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AGRICULTURE SECTOR POLICY AND MACRO-ECONOMIC PLANNING

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INTRODUCTION

This short note is prepared as an input into a training course on Agricultural and Rural Development Planning, and is intended to provide a brief overview of some of the links which need to be established between sectoral and macro-planning. In the process it discusses some of the planning methods used in the small open economies of the Caribbean, and provides some ideas as to the direction in which they may evolve over time. While examples are drawn principally from the experience of Trinidad and Tobago, the basic principles, as well as the more general comments, apply faithfully to the planning patterns which apply in most Caribbean countries.

The presentation is divided into three parts. Firstly, some comments are made about the broader macro-economic developments in Trinidad and Tobago since 1973, and an attempt made to fit agriculture sector performance into that context. Secondly, the paper discusses various approaches to 'planning', progressing from the most basic, to more complex and integrated approaches. An attempt is made to establish the relationship between sectoral and macro-economic planning and in so doing integrate the 'top down' and 'bottom up' planning approaches which will be necessary in order to create the consensus which is required for effective plan implementation. Before providing a summary of conclusions, some of the constraints which must be faced by planners in the region are also identified.

OVERVIEW OF ECONOMIC TRENDS AND POLICIES

Petroleum price increases between late 1973 and 1980 brought windfall gains to Trinidad and Tobago and permitted a level of economic activity, and an increase in the standard of living, not previously experienced.

Because it is an extractive industry, with limited linkages into the domestic economy as a whole, the windfall gains accrued in the first round primarily to the public sector in the form of increased revenues. In the second round, as government disposed of these revenues, in the form of increased members of, or salaries for, the civil service; expanded welfare programmes; widely increased subsidies; or in a rapid increase in investment projects; the oil revenues impacted upon the other sectors, and ultimately upon the standard of living and levels of consumption of the citizens as a whole.

Since the oil boom was also an export boom, it generated rapidly increasing quantities of foreign exchange, and permitted a removal of the import constraints that had affected the economy up to 1973. While there was a rapid increase in imports it was

a removal of the import constraints that had affected the economy up to 1973. While there was a rapid increase in imports it was also possible to have a great increase in reserves, at least initially, and to benefit from the capital revenues which came from them.

Real weekly earnings increased by 6% per annum between 1976-1982, while the rate of unemployment fell from 17% to 10% at the same time.

Real national income is estimated to have increased by one-third between 1973 and the second oil price increase in 1981. A fair portion of this increased income was also transmitted to the poorest sectors, through increased employment, make work schemes, and a series of subsidies tailored to their needs. At the same time a fairly large programme of investments in downstream activities from the petroleum sector were put into operation, in ammonia, urea, methanol, and in steel.

Nevertheless, due to the rapid increase in income many of the productive factors were overstressed and a series of dislocations were created. Increased incomes were not matched by increased productivity, many of the unskilled were employed to do skilled work, and others were employed to do non-productive tasks. Increased consumer demand could not therefore be matched by increased domestic production, resulting in a rapid increase in prices and imports. This was exacerbated by the fact that many local manufactures were large users of foreign exchange.

Costs of production increased rapidly, and while these increases were easily absorbed by local consumers, the effect was that industries were no longer competitive on the wider export markets, or even within the protected CARICOM market.

Finally, there were significant reallocations of resources into areas such as the distribution of imported goods, construction, and real estate. At the same time, there was a shift of resources out of sectors such as agriculture.

By 1982, a decline in petroleum output which had started in the late seventies was joined by falling oil prices, a trend which has continued up to the present. Accordingly, many of the policies developed in the seventies are no longer sustainable, and the dislocations created are now in the process of being corrected. Evidence of this readjustment is seen in reduced government expenditures, a variety of new sectoral policies, regulations regarding foreign purchases, and the process of realigning the local currency has also begun.

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The impact of past macro-economic trends and policies upon the agriculture sector was quite significant. While agriculture had not played a major role in the economy prior to 1973 its share of GDP was nevertheless halved between 1973 and 1982, resting in that year at 2.7%. By 1985 this trend had been reversed somewhat due to the impact of changed economic conditions, and policies, so that at the end of that year its contribution had increased to 3.7%.

Between 1971 and 1982, food imports had doubled in terms of volumes, but had increased eight-fold in terms of prices. In 1980 food imports had been necessary to meet 90% of food needs. The decline in Agriculture was further demonstrated by the fact that labour was moving out of the sector, due no doubt to the fact that real wages declined. Agriculture absorbed about 18% of the labour force in 1974, but by 1984 this had declined to 8%. Once again the trend seems to have been reversed, since this percentage grew to 10% by the end of 1985.

In effect what was happening was that, in line with a development philosophy common to the whole region, emphasis was being placed on industry as the path by which development would be pursued. Throughout the region these trends were evident, but as resources were more limited the shifts in emphasis were not as dramatic. This dramatic shift away from agriculture was also evident in other oil economies, such as Nigeria, which had traditionally been a major agricultural producer before its oil boom. Nevertheless, Indonesia provides an example to demonstrate that it was possible to develop an oil economy without hampering agricultural development, provided the appropriate macro-economic policies were applied.

Subsequent evaluation of the agriculture sector in Trinidad has listed a number of reasons for the decline of the sector as follows:

- (a) Inadequate physical infrastructure;
- (b) Labour costs/shortages;
- (c) Outflow of capital from the sector;
- (d) Social problems such as praedial larceny;
- (e) Excessive concentration in the export sector;
- (f) Insufficient research and development;
- (g) Competition from foreign food, dumping;
- (h) Shortage of professional and technical skills;
- (i) Declining public sector investment in agriculture; and,
- (j) Urban culture pervading the society.

Now that foreign exchange has resurfaced as a major economic constraint, and ways have to be found to earn and to save more foreign exchange, agriculture comes under scrutiny once more, since food imports constitute a major part of the foreign exchange bill. Moreover, agricultural exports have in the past been a significant contributor to foreign earnings.

But by now a number of things have changed in the sector particularly in relation to the export markets. The traditional export crops are now facing serious competition, and decisions need to be taken as to whether they can be placed on a competitive footing, or new products will be tried. This is a particularly urgent decision since about 70% of the land in production is in export crops such as sugar, coffee, cocoa, or citrus. Moreover, sugar production is a drain on the budget, the industry requiring TT\$ 300 million per year in subsidies.

It would in fact seem that a decision has been taken to retain the most productive parts of the traditional crops, and to phase in new export crops where possible; the remainder of the land to be earmarked for domestic food production. But it is not clear whether decisions have been taken regarding what crops should be emphasized, based on a ranking of what can most efficiently be produced, and in what quantities based on a knowledge of market requirements. It seems that these are issues for the agriculture planners, and I would be interested to hear whether this investigation has been done, and what results have been achieved. The implications for a land use policy are also obvious.

THE ORIENTATION OF POLICIES TOWARD GOALS

I believe that while the short analysis given above is familiar to most of you, even if you might interpret the facts differently, we will all agree that a case is made for some form of systematic planning. Moreover, it is clear that whatever you may wish to do in the sector, if the overall macro-economic conditions are not in harmony, the sectoral plans will not come to fruition. So that a case needs to be made for an integrated approach to planning, of the sectors and the overall economy.

There has recently developed a tendency in the Caribbean not to talk too much about economic planning, but rather to emphasise economic management. I believe that this arises from a disenchantment with 'planning' as practiced in the past, and a need to emphasise the continuous process of guiding and fine tuning the economy that is essential for the effective achievement of planning goals. I believe that it will be conceded, however, that it is desirable to set out the planning process in a plan document, since it can help to provide a systematic approach to coordinating development decisions. An explicit plan can also provide a basis for judging performance at set intervals and for correcting those things that have not been achieved. So the planning document may be a useful waystation in the planning process, but it needs to be recognized that the process can conceivably also proceed without a formal document.

All of us in the Caribbean are familiar with the three or five year development plans, which absorb enormous creative energy and human resources, but are often left to languish on a

shelf, not followed, never updated to adjust to the rapidly changing environment, sometimes never approved by the political directorate. We are also aware of some plans which are merely expressions of hope, or more cynically intended for window dressing, unconstrained either by administrative or financial limits. We are aware of inconsistent plans that have a little something for everyone, but which add up to inconsistent and unworkable policies. Of plans which set goals without providing any suggestions of the means, or the instruments, that will be needed to achieve them. Of plans which leave out the politically difficult parts.

The existence of a plan therefore, does not mean that the community has either the will or the means to implement it. As a result there has tended to be a disenchantment with planning by some, but also perhaps a false hope has been instilled in others that the plan will be the panacea for our developmental problems. Perhaps, a realistic evaluation will leave us somewhere between both extremes.

THREE PLANNING STAGES IN THE MIXED ECONOMY

It may now be useful for me to discuss briefly some of the more common mechanisms used in the region particularly as they relate to the mixed economies.

Planning is more complex in mixed economies because in this system the planner has less influence over all the economic actors, than is the case where the economy is concentrated in the public sector. Moreover, prices which are subject to relatively free fluctuation in the mixed economy change more rapidly than in a system where they are fixed administratively; and where both both pricing systems coexist, there is the danger of sending inconsistent signals to the various economic actors. For convenience it may be useful to separate the planning processes used in mixed economies into three distinct stages, of increasing complexity, with the understanding that conceptually they tend to progress from one to the other, in a continuum.

The basic minimum begins with the national budget completed on an annual basis. It is often the starting point for most countries and provides indications for the forthcoming one year period about expected revenues and expenditures; the latter divided into recurrent expenditures and capital expenditures which will be undertaken by the government. At a more advanced level the budget might include estimates of expenditures of all public sector entities. Either integrated with this or separate from it may be a list of projects which will comprise the quantum of expenditure for the budget period.

For some of our Caribbean countries this is the extent to which they are able to go in the planning exercise given the level of resources, particularly of planning skills which are available to them. The preparation of a slate of projects strains the resources of most of our countries and if we are able to accomplish that it is often as much as the resources can manage.

But the budget is sometimes not a very accurate reflection of what is intended for the next year. All of us who have worked in the public sector know that the bases on which budget estimates are made are not the most scientific. Those in the Ministries of Finance know that there is often a tendency to underestimate revenues at the first round in order to contain demands. From the line Ministries there is a tendency to pad the estimate in the knowledge that the Ministry of Finance will make cuts. Then as there is a desire to maximize expenditure, both in the hope of forcing the pace of development as well as in an effort to gain the kudos to be derived from a big budget the political directorate might once again inflate estimates of revenue, and so on. The fact is that there is an element of gamesmanship in the budget exercise that really has no place in the more formal, and supposedly more scientific planning process.

At this stage one will need to examine how the slate of projects is compiled. For some the projects surface because there is an indication that finance may be forthcoming from a donor for such activities. I am here referring to the lending or aid policies of multilateral or bilateral donors. And these policies may or may not coincide with the the particular development priorities of the recipient country, or of its needs.

Alternatively the slate of projects may be biased towards a sector which has developed the expertise to prepare projects in the past. And this accumulated experience usually did not reside in the Ministry of Agriculture. But in truth these biases were smaller evils, since the greatest problem for most developing countries is the difficulty in compiling a reasonable slate of carefully prepared and viable projects.

The shortcomings of the project by project approach are however, obvious, since they tend not to have any unifying basis, no common policy thread. There is probably no systematic basis on which to assign priorities to them, either by sector or within sectors.

The Integrated Public Sector Investment Programme, which attempts to remedy the shortfalls of the case by case approach, is regarded by some as the proper initial stage of planning. It should take as its departure point a fairly rigorous estimate of public sector resources for the life of the programme, both in terms of revenues, and of resources it expects to be able to borrow, or to be given in the form of grants in aid. Estimates of local resources need also to be disaggregated from foreign exchange needs.

Funds will be allocated on the basis of agreed and explicit sectoral priorities. The allocation within sectors is then made in accordance with a ranking based on the priorities of that sector, cost benefit analyses, linkages and the catalytic effects which it may have with other projects completed, in process, or planned. Such a cohesive group of projects would go to form a sector programme.

The various sectoral programmes are thereafter evaluated in order to maximize the sum of benefits from a given quantum of investment, and ultimately go together to form the **National Investment Plan**, often of medium term duration, with an annual component being included each year on the expenditure side of the budget. It is usually evaluated on an annual basis and may be updated or revised periodically, dependent upon performance in the previous year, or changing priorities.

Ideally, the public sector investment programme seeks to incorporate all the claims made for funds by the public entities, even including the semi-autonomous public entities since their obligations are usually guaranteed by government and form a part of the national debt. At this stage of the planning process the private sector is incorporated only in so far as the government sets out to influence the investment climate, or through credit and other controls, to channel the direction of investment into specific areas, but details of private sector investment proposals are seldom available at that level of planning.

The **Comprehensive Plan** takes a different approach. It begins with targets, or more appropriately target paths for certain selected key elements in the economy, which are perceived to interact in specified ways. In this way a simple general equilibrium model of the economy can be derived for the plan period which is usually the *medium term*, three to six years, a compromise based on the need to have a sufficient period of time to allow policies to remain consistent in direction and so show their effect, but not so long that forward predictions become meaningless. In any case the constant monitoring and readjustment of targets will be essential.

From the target growth path of say GDP, the planner will develop some notion of the quantum of investment and savings which will be needed to attain the target, based on investment and other coefficients, the time lags needed for factors to transfer and become operational, and so on, derived from past experience, and conditioned by expectations of change during the plan period. It is obvious that the accuracy of the coefficients and the appropriate elasticities is central to the exercise, and yet difficult to achieve initially, given weak data bases and a shortage of the appropriate skills. Yet the process by which the planner arrives at these measures, and the discipline needed to visualize and quantify the types of linkages between the sectors is essential if he is to be able to manipulate the economy effectively. In this way models of varying complexity may be

developed to identify the rates of demand and supply, public and private consumption, savings, investment, employment, imports, exports, and so on, which will follow from the basic target paths.

The comprehensive planning model takes into account not only the public sector investment programme but also incorporates target budgets based on estimated public sector resources for the plan period, the projected investment of the private sector, and the expected impact of public policy on such private investment. The model might also be arranged so as to provide some notion of the best allocation of resources between the public and the private sectors. Initially, for Caribbean countries a relatively simple model including four or five producing and consuming sectors such as Agriculture, Industry, Services appropriately disaggregated, and Mining where appropriate, might suffice to provide an adequate understanding of the way in which the economy interconnects, and allow the planner to select the basic tools needed to manipulate it.

From the broad general aggregates, the plan will go into detail in each of the sectors, while at the same time the sectors would have been preparing their sectoral investment programmes. In this way a 'top down' and a 'bottom up' approach to planning would therefore be proceeding, simultaneously.

Once the detailed sectoral plans are received the macro-planner will be in a better position to evaluate the balances in greater detail. For he will need to insure that not only does the supply of labour balance with the demand for it, but that the necessary types of specific skills are available. Imports must not only balance with exports, but the composition of imports will be crucial since, for example, capital goods imports must be forthcoming to sustain the quantum of investment. Investment will only be possible with adequate savings, but these savings must be sufficiently mobile to move to those sectors on which investment priorities are placed. While some of these balances will be established through the operation of key price variables such as the real wage, the exchange rate, and the cost of capital other less tangible factors such as confidence need also to be considered in conjunction with them.

SECTORAL PLANNING

While I have tried to make it clear that the efforts of the sectoral planner will be frustrated unless the overall macro-economic framework is compatible with it, a word also needs to be said about sectoral planning itself.

It should be clear that if the plans are to be relevant and implementable there has to be a strong consensus between the proposals advanced by the agriculture sector planners, and the needs and aspirations of the farming community itself. For agricultural policy, perhaps to a greater extent than some other sectors, will depend for its success on a larger number of small

private actors. A level of consensus is therefore crucial on what to produce, the rate of increase which is possible and feasible, and the current impediments to implementation which need to be removed.

Armed with an understanding of the problem, and a measure of consensus the sectoral planner will be in a better position to formulate more effective projects and to select the most effective instruments and policies to encourage implementation. (Appropriate pricing policies are obviously of great relevance in this regard). The planner will also be in a stronger position to defend his policies and projects at the macro-economic planning stage.

A significant source of delay and wastage of resources in the implementation of sector plans results from inadequate project selection and preparation. A pre-condition for this is a comprehensive evaluation of the sector as a whole. In agriculture it will imply a sound knowledge of land resources, soil types and consequently production possibilities. It would need to be informed by a knowledge of the relative prospects of development in areas such as forestry, animal husbandry, or various crops. It should have relatively clear ideas about the relative efficiency of producing for export or for domestic consumption, of what crops are best, and what foreign and domestic markets can bear. It should be clear about those areas in which there are knowledge gaps, and where further research is needed.

Once potential projects are identified, feasibility studies will be needed, to consider the economic, technical, financial and organizational aspects of the project and ultimately to determine whether the costs are lower than the potential benefits, and to be able to make an effective ranking of the various project possibilities. Are the necessary inputs available? What are the ancillary services required? What of human and organizational skills?

Effective project preparation is expensive and time consuming, and requires a certain basic minimum of specialized data. It is essentially a multi disciplinary exercise, and so skills intensive. Yet it is crucial if funds are not to be wasted on the implementation of non-viable projects; even more expensive is the budget subsidy required far into the future to sustain the operation of badly conceived projects. Paradoxically, the risk of this happening is highest when domestic resources are used, or where repayment is guaranteed by the public sector, since multilateral donors normally tend to be more rigorous in assessing feasibility before loans are disbursed. Nevertheless, there is often a tendency to regard the requirement of feasibility assessment as an impediment by those impatient at the pace of development, and the temptations to circumvent the process are great.

CONSTRAINTS

Before closing it might be useful to comment on two constraints which are sometimes used to deny the efficiency of formal planning whenever the question arises in the Caribbean. They relate to the extreme openness of the economies and the quality of the data available to the planner.

In economies as open to external factors as those of the Caribbean the planning discipline will be faced with more constraints than would be the case in larger and more self-sufficient economies. Since the open economy is subject to a much higher level of external vulnerability, and therefore uncertainty, the planning process must need to be more flexible so as to react to the unforeseen, and it will need to have a greater degree of attention paid to the review and readjustment of targets. At the same time economic actors need to react rapidly, and ideally automatically, to external stimuli, which create opportunities for expansion as well as potential dangers of contraction. Price mechanisms which faithfully reflect external trends and impacts will, therefore, have a central role to play in small open economies. But recent global trends suggest that even for the largest countries the idea of autonomous economic action is rapidly becoming a myth.

A word needs also to be said about data. It is evident that the quality of the planning process is highly dependent upon the quality of information at the disposal of the planner. It is argued that the data set needs to be complete before planning can proceed. This is often the statisticians view, whereas the economist might be willing to accept a less complete data set, while it is available to him quickly. In the real world one cannot await perfection, so that one must begin with the resources available, hopefully improving them over time. It also needs to be said that many of our countries do not make the best use of the available data, neither is the collection of the data as systematic as it could be. Nevertheless, the quality of the data will clearly place some constraints on the type and extent of planning which will be feasible.

SUMMARY AND CONCLUSIONS

In conclusion it might be useful to restate some of the following main points:

- 1) Planning as defined in this presentation is to be seen as a dynamic process, integral with implementation and economic management;
- 2) It requires constant feedback and adjustment, so that revision of the plan on an annual basis is a good idea, and some planners adopt a rolling plan with this in mind;
- 3) The type and degree of detail in the planning process will be conditioned by the objective circumstances in the country

and what is deemed to be necessary, but will ultimately be determined by what is feasible and what can be implemented;

4) There has to be a symbiotic relationship between the sector and the overall economic framework, so that the macro economic framework has to be consistent with the goals and objectives of the priority sectors, and vice versa;

5) Ultimately, development is dependent upon a succession of viable productive individual projects both in the public and the private sectors. The preparation of such projects is time consuming and expensive, requiring as it does a variety of skills. This preparatory work can only be skimmed however, at great risk to the long term viability of the project;

6) The implementation and operation of these projects will require effective management skills and a continuous monitoring of the operation to ensure continuous viability; and finally,

7) Planning is data intensive, but one cannot wait for perfect data to begin the process. The scope and comprehensiveness of the plan must, however, recognise the data constraints, and work within them, even while planning to upgrade the data base.