

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D. C. 20523
BIBLIOGRAPHIC INPUT SHEET

FOR AID USE ONLY

Batch 53

1. SUBJECT CLASSIFICATION	A. PRIMARY	TEMPORARY
	B. SECONDARY	

2. TITLE AND SUBTITLE
Planning data and information flows in Malaysia

3. AUTHOR(S)
Crosson, P.R.

4. DOCUMENT DATE 1965	5. NUMBER OF PAGES 24p.	6. ARC NUMBER ARC
--------------------------	----------------------------	----------------------

7. REFERENCE ORGANIZATION NAME AND ADDRESS
NPA

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publishers, Availability)
(In Philippine economic j., v. 4, no. 2, p. 226-248)

9. ABSTRACT
(DEVELOPMENT R & D)

10. CONTROL NUMBER PN-AAD-330	11. PRICE OF DOCUMENT
----------------------------------	-----------------------

12. DESCRIPTORS	13. PROJECT NUMBER
	14. CONTRACT NUMBER Repas-9 Res.
	15. TYPE OF DOCUMENT

Repas-9-Res.
PN-AAD-330

Planning Data and
Information Flows
in Malaysia

Pierre R. Crosson

Philippine Economic Journal
#8, 2nd Semester 1965 Vol IV, #2
p. 226-248

Vat. Planning Assoc.

Repas 9

PLANNING DATA AND INFORMATION FLOWS IN MALAYSIA*

PIERRE R. CROSSON
Center for Development Planning
National Planning Association

I. INTRODUCTION

By common consent one of the major problems in translating the implications of planning models into development planning policy decisions is the all too frequent inadequacy of data and other relevant information. The incidence of this problem is felt not only by would-be users of input-output models and other sophisticated planning techniques; frequently, even the simplest Harrod-Domar models are rendered useless for want of satisfactory data. Moreover, the problem is not confined only to the formulation of plans; it is of major consequence also in the "follow through" stage of planning: in the implementation of development policy decisions. One need not slight the importance of political indecisiveness and obstructionism in frustrating development policies to recognize that the most single-minded devotion to policy implementation will be fruitless if the necessary information base is missing.

As a result of work undertaken over the last year and a half on the development prospects for Malaysia, we have had occasion to examine closely the supply of data in Malaysia relevant to making aggregate and sectoral pro-

* This paper is a product of a research project financed by the Agency for International Development. However, responsibility for all views presented in the article is assumed solely by the author.

jections and also to consider planning techniques employed in the country from plan formulation through the execution of development policies and programs. While it cannot be claimed that the specifics of the Malaysian case are typical of the less developed countries generally, the problem of generating adequate planning data and other information has some general characteristics which the Malaysian case serves to illuminate. Hence, the examination of the Malaysian situation may be of some general interest. Of course, for those interested particularly in Malaysia's development planning effort, no appeal to a wider interest is needed.

The purpose of this paper is to examine the flow of data and other information in Malaysia relevant for planning, including in this term both the formulation of plans and the development and execution of policies designed to implement these plans. The concept of "data and other information" used here includes not only quantitative indices of production, prices, foreign trade, etc., and non-quantitative information such as progress reports on development projects but also knowledge of technical and behavioral relations in the Malaysian economy relevant for planning purposes. The inclusion of this last type of information makes the concept of "data" used here somewhat broader than that typically found. Henceforth, "data" will be used as shorthand for all three types of information mentioned here unless specific exception is made.

The primary intent of the investigation is to evaluate the quantity and quality of the available data against a rough standard of what data one ought to have to plan effectively. Most of the paper will deal with the situation in the States of Malaya — the Federation of Malaya before the formation of Malaysia. Henceforth, we will refer to this area simply as Malaya. Restricting the scope of the paper primarily to Malaya can be justified by space limitations and by the fact that Malaya is responsible for some 70 per cent

of the population of Malaysia and for some two-thirds of its income.

II. ELEMENTS OF EFFECTIVE PLANNING

Evaluation of any country's supply of data relevant for development planning requires a reasonably clear notion of the quantity and kinds of data required for effective planning. The data requirements in turn will depend on the components of the planning process. We distinguished above between plan formulation and plan implementation, and it will be useful to indicate more fully the meaning of these terms.

A. Plan Formulation

Plan formulation here means activity of national governments in setting development targets to be achieved over time, in part at least through deliberate government actions. By this definition, plan formulation can include everything from the analysis and selection of a few projects to the drawing up of a comprehensive program covering the economy in detail. The data requirements for these polar cases of plan formulation obviously differ widely.

It is safe to say that no country which takes its planning seriously would be satisfied with a plan consisting of no more than a few projects. Every serious plan will have an aggregative component if it lies within the capability of the planning authorities to produce one.¹ Of course, this may be impossible in some countries because of lack of information or of the necessary planning skills; but where this is the case, serious planners will exert every effort to overcome these limitations. We may say, therefore, that good plan formulation will include the setting of aggregative targets; e.g., target rates of growth in output, required levels

¹This perhaps is an arguable proposition. It is not necessary for present purposes to defend it, but the defense would be based on the role of the aggregate plan in ensuring consistency among sectoral plans.

of investment, saving, exports, imports, employment, and so on. Moreover, the well formulated plan will specify sectoral targets consistent with one another and with the aggregate targets and will list a set of projects also meeting these consistency conditions. It can be said in general, therefore, that effective plan formulation requires data adequate to support the analyses essential to the setting of aggregate, sectoral, and project targets.

B. Plan Implementation

The other component of the planning process distinguished here is plan implementation. By implementation we mean the enunciation and execution of development policies designed to achieve the aggregate, sectoral, and project targets specified in the plan formulation stage of the planning process.

The kinds of data needed for plan implementation inevitably will overlap substantially with the kinds needed for plan formulation. For example, the setting of feasible targets for the growth of domestic savings clearly will require a reliable time series on the historical behavior of savings. However, the formulation of effective tax or other policies designed to achieve the savings targets will require analyses of savings behavior as reflected in reliable savings data. The overlapping of data requirements will generally exist also with respect to sectoral and project targets. That is, to a considerable extent the data needed to set feasible sectoral and project targets will be needed also to formulate and execute the policies designed to achieve these targets.

Because of the considerable overlapping in the kinds of data needed for plan formulation and plan implementation, most of our discussion and evaluation of Malaya's data supply will not distinguish between these two components of the planning process. There are certain aspects of plan implementation which require data flows not generally needed

in plan formulation, however, and we will take special note of these.

III. PLANNING AND PLANNING DATA IN MALAYA

Before getting down to business it is necessary to note a qualification which must attach to everything said in this paper concerning the supply of planning data in Malaya. The focus of the paper is on the quantity and quality of such data relative to the data required for effective planning. The data in Malaya consists both of published and unpublished material, both types of which are available to Malayan planners. Our discussion, however, relates only to the published data. Hence, our assessment may not describe the data situation confronting Malayan planners with complete accuracy. It is known in particular that much unpublished data have been generated in preparation of the First Malaysian Plan. We believe that availability of this unpublished material to Malayan planners does not significantly alter any of the major conclusions reached in the discussion below. However, some of the details of the discussions no doubt would be different were we fully aware of the extent and type of this new unpublished data.

There is another introductory point to be made. The discussion of the supply of planning data in Malaya is necessarily highly selective. Only the data relative to planning problems of major importance have been considered, and the treatment primarily is critical. If the discussion is to serve a useful purpose, little need be said about data which already appears satisfactory, nor should the paper be burdened with treatment of data of secondary importance. Note that the data are evaluated against a standard set by the needs for effective planning in Malaya, not against the performance of other less developed countries in generating planning data. By this latter standard the data supply in Malaya is relatively good, but this standard is not relevant for our purposes.

With these general points in mind, let us consider the supply of planning data available in Malaya. It has been asserted above that effective plan formulation and implementation requires reliable data relevant to the setting and achieving through policy action of aggregate, sectoral, and project targets. The data available to planners in Malaya must be judged deficient in some important respects at all three of these levels of aggregation.

A. Data Relevant to Aggregate Planning in Malaya

The fundamental data requirement for aggregate planning in any country is a set of reasonably detailed national accounts covering a sufficiently long period so that one can hope to distinguish underlying trends from cyclical or episodic movements. In this respect, the situation in Malaya is better than in many of the less developed countries, though still far from ideal. There is a consistent set of national accounts estimates on an annual basis covering the years since 1955,² and these probably provide an adequate guide to the aggregate performance of the economy over this period. Moreover, the Malayan Department of Statistics, under the able direction of C. H. Harvie and subsequently of Erik Homb and R. Chander, has worked continuously to expand the coverage and improve the accuracy of the national accounts data.³ However, there still are some gaping holes in the national accounts data of particular relevance to aggregative planning. These concern, in particular, gross do-

²The official national accounts for Malaya do not incorporate the pioneering work of F. C. Benham in constructing national accounts for Malaya and Singapore for 1947-49 nor the extension of Benham's estimates through 1953 by the International Bank for Reconstruction and Development.

³The initial work on the official national accounts was done by Miss Dorothy Walters and covered the period 1955-59. In the *National Accounts of the States of Malaya 1955-62* (Department of Statistics, Kuala Lumpur) which includes the most recent data, revisions of earlier estimates are given and the framework constructed by Miss Walters has been extended to include considerably more detail in most of the accounts, especially those on the production side. In *National Accounts 1955-61* there is an interindustry flow table with 29 production sectors identified.

mestic savings and international capital flows. The importance of reliable data for domestic savings and foreign capital flows may be questioned since so far Malaya has had good success in mustering the resources needed to finance its development program. However, the First Malaysia Plan promises to be considerably more ambitious than previous efforts, and it will be undertaken in a period when a growing proportion of the nation's resources must be diverted to defense. For these reasons, Malaysia cannot afford complacency about the financing of its future development program, as its political leaders and planners are well aware. This heightened importance of domestic saving and foreign capital, therefore, puts a premium on the availability of reliable data relating to these two quantities.

Thus, without adequate information on the historical behavior of these various quantities, analysis of the sources of the country's historical growth and of the relative contribution of domestic and foreign resources to this growth is largely frustrated. Such an analysis, of course, would make a major contribution to aggregative planning for future development, both in the setting of targets and in the formulation and execution of development policies. For example, the maximum attainable output growth rate will be strongly influenced by the ability of the country to mobilize domestic and foreign resources for domestic investment. However, without reliable time series on domestic saving and foreign capital flows analysis of the economy's ability to mobilize these resources and policy formulation to enhance this ability must proceed at best on informed guesswork.

While the most recent national accounts data include estimates of gross domestic saving, only three years are covered, 1960-1962. Gross savings are divided into capital consumption and other savings, and estimates are given for both the private and the public sectors in some detail. Unfortunately, there is no accompanying description of the sources

and procedures underlying these estimates. It is impossible, therefore, to reach a judgment about the size of the errors which may be in the totals and in the components of the totals.

Aside from questions of the accuracy of the official savings data for 1960 and 1961, the absence of a time series for savings leaves a major data gap. The June, 1962, issue of ECAFE's *Economic Bulletin for Asia and the Far East* contained an article describing an effort to develop estimates of gross savings in Malaya for 1954-1958. While the ECAFE study is a thoroughly workmanlike job, it was confronted with formidable data problems, and its results must be reviewed with suspicion. They appear completely inconsistent with savings estimates for the same years derived by taking the difference between gross domestic capital formation and net foreign capital inflows. These indirectly derived savings estimates may contain major errors, as will be pointed out below, but even so they appear to be more firmly based than the ECAFE estimates. Since the differences between the ECAFE estimates and the derived estimates are enormous, the accuracy of the ECAFE estimate must be seriously questioned.

The savings estimates which can be derived indirectly in the manner just described are not adequate substitutes for direct estimates of savings by the various sources of saving in the public and private sector. The indirect estimates, of course, include whatever errors there may be in the estimates of domestic capital formation and net foreign capital flows. Again, the official sources provide little basis for judging the probable size of these errors. For example, the balance of payments table in *National Accounts of the States of Malaya, 1955-1962*, contains no entry for "errors and omissions." However, a report by the International Bank in the spring of 1963 indicated that in the period 1955-1961 the cumulated "errors and omissions" entry in the balance of payments was more than 80 per cent of the

cumulated recorded net foreign balance. Whether the errors are primarily in the capital account or in the current account is not relevant to this discussion. The point here is that these large errors in the balance of payments estimates make one quite uncomfortable in using estimates of gross domestic saving found by taking the difference between gross capital formation and net foreign capital movements.

The present work of the Department of Statistics of the States of Malaya in estimating gross domestic savings is to be commended, and hopefully it will be continued and expanded. In particular, it would be helpful if future reports on the national accounts contained a description of the sources and procedures on which the savings estimates are based.

In view of the growing relative importance of foreign capital in financing Malaya's economic development, it is greatly to be hoped that work will be undertaken also to improve balance of payments estimates. There are no illusions about the difficulties inherent in this task in an open economy such as Malaya's where foreign trade is of such importance. Moreover, the problem perhaps has been made more complex by the increased incentives to smuggling arising from the present unpleasantness with Indonesia. Yet precisely because foreign trade is so important and the dependence on foreign capital increasing, the foreign sector is of strategic importance. There can be no question that aggregate planning and policy formulation would be greatly facilitated by more and better quality information about the balance of payments.

Data on labor force, employment, and unemployment are of major importance in judging the past aggregate behavior of the economy and in projecting its future potential. Also, the formulation of effective policies designed to achieve better utilization of the available labor force obviously requires information on the size and present utiliza-

tion of the labor force, and on other characteristics, such as age and sex distribution, urban-rural proportions, distribution of employment by industry, rates of inter-regional and inter-industrial migration, and so on. Not all of this information is essential to rudimentary analysis and employment policy formulation, but the more sophisticated analyses which are required for the design of really effective policies cannot proceed very far without the kinds of information listed.

Judged by this standard the labor force and employment data in Malaya are seriously deficient. Time series providing the kind of data just described are not available. Such data do appear in the population censuses of 1947 and 1957, and the Annual Reports of the Ministry of Labour contain a certain amount of information for July of the year covered by the Report. However, this information is relatively limited — there is nothing on labor force and employment for the economy as a whole, for example — and it is published with a time lag of not less than two years.⁴ Of course, it may well be available to economists and planners within the government more rapidly than this.

A sample survey of employment, unemployment, and underemployment was undertaken for two periods in 1962 and published in August, 1964. This survey made a large contribution to filling a major data gap in Malaya and undoubtedly has been of considerable value in the formulation of the first Malaysia plan. A similar survey confined to major metropolitan areas was undertaken in 1964, but the results have not yet been published. These surveys clearly are moves in the right direction, and it is to be hoped that they will be put on a regular basis and the results published in timely fashion.

⁴Some of the information from the census reports and from the Ministry of Labour appears in the *Monthly Statistical Bulletin*. However, at mid-1964 the most recent data published in the *Bulletin* was for July, 1961.

Despite these recent improvements it seems fair to say that planners in Malaya have been and are seriously handicapped by the paucity of current comprehensive information concerning the labor force, employment, and unemployment. The probing analyses required for sound projections of the production side of the national accounts are almost impossible as a consequence.

B. Data Relevant to Sectoral Planning in Malaya

The basic strategy in Malayan development planning is economic diversification to reduce the present heavy dependence on rubber. The attempt to diversify is proceeding on two fronts: (1) to expand non-rubber agricultural production relative to rubber production; (2) to expand non-agricultural production, particularly in industry, relative to agricultural production.

To implement this strategy sectoral planning in Malaya obviously must concentrate heavily on the industrial and agricultural sectors and within agriculture on rubber and non-rubber (principally food) activities.

The data concerning Malaya's rubber economy is probably as good as that for any important economic activity in the country and better than that for most. The information appears annually in the *Rubber Statistics Handbook* (Department of Statistics), and much of it appears monthly in "Rubber Statistics" and in the *Monthly Statistical Bulletin*, also by the Department of Statistics.⁵ The data covering activity on estates is based on monthly reports received directly from the estates. Since the number of estates is relatively small—some 2,300 compared to 280,000 smallholdings — and since the estates generally are inclined to keep accurate detailed records of their activities while smallholders are not, estate reports to the Department of Statis-

⁵The data covered by these publications include monthly and annual production, average prices, acreage replanted with higher yielding varieties, and so on.

tics provide a far more complete and accurate account of estate operations than is available for smallholders.

Such smallholder data as are available are limited almost exclusively to production, acreage, and yield figures. Production is estimated basically as the difference between estate production and total production as estimated from export data. Since both the estate data and the export data are reasonably good, the estimates of smallholder rubber production probably are fairly reliable. There is cause for considerable uneasiness about the quality of the acreage and yield data, however. The figures for smallholders' acreage appearing in the *Rubber Statistics Handbook* were prepared by E. C. Paardekooper for the Rubber Research Institute and published in "A Forecast of Malaya Rubber Production 1960-1970." In this study Mr. Paardekooper begins the section on smallholders' production with the statement "since no accurate statistics of acreage and yield for smallholders are available, the value of any prediction is questionable."

The weakness in the data for smallholders' rubber is particularly unfortunate because smallholders are likely to play a pivotal role in the success or failure of Malaysia's development strategy. This strategy implies that the commitment of resources to rubber will decline relative to total resource use in the country. The limited available evidence suggests that smallholders' costs of rubber production are high relative to those of estates; consequently, it would appear desirable that the major part of the relative reduction in resources committed to rubber should occur in the smallholder sector.⁶ Whether this occurs, however, will depend in large part on the responsiveness of smallholders to various positive and negative economic stimuli. On the positive side the government will be making an effort to increase the economic opportunities open to smallholders

⁶ There are powerful political considerations tending to offset the logic of this economic argument, however.

other than in rubber, thereby in effect increasing the opportunity costs of rubber to smallholders. On the negative side, if present widely held expectations are realized, there will be a declining trend in the world price of natural rubber. If this occurs, it will create incentives for smallholders to reduce their commitment to rubber from what it would be at a higher price.

From the standpoint of Malaysian development planning, therefore, it is of considerable importance to know a substantial amount about the likely responses of smallholders to these various positive and negative economic stimuli. Unfortunately this critically important knowledge is all too limited. The weaknesses in the available data for smallholders, and the general paucity of such data, make the elimination of this gaping hole in our knowledge of smallholders' economic behavior a most formidable undertaking.⁷ Yet until this is accomplished, the planners' projections of smallholder behavior and the policymakers' efforts to construct policies designed to promote diversification of smallholder agriculture must be based to a large extent on guesswork.

This leads naturally into consideration of the data supply relevant for planning purposes in the non-rubber portion of the agricultural sector. The principal crops here are rice, coconut, oil palm, and a variety of fruits and vegetables. The Malaysian development strategy implies that an effort will be made to increase the resources employed in production of these crops relative to those in rubber over the next 5 to 10 years. The planning necessary to achieve this goal, however, will be seriously handicapped by the present in-

⁷This is not to slight the very significant pioneering contributions to increased knowledge of the economics of smallholders' rubber made recently by C. F. Wharton and J. W. L. Bevan. Both Wharton and Bevan no doubt would agree, however, that their work is only a beginning. See Wharton's chapter, "Rubber Supply Conditions: Some Policy Implications," in T. H. Silcock and E. K. Fisk (eds.) *The Political Economy of Independent Malaya*. Bevan has been working on smallholders' yields and costs of production and processing. To my knowledge his work has not yet been published.

adequacy of the data available on production and resource use for most of these crops. The most serious deficiencies are in the data for food crops produced for local consumption. The reason is that the crop produced principally for export, oil palm, is grown primarily on estates while the locally consumed food crops are produced by smallholders. As in the case of rubber, information on the economic activity of estates is both more ample and more reliable than that on smallholder activity.

The data situation with respect to rice can be used to illustrate the problems involved.⁸ Rice is preeminently a smallholder crop and presently is by far the most important of the non-rubber agricultural commodities, both in value of output and in quantity of resources employed in production. Moreover, in the Second Five Year Plan a major commitment was made to the expansion of rice production so as to reduce the nation's dependence on rice imports. Much of this expansion was to come from sizable investments in irrigation facilities to permit extension of double cropping and more flexible cultivation practices generally.

Despite the important position of rice in the nation's economy, both at present and in planning for the future, the data relevant to analysis of the rice economy are fragmentary and of questionable accuracy. Basic information on acreage and production is collected by the Ministry and by the Department of Statistics. The acreage data are based on official records of land alienated for use in rice cultivation. It is well known, however, that not all land alienated for a particular use actually is employed in that or any other use, that some land is used for purposes other than that for which it was alienated, and that some

⁸ A complete account of the data supply for agriculture other than rubber would extend this paper to unconscionable length. The major sources of such data are the 1960 Census of Agriculture and the various reports of the Department of Agriculture. Suffice it to say that the Agricultural Census contained such grave deficiencies as to vitiate its use for many purposes. The principal problems involving the data compiled by the Department of Agriculture are illustrated by the text discussion of rice.

land is used for which alienation permission never has been granted. These practices not recorded in the land alienation statistics are most likely to be found among smallholders, indicating that the rice acreage data may be most exposed to the resulting errors.

The technique for collecting rice production figures in Kedah state suggests that the recorded production data for Kedah, and perhaps for the nation as a whole, may be subject to wider errors than the acreage data.⁹ Kedah accounts for about one-third of total padi production in Malaya. The production estimates are based on acreage figures derived from land alienation records, as just described, and on estimates of unharvested or damaged acreage and average yields per acre received from headmen in the rice growing areas. There is no indication that the headmen's estimates of unharvested or damaged acreage are based on observations following a single systematic procedure, and their estimates of yields per acre are admittedly based on their knowledge of conditions prevailing in their areas and on reports received by them from village chiefs.

Perhaps because of the lack of controls on this technique and the obvious possibilities for error in it, a second production estimate is made by an entirely different technique. The estimate is based on a sample of yields taken from five "representative" fields in each mukim (the smallest administrative unit in the state) of which there are 111 in Kedah. These sample yields and total acreage figures are used to estimate total production. As a final step, this estimate and that based on headmen's guesses are averaged, after first increasing the headmen's estimate by 20 per cent and reducing the sampling estimate by 10 per cent.

From this it is apparent that the rice production and acreage data for Kedah must be viewed with considerable

⁹ The description of this technique is from "An Appraisal of the Food Situation in Malaya," an unpublished paper by Malcolm J. Purvis, graduate student at Cornell University, now conducting research in Malaya on the food economy of that country.

skepticism. The indications are that the production estimating techniques in other rice producing areas do not differ significantly from that employed in Kedah so far as the absence of controlled systematic procedures is concerned. In any case, the importance of Kedah in total rice production is sufficient to create strong doubts about the validity of the data for totals.

Thus, the basic information ingredients for judging accurately the scale and efficiency of resource use in Malaya's rice economy are seriously deficient or lacking entirely. If the expansion of rice cultivation is to continue to be an important element in the government's policy of agricultural diversification, it is of the highest importance that a determined effort be made to firm up the flow of data on the rice economy. Otherwise, planners and policymakers will be groping in a wilderness of ignorance.

Finally, in this section dealing with data available for sectoral planning it is necessary to consider data relating to the industrial sector, by which primarily is meant manufacturing.

The expansion of the industrial sector is a major element in the Malaysian development strategy aimed at increased diversification of the economy. Moreover, industrial expansion is considered essential to the reduction of unemployment in urban areas which, judging by the unemployment surveys of 1962 and 1964, is at a disturbingly high level. While the industrial sector has thus been assigned a role of considerable importance in Malaysian development plans, the government has chosen to leave the playing of this role essentially in the hands of private enterprise. Public action is limited to the building of social overhead and of industrial estates where sites are made available to private industry on favorable terms, and to indirect measures of fiscal, monetary, and tariff policy designed to create an environment of economic stability and opportunity favorable to the unleashing of private initiative. This posture,

incidentally, is characteristic also of the PAP government in Singapore, although there it assumes a more aggressive shape than in Kuala Lumpur.

This is not the place to debate whether this basically *laissez faire* policy will be adequate to promote industrial expansion on the scale envisioned in Malaysia's development planning. The policy does imply data requirements which are quite different from those implied by a policy of direct intervention, however. As for the other sectors that have been considered, there is an obvious need for information on the present scale and diversity of industrial activity, including both measures of output and measures of the quantity of resources in use. The presently available data are deficient on both counts.

The basic source of information on manufacturing activity is the 1959 Census (the first complete Census of Manufacturing in Malaya), and successive annual manufacturing surveys of smaller scope and detail. The annual surveys employ the same concepts, sources, and methods used in the 1959 Census. The Census deliberately over-represented larger industries and industries conceived to have above average growth potential.¹⁰ In consequence, the *level* of manufacturing activity appears to have been significantly understated in 1959 and subsequent years,¹¹ while the *expansion* of manufacturing since 1959 may well be overstated because of the disproportionately heavy weight given to "growth" industries.

In addition to these limitations, there is another which may be more important, given the role assigned to industrial expansion in the nation's development planning. The industries not included in the census and surveys are principally consumer goods industries — food processing, tex-

¹⁰ In addition, all firms with Pioneer Industry status were included regardless of whether they met the criteria of size and growth potential.

¹¹ According to Miss Barbara Mercer, Colombo Plan expert principally responsible for the Census and subsequent surveys, the understatement of value added in the Census may have been as much as 15 per cent.

tiles, clothing, furniture, and so on — and so-called “service” industries; e.g., general engineering and machinery repairs, motor vehicles repairs. It may well be that these two types of industries, although presently small, will play a crucial role in Malaysia’s future industrial growth. Much of this growth probably will occur in import substituting activities, and consumer goods industries are more likely to fall in this category than any other. In general, the size of market required to support efficient light consumer goods industries is smaller than that required by heavy manufacturing, and the labor skill requirements for many consumer goods industries (particularly food processing) are less. For both reasons, consumer goods industries probably should rank high as candidates for specially favorable treatment by planners and policymakers.

The small service type industries may be especially important in increasing the attractiveness to manufacturers of Malaysia’s urban centers relative to other potential locations in Southeast Asia and, indeed, in the world generally. These service industries are an important element in creating the “external economies” which make urban areas attractive to manufacturing. Any area seeking to expand its manufacturing industry, therefore, should be alert to the importance of a well rounded supply of service type industries.

Given the potential of consumer goods and service type industries, it is unfortunate that the Census and annual surveys of manufacturing include little or no information on these industries. In the absence of reliable information, planning with respect to the potential expansion of these industries is seriously hamstrung.

There is a related deficiency in the information presently available on the manufacturing sector in Malaysia. As noted above, the policies designed to encourage industrial expansion rely heavily on the provision to selected industries of favored tax and tariff treatment. Obviously, the

choice of industries to receive this treatment is crucially important to the success of the industrialization policies. So far, however, no careful probing analyses of the potential of various industries have been completed for the guidance of planners and policymakers. To be sure such studies were recommended by the Rueff mission in its report on economic aspects of Malaysia, and their importance apparently has been accepted by the authorities in Kuala Lumpur. The studies are yet to be produced, however, and until they are, the implementation of Malaysia's industrialization policies must necessarily be hampered seriously.¹²

C. Data Relevant to Project Planning in Malaya

A project is here taken to mean a specific development activity requiring the investment of funds supplied wholly or in major part by the Federal government. Examples are specific FLDA schemes, power stations built by the Central Electricity Board, public roads, dams, bridges, irrigation facilities, and schools.

Project planning, as in the case of aggregative and sectoral planning, can be considered to have two major components: plan formulation — choosing among alternative things to do, how to do them, and on what scale — and plan implementation — the formulation and execution of policies designed to achieve the specified objectives. The first phase of project planning requires essentially the kind of data required for benefit-cost analyses. Malaya appears to be in the same condition as most countries in having much more reliable information regarding project costs — direct costs at least — than for benefits. There are at least two major causes of the relative inadequacy of the data on the benefit side: (1) for some major development projects, such as the FLDA schemes, the direct benefits are long

¹²The reader is reminded of the earlier caveat that the Economic Planning Unit has done considerable work in connection with the Third Five Year Plan which has not been made public and to which we are not privy. Possibly at least some of the studies called for in the text have been included in this work.

deferred because of the "technology" of rubber production. Consequently, there is a much smaller supply of information concerning benefits of such projects, and such information as is available provides a less secure base for projecting benefits of new projects because of the time lags involved. (2) The benefits of many of Malaya's development projects do not accrue directly to the project generating them; indeed, many of these projects may generate no quantifiable benefits at all. The return to much social overhead investment — roads, non-power features of dams, for example — are diffused widely through the economy, showing up in unidentifiable form in higher profits and increased productivity of many different types of economic activity. The returns to investment in health and education also will generally be widely diffused, and in part, at least, will take such non-quantifiable forms as a heightened sense of well-being among the people generally and, perhaps, increased political stability.

Information relative to estimating project costs apparently is both more plentiful and of better quality in Malaya than that concerning project benefits. This is almost inevitable since those projects whose returns are widely diffused or even non-quantifiable will, nevertheless, have specific and quantifiable costs.¹³ Whether this cost information is collected, studied, and used to analyze other similar projects is another question, however. To do so requires careful, systematic record keeping and ability to generalize from the experience so recorded. Malaya seems to do a better than average job in this respect.

The reason is related, in part at least, to Malaya's experience with the second major part of project planning, namely, project implementation. It is doubtful that any country in the world does a better job than Malaya in implementation of development projects. In large measure

¹³ Of course, projects may have widely diffused and/or non-quantifiable indirect costs, or external diseconomies, which escape benefit-cost analysis.

this no doubt is attributable to the ability, the personal force, and the deep involvement in the development program of Tun Razak, the Deputy Prime Minister and Minister of National and Rural Development. However, his leadership is so effective in large part because he and his chief lieutenants are provided continually with a stream of specific, reliable information on the progress and current status of each project. Much of this information is relevant to estimating costs of similar projects in future and so expands the data supply needed for project analysis and selection. Much of the flow of information, however, is relevant chiefly to the administration and management of projects, the essence of project implementation. This information is reported according to a standard format designed to allow systematic monitoring of the progress of each project from its inception through various stages to its completion. Much of the reporting is done verbally by project managers in face-to-face encounters with Tun Razak and other senior officials responsible for implementation of all projects in the development program. The "no nonsense" atmosphere which characterizes these personal confrontations apparently is conducive to detailed accurate reporting on the progress of projects and also to the kind of effort by project managers required to ensure that projects will not fall behind schedule.

Some of the reasons for Malaya's relative success in project implementation no doubt are unique to that country. The key role of the Deputy Prime Minister already has been mentioned as a special factor. The relatively small size of the country and the traditions of British administration may be others. Nonetheless, there is no doubt that the heavy emphasis placed on the flow of accurate timely information from project managers to those responsible for managing the development program as a whole is a vital ingredient in accounting for Malaya's successful experience, and there is no reason why the procedures for generating and expediting this flow of information should be

unique to Malaya. Other developing countries, in many of which project implementation is the weakest link in the development planning chain, would do well to study the Malayan record in this important area of planning.

IV. SUMMARY AND CONCLUSIONS

We have considered the data required for effective aggregative, sectoral, and project planning in Malaya, noting that planning at each level has both a plan formulation component and a plan implementation component. The paper has examined the supply of data available in Malaya relevant to some particularly critical aspects of planning at each of the three levels — aggregative, sectoral, and project. At the aggregative level the data available for analyzing and projecting domestic savings, the balance of payments, and labor force and employment were found to contain serious weaknesses. At the sectoral level it was concluded that the data required to implement the Malaysian development strategy of economic diversification are deficient in a number of critical respects. Finally, it was concluded that the data available for project planning in Malaya contain weaknesses common to many countries, particularly with respect to the measurement of project benefits, but that Malaya has done an exceptionally fine job of generating the information flows required for effective project implementation.

In most countries of the world such economic data as presently exist have been generated by the need to administer ongoing government programs, with little if any thought given to the role of data in the formulation and implementation of development plans. Hence, much present data collection is inefficient judged by its relevance to development planning. Malaya is no exception to this generalization. The collection of more reliable and more relevant data, of course, is not costless; and in Malaya where trained statisticians and economists represent particularly scarce

resources, it is essential that the effort to generate more data be efficient in the sense of obtaining those data which now create the most serious bottlenecks to more effective planning. This means that careful thought must be given to working out the information requirements implied by the development strategy to be pursued at the aggregative, sectoral, and project levels.

V. ADDENDUM ON SINGAPORE

Most of what has been said about the data supply in Malaya applies also to Singapore, with emphasis. The national accounts work for Singapore presently is considerably more rudimentary than that for Malaya, and there are large questions concerning the critically important areas of domestic saving, capital formation, and balance of payments.

Singapore's development strategy calls for rapid industrialization as an alternative to the entrepot trade, a strategy made the more compelling by Indonesia's confrontation policy. The data on manufacturing output and resource use required to implement this strategy are at least as deficient as in Malaya, however.

The conclusion for Malaya concerning the need for "efficiency" in obtaining the data needed for more effective planning applies with equal force to Singapore.