoped, the needed capital inflow would be larger.

Fifth, because of the altered assumptions about tax parameters (noted above), the model projection indicates much larger 1970 tax revenue than is suggested by the text of the plan. Whereas the plan text mentions an elasticity of tax revenue relative to GDP of about two-thirds, which would imply a marked fall in the share of

118

taxes in GDP, the model projects a rise from about 19 per cent to about 20 per cent. Correspondingly, the model projects a substantial rise in government saving out of tax revenues, and a residual rise in government net borrowing of something less than £10 million, roughly in line with the negative shift in the balance of trade. On the other hand, the implication of a revenue elasticity of only two-thirds is that government net borrowing would have to rise to the range of £20-25 million, and the government's financial deficit would be much larger than the economy's trade deficit. In that case the government finance constraint would be much tighter than the foreign exchange constraint, and in actuality would almost surely prevent attainment of the growth objective. It seems clear that if the plan is to succeed, the government will have to take action to raise the elasticity of the tax structure substantially.

To sum up, the new Tanzania development plan is an 'ambitious' plan compared with the past, which appears on the basis of the analysis here to project a broadly feasible pattern of accelerated growth and structural change. Actual achievement of its ambitious objectives will depend on realising in practice a wide range of conditions, assumptions, and policies, as noted in this section and the last. Whether performance will come up to the plan in all these respects remains to be seen. But the plan itself lays out a reasonable approach to attaining its objectives.

Looking at the four potential constraints distinguished in previous chapters, government finance and educated manpower seem to me distinctly the most worrisome. The model projection brings out that revisions in the tax structure to raise the share of taxes in GDP, combined with realisation of the plan's assumption that the rise of government current expenditure will be held down, are essential to provide a sufficient domestic contribution to the development budget. However, a 1964/65 contribution of £2 million from general recurrent revenue could not be continued for 1965/66, though a hastily drafted special development levy of 5 per cent on personal incomes above £120 and on most agricultural cash crops was to be instituted in its stead.[8] Moreover, the divergence noted earlier between the roughly fifty per cent share of local costs in planned development expenditures and the roughly twenty per cent share of anticipated domestic financing was a major issue in foreign aid negotiations during 1964/65; the arrangements made during the year with the United Kingdom and with

119

China fortunately did extend to some local costs (provided suitable Chinese goods can be imported). It seems inevitable that problems of raising sufficient government finance from domestic or foreign sources will continue to be extremely pressing throughout the plan period.

With respect to high-level manpower, though the plan outlines a set of actions expected to adjust supply to demand over the plan period, the experience during 1964/65 indicates that the manpower constraint is currently very tight. The constraint seems to be taking the narrower form discussed in Chapter II—a shortage of experienced government officials first to prepare detailed development projects and then, when finance is obtained, to implement them at the expected pace. Whereas the budgeted development expenditure during 1964/65 was £22.1 million, including £7.8 million of projects carried over from the previous plan, the revised estimate of expenditure is £10 million, and the final figure may well turn out to be less. The budgeted figure of £31.2 million for 1965/66 seems even farther beyond what the government can carry out, though a rise even to the range of £14-15 million would still constitute an increase of about 2½ times over the last year of the old plan. It seems almost certain that high-level manpower will be paired with government finance as the second critical constraint on implementation of the new Tanzania plan.

The New Kenya Plan

The Kenya six-year plan for 1964/65-1969/70 similarly constitutes a significant advance over the previous plans examined in Chapter III, though it is in essence transitional. A sense of its broader approach to development planning may be obtained from the following statements in the opening chapter:

> The Government of Kenya is dedicated to the creation of a democratic African socialist Kenya: *democratic* because it will be a free society in which there will be no place for discrimination by race, tribe, belief, or otherwise; *African* because the nation must grow from indigenous roots, adapting the best from other cultural systems; *socialist* because all people have the right to be free from economic exploitation and social inequality. . . . A fundamental characteristic of African socialism is its strong commitment to central economic planning as the organisation and technique for marshalling

120

the nation's resources in efficient pursuit of Government's economic and social objectives. Planning is intended to co-ordinate activities in the private and public sectors, to ensure that actions in each sector complement those in the other, and to influence development in both sectors for the common good. To fulfil its purpose the planning organisation must perform a series of inter-related functions: (1) Develop factual and functional knowledge of the economy. . . . (2) Specify and analyse targets. . . . (3) Formulate plans and policies. . . . (4) Co-ordinate and communicate plans. . . . (5) Implement the plan and evaluate its operation. . . . (6) Promote revision and flexibility. . . . In the light of the above criteria for compre-hensive economic Planning, the present Development Plan is not a final product. . . . Nevertheless, . . . this Plan is the result of a decision that some general guide lines must be laid down during the Government's first year in office.[9]

The interim nature of the published plan must be kept in mind in our analysis in this section and the next. A revised plan for the last five years of the period is being prepared, and will probably be issued towards the end of 1965. On the one hand, the published plan is less fully worked out than the revision may be expected to be. While its scope is the evolution of the economy as a whole, public development activities are specified in less detail for the last three years than for the first three, private investment is treated aggregatively, and the economic analysis is formulated in terms of implications of the plan rather than in terms of objectives from which the plan is derived. On the other hand, the growth targets in the published plan are to be raised somewhat (a 6.2 per cent rate of growth has been announced) and the content of the plan adjusted in various directions during the revision. The analysis below perforce refers to targets and expenditures as initially published.

The main features of the new Kenya plan, in quantitative terms, are summarised in Table VI-6. Kenya hopes to accelerate the annual rate of growth of GDP volume from about $3\frac{1}{2}$ per cent during the years of retardation 1958-62 to about 6 per cent in the future. Recalling the adjectives used in Chapter V to characterise the two alternative projections for Uganda, this growth objective may reasonably be described as 'moderate' rather than 'ambitious'. Though its achievement would constitute a significant acceleration

121

over the 1958-62 period, it is distinctly lower than Kenya's performance during the mid-fifties, and a little lower than Kenya achieved during 1963 and 1964 (as well as lower than Tanzania and probably Uganda hope for). Since the plan assumes that agricultural export prices in 1970 will have fallen again to 1962 levels, the projected rate of growth of monetary GDP at current prices[10] is also about 6 per cent. Surprisingly, the plan projects a slower rate of growth of urban product than of agricultural product, and correspondingly, a slight decline in the share of urban product in GDP as a whole. This pattern derives, on the one hand, from the judgment that agriculture must continue to be the foundation of the economy in the immediate future, and deserves highest priority in allocation of resources for development, and on the other hand, from the judgment that changing trade patterns within the East African Common Market will sharply reduce future expansion of manufactured exports. I shall comment further on this point in examining the results of the model projection in the next section. Nonetheless the plan projects rising urban employment at about $2\frac{1}{2}$ per cent per year, which in turn implies that urban product per man employed will go up at only 3 per cent per year in the future, about half the 5-7 per cent experienced in the past. This estimate unfortunately seems over-optimistic, and a much more rapid growth of urban product is likely to be necessary to have the desired effect on urban employment.

Table VI-6. Kenya: Features of the New Plan.

	Recent Past or Old Plan[a]	Future Est. or New Plan[b]
GDP volume (growth rate, %)	+3.5	+5.7[k]
GDP monetary (growth rate, %)	+3.9	+5.7[k]
Ag. product (growth rate, %)	+3.6	+6.8
Urban product (growth rate, %)	+4.5	+5.5
Urban employment (growth rate, %)	+0.0	+2.5
Gross investment (£ mil.)	£33.3	£66.0
Invest/GDP volume (%)	19%[c]	23%
Capital-output ratio	2.9–4.6	3.2[i]
Govt. investment (£ mil.)	£11.1	£16.2[f]
Other public invest. (£ mil.)	£1.7	£10.8[f]
Private investment (£ mil.)	£20.5	£39.9[f]
Govt. devel. expend. (ann. ave., £ mil.)	£8.8[d]	£10.3[g]
Devel./GDP volume (%)	5.3%[e]	4.5%[g]
Foreign finance (ann. ave., £ mil.)	£8.4	£9.0[h]
Domes. finance (ann. ave., £ mil.)	£0.4	£1.3[h]

The plan anticipates that gross investment in 1970 will have to be about twice as large as in 1962 in order to support this rate of growth of GDP, with the rate of investment rising from 19 per cent (but only 15 per cent in 1963) to about 23 per cent. Unlike the intention in Tanzania, public investment and private investment are projected to expand in approximately their recent proportions, but as in Tanzania, investment by other public agencies, such as the Tana River Development Corporation and the Development Finance Company of Kenya, is to be expanded more than central government investment. The implied overall capital-output ratio over the six years of the plan is about 3.2 (using the same retirement calculations as for Tanzania and Uganda); this is slightly above 1954-58 but of course much below 1958-62 when existing excess capacity was built up.

Turning now to the central government's own development expenditures (excluding Settlement), they are projected to rise only moderately, from an annual average of £8.8 million under the previous plan (or higher including contractor-financed roads) to an annual average of £10.3 million under the new plan (though the latter average consists of lower expenditures at the beginning

123

and higher expenditures at the end). As a share of GDP they fall from about $5\frac{1}{2}$ per cent to about $4\frac{1}{2}$ per cent. Thus the new Kenya plan does not rely on increased central government development activities to take the lead in raising overall investment and, accelerating expansion of the economy as a whole. However investment by other public agencies *is* expected to play a leading role, particularly electric power investment on the Tana River, and private investment is expected to recover and maintain its recent share of the total. The plan assumes that nearly 90 per cent of the central government's development budget can be financed from foreign sources, which is little different from the past.

There is a special problem in interpreting central government development expenditures for Kenya because of the extraordinary Settlement programme. The figures in the tables here exclude all Settlement expenditures, both for purchase of land and for investment needed to shift from large-scale to small-scale farming, and also Land Bank lending for other land purchases. This adjustment seems clearly appropriate for comparability with the previous plan and with the other two East African countries. The Settlement programme has highly valuable social and political effects, but economically it consists essentially in financial transfers for land purchase and in replacement investment which hopefully will at least maintain previous levels of output. Fortunately the foreign finance for Settlement is presumed to be entirely supplementary to finance for the regular development budget. Nonetheless the Settlement programme surely is a major focus of attention of Kenya political leaders and government officials, and the fact that it is proceeding concurrently with the basic development programme analysed here must be kept in mind.

The projected sector composition of central government and other public investment during the plan period is summarised in Table VI-7. Since the published plan, as an interim document, does not estimate the expected sector composition of private investment, it is not possible to draw overall comparisons with the old plan or with the new Tanzania plan. Comparisons can be made on a reasonably standard basis for the central government's own development expenditures, however, by referring to Table III-4 in Chapter III and Table VI-9 below. This shows that, comparing the new Kenya plan with the old one, the share of agriculture broadly defined is raised from 35 per cent to about 47 per cent, and the share

of education and other welfare services from 13 per cent to about 22 per cent. The rise for agriculture of course reflects Kenya's general emphasis upon agricultural expansion as the basis for more rapid economic growth, and the rise for education reflects the plan's recognition of the urgency of increasing supplies of high-level manpower. Correspondingly, the shares of planned expenditure on economic infrastructures and on general government services are reduced in the new plan, and the absolute amounts as well. The planned average annual expenditure on roads, as a notable instance, is less than half that in the old plan (including contractor-financed roads). It may be recalled that this shift in sector pattern of development expenditures between the old and the new plans is broadly in the same directions as in Tanzania; after the shifts Kenya is still spending relatively more on agriculture and less on education and welfare services, as in the past.

Table VI-7. Kenya Development Plan, 1964/65-1969/70: Composition by Economic Sector and Type of Organisation. (£ th.)

	Total	Central Govt.	Other Public Agencies	Private Enterprises
Agriculture	10,206[a]	6,740[a]	3,466	
Livestock and Fishing	2,256	1,251	1,005	
Land and Water	17,652	17,652		
Settlement	19,084[a]	19,084[a]		
Forests	3,200	3,200		
Game and Tourism	966	966		
Mining and Mapping	263	263		
Manufacturing	4,500	—	4,500	
Commerce and Co-ops.	623	277	346	
Credit	—	—		
Electric Power	20,500		20,500	
Roads	6,820	5,120	1,700	
Railway	14,200		14,200	
Airports	1,214	1,214		
Posts and Tel.	2,310		2,310	
Education	9,783	6,300	3,483	
Health	3,945	3,845	100	
Social Services	345	345		
Information	683	683		
Housing	2,460	2,460		
Defence and Police	2,770	2,770		
Administration	2,453	2,453		
Local Govt.	6,000	6,000		
TOTAL (excluding Settlement)	301,149[c]	61,539[ac]	51,610	188,000[b]

125

Notes.

(*a*) Land Bank lending for land purchase, £6,000 th., included with Settlement Programme. Neither Settlement nor these land purchases are included in Total. Settlement comprises £4,301 th. for land purchase and £8,783 th. for associated investment.

(*b*) Private capital formation not broken down by sectors.

(*c*) Total development expend. by central govt. as stated here differs from estimated capital formation by central government as stated elsewhere in Plan mainly because Settlement and other lending for land purchases are not included, but also because adjustments have not been made to exclude some other transfers and include capital expenditures in recurrent budget.

Source: Kenya Government, *Development Plan, 1964-1970.*

The anticipated sources of financing for the first three years of the new Kenya plan are set forth in Table VI-8. It is hoped that foreign finance will cover 87 per cent of the central government development budget, and the bulk (figures not specified) of investment by other public agencies. Since the proportion of local costs in Kenya's development budget is presumably of the same order of magnitude as in Tanzania, the Kenya plan raises the same

Table VI-8. Kenya Development Plan, 1964/65-1966/67 (Three Years): Planned Financing (£ mil.)

	Central Government	Public Agencies	Private Enterprises
Taxation	3.8		
Other domestic revenue			
Domestic borrowing			
Percentage domestic	13%[b]		
Foreign grants	6.1		
Foreign loans			
Foreign assistance in negotiation	15.9		
Balance not covered	4.5		
Settlement	12.4[a]		
Percentage foreign	87%[b]		
TOTAL	30.3[a]	26.9[c]	[d]

Notes.

(*a*) Settlement not included in total; expenditures during three fiscal years are covered entirely by extraordinary foreign finance.

(*b*) If Settlement were included, percentage foreign would be 91%, percentage domestic 9%.

(*c*) Breakdown between domestic and foreign not specified, but predominantly foreign. Plan states that at least half is available or in prospect.

(*d*) Not specified in plan.

Source: See Table VI-7.

question as to how large a foreign contribution to covering local costs of development projects can be obtained.

The high-level manpower analysis in the published plan is quite tentative. It projects nearly fifty per cent shortages of both university graduates and secondary school leavers, prior to policy measures other than expanding formal education, but refers to supply of such manpower as only a 'possibly limiting factor'. A much more complete, and reportedly also more reassuring, manpower analysis has been a principal element in the work already done to revise the plan.

Table VI-9. Comparison of Sector Composition of Kenya and Tanzania 'New Plans': Average Annual Expenditures by Central Governments (£ th. and %)

			Average Annual Expend. Kenya Tanzania		Percentages Kenya Tanzania	
Agriculture	..	..	1,123a ⎱	2,811	10.9a ⎱	19.4
Livestock and Fishing	..	..	209 ⎰		2.0 ⎰	
Land and Water	..	..	2,942	2,201	28.7	15.2
Settlement	..	..	3,181a		a	
Forests	..	..	533	185	5.2	1.3
Game and Tourism	..	..	161	83	1.6	0.6
Mining and Mapping	..	..	44	80	0.4	0.6
Manufacturing	..	..	—	40	—	0.3
Commerce and Co-ops.	..	..	46	74	0.4	0.5
Credit	..	..	—	—	—	—
Electric Power	..	..	—	13	—	0.1
Roads	..	..	853	2,410	8.3	16.6
Railway	..	..	—	8	—	0.1
Airports	..	..	202	244	2.0	1.7
Posts and Tel.	..	..	—	—	—	—
Education	..	..	1,050	2,867	10.2	19.8
Health	..	..	641	361	6.3	2.5
Social Services	..	..	58	486	0.6	3.4
Information	..	..	114	80	1.1	0.6
Housing	..	..	410	1,090	4.0	7.5
Defence and Police	..	..	462	1,042	4.5	7.2
Administration	..	..	409	400	4.0	2.8
Local Government	..	..	1,000	—	9.7	—
TOTAL		..	10,257a	14,475b	100.0	100 0

Notes.
(a) Total for Kenya excludes Settlement Programme and Land Bank lending for land purchases. Note also that average expenditures for these two activities of £3,181 th. per year are not representative, as expenditures under the existing program fall from £8.0 mil. in 1964/65 to £1.6 mil. in 1967/68, and no allowance is made for likely extensions of the programmes.
(b) Total for Tanzania excludes government contributions to public enterprises, which average £5,925 th.

Analysis of the New Kenya Plan using the Projection Model

Let us now repeat the same kind of exercise for analysing the economic implications of the new Kenya plan as was undertaken earlier in the case of Tanzania. The approach is to try to adopt the same assumptions about autonomous demands and parameter changes as in the official plan, to introduce them into the statistical model developed in Chapter IV, to make a 1970 projection, and then to compare the results of the projection with the 1970 estimates in the published plan. Again, given the imperfections of the model, I can only hope that the comparison will be informative and suggestive.

The assumed conditions for the model projection are listed in Table VI-10, along with some indications of how these assumptions compare with the past. The projections of agricultural export volume and agricultural export prices are taken directly from the published plan. They imply that volume will expand at around 5½ per cent per year—distinctly more than in the years of retardation 1958-62, about the same as in 1963 and 1964, but still somewhat below Kenya's long-term trend—while prices will slide off again to the 1962 level. A projection of government current expenditure is not given in the published plan; the assumption here that they will rise at only 4 per cent per year is designed to reflect effective economy measures as mentioned in the plan document, but may well be distinctly too low in actuality.

Table VI-10. Assumed Conditions for Kenya 1970 Projection Using Model.

Conditions	*Implications*
1. *Agricultural export volume* increases as stated in Plan.	Rate of increase 5.3% p.a., compared to 3.2% 1958-62, 6.7% from 1949/50 ave. to 1962/63 ave.
2. *Agricultural export prices* remain unchanged on average from 1962 to 1970.	Compares with no significant price trend 1950 to 1962/63 ave.; implies 1970 prices about 10% below 1964.
3. *Government current expenditure* increases 4.0% p.a. from 1962/63 to 1970/71. Plan specifies only additional recurrent costs of plan activities.	Rate of increase a little below 1958-62, implies effective economy measures as suggested in Plan. Government product increases more rapidly because of rising share in expenditures.
4. *Manufactured exports* increase as stated in Plan.	Rate of increase 3.4% p.a., much lower than 15.6% 1958-62 because of assumed effect of measures to move closer to balance in interterritorial trade.

128

5. *Import substitution* replaces 25% of imports of food and manufactured consumer goods; 5% of intermediate goods, fuels, construction materials; none of vehicles and equipment. Based on estimates of consumer, producer, and capital goods imports as stated in Plan.

Substitution compares with roughly 5% for all imports combined over 1958-62. Imports replaced are about £10 mil. at 1962 level of GDP, about £15 mil. at 1970 level; note includes inter-territorial as well as foreign imports.

6. *Capital formation* increases to 25% of GDP volume by 1970. Based on relationships in model approximating a capital-output ratio of 2.8 around 1970, and a retirement rate of 7% of GDP.

Share of capital formation compares with 19% in 1962, 15% in 1963, 32% in 1954, 23% for 1970 stated in Plan. Capital-output ratio compares with 2.9 1954-58. Implicit capital-output ratio during six years of Plan 1964/65 to 1969/70 is also about 2.9.

7. *Tax rates* rise in line with trend for customs duties (about 20% rise despite change in import mix) and indirect taxes (about 15% rise), are raised slightly by 1963 sisal and coffee export taxes, are unchanged for direct taxes. Plan doesn't specify tax adjustments.

Share of revenue in GDP rises from 25% to 27%, permitting substantial rise in government saving with assumed slow growth of current expenditure.

The projection of manufactured exports in the published plan implies that changing trade policies within the East African Common Market will limit their future overall growth to around 3½ per cent per year. This is a very important change from the past, when rising interterritorial exports have been a principal stimulus to the growth of the Kenya economy, and is one of the main explanations of the plan's 'moderate' growth objective. At the same time, though the text of the plan does not stress import substitution as a major point of development strategy, the balance of payments projection actually indicates substantially more rapid import substitution than in the 1958–62 or 1963–64 periods. Correspondingly, the assumption in the model is that import substitution replaces about a quarter of current imports of food products and manufactured consumer goods by 1970, plus a small amount of intermediate goods, fuels (the new Mombasa refinery), and construction materials. The net effect upon the manufacturing sector is that more extensive import substitution than in the past compensates substantially for the unfavourable change in manufactured export prospects.

The investment parameters adopted in the model projection (which it may be remembered are defined in somewhat different terms) approximate a conventional capital-output ratio of about 2.8 in 1970, which is about the same as in the mid-fifties, and a little

below that implied in the plan. However, since the model pro-
jection results in a higher rate of growth of aggregate demand in
the economy, as discussed further below, these investment para-
meters imply that the share of investment in GDP volume would
need to be raised to about 25 per cent by 1970, a little above the
23 per cent suggested in the published plan.

Finally, the tax parameters for the model projection are raised
to follow recent trends towards higher customs duties and higher
indirect taxes; future tax adjustments are not specified in the
published plan. These assumed but reasonable tax rate increases,
combined with the already comparatively high income elasticity
of the Kenya tax structure, imply rather buoyant revenue prospects.

The results of the model projection compared to the 1970
estimates in the published plan are presented systematically in
Table VI-11. Again I should stress that the purpose of the compa-
rison is simply to bring out the kinds of questions about future
prospects which this kind of statistical projection model is designed
to raise. The most suggestive points appear to be the following.

Table VI-11. Comparison of 1970 Projection Using Model and Official Kenya Plan.

	Model Projection		Plan Projec.[j]	Rates of growth or shares of appropriate totals (%)	
	1962 (mil. £)	1970 (mil. £)	1970 (mil. £)	Model Projec.	Plan Projec.[j]
GDP, monetary	180.9	301.0	280.7	+6.6	+5.7[n]
GDP, volume[a]	179.3	299.4	279.1[e]	+6.6	+5.7[n]
Agric. product	39.9	64.2	66.8	+6.1	+6.8
Urban product	134.2	221.1	204.0	+6.5	+5.5
Construction product	6.8	15.7[k]	10.0	+11.0	+5.0
Manufacturing product	23.9	44.4	35.9	+8.1	+5.2
Services product	56.7	90.1	85.2	+6.0	+5.2
Government product	28.1	43.6[k]	39.8	+5.6	+4.5
Transport product	25.6	42.9	43.1	+6.6	+6.9
Gross investment	33.3	75.6	66.0	+10.8	+8.9
Construction	18.5	40.7	f	+10.4	f
Equipment	14.8	34.9	f	+11.3	f
Govt. investment	11.1	24.6	16.2	+10.5	+4.9
Invest./GDP volume	19%	25%	23%		
Ag. export volume[a]	40.0	60.4	57.5[e]	+5.3	+5.3
Agricultural exports	41.6	62.0	59.1	+5.1	+5.3
Manufactured exports	13.7	18.0	21.0	+3.4	+3.4
Manufactured import substitution[b]		15.2			

130

Food imports	12.0^d	13.4	g	14-11%	⎫
Mfd. consumer imports ..	27.0^d	29.9	g	33-24%	⎬ 47-38%
Vehicle imports ..	6.4^d	9.5	g	8-8%	⎭
Intermediate imports ..	11.2^d	19.3	g	14-15%	⎫
Fuel imports	8.7^d	12.9	g	11-10%	⎬ 34-33%
Constr. mat. imports ..	3.7^d	10.7	g	4-9%	⎫
Equipment imports ..	13.8^d	29.9	g	17-24%	⎬ 19-27%
Total exports	62.5	90.0^h	90.1^h	+4.7	+4.8
Total imports	76.8	125.7^h	112.7^h	+5.4	+4.8
Balance of trade ..	−14.4	−35.7	−22.6		
Imports/GDP	(42%)	(42%)	(40%)		
Direct tax revenue	12.4 ⎫	20.2	f	⎱ 28-24%	f
Export tax revenue	— ⎭		f	⎰	f
Customs revenue	13.8	27.6	f	31-34%	f
Indirect tax revenue ..	18.8	34.9	f	42-42%	f
Govt. current expenditure ..	39.8	54.5	i	+4.0	f
Govt. tax revenue	45.0	82.7	f	+7.9	f
Govt. econ. bal. (R-G) ..	5.1	28.2	f		
Govt. borrowing (I-(R-G))	4.3	−3.6^m	f		
Revenue/GDP	25%	27%	f		
Consumption & other uses^c	122.1	206.6	f	+6.8	f

Notes.
(a) Agricultural exports at 1960-62 prices.
(b) Defined only for changes from 1962.
(c) GDP + M − E − I − G.
(d) 1963.
(e) Calculated from GDP by subtracting difference in value of agric. exports at 1960-62 prices, as estimated in Model.
(f) Not specified in published Plan.
(g) Breakdown given in Plan for three broad classes of retained imports (excluding re-exports)—consumer goods, producer goods, capital goods.
(h) Includes assumed £10.0 mil. of re-exports.
(i) Plan specifies only increase in recurrent expenditures due to Plan activities.
(j) There are slight differences in base-year figures because of later statistical revisions and hence absolute figures are not precisely comparable. Rates of growth are less affected by these minor base year differences.
(k) Projects continuing rise in share of value-added in value of output.
(m) Excluding repayments, and also borrowing by other public agencies.
(n) To be + 6.2% in the revised plan.

First, the model projection indicates a rate of growth of GDP volume of about 6.6 per cent per year compared to the original 5.7 per cent and revised 6.2 per cent. GDP in the model is fundamentally a measure of aggregate demand; this result therefore suggests that the projected autonomous demands (perhaps most notably the extent of manufactured import substitution), interacting with the internal structure of the economy as expressed in the model's parameters (which as noted in Chapter IV imply higher induced domestic demands for Kenya than for the other two countries),

131

may generate directly and indirectly more aggregate demand than has been anticipated. If the aggregate supply of goods and services were being pressed to the maximum, this might indicate some excess demand pressure—a possibility noted above for the new Tanzania plan. But in the circumstances of the Kenya economy it may well be feasible for the supply simply to expand a little more rapidly to satisfy the demand. This would presumably require the calculated further rise in the 1970 investment rate from 23 per cent to 25 per cent of GDP volume, which would in turn depend on calling forth additional domestic saving plus capital inflow as GDP expands. Conceivably, however, the present excess capacity in the Kenya economy might permit more rapid growth with a lower capital-output ratio than is assumed here.

Second, the model projection suggests a somewhat more normal pattern of sector growth than in the initial plan. Because of the extent of assumed import substitution, combined with the effect of rising domestic incomes, manufacturing is projected to continue to be a leading sector despite its unfavourable export prospects. Services and government also grow a little more than in the plan (government being partly affected by a projected rising trend in the ratio of government product to government expenditure), so urban product as a whole is projected to continue to outpace agricultural product. In addition, construction product seems almost sure to have to expand more rapidly than the plan projects, to sustain the indicated rise in the investment rate. According to the model, construction would be the leading sector in the economy, and its projected rate of growth of about 11 per cent per year could, fortunately, provide a main source of employment opportunities.

Third, in the model projection total imports rise somewhat more than in the published plan, with a similar shift in composition towards construction materials and equipment, and away from consumer goods other than vehicles. The shift in composition poses the same problem of adjusting the structure of customs duties to maintain tax revenues as was noted earlier for Tanzania. The higher total imports in the model of course imply a tighter foreign exchange constraint, with the projected 1970 deficit in the balance of trade in the order of £35 million, rather than £20-25 million as in the published plan. If net invisibles become more positive as anticipated in the plan, if the recent recorded and unrecorded private capital outflow ceases, and if the public capital

132

inflow comes up to the estimated financing of the plan, the overall balance of payments could still be just manageable. The difference is that whereas the estimated balance of payments position in the published plan is quite easy, the higher growth rate and especially higher investment rate in the model projection fully absorb this ease. Indeed, any bad luck could make foreign exchange a critical constraint in Kenya.

Fourth, in the model projection government tax revenue expands at just under 8 per cent per year—that is, more rapidly than GDP. Given the spartan assumption that government current expenditure rises at only 4 per cent per year, the calculated result is a dramatic increase in the surplus of revenue over expenditure. Indeed, the size of the increase is surely politically unrealistic; in these circumstances either the assumed restraint on government expenditure would be relaxed or the assumed tax rate increases would not be imposed. The only inference I would be willing to draw from this part of the model projection[11] is that quite reasonable tax rate adjustments in the already comparatively elastic Kenya tax structure would suffice to raise revenue more rapidly than GDP, and that the resulting revenue could accommodate both a higher trend in current expenditure and a significant budgetary contribution to development.

To sum up, the new Kenya plan is a 'moderate' plan for accelerating future development, which appears on the basis of the analysis here to be clearly attainable. Indeed, some rise in the growth objective and some modifications in the pattern may well be feasible with only limited adjustments in government development activities and policies. The revised plan for the last five years of the plan period may possibly make some such changes.

Looking at the four potential constraints distinguished in previous chapters, it seems to me unlikely that any of them will prove to be a critical barrier to implementation of the new plan. All four pose problems, but these problems seem likely to be manageable. With respect to the constraint of domestic saving plus foreign capital inflow, the main uncertainty is the projected recovery and expansion of private investment to maintain its recent role in the economy. As existing excess capacity is more fully utilised, however, and assuming reasonable administration of the system of exchange control introduced in 1965 to curtail residents' unapproved capital outflow, the necessary rise in private saving and

capital inflow is a good prospect. Kenya's foreign exchange problem is likely to be more serious than Tanzania's and Uganda's, as brought out in our analysis, but it should be just manageable unless there is bad luck in some major element of the projected balance of payments. Turning to the government finance constraint, unfortunately about £1.2 million of recurrent tax sources previously allocated directly to the development budget had to be withdrawn for fiscal year 1965/66, and the problem of covering local costs continued to be a key issue in foreign aid negotiations.[12] However, the model projection suggests that tax revenue can reasonably be expected to rise more rapidly than GDP, which should permit an enlarged domestic contribution to the development budget, and in quite a number of cases in 1964/65 foreign governments agreed to finance a portion of local costs. Finally, the high-level manpower problem was apparent in 1964/65—as in Tanzania taking the narrower form of difficulties within the government in designing and implementing development projects. But given the limited rise in central government development expenditure which is planned and considering the Kenya government's past record of nearly full plan implementation, it seems reasonable to expect that workable solutions to the manpower problem will be found.

Possible Lines of the New Uganda Plan

The second Uganda five-year plan for 1966/67-1970/71 is in the midst of being prepared at the time of writing (June 1965), so nothing definite can be said about its ultimate form. The Minister of Planning and Community Development and the Director of Planning have in various speeches indicated some of the dimensions of the initial draft framework, however, such as the growth target and the size of the investment programme, and this initial framework, used to guide the sector working parties, broadly resembled the 1966-71 phase of the analysis in Chapter V. Though comments at this time can only be speculative, it may be helpful simply to sketch a few possible features of a new Uganda plan, on a basis comparable to our analysis of the Tanzania and Kenya plans. This is what is attempted in Table VI-12; all the specific figures are taken from the analysis in Chapter V.

Table VI-12.   Uganda: Possible Features of the New Plan.

	Recent Past or Old Plan[a]	Future Est. or New Plan[b]
GDP volume (growth rate, %)	+3.0[c]	+8.5
GDP, monetary (growth rate, %)	+0.4	+8.2
Ag. product (growth rate %)	−3.3	+6.7
Urban product (growth rate, %)	+4.7	+8.9
Urban employment (growth rate, %)	−0.7	+3.5
Gross investment (£ mil.)	£16.4	£67.4
Invest./GDP volume (%)	15%	32%
Capital-output ratio	3.6–3.8	2.3
Govt. investment (£ mil.)	£4.4	?
Other public invest. (£ mil.)	£4.7	?
Private investment (£ mil.)	£7.3	?
Govt. devel. expend. (ann. ave., £ mil.)	5.5	17.5[e]
Devel./GDP volume (%)	5.0%[d]	10.0%
Foreign finance (ann. ave., £ mil.)	3.3	?
Domestic finance (ann. ave., £ mil.)	2.2	?

Notes.

(a) Growth rates are for 1958-62, investment figures for 1962, capital-output ratio for 1954-58 and 1958-62, development expenditure figures actual for first three years of old plan, development ratio for annual average relative to 1962 GDP volume.

(b) All future estimates taken from unofficial projection in Chapter V. Growth rates are for 1962-1971, investment estimates for 1971, capital-output ratio for 1966/67-1970/71 while investment rate is rising, development budget estimates for 1966/67—1970/71, development ratio for annual average relative to estimated GDP volume in 1968/69 (middle year).

(c) If 1962 is adjusted upward £5 million for normal cotton crop, growth rate becomes + 4.2%.

(d) Adjusted to common scope for all three countries; see Chapter III, p. 15.

(e) Estimated from rate of growth of government investment in projection; implies central government total of £87.5 in overall total of £230 during five fiscal years.

(f) Capital-output ratio is calculated assuming retirement is 7% of estimated 1966 GDP as implied in projection, then increases at 5% per year as gross investment rate rises.

To begin with, if the final plan is similar to the initial draft framework, the new Uganda plan will be an 'ambitious' rather than a 'moderate' plan (referring again to the adjectives employed earlier). The aim may well be to accelerate the annual rate of growth of monetary GDP, at constant prices, from about 3 per cent during 1958-62 to something over 8 per cent in the future. Absolutely this growth objective is quite similar to that of the new Tanzania plan, but since over the last decade (except during the 1963-64 export boom) Uganda's economy has grown distinctly less rapidly

than Tanzania's, relatively it requires an even more dramatic change in performance. To make such an overall growth objective at all feasible, the new plan will presumably have to undertake both to accelerate the past rate of growth of agricultural product and to expand urban product still more rapidly, particularly through import substitution in manufacturing. If the rate of growth of urban product can be raised into the 9 per cent range, however, and if the wage trend of 1963 and 1964 is moderated, a significant up-trend in urban employment may be hoped for, as suggested in the table.

A condition for this marked acceleration in Uganda's economic growth is likely to be that gross investment expand about four times between 1962 and 1970, with the rate of investment rising from 15 per cent (18 per cent by 1964) to over 30 per cent. This 1970 investment rate is close to the target in the Tanzania plan, but since Uganda started lower the increase would be somewhat larger. The figures projected in the table imply a capital-output ratio over the five fiscal years of the plan of about 2.3, which is also similar to the Tanzania plan but lower than in Kenya. It may be recalled that in the past Uganda has generally had a *higher* capital-output ratio than the other two countries. A crucial question is therefore whether, given the existing excess capacity and given the mix of development activities proposed by the working parties and included in the final plan, the overall capital-output ratio can be held down to this level. The composition of gross investment among the central government, other public agencies, and private enterprises will also depend on the final mix of development activities.

The implication for the central government's own development budget may well be average annual expenditures in the order of £17-18 million, or about triple the average actually achieved in the old plan. Relative to GDP this would be about the same as in Tanzania, including there the central government's contribution to other public agencies, and about twice as high as in Kenya. Whether Uganda will undertake to raise domestically a larger share of the necessary finance than in Tanzania and Kenya, as she has in the past, is another crucial question affecting the viability of the new plan.

At this time, before the final plan is worked out, it is not possible to make any firm judgments about which of the four potential

136

constraints distinguished in previous chapters are likely to be tightest in the future. There is some evidence, drawn from the experience of 1964/65 and 1965/66, when the government markedly expanded the old plan, that the crucial constraints may prove to be government finance and high-level manpower in the civil service. If so, the pattern of constraints would be broadly similar to that forecast earlier for Tanzania, rather than the easier situation anticipated for Kenya.

With respect to government finance, during 1964/65 a substantial windfall from export taxes—£4.7 million according to the revised estimate—was successfully allocated to the development budget, in addition to normal revenue sources and domestic borrowing.[13] For 1965/66, however, export taxes on coffee are expected to fall from £7.7 million to £2.1 million, as a result of the lower world price, rising investment in coffee stocks by the Coffee Marketing Board, and a decision to write off part of these costs by reducing the Board's tax obligations. There will thus be no contribution from the recurrent to the development budget in 1965/66 (though some additional domestic borrowing is anticipated). Indeed, the recurrent budget itself, even after an across-the-board 7 per cent slash in those expenditure votes susceptible of such reduction, and a number of proposed tax adjustments, is projected to be in deficit in the order of £1.5 million. At the same time, the question of using foreign aid to cover a portion of local costs of development projects continues to be an active issue in negotiations—not because of the circumstances of 1963/64 and 1964/65, when Uganda's domestic contributions to the development budget were impressive, but in view of the prospect of a tight government finance constraint in the future.

The evidence about the high-level manpower constraint, particularly in the form of a shortage of experienced government officials to design and implement development projects at the desired pace, is not yet clear. As noted in Chapter III, during the first three years of the old plan there were quite large shortfalls from budgeted expenditures, though these were to a considerable extent due to delays in arranging finance. Then in 1964/65 the approved estimates jumped to £20.2 million, and the Ministry of Finance released funds for £17.0 million, but the revised estimate of development expenditure is £12.4 million, and the final figure in the audited accounts may well turn out to be less. On the other hand, if the

revised estimate is confirmed, it would constitute a doubling over the previous year, and would actually support an optimistic view about the adequacy of high-level manpower within the civil service to carry out a much expanded development programme. Further experience, and the manpower analysis in the final plan, will be necessary to reach a reasoned judgment as to whether high-level manpower will be a second critical constraint on the new Uganda plan.

Footnotes.

1. Tanzania Government, *Tanganyika Five-Year Plan for Economic and Social Development, 1st July, 1964-30th June, 1969*, pp. 1-2. See also footnotes 2 and 3.

2. Tanzania Government Directorate of Development and Planning, *Brief Review of Planning Activities, 1963-1965*, mimeographed, June, 1965, pp. 1-5. See also footnotes 1 and 3.

3. Tanganyika Government, Ministry of Development Planning, *Tanganyika's Five-Year Plan 1964/65-1968/69; A Brief Methodology*, mimeographed, February, 1964. See also footnotes 1 and 2.

4. There are doubtless some discrepancies in sector classification between the old plan and the new plan, and between Tanzania and the other two countries. For the old plans the writer classified individual projects by sectors, while for the new plans the classification was derived from sector tabulations in the published documents. However, the discrepancies are probably not large enough to be seriously misleading.

5. Most of this section has appeared previously in my article, "The Rationale and Uses of a Projection Model for the East African Economies", *East African Economic Review*, June, 1965, and also as "The Tanganyika Plan: A Statistical Projection Model", *E.A.I.S.R. Conference Papers*, Jan. 1965.

6. See the article by G. Karmiloff, *East African Economic Review*, June, 1965, for a fuller discussion of the capital-output ratios used in the plan. The gross capital-output ratio stated there is 2.7; allowing for capital retirement of about 7% of GDP in 1964, rising at 5% per year thereafter, the net ratio works out be 2.3.

7. The model projection was actually prepared in the latter part of 1964. One of the main implementation problems which was not fully anticipated, but which became apparent in Tanzania during 1964/65, was the limited capacity of the construction industry to expand the flow of work in progress at the indicated pace.

8. Tanzania Government, *Budget Speech, 1965/66*. On this and other points about the June, 1965 status of the new plan, see also *Budget Survey, 1965-66* and *Estimates of Revenue and Expenditure, 1965/66* (three parts).

9. Kenya Government, *Development Plan, 1964-1970*, pp. 1-5.

10. Throughout the analysis here the adjustment for price changes is limited to agricultural export prices. This is the procedure used in constructing the statistical projection model in Chapter IV, and it has been applied uniformly to all three countries. The Kenya plan makes rough price corrections for the years 1954-62 using the Nairobi cost of living index, which implies a much larger divergence between constant-price and current-price trends, but the future projections are entirely in constant prices. See pp. 11-12 and 129-130 of the plan.

11. If the model were being used in practice, it would be desirable to re-calculate the projection after changing the government expenditure assumption, and any others which appear doubtful on second thought.

12. Kenya Government, *Budget Speech, 1965/66.* On this and other points about the June, 1965 status of the new plan, see also *Economic Survey 1965* and *Estimates of Revenue and Expenditure, 1965/66* (three parts).

13. Uganda Government, *Budget Speech, 1965/66.* On this and other points about the June 1965 status of the old plan, see also *Background to the Budget 1965-66* and *Estimates of Revenue and Expenditure, 1965/66* (three parts).

CHAPTER VII. IMPLEMENTATION AND COORDINATION OF PLANS

Implementation is the crucial test of development planning. Particularly in the years immediately ahead, as the East African governments attempt to carry through the transition to comprehensive planning which is now under way, implementation will be a major challenge. All three governments, though in somewhat different styles and degrees, are initiating new plans which are designed with more advanced planning techniques, aim at substantially accelerated overall economic growth, and imply mobilization of development efforts throughout the economy. Implementation arrangements must similarly be adapted and extended if the plans are to succeed.

The two most important arrangements for effective implementation, as suggested in the first chapter, are (a) centralised organisation and procedures for supervising planned development activities throughout the government, and (b) energetic and coherent use of economic policy instruments to guide decentralised private development activities. I shall discuss these two aspects of plan implementation at the national level in the next section. In the circumstances of East Africa, in which the three governments are participating in a common market, there is also a special problem—and opportunity—of accommodating national implementation arrangements with East African co-operation in those policy areas essential for realising the advantages of the common market. This is the subject of the second section of the chapter.

National Implementation Procedures and Policies

My comments on national implementation arrangements will be brief and based essentially on the logic of comprehensive planning. The issues clearly spread out from the economic problems of accelerating development to the public administration problems of maintaining standard government practices for making decisions and carrying them out, and to the political problems of giving increased weight to economic development among the society's many goals.

The key requirement for effective implementation of the government's own development activities is centralised surveillance

of all development projects, even though they are carried out by many different operating agencies. This surveillance has two successive stages in time. Initially, every proposal for a development project should be screened centrally against reasonably uniform criteria, to reach a decision whether or not it ought to be included in the government's programme. In order for this screening process to promote constructive action rather than inhibit it, it is important that operating agencies present more proposals (or variants of single proposals) than can be approved, and that the criteria aim at promptly selecting acceptable projects (despite the risk of making mistakes) rather than at ensuring that all approved projects are optimal. Subsequently, there should be regular and reasonably standardised progress reports on every approved project, so that snags in implementation can be promptly spotted and some remedy introduced. The whole emphasis should thus be on expediting implementation of a much larger volume of development activities than has been practicable in the past.

At the time of writing (June, 1965), Tanzania has established the most explicit formal structure for centralised plan supervision. The Directorate for Development Planning in the President's Office in principle has some authority over regular ministries in plan implementation, a system of progress reports on individual projects has been set up, and positions for eight 'trouble-shooters' in the field have been established (though only two are filled). However, it is fair to say that there is still considerable uncertainty as to how the formal structure will operate in practice, along with the traditional controls of the Ministry of Finance and the established responsibilities of the regular ministries. In Kenya and Uganda, definite proposals about the future implementation functions of the respective development planning ministries are just coming to the fore. Providing for centralised supervision of all plan implementation obviously poses delicate issues of public administration and of political power, but surely both administration and politics need to be adapted in significant degree to the new exigencies of planned economic development.

In countries which maintain mixed economies of private and public enterprises, as in East Africa, effective plan implementation must also include coherent use of fiscal, monetary, and regulatory policies to energise and guide private development activities. Let me cite two illustrative examples of cases in which several policy

142

instruments are best employed together to induce a desired result. An important objective of the new plans is to expand the amount of domestic saving plus capital inflow going into private investment. Here it is reasonable to consider simultaneously (*a*) modifying company and personal income taxes so as to shift the burden from retained profits toward distributed profits, (*b*) employing the central bank's control and guidance of commercial banks to broaden lending practices in the direction of longer-term and fixed-capital financing, (*c*) establishing legal guarantees of security of capital for approved foreign investors combined with agreed arrangements for attracting additional participation by domestic investors, (*d*) administering exchange controls so as to reduce capital outflows by domestic residents while keeping release of exchange for current transactions as automatic as is possible with a control system.[1] Another objective which seems likely to become increasingly pressing is to expand the number of non-agricultural jobs more rapidly than the rate of growth of population. Here it is reasonable to consider simultaneously (*a*) adjusting the mix of public projects approved for inclusion in the plan to favour those with higher over those with lower employment content, (*b*) instituting modifications of company income taxes to give tax advantages for private firms which expand their labour forces and to reduce tax stimuli for labour-saving capital investments, (*c*) establishing an incomes policy which relates wage and salary rises to productivity increases, (*d*) providing government support for in-service training schemes within industrial and commercial firms and for job-oriented part-time courses supplementing the formal education system.[2]

As illustrated by these two examples, attainment of a number of the plan's objectives requires inducing suitable private actions throughout the economy. Various agencies of the government have a wide range of policy instruments at their disposal, and it is obviously sensible in many cases to employ several instruments in a coherent way. Doing so must depend fundamentally on rational and firm cabinet-level decisions, as the diverse concerns of many parts of the government are involved. It should be helpful in reaching such decisions, however, if a principal function assigned to the development planning organisation is to prepare recommendations on coherent sets of policy instruments for supporting the plan. If it is objected that this implies development planning taking precedence over all other goals influencing economic policies, I would

suggest that there is no serious risk of this happening in the actual political processes of government. The practical problem is one of focusing greater cabinet-level attention on coherent use of policy instruments, as an integral part of comprehensive development planning.

East African Coordination of Industrialisation Policies

A distinctive aspect of plan implementation in East Africa is the need to coordinate some of the three governments' policies in areas essential for effective operation of the common market. In this section I shall attempt to consider the problems of policy coordination in just one area, though a very important one—industrialisation policies.

As recently as two years ago, it was widely expected that such coordination problems would be absorbed (not necessarily easily solved) among many other aspects of economic integration within a political federation. It is now clear that full federation cannot be agreed upon, and the drift of affairs is strongly toward concentrating policy instruments in the hands of three separate national governments. Separate decision-making without coordination is simpler, more satisfying to the officials directly concerned, and in areas where it releases more vigorous measures of national plan implementation, constructive. As of June, 1965, however, there seems to be a serious risk that failure to establish suitable coordination arrangements for *some* economic policies will make national plan implementation *weaker* in all three countries. This risk seems to me especially great in the field of industrialisation policies. The problem is to accommodate East African coordination of some policies with national initiative in other policies.[3]

Industrialisation policies are simultaneously the greatest potential source of gain from the common market, and the greatest present source of tension among the three governments. The new development plans for Tanzania and Uganda examined in Chapter VI are based in significant degree upon major advances in industrialisation, and the new Kenya plan still depends on continued progress of her established industrial sectors, even though in a less leading role than in the past. The common market has clearly provided a major stimulus to industrial progress in East Africa as a whole, even though a more than proportionate share of industrial investment has been located in Kenya.[4] Continuation of substantially

144

free trade within a common external tariff, supplemented by co-
ordination of selected policy instruments to promote industrialisation
in all three countries, seems to me vital for the success of all three
plans.

Given viable arrangements for coordination of industrialisation
policies, each of the three countries, in a protected common market
of £500 million monetary GDP, can be much more attractive for
industrial investment, domestic or foreign, than an equally protected
separate market of £210, £160, or £130 million. The point is not
only that there are a good many industries in which technical eco-
nomies of scale demand the larger market to support the industry
at all, though this is an important consideration for carrying
industrialisation beyond the easier smallscale industries.[5] The
point is also that firms in almost any industry are attracted by the
possible financial returns from penetrating into the larger market,
and that cumulative industrial progress is promoted by inter-firm
competition within the larger market. However, without explicit
coordination of some policy instruments, a combination of certain
intrinsic locational advantages plus external economies of previous
industrial progress is likely to continue to attract a more than
proportionate share of industrial investment to Kenya. This
situation is not politically acceptable in Tanzania, and less overtly
in Uganda. The objective of viable coordination arrangements
must therefore be to retain the mutual advantages of the common
market while adjusting the distribution of new investments among
the three partners.

At present, uncoordinated industrialisation policies are a
dangerous source of tension among the three governments. The
Kampala Agreement of April, 1964 appeared to provide an agreed
approach, with four main provisions: (*a*) Major firms operating in
all three countries were to be persuaded to match local production
with local demand. (*b*) Countries with trade deficits and active
projects for new industries to supply local markets were authorized
to introduce, after consultation, temporary quotas on inter-territorial
imports. (*c*) Certain new industries needing East African markets,
for which projects were nearly firm, were allocated to particular
countries, with the largest number to Tanzania and the next largest
to Uganda. (*d*) A longer-term plan for development and location of
large-scale industries was to be prepared, with the initial assistance
of a committee of international experts. However, except for the

145

last point, on which no action has yet been taken, the Agreement focused on allocation of investment rather than on raising the overall rate of industrialisation. Above all, the Agreement did not establish definite organisational arrangements and terms of reference for continuous coordination of industrialisation policies. As the separate national governments pursue their activities autonomously with only perfunctory consultation, irritations naturally build up and periodically break out in mutual recriminations.

A viable system for coordination of industrialisation policies in East Africa should be aimed not at one, but at two, objectives. These joint objectives are (*a*) to raise substantially the total rate of industrial investment in East Africa and (*b*) to ensure that future industrial investment is geographically distributed approximately equally among Kenya, Uganda, and Tanzania. It is essential to set the first objective because present industrialisation is still quite limited (about 100,000 employees in manufacturing), because the new plans depend on stepping up the rate of growth of manufacturing, and because only raising total investment substantially can significantly ease the strain of adjusting its distribution among the three countries. It is essential to set the second objective because Kenya has moved well ahead of her two partners in the common market (45 per cent of manufacturing employment in 1962, 61 per cent of gross product in manufacturing, and 77 per cent of inter-territorial exports of non-food manufactures), and because modifying the location of future industrial investment is a condition for accepting the common market in Tanzania and Uganda. If both objectives can be attained, however, all three countries will benefit.

In devising a viable coordination system, six possible policy instruments can be usefully distinguished.

(1) *Promotion and persuasion.* Each national government is already engaged in investigating possible industrial projects, publicising promising possibilities to both foreign and domestic firms, and exerting whatever powers of persuasion or pressure it possesses to encourage industrial investment. The effectiveness of this instrument should not be underestimated, and it will surely continue to be used. It is especially suited for separate use by the national governments, and the strains of rivalry in its use should be manageable.

(2) *Facilities and services.* Each government also undertakes various activities designed to provide inputs, to lower costs, or to diminish uncertainties for new industrial projects, and thus to

146

raise their expected profitability to private firms. Among such activities are preparation of industrial sites, lending institutions providing finance at below-market rates, and for foreign firms, defined policies about repatriation of profits and capital. Again this instrument is important, and is bound to be continued. Again it would be reasonable to leave it to the national governments.

(3) *Public enterprises.* The Uganda Development Corporation has played a leading entrepreneurial role in Uganda industry. The National Development Corporation in Tanzania is now likely to play a similar role both in management and in finance, and the Development Finance Company of Kenya will be active in provision of finance for industrial enterprises. Public enterprises can accelerate industrialisation either by accepting greater risks in pioneering new branches of industry, or by accepting lower rates of financial profit in branches of industry which are especially stimulating to the rest of the economy. It seems likely and desirable that public enterprises, if managed energetically and non-politically, will be an important policy instrument in the future. Public enterprises appear particularly useful for the exercise of initiative by the three national governments.

(4) *Business tax credits.* As of 1965 the key features of company income taxation are a corporation tax rate of Shs. 8 in the pound (40 per cent), none of which is deductible by shareholders from individual income tax, and investment allowances for industrial buildings and equipment permitting 120 per cent of cost to be written off over their useful lives.[6] Tax provisions are traditionally kept uniform by consultation among the three finance ministers, through E.A.C.S.O., but there is nothing to prevent one country setting its rates independently, or competition in tax policies breaking out. Tax holidays for new enterprises have been discussed in the past, and the IBRD mission to Uganda recommended a particular formula. The official positions up till now, however, have been that all tax benefits should apply to existing as well as new enterprises, that a generally favourable tax climate is the most important inducement, and that the present tax system provides adequate stimulus for industrial investment. I shall discuss below why I believe that much more should be done with business tax credits, and that this policy instrument should be used in a coordinated way.

(5) *Protection.* Customs duties are already used rather energetically to protect domestic industries. There is a fairly general

147

rate of nearly 40 per cent *ad valorem* for products considered desirable to protect, and higher *ad valorem* or specific rates apply in particular cases. Again duties are traditionally kept uniform by consultation among the three finance ministers, through E.A.C.S.O. Customs duties must be substantially uniform to prevent duty-avoiding transhipment between the members of the common market, and it is anomalous that there is no formal agreement among the three governments committing themselves to set common tariffs and defining procedures which must be followed in changing customs duties. Individual governments can and do raise the effective protection indirectly, however, by granting customs drawbacks to domestic producers for duties on imported materials or other inputs. Moreover, since the Kampala Agreement Tanzania has introduced quotas rather extensively on inter-territorial imports. It seems to me essential that arrangements for coordinated use of these three protective instruments be agreed upon.

(6) *Licensing.* Domestic producers of certain scheduled manu-factured products can be granted licences, through E.A.C.S.O., giving some protection against domestic competition during the term of the licences. However, the list of scheduled products is short, competition has subsequently been permitted in some scheduled products, the administrative process has often ended in deadlock, and the industries allocated in the Kampala agreement have not gone through the licensing procedure. The three IBRD missions to Tanganyika, Uganda, and Kenya successively recom-mended that licensing be abandoned as ineffective and negative. Certainly under present conditions it is almost impossible to employ licensing to influence industrial location. An applicant who believes that investment will be more profitable in one of the three countries, but who is offered a licence only if he locates in another, may either drop his application for a licence or not invest at all; in the meantime rivalry is intensified among the three governments, and uncertainty delays the investment. Some change in present arrangements to use this policy instrument seems clearly needed; if it is retained for large-scale industries its use must surely be coordinated.

It seems to me that a viable middle way between entirely national plan implementation and unplanned operation of the common market would be an agreement to employ the last three policy instruments—business tax credits, protection, and licensing—only through a coordinating mechanism, and to reserve the first

148

three instruments—promotion, facilities, and public enterprises—
for the exercise of national initiative. In the light of recent experience,
there would have to be a formal agreement by which the national
governments committed themselves to coordinated use of these
particular instruments for at least one plan period, and in which
the governments established a definite mechanism for continuous
coordination. The mechanism would presumably include a tri-
partite committee, but it should provide for continuous represent-
ation of the three governments, some executive staff, and agreed
terms of reference. The terms of reference should set forth the two
objectives of raising the total rate of industrial   investment in
East Africa and of ensuring approximately equal distribution of
future investment among the three countries. To approach the
first objective, the governments should undertake to make much
more vigorous use of business tax credits, as well as rationalised
use of protection and licensing. To approach the second objective,
the governments should commit themselves to authorise supple-
mentary inducements to investment in a lagging country, if its
share of future industrial investment fell below a certain minimum.
These are rather sweeping suggestions, but if the three governments
wish to agree, a pattern of cooperation along these lines would
permit mutually beneficial use of the range of policy instruments
available to promote industrialisation.

The chief new instrument suggested here is business tax credits.
There are many technical considerations involved, but let me
indicate a few points which seem attractive. First, there should
be a combination of higher tax rates and larger tax credits. Higher
rates are needed in recognition of pressing government revenue
needs for development, and to permit a significant tax differential
between comparatively static and comparatively dynamic firms.
Larger tax credits are needed to grant lower effective taxes to new
and expanding firms, both to permit greater reinvestment of current
profits and to raise the expected profitability of investment of new
capital. Whereas comparatively static firms can reasonably be
expected to provide additional general government revenue, com-
paratively dynamic firms will already be contributing appropriately
to development if their profits are used for continuing expansion.
Second, one form of tax credit should be a tax holiday for new
domestic or foreign firms, and for separable new establishments
of existing firms, which initiate production of new manufactured

products. Tax holidays in various forms are now commonly offered by underdeveloped countries, and such benefits would bring East Africa into line with practices elsewhere. A principal advantage of a tax holiday over an investment allowance is that it would not give special tax encouragement to introducing capital-using rather than labour-using processes. Third, another form of tax credit should be provided for existing establishments which expand production of their existing product lines at above-average rates. A large share of total industrial investment is bound to be undertaken by establishments already operating in East Africa, and it seems clearly desirable to stimulate expansion by these establishments as well as new ones. The formula should limit benefits to those existing establishments which expand at above-average rates, however. The formula itself might be tied to the rate of growth of value added or of a physical output measure, but it would be particularly interesting if it were tied to the rate of growth of employment, which might in some cases encourage more labour-using processes.

Protection is already being used as an instrument of industrialisation policy, and it may at first sight appear that the only change is to establish a clear legal basis for setting a common external tariff. Two other significant changes should be provided for, however. First, as import substitution proceeds, and the share of manufactured consumer goods in total imports falls while the shares of intermediate goods and capital goods rise, it would be desirable to alter the customs structure to maintain customs revenue. Duties on intermediate goods should be set at a substantial revenue rate, while duties on finished goods are adjusted to maintain present effective protection where necessary, and export rebates are introduced to prevent East African goods from becoming less competitive internationally. With such a revised customs structure, the leverage of customs drawbacks on imported materials in affecting investment decisions would be notably increased. Second, the use of quotas for temporary protection against inter-territorial imports should be subject to joint approval, in the same way as the other policy instruments being operated through the coordinating committee.

Licensing should also be available as a policy instrument, for industries in which the minimum plant size is largely relative to the East African market. To make it more readily available, the

range of products potentially eligible for licences should be greatly extended, to cover a considerable list of products not now produced in East Africa which might be introduced in the next decade or so. In practice, it might not be necessary to use licensing, in addition to tax credits and protection, in more than a limited number of cases. Licensing is generally an inferior instrument, because of its restrictive effect on subsequent investment, and should be used only as a third choice for particular large-scale industries.

These three policy instruments operating through the coordinating committee would be employed both to raise the total rate of industrial investment, and if it proved necessary, to affect the distribution of new investment among the three countries. An important technical problem is how to measure the share of industrial investment being received by each of the three countries, so as to determine whether supplementary inducements for investment should be authorised for a lagging country. It seems to me that the final decision that a country's share has fallen below the acceptable minimum must involve the exercise of discretion by the governments, but using agreed criteria. The coordinating committee might keep track of three main measures—each country's share of additional manufacturing employment, its share of additional gross product in manufacturing, and its share of gross capital formation excluding residential construction and agricultural investment. It seems to me preferable not to attempt to measure such effects as induced demand for inter-territorial exports or revenue transfers through the fiscal system, since the commonly accepted objective is rough equality of the direct benefits of industrial activity. The measures would have to be examined over several years (say, an average of the past two years compared to an average of the previous two). Decisions should of course be reached as promptly as the evidence permits, but it should be recognized that the aim is a long-term adjustment of the pattern of industrial location. It would not be meaningful to specify an exact minimum share of future industrial investment, but it would be reasonable for the governments to state the principle that remedial action should be authorised whenever one country's share fell as low as a quarter.

When it was decided that a country's share had fallen below an acceptable minimum, it would be authorised to offer supplementary inducements to projects within its boundaries. The two most effective instruments for influencing the location of industrial

151

investment are likely to be additional tax credits and larger customs
drawbacks on imported materials. These devices would directly
raise the profitability of investment in the lagging country, offsetting
the other locational considerations which have caused the lag.
They also have the advantage that they would affect most those
projects for which the other locational considerations were least
decisive. Quotas could assist in getting new industrial projects
established, and since they would be temporary, they would also
affect most those projects close to being profitable already. In
particular cases the governments through the coordinating commit-
tee might also grant exceptional duties or licences, on condition
that the project was located in a lagging country.

The ideas sketched in this section are of course no panacea
for problems of economic cooperation within the East African
common market. On the other hand, if the governments wish to
agree, it seems to me that a viable pattern of coordination of some
instruments of industrialisation policy, while other instruments
are left to the separate initiative of the national governments, can
be established. I have discussed industrialisation policies at this
length partly because of their crucial importance for the success
of the new plans. In addition, industrialisation policies illustrate
nicely both the process of using several policy instruments coherent-
ly to attain a plan objective, and the distinctive problems of
coordinating national policies within a common market.

Will the Plans Succeed?

An obvious question which arises from the analysis in this
monograph of development planning in East Africa is whether
the new plans can reasonably be expected to succeed. The question
needs to be more sharply defined, however. If the question is whether
the new plans will be so decisive that, say, nine-tenths of the 1970
variables considered in the published plans will actually turn out
within 5 per cent of the projections, I would suggest that the proba-
bility of success is quite low. There are simply too many uncertainties
both in the autonomous influences on the East African economies
and in present understanding of the operating relationships within
them. If the question is whether the new plan in Tanzania or in
Uganda will suceed in raising monetary GDP at constant prices to
the 1970 target (or presumed 1971 target in the case of Uganda),
I would still not wager a large sum of money at even odds. For

152

these 'ambitious' plans, it would be a truly spectacular achievement to raise the overall rate of growth so sharply so soon. Kenya's plan has of course a better chance to achieve its 'moderate' target. If, however, the question posed is whether the new plans will succeed in initiating a much wider range of development activities and policies than in the past, and in raising the *sustainable* rate of growth of monetary GDP at constant prices *substantially*, say above 6 per cent, then I would suggest that there is a quite high probability of success in all three countries. It seems to me that this is the right criterion for judging the ultimate success of a development plan: does it mobilise additional development efforts throughout the economy so as to accelerate measurably the overall rate of growth?

Success even in these terms will still depend on many conditions. The plans count on substantial assistance from foreign governments. In view of the likely critical constraints on achievement of much higher growth objectives, foreign aid will be more effective if it emphasises provision of government finance, including in particular a significant portion of local costs of development projects, and provision of technical assistance personnel, in ways which are most readily absorbed into the government's personnel system.[7] The most fundamental condition, however, is effective implementation of the new plans by the East African governments. Key questions affecting success of the plans are whether the governments will be able to establish centralised surveillance of development projects, to make coherent use of economic policy instruments for guiding private development activities, and to agree upon a viable accommodation of national plan implementation and specific policy coordination within the common market.

Footnotes:

1. The income tax changes announced in the budget speeches of June 1965 did shift the burden from retained profits toward distributed profits by levying corporation tax on total profits, eliminating any tax credit in calculating personal income tax on dividend income, and dropping the penalty tax on undistributed profits of closely-held companies. At the same time, the administrative procedures announced for the new systems of exchange control were clearly designed to interfere as little as possible with regular non-capital transactions.
2. Adjusting the mix of public projects according to employment content could be most consistently done by applying a standardised project analysis procedure with a low scarcity value for the labour employed, as discussed in the first chapter. As of June, 1965, however, none of the governments was stressing these policy instruments, though Kenya

had obtained a once-for-all employment rise by agreement among employers, unions, and the government, now expiring.

3. For discussion of many other aspects of East African economic co-operation see C. Leys and P. Robson, editors, *Federation in East Africa*, Oxford University Press, 1965; and Aaron Segal, *East Africa: Strategy for Economic Cooperation*, E.A. Inst. of Social and Cultural Affairs, 1965.

4. The most thorough analysis available of the development effects of the common market is Philip Ndegwa, *The Common Market and Development in East Africa*, E.A. Publishing House, 1965. See also sources in footnote 3.

5. Prospects for a number of large-scale industries are examined in U. N., Economic Commission for Africa, *Report of the ECA Industrial Co-ordination Mission to East and Central Africa*, mimeographed, Dec. 1963. See also A. F. Ewing, "Industrialisation and U.N.E.C.A.", *Journal of Modern African Studies*, Vol. 2, No. 3.

6. The corporation tax rate is, according to the budget speeches, to be reduced to Shs. 7/50 in the pound for 1966.

7. For discussion of many aspects of foreign aid in East Africa see the papers presented in *Proceedings, University of East Africa Conference on Foreign Aid*, Dar es Salaam, forthcoming.
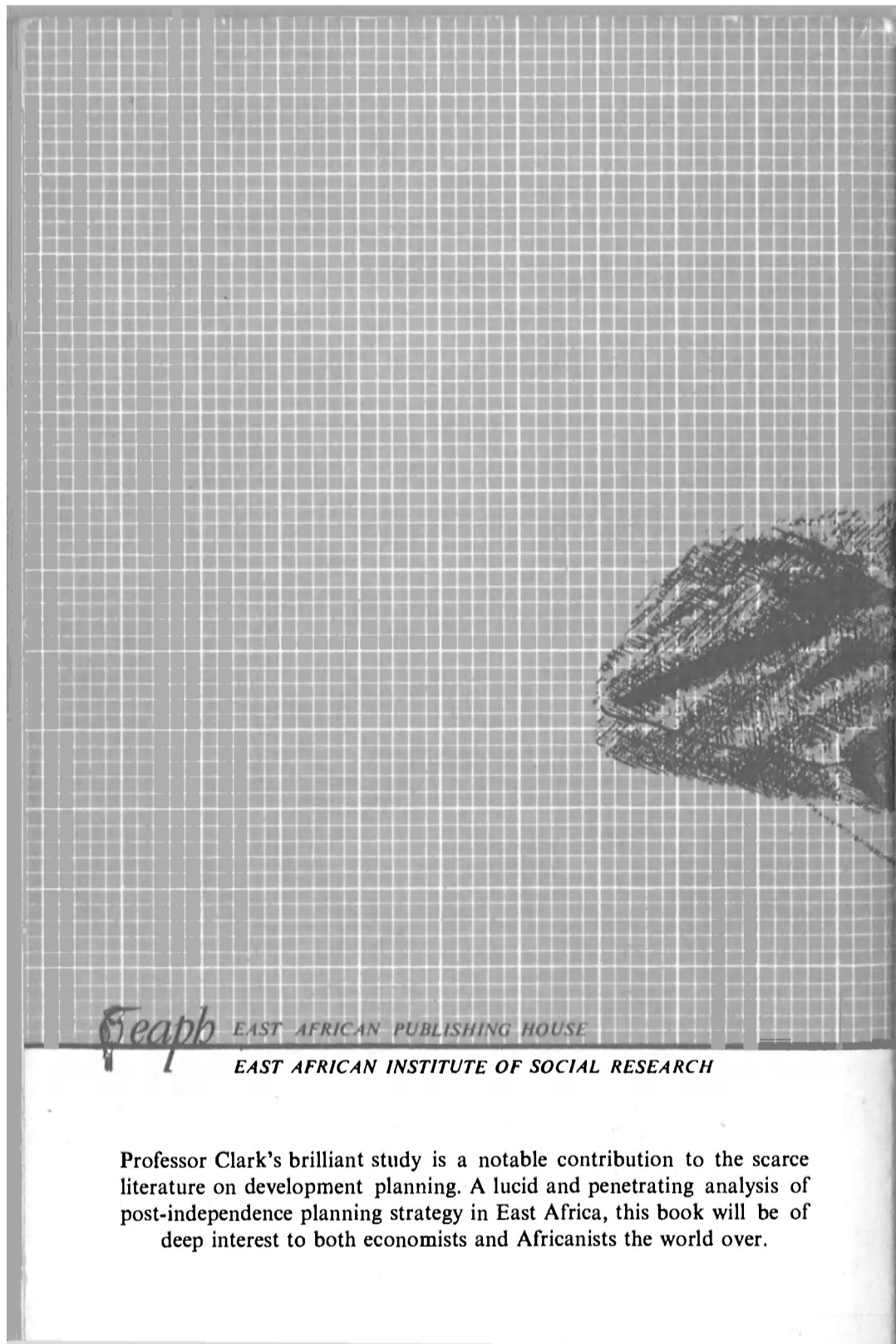
Professor Clark's brilliant study is a notable contribution to the scarce literature on development planning. A lucid and penetrating analysis of post-independence planning strategy in East Africa, this book will be of deep interest to both economists and Africanists the world over.