

MAKERERE
INSTITUTE OF
SOCIAL RESEARCH

RURAL DEVELOP
MENT RESEARCH
PROJECT

(831)

RDR NO.83
F.M. RUKANDEMA.
26.8.69

MAKERERE UNIVERSITY COLLEGE

Department of Rural Economy & Extension

NOTE: RDR Papers are presented as a basis for discussion
in Rural Development Research Seminars and are not
publications. They are subject to revision.

FOREIGN DEMAND AND SUPPLY ANALYSIS AND PLANNING FOR THE
AGRICULTURAL EXPORT SECTOR: With Special reference to
East Africa.

by

F.M. Rukandema



R.D.R. Seminar
26th August, 1969.

FOREIGN DEMAND AND SUPPLY ANALYSIS AND PLANNING FOR THE
AGRICULTURAL EXPORT SECTOR: With special reference to
East Africa.

1. Introduction.

Generally, the strategic importance of the agricultural export sector to economic growth is recognised by the developing countries. This is so because the level and rate of expansion of the revenue from agricultural exports determine the extent to which it is possible to import capital goods for the protected import-substituting industries, as well as the rate of accumulation of private and public savings. Moreover, these young industries will largely depend on the agricultural sector as their main market, because it is unlikely in the short run that these countries can export large quantities of industrial products. The overall rate of economic growth, therefore, is very much influenced by the growth rate of the agricultural sector, and in particular, by the rate of growth of export earnings.

The three East African countries of Uganda, Kenya and Tanzania recognize the crucial role of the export sector in their Development Plans. For instance, the Second Five-Year Development Plan for Uganda points out that agriculture accounts for 80-90% of overseas exchange earnings, and will continue to be the greatest earner of this scarce factor for many years to come.¹ Similar statements appear in the Plans of the remaining two countries.

This paper attempts to examine, firstly, the extent to which the East African countries have, given the urgent need to increase foreign exchange earnings in the face of bleak or unstable export markets, tried to maximize their

export revenue. Secondly, it attempts to suggest ways as to how export earnings can be maximized under the same conditions. Finally, the implications of the suggestions for agricultural planning are examined.

In this paper we are concerned with agricultural exports to countries outside East Africa, so that inter-territorial exports are omitted. This is not to ignore this aspect of international trade, but rather it is a recognition that it would need a separate paper to give it fair treatment. In fact, there is in existence a fair amount of literature on interterritorial trade in agricultural products and its implications for agricultural planning.²

2. Past Approaches to Planning for the Export Sector in East Africa.

Looking through the Agricultural Sector Plans of the current Uganda and Kenya Plans and Tanzania's First Five-Year Plan, one is struck by the prevailing tendency to emphasize the supply side (however insufficiently) of the export products and to assume that demand is given. The assumption of given demand gives rise to over-optimism and the setting down of unrealistic production targets and inappropriate production policies. Some examples from the various Development Plans will illustrate this point.

Tanzania's First Five-Year Development Plan bases the sisal production policy on "the favourable near-term market prospects". It is very doubtful whether this market assessment was the result of detailed market analysis, as no chain of reasoning to support this optimism is given in the Plan. Nevertheless, the output of sisal was to rise from 214,000 tons a year to 270,000 tons during the Plan period. Thus, despite the fact that Tanzania is the largest

world producer of sisal, the f.o.b. price of sisal fibre was expected to remain constant at about £100 per ton up to 1970.³

Again, owing to "medium-term demand prospects for this crop", pyrethrum production was to be expanded.

The Kenya Plan estimates, among other things, that the coffee quota will be doubled to about 60,000 tons at £325 per ton during the Plan period, that the output of cotton will be increased by four times, that sisal production will be greatly expanded because "there are good possibilities for expanding sisal production in all regions,and by 1970 an expansion of 20,000 acres is planned". Here again the price of £100 per ton is explicitly assumed to remain steady up to at least 1970. Another production expansion is for tea which is to bring in an additional £1.9 millions "at present prices".

The Uganda Plan shows the same lack of careful demand analysis and the concentration on the production side, even though this, too, is not adequately treated. Various measures designed to achieve the target of 575,000 bales of cotton by 1970 - a rise of about 33% - are laid down without any mention of market prospects. The coffee policy carries an implicit awareness of demand problems, perhaps because Uganda has had the worst export problems with coffee. An expansion of cocoa output as a diversification measure is suggested against the statement that "the world market price is very unstable and was recently at disastrously low levels" and against the recollection that the production of cocoa in Uganda had been rendered uneconomic during the 1920's by a fall in the world market price.⁴ An increase in the output of sisal is planned through setting up estates in

Karamoja, Sebei, Toso, Lango, West Nile, Madi and Ankole.

These few examples serve to illustrate the underlying weakness in the planning for the export sector in East Africa. It may be argued that the Plan document cannot contain all the details and assumptions involved in the planning process. But looking at the Working Party papers which formed the basis of the agricultural Sector Plan in Uganda one finds the same lack of critical market analysis.

It has been suggested that the major cause of the over-optimism underlying the three Plans was the choice of inappropriate base years.⁵ Uganda and Kenya used the 1963/64 period as the base, a period which was relatively prosperous with respect to world market product prices. Tanzania used the 1960-62 period and expected a rising trend in prices into the 1970's. However, prices of agricultural commodities being generally unstable, it is unwise to expect them to remain steady for periods of up to six years, unless some sort of intervention is envisaged.

A French Marketing expert, Edourd Stiegler, puts aptly the problem facing the East African countries with respect to their agricultural export products when he says that

"It is not enough that a certain type of crops or a certain variety is adapted to soil conditions, climate, rainfall, the psychology of the farmers, the existence or non-existence of mechanical aids; they must also be adapted to the conditions of demand".⁶

It is not suggested that analysing demand and supply will remove the problems of the agricultural export markets; what is meant is that careful analysis of these variables will help the countries concerned to maximize the present advantages and to acquire more, and will also minimize the chances of resource misallocation during the Plan periods.

There is some evidence in the Second Five-Year Development Plan of Tanzania to show that the past mistakes are well heeded. The disastrous collapse of the sisal price on the world market in 1965, the prolonged depression of the same price up to now, and the overall effect it has had on Tanzania's economic growth are well taken in the new Plan. By 1968 the average price of sisal had fallen from the 1964 level of about \$2,000 per ton f.o.b. to only \$765 per ton. Thus the new Plan confesses:

"In the case of sisal, the First Plan was in error in offering an over-optimistic estimate of market prospects".⁷ Consequently the Plan makes provision for detailed annual action programmes and regular reviews which are hoped to take into account changes in market prospects. The Plan adds:

"Crop policies have to be flexible. Work on them proceeds continually as markets change.....Achievement of efficient resource use also involves an assessment of market prospects both internally and externally".⁸ There is no doubt then that the lesson has been learnt. The importance of market analysis and its influence on agricultural planning are thus appreciated in the Plan. One more quotation reinforces the impression that the lesson has been learnt:

"The scale of replanting by the Tanzania Sisal Corporation will be subject to annual review in the light of market prospects, technical progress with synthetics, cost reductions in the industry here, and replanting in other producing countries."⁹ However, it should be realized that the identification of a problem is one thing and taking appropriate steps to remedy it is another. One only hopes that Tanzania will take the necessary steps in the direction of comprehensive market analysis.

3. The Approach to Market Research: A Suggested Procedure.
(1) A Market Research Agency.

International market research requires the specialized services of economic, commercial and technical experts. The idea of forming a market research agency is not new in East Africa. In 1963, after a visit to Uganda, Kenya and Tanzania, Mr. R.W. Hoecker, a F.A.O. consultant in agricultural marketing, recommended that an East African Agricultural Market Research Institute should be set up jointly by the United Nations and the East African Common Services Organization. It was suggested that the Institute should have strong links with the University of East Africa for the benefit of both institutions. However, in spite of some mild official support at the outset, the idea was dropped, mainly because of the lack of a vigorous official support. There is no doubt that such a body would have been of great value to East Africa. It would have had the added advantage of being cheaper to run than if it were started by an individual country.

But this abortive attempt should not deter further efforts to set up market research agencies in the East African countries, because it seems that the cost of not having market intelligence is very great. There should be set up a specialized agency consisting of a small number of economic, commercial and technical personnel who should be charged with market analysis of various kinds. The newly formed Export Promotion Council in Uganda, if properly organized and suitably staffed, could do this task quite well. However, should it be found that such a body tends to concentrate on sales promotional campaigns for the industrial products, a separate body, (call it Agricultural Market Research Bureau) should be set up. Such an institution should have very strong links with the Ministries of Agriculture

and Marketing and Co-operatives and the various Commodity Boards. It should also have close contact with a University College. It is here that the Faculty of Agriculture at Makerere can give valuable contribution in this important field of research. Thus a possible division of labour between the Agency and the Faculty can be envisaged. The Faculty is already undertaking research projects for rural development and this market research is another area where contribution is very essential.

(ii) Areas for Research, Sources of Information and Statistical Presentation.

There are many fields of agricultural marketing where information is lacking or merely exists in a crudely processed form. Owing to this extensiveness of the field, only a few of the potential research areas can be mentioned in this paper. Hence the list will not be exhaustive.

Economic theory tells us that demand for a certain commodity is a function of consumers' incomes, tastes, the price of the commodity in question, and the prices of its substitutes and complements. Here then is the starting point for demand analysis. A very critical analysis of the purchasing power of the consumers in the importing countries is necessary. Income and investment policies and is/patterns in these countries must be investigated because they exert a great influence on the demand for agricultural imports. The price of the commodity should be compared with the prices of similar commodities from elsewhere, and the prices of synthetic substitutes in competition with it, (if there are any). Related to the study of relative prices, a study of relative production, transport, and marketing costs should be undertaken. Various grades of the commodity and their relative prices must also be analysed, with a view to explaining the causes of price differentials,

if they exist. Where possible, calculations of cross-elasticities of demand with respect to price should be made.

Consumers' tastes and preferences constitute an important area of research. The degree of competition in the world markets today is such that it is economically dangerous to frame production policies without taking into account consumers' tastes and preferences. This aspect of demand analysis hinges directly on the quality of the product in relation to its competitors. By using standard samples of various grades of commodities, by getting information through questionnaires in consuming countries and through other techniques, an assessment of what consumers want can be made. If the commodity in question fetches a lower price than those fetched by its competitors, an inquiry into the cause must be undertaken immediately. It might be found that the quality has fallen, or that of competitors has risen, or the conditioning is not appropriate, or the storage system is poor, and so on. This information will speed up the necessary steps to rectify the problem. It will be used to examine the internal arrangements of production and marketing and their efficiency.

On the supply side, there are several variables to consider. There is the share of the product market a country has. Sometimes it is assumed that since agricultural products have low demand elasticities, an expansion of a country's output and sales will necessarily lead to a deterioration in the product prices. This is not always true. What is often forgotten is that the change in price will depend on the relative share of the market a country possesses. It can be shown mathematically that the marginal revenue from the sale of additional exports is a function of the share in the market and the price-elasticity

of demand.¹⁰ The smaller is the share in the market, the more will be the gain from increasing output and sales. Conversely, the greater is the share, the less will be the gain from expansion. This situation arises from the different shapes of the demand curve facing the small producer and the large producer respectively. Therefore for Tanzania to plan a large expansion of sisal output on the assumption that the price will remain unchanged is quite unrealistic. Alternatively, for a small producer to restrict output for the fear of depressing the world market price is to forgo some additional revenue. Thus an analysis of relative market shares in various agricultural export commodities will give a realistic indication of the direction where expansion will be profitable. It might be found that whereas an expansion of all grades of the commodity would depress the price, an expansion of certain grades restriction of others could be profitable. This may be true of Tanzania's sisal and Uganda's robusta coffee. At this juncture one should question whether small producers of certain commodities like coffee should continue to be under restrictive measures because they belong to international commodity arrangements, like the International Coffee Agreement, which attempt to stabilize prices by supply restrictions. The same question can be raised against the recently proposed Tea Agreement. This kind of arrangement tends to keep high-cost producers in production while low-cost ones are prevented from maximization of output and sales to earn more revenue. This is clearly a misallocation of resources internationally and bears very hard upon the incomes of small new entrants to the market.

It is now contended by certain economists like Prebisch, Singer, and Nurkse that synthetic products and general technological advance may be a threat to agricultural products. The synthesizing of artificial rubber has hit Malayan natural rubber, while nylon, rayon, etc. have put Japan out of silk production. Similarly, synthetic substitutes for cotton, sisal, pyrethrum and others appear to threaten East Africa's export position. Technological advance, in addition to the invention of synthetic substitutes, tends to reduce the demand for natural raw materials because they are used more sparingly. Therefore market research should include a close study of these threats. The quality, costs of production, market prices and other characteristics of the substitutes should be analysed for comparison with those of the home product. It may be true that high prices of the natural raw materials are actually responsible for increased synthetic sales. It may also be found that technological progress widens the uses of natural products. Hence research into the trends of technological progress is necessary.

Production plans and policies of competing countries also need careful study. This will give an indication of the likely changes in total supply on the world markets, and some estimation of the likely repercussions can be made. Figures of average sales by individual countries should be assembled in terms of individual crops, quantities (e.g. tons, bales, bags,) gross revenue, selling prices, and so on. Related to this, figures of imports by various importing countries should be gathered, and they should be broken down to show relative quantities imported by different categories of importers within a country. This condition

demands that the exporting countries should be in close contact with import firms, export firms, individual merchants, shipping companies, insurance companies, etc. These will not only supply information about trade figures, they will also forward complaints from consumers. Thus, being in the market itself, importers and exporters have vital information which should be utilized by the producing countries. It should be realized that since markets change from time to time, it is not enough merely to concentrate on traditional markets. A wider view should be taken to assess possibilities elsewhere. In the same way, market research should not only deal with traditional exports, but also proposed export products in the diversification programmes.

The scope for market research is really unlimited. Other fields which should be investigated include: reviewing import policies in the consuming countries (to include tariffs, quotas, preferential treatment, bilateral arrangements etc.), implications of regional groupings (e.g. Britain's entry into the European Common Market), population changes, comparisons of forecasts and actual performance, the scope for increasing sales by advertising and by other promotional campaigns, etc., etc. Clearly, the list is not exhaustive.

One of the criticisms likely to be raised is that this paper assumes an unlimited supply of data. This is valid to a small extent. The foreign trade sector of developing countries is by far richer in data than the domestic sectors. If vigorous action were taken, adequate data can be mobilized from numerous sources. The following are some of them: publications of the Ministries of Agriculture and Commerce in the importing and exporting countries, those of organizations like the Food and Agricultural Organization

of the United Nations (F.A.O.), GATT International Centre (at Geneva), UNCTAD, various trade journals, export-import firms, etc. Much of this information will need to be reinterpreted. It therefore appears that it is not the lack of data and information that handicaps market research, but the lack of organised effort. To facilitate effective inquiries, the domestic expertise can be augmented by using international marketing firms, consultancy firms, research institutes, etc.

Having assembled the necessary data and information, those responsible should proceed to put them into a usable form, easy to be understood by the relevant ministries and marketing boards. It is essential that short intervals, preferably quarterly intervals, should be chosen for the publication of the collected and analysed information. The information may be contained in a Market Research Bulletin.

4. Summary and Conclusions.

Developing countries, in particular those of East Africa, have in the past tended to give little emphasis to market analysis when planning for the allocation of their resources. This lack of critical analysis, especially with respect to demand, tends to reduce the amount of foreign exchange earned and to encourage a misallocation of resources during the Plan period. It should therefore be realized that market research is part and parcel of rational and realistic agricultural planning, particularly planning for the export products. This kind of market research has great implications for rational decision making. It will form the basis of the decisions as to whether a country should expand its output and sales, whether or not it should adopt direct sales, barter and

bilateral trade agreements; whether or not it should enter international commodity agreements and regional trade arrangements, and so on. These policy decisions should be assessed against the alternatives, because a decision in one direction has an opportunity cost which may be very great.

Market research should affect the planning process itself. Since market prospects change quite frequently, agricultural sector plans must be very flexible so as to facilitate more efficient resource allocation and reallocation in response to new market changes. The Market Research Agency should be in very close contact with the Ministries and Marketing Boards concerned, so that quick transmission of market information right to the farmer is made possible. This in turn implies organizational changes within ministries. There should be a smaller planning unit within the Ministry of Agriculture and the Ministry of Marketing and Cooperatives which should concern itself with resource allocation according to the market conditions, and also with constant reviews of the degree of efficiency with which the resources are used. The smaller planning unit that has been created within the Ministry of Agriculture in Uganda could do a lot more if its services were supplemented by those of a Market Research Bureau.

REFERENCES:

1. "Work for Progress": Uganda's First Five-Year Development Plan, p.55.
 2. D.G.R. Belshaw: "Agricultural Production and Trade in East African Common Market" in C.Leys and P. Robson (eds.) Federation in East Africa.
 3. Tanganyika Five-Year Plan for Economic and Social Development: 1964-1969, Vol.I.
 4. Work for Progress p.68.
 5. Y. Kyesimira: 'The External Trade Prospects and the Plans' East African Economic Review, Vol.2 No.2. Dec.1966.
 6. Edourd Stiegler: "Agricultural Diversification in Uganda For Exports". Part III, Jan.1967.
 7. Tanzania Second Five-Year Plan for Economic and Social Development 1st July, 1969-30th June, 1974, Vol.I, p.15.
 8. Ibid, p.42.
 9. Ibid, p.43.
 10. "Problems of Economic Growth and Planning: The Sudan Example" Ifo-Institut für Wirtschaftsforschung, München, Afrika Studien, 9.
- Also:
11. F.A.O.: "Agricultural Planning Course 1965".
 12. G.M.Meier (ed): "Leading Issues in Development Economics". Ch.7.
 13. G.K. Helleiner (ed.): 'Agricultural Planning in East Africa" 1968.

This work is licensed under a
Creative Commons
Attribution – NonCommercial - NoDerivs 3.0 Licence.

To view a copy of the licence please see:
<http://creativecommons.org/licenses/by-nc-nd/3.0/>