Chapter VI

Basic Data for Planning

> Planning is mainly based on the examination of past trends and their extrapolation into the future.[1]

RELATIONSHIP BETWEEN DATA AND PLANNING

ALTHOUGH SOME good statistical and other data may be found in almost every country, planning in most less developed countries is severely handicapped by widespread lack of information. Nearly every published report of a World Bank survey or other mission has commented on the absence, inaccuracy or other inadequacy of country data for development planning. In Libya, there is a "lack of reliable and up-to-date information about what is going on in the economy." [2] Resource and output data are scarce in agriculture and

> information about production in other sectors of the economy is even more scanty. There is no regular compilation of statistics of industrial production, records of road traffic are maintained only on the most haphazard basis, and very little is known about the movements of trade within the country.[3]

In Mexico, "in most fields, the official statistics are incomplete or inaccurate, or both, and in some instances discrepancies in a single field have proved baffling." [4] Most of the statistics available for planning in Morocco are defective and many estimates are little more than rough guesses. Much of the information needed does not exist.[5] The Bank's survey mission to Syria reported "that the lack of reliable information on many aspects of the economy made its task considerably more difficult." [6] As in Libya, little was known about agricul-

[1] Devons, Ely. *Planning in Practice*, p. 133.
[2] IBRD. *Economic Development of Libya*, p. 89.
[3] *Ibid.*
[4] IBRD. *Economic Development of Mexico*, p. x.
[5] Waterston, Albert. *Planning in Morocco*, p. 31.
[6] IBRD. *Economic Development of Syria*, pp. 30–31.

tural output and land use and "in industry the inadequacy of data is even more marked than in agriculture." [7] In Spain, data were often incomplete or otherwise inaccurate,[8] in Thailand "much of the required statistical data is lacking or in need of qualitative improvement" [9] and "the statistical and other data available in Venezuela are not all that could be desired." [10]

United Nations regional agencies, as well as other regional organizations, have frequently called attention to the shortage of dependable planning data in their areas. In most ECAFE countries, "the quality and scope of statistical information available are as yet hardly sufficient to make long-term projections with the minimum degree of confidence required." [11] In most Latin American countries, "there are great gaps, breaks in continuity and time-lags in data," [12] in many African countries, "no reliable statistical data on national income, consumption or employment are available . . . ," [13] while in the Caribbean region "many of the countries were unable to provide the basic statistical data required for the annual review" of their development plans and programs.[14]

As these quotations testify, the formulation of national economic policy and, consequently, all development planning, depend mainly on what has gone before. But implementation of plans also depends on up-to-date indicators to help gauge progress and maintain planning flexibility. The existence of facts about past and current activity is therefore essential for successful development planning; without them there can be no effective planning. Qualitative information (e.g., the nature of available skills and managerial ability or the responsiveness of people to economic incentives), as well as quantitative data (in the form of statistical series or other numerical representation), are needed. All countries also need basic resource information to plan effectively.

[7] *Ibid.*
[8] IBRD. *Economic Development of Spain,* pp. 77–79.
[9] IBRD. *A Public Development Program for Thailand,* p. 216.
[10] IBRD. *Economic Development of Venezuela,* p. 16.
[11] UN. ECAFE. *Problems of Long-Term Economic Projections with Special Reference to Economic Planning in Asia and the Far East,* p. 104.
[12] UN. ECLA. *Report of the Latin American Seminar on Planning,* p. 45.
[13] UN. Department of Economic and Social Affairs. *Economic Survey of Africa Since 1950,* p. 243.
[14] *Newsletter of the Caribbean Organization,* Vol. III, Nos. 2, 3, 4, October, November, December 1963, p. 15.

Data Needed for Planning

The specific kinds of statistical and other information required, and the detail in which it must be accumulated, depend to a great extent on the type of planning. In the mixed economies, for example, comprehensive planning requires more statistics than partial planning, just as mathematical planning involving input-output, linear programing and similar techniques requires more quantitative data than planning with pragmatic techniques. But since the market, not the government, is the main determinant of production in a mixed economy, market and family expenditure data are indispensable to planners for determining consumer preferences and for estimating demand. Unlike Soviet-style planning, where over-all targets are divided and subdivided until a plan for each economic unit emerges, planning in mixed economies generally rests on more general, or aggregative, data at the over-all and sectoral levels.

In countries which plan on the Soviet model, statistical information and other data are used not only as guidelines in the preparation of plans but also as operational controls to assure that in each area and at each economic level action is taken in accordance with the plans laid down at the center. Since the center controls both production and distribution, and the market is largely inoperative, comprehensive and detailed supply and resource data must be obtained for the preparation of the innumerable materials, financial, manpower and other balances which underlie Soviet-style plans. The central authorities must also collect and analyze detailed data on the capacity and operations of each enterprise and other socialized economic units. These data are needed both for working out the balances and for issuing appropriate directives to each enterprise and other economic units for implementing plans. However, since in such planning the government concentrates most of its efforts on producers' goods, there has been little attention given to market surveys or family expenditure studies to indicate consumer preferences.

The collection, tabulation and evaluation of statistics in the USSR and in other Eastern European countries is a big and important business which employs large forces. It is in fact so big that it has at times threatened to become unmanageable. The advent of the computer and the application of mathematical techniques to data have opened up analytical possibilities which have not been available

heretofore. But much remains to be done before these possibilities can be realized. The amount of data needed and the processing requirements almost stagger the imagination. One Soviet writer has pointed out, for example, that

> there are several hundred million primary norms just in the sphere of material production. To form them into groups and reduce them to tens of thousands would require billions of computing operations, which could hardly be done without the help of electronic computing technique. That is why a problem of exceptional importance . . . is the creation . . . of a rational system of gathering, storing and shaping economic information by employing modern means of computing techniques.[15]

Yugoslavia provides an interesting example of the statistical requirements of a country in transition from Soviet-type to mixed-economy-type planning. It still formulates its plans by means of balances and, consequently, collects the comprehensive and detailed data required for such planning. But since its plans are no longer implemented by central directives to each enterprise, but largely by market forces, it also relies increasingly on the kind of aggregative data and estimates of market demand used in mixed-economy planning.

Types of Data. There is general agreement that information about natural and human resources is a primary requirement for development planning. Planning for enlarging the scope or output of agriculture requires knowledge about the nature of soils and the current and potential uses of land. For the development of mining or petroleum industries, data on the incidence, extent and location of mineral deposits are necessary. For planning irrigation or other waterworks, hydroelectric power projects and the development of river basins, facts about the supply, and the rate and periodicity of water flows are needed. Since people are the source of both manpower and market demand, realistic planning for over-all increases in output depends, firstly, on information about the nature and growth of population, the size, composition and sectoral employment of the labor force, and the prevalence of skills; and, secondly, on data about family expenditures at different income levels and circumstances (e.g., rural and urban) needed to estimate potential demand.

[15] Kovalev, N. I. "The Problems in Introducing Mathematics and Electronic Computers in Planning," p. 59.

A description of the economy, including its interrelationships and movements, is always useful and sometimes indispensable for effective planning. The best description takes the form of estimates over time of the Gross National Product (GNP) by sectoral origin. These estimates indicate the over-all rate of growth of income and output and reveal the relative importance of, as well as similarities and differences of movements in, agriculture, manufacturing, mining, commerce, government and other economic sectors. In countries with regional variations, estimates of the main magnitudes for each region are also useful.

Price and wage data are needed to assess costs and benefits of projects and programs, determine the existence and extent of inflationary pressures in the economy, indicate where capacity and manpower bottlenecks may arise and shed light on money incomes and expenditures. *Fiscal data,* including estimates of revenues and proceeds of foreign and domestic loans and grants, help to determine the feasibility and timing of public expenditures for investment and recurrent expenditures associated with a plan. And information about *funds available to finance private investment* is necessary to plan for the private sector. *Estimates of capital formation* over time, by sector and by means of financing, provide an indication of past relationships between investment and output, the direction in which the economy is expanding and the relative importance of the various sources of saving. *International trade and payments data* are essential for an appraisal of the balance of payments position and its movements. They may also help in estimating capital formation and fiscal receipts. To estimate future movements in export proceeds and in the demand for imports, information about *the physical volume of various exports and imports,* and their prices, is necessary.

Data are also required for *each project and program* in a plan which will enable estimates to be made of costs, in national currency and foreign exchange, and physical requirements for raw materials, machinery, equipment, supplies and manpower, by types of skills. For projects involving the expansion of production for export or for the substitution of imports, information is needed about *world market conditions* and their outlook, as well as *costs of production abroad.*

The data required for planning must cast light on the existing state of the economy as well as the direction and speed of its development in the recent past. The usefulness of available data depends on its accuracy, coverage, form and timeliness. If existing statistics are filled with error, if the coverage is limited or varies over time, if the form in

which they are presented restricts or prevents comparisons with other data, or if they refer to a time long ago, they may be worthless or misleading. The use to which statistical data can be put also depends largely on a proper appreciation of their quality and deficiencies. In the hands of one who can recognize and take account of their limitations, incomplete, old, poorly devised or even inaccurate statistics can sometimes be made to yield useful information. But the proper interpretation of statistics is difficult and even good data can be misused.

The Lack of Good Data. There is general agreement that the need for basic data is not being met in less developed countries. In countries where agriculture is the most important sector, often little is known about land resources. In most countries, only a beginning has been made in classifying soils through topographic and soil surveys. The lack of data impedes reorganization of land-use patterns in many countries. In Turkey, for example, the State Planning Organization has stated that a well-prepared and well-planned land reform program is essential for "the development of the most important sector in the economic structure."[16] But it is impossible to proceed because

> there is not sufficient information on which to base the decisions which must be taken in order to enter upon such a reform. There is no adequate information concerning distribution of land ownership, the relationship between ownership and operation, appropriate farm sizes according to regions and according to the types of crop and the most suitable varieties of crop.[17]

Nor do many countries have reasonably adequate knowledge of their other physical and manpower resources, not only for planning, but even for making basic policy decisions. In every developing country there are serious lacunae in historical statistical series. Even in India,

> there still are surprising gaps in national income estimates when one considers that national income accounting and national income oriented economic planning both are ten years old. . . . The country still has no official historical series on final demand. Even the available estimates of investments are exceptionally weak and sketchy. . . . [nor are reliable estimates of depreciation avail-

[16] Turkey. State Planning Organization. *Program for the Year 1962*, p. 118.
[17] *Ibid.*

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> able]. . . . There are many other serious deficiencies in the current economic series. The between-census manpower data are generally very weak. . . .[18]

But economic statistics in India are much better than in most less developed countries. In other countries, there are only a negligible number of statistical series, and in some the absence of data even makes it impossible to make a reasonably good estimate of total output. For the First Plan period in Nepal, for instance, the extent to which agricultural production went up in that predominantly agricultural country, or whether the increase was sufficient to offset the rate of population growth, was difficult to tell.[19]

Even when data are available, their coverage is usually spotty, or they are not comparable over time or with other related statistics; errors are often large, or the way in which estimates were obtained makes them questionable. In Libya, for instance, one World Bank mission found that "many of the [statistical] estimates will not stand up to examination," [20] while another Bank mission to Iraq

> found a widespread and usually justifiable distrust of published statistics, especially agricultural statistics, which sometimes led those who had some use for statistical data to try to collect their own.[21]

In inaugurating a National Statistical Council in April 1962, the outspoken Deputy Chairman of Pakistan's Planning Commission forcefully described the condition of Pakistan's statistics after 14 years of planning in this way:

> The number of statistical series is insufficient, the time length of these series is often too short and the degree of accuracy of available data is often low. We have no reliable statistics of saving and investment, no knowledge of the proportions of various distributive shares in the national income, no reliable figures of unemployment and under-employment, no data on productivity of labour and capital. Our agricultural statistics are highly questionable. We do not know much about the output of our small-scale and cottage industry. There are no statistics on construction. We

[18] Lewis, John P. "India," p. 104.
[19] Pant, Y. P. "Nepal's Economic Development: A Study in Planning Experience," p. 1726.
[20] IBRD. *Economic Development of Libya*, p. 89.
[21] IBRD. *Economic Development of Iraq*, p. 114.

> have only a very vague idea of our national income and output per head. . . .[22]

These are not isolated examples. Indeed, as one well-qualified economist has remarked, only partly in jest, many statistics in less developed countries appear to have been fabricated out of the "weighted averages of your guess, my guess, and our neighbour's guess." [23]

Population data, of primary importance in planning, are frequently found to be inaccurate, sometimes by as much as one-third. For example, Nigerian census figures for 1963 show a population of more than 55 million instead of a previously presumed population of 44 million, a discrepancy of about 25 per cent. A 1960 census in Ghana indicated a population of 6.7 million instead of 5.1 million and a 1963 census in the Rhodesias and Nyasaland revealed a population of 11.4 million instead of a previously assumed population of 8.8 million.[24] But it is sometimes uncertain whether the latest census figures are more reliable than previous estimates. Thus, in Nigeria, where earlier figures were considered to be an understatement, the governments of two of the four regions rejected the 1963 census figures. According to the Premier of Eastern Nigeria, the population census disclosed

> inflation . . . of such astronomical proportion that the figures obtained, taken as a whole, are worse than useless; [25]

while the Premier of the Mid-West Region described the census figures as "the most stupendous joke of the year." [26]

Some countries have underestimated the size of their populations, but others have preferred to overstate them for prestige or political reasons. The rates of population growth are sometimes underestimated to an extent which invalidates planning. Many a plan's targets have come to grief because of this. In India and Pakistan, for example, discovery that the rates of population growth used in the Second Five-Year Plans of these countries had seriously underestimated the true position made it clear that what was thought to have been an increase in the per capita rate of growth was no increase at all.

Nor are the socialized economies immune from such miscalculations. A case in point was the widely publicized and admitted inaccuracies in

[22] *Dawn*, April 14, 1963.
[23] Mitrà, Ashok. "Underdeveloped Statistics," p. 315.
[24] *Washington Post*, February 27, 1964.
[25] *Times*, February 29, 1964.
[26] *Times*, March 2, 1964.

production and other data in China in 1958–59 which were officially attributed to the inexperience of statistical personnel. The blame for the failure of Czechoslovakia's last Five-Year Plan has been officially laid on incorrect statistics which led to overestimations of the country's potentialities for expanding output. In the Soviet Union, also,

> planning agencies do not have at their disposal the appropriate (in volume and reliability) data on necessary norms. The reported information of the Central Statistical Administration of the USSR, besides being somewhat limited, is supplied with great delay, which detracts from its value for the planned guidance of the national economy.[27]

While some countries do not have even one set of authoritative figures for some items others, because of a lack of co-ordination, produce two or more sets of the same kind of data. Thus, in Spain, there has been more than one cost-of-living index and several industrial production indices. Two sets of national income statistics have been produced, one by the National Economic Council, another by the Ministry of Finance. The national accounts issued by the Ministry have appeared three years after the event and bear scarcely any relation to the national income figures issued by the National Economic Council.[28] In Argentina, the Central Bank and the National Development Council have both published competing series on Gross National Product. In India, the Ministry of Food and Agriculture has issued two mutually incompatible sets of data showing total output and yield per acre for each of the principal crops. Besides, estimates of capital formation published by the Indian Ministry of Finance have been altogether different from estimates issued by the Indian Central Statistical Organization.[29]

Indian statisticians have demonstrated considerable ability and ingenuity, but their statistical exercises are

> still very much in the nature of disjointed efforts. No serious attempt is apparently being made to coordinate statistical activities at different levels, and it is surprising that parallel government offices produce figures without checking with one another.[30]

[27] Kovalev, N. I. "The Problems in Introducing Mathematics and Electronic Computers in Planning," p. 59.
[28] IBRD. *Economic Development of Spain*, pp. 77–79.
[29] Mitra, Ashok. "Underdeveloped Statistics," p. 317.
[30] ***Ibid.***

The co-ordination of statistical data is made more difficult in India because, in addition to the central Government, the states issue data. The estimates of income issued by the states are often not comparable with each other or with those issued by the Central Statistical Organization. The need for co-ordination is also great in many other countries, not only to eliminate duplication and improve comparability, but also to bring about a freer flow of information within their governments. In many countries, one can find a ministry, department or government office hoarding data it has collected as its private "stock in trade," unwilling to make the information available to other branches of the government. In Mexico, for example, difficulties in obtaining statistical data are at least partly explainable

> by the disquieting propensity of certain public officials to treat any statistical information as their private property on the plausible assumption that in the bureaucratic world he who knows more holds more power.[31]

And in Nigeria,

> because government information was used to serve the advantage of the party in control, any proliferation of government intelligence undermined its political and economic utility.[32]

But as often as not, information can be found lying around unused in government departments or agencies while other government offices which could make good use of the data are not even aware of their existence. For example, a World Bank survey mission to Tanganyika reported that in that country the use of statistics

> is in fact lagging considerably behind availability. Government departments and provincial administrations appeared quite frequently to be ignorant of statistical series of relevance to them and to make insufficient use of such series.[33]

Even a central statistical body may not be aware of the existence or extent of data dispersed in various parts of the government. Thus, in Spain,

> statistics are collected by some government agencies without reference to INE [the national statistical agency]. Sometimes the

[31] Wionczek, Miguel S. "Incomplete Formal Planning: Mexico," p. 179.
[32] Clark, Peter Bentley. "Economic Planning for a Country in Transition: Nigeria," pp. 262–263.
[33] IBRD. *Economic Development of Tanganyika,* p. 345.

> statistics are not distributed at all and sometimes they are distributed within the Government without informing INE.[34]

Similar conditions have been reported in Iraq, Mexico, Morocco and the UAR, among many other countries.

THE QUESTION OF PRIORITIES

A country which seeks to improve its statistics for planning quickly encounters the question of priorities. Because of the shortage of qualified statisticians available to improve the accuracy, coverage, form and timeliness of statistical series, a balance must be struck among these often competitive attributes which will yield the greatest return. Since much of the value of statistical series used in planning lies in the relationship between one set of figures and another, it would be desirable to make them consistent. One way of doing this is to incorporate the available data in an integrated system of national accounts. Such a system is ideally suited to show interrelationships between different parts of the economy. Without a system of national accounting, it is often impossible to establish these connections because different systems of classifying data have been used by the agencies which collected the data.

However, because of deficiencies in basic data, it is frequently impossible to prepare estimates of national accounts with accuracy. The question then arises whether it is preferable to concentrate first on expanding and improving basic demographic, economic and social statistical series until enough good information has been accumulated to construct a reasonably accurate set of national accounts; or, alternatively, to "make do" with whatever data are available and prepare a set of partial accounts which takes account of deficiencies in the data. Here is where the experts disagree.

The first approach has been advocated by the United Nations Statistical Commission. While recognizing the value of a system of national accounts for development planning, the Commission has given first priority to the improvement and expansion of basic data on population, labor, agriculture, forestry, fishing, mining, manufacturing, construction, production of gas and electricity, wholesale and retail trade, transportation, education, health, external trade, money, bank-

[34] IBRD. *Economic Development of Spain*, p. 77.

ing, finance, prices, government, personal income and expenditure, and housing.[35]

In contrast, others have given higher priority to the preparation of national accounts estimates. Thus, Gerhard Colm and Theodore Geiger are in full accord that every effort should be made to develop the statistical series described in the United Nations' list. But they see the United Nations Statistical Commission's view as

> a counsel of perfection in the statistical field that is quite unrealistic not only for underdeveloped countries but for the developed countries as well.[36]

Colm and Geiger concede that in some countries national accounts fabricated without reliable statistics have done "little good and much harm," [37] but they believe it possible for countries with inadequate statistics to prepare reasonably good "aggregate estimates of income, production, consumption, investment, savings and international trade" [38] by steering a middle course

> between a frustrating statistical perfectionism, on the one hand, and imaginary statistics produced by wishful thinking, on the other.[39]

The view of the United Nations Statistical Commission is the one most generally held by statisticians; the view presented by Colm and Geiger, by economists and planners. This is perhaps an oversimplification, but it is a useful one. The proper preparation of a census of population, agriculture or industry takes time and the results may not be known for two or three years. The improvement of individual series of statistical data is an even longer-term task. To the statistician, however, these "micro-economic" estimates constitute the basic components of a nation's statistical system. Since national income estimates can be no better than the original data, even though subjected to a variety of sophisticated mathematical adjustments, he tends to view the activities of the planner-economists, who mostly prepare national

[35] UN. Statistical Commission. *Basic Statistics for Economic and Social Development,* and UN. Statistical Commission. *Report of the Commission to the Economic and Social Council on its 10th Session, held in New York from 28 April to 15 May, 1958,* p. 20.

[36] Colm, Gerhard and Geiger, Theodore. "Country Programming as a Guide to Development," p. 64.

[37] *Ibid.*

[38] *Ibid.*

[39] *Ibid.*

income estimates, as futile attempts to overcome deficiencies in the data by short cuts they think will save time. He sees them as

> always in a hurry for data, especially when plans are being drawn up . . . [unable or unwilling to recognize] . . . that many statistical data are worked out only after prolonged effort.[40]

The statistician is also keenly aware that the preparation of "micro-economic" statistics is devoid of glamour because results do not often lend themselves to the formation of government policy. In contrast, the aggregative, or "macro-economic," estimates of national income, capital formation, savings, consumption and the like are frequently fraught with social and economic implications for the formation of government policy and for planning a country's development. Their importance has also been enhanced as a status symbol in many less developed countries because their use is associated with the more advanced nations. Consequently, the planner-economists are generally closer than the statisticians to the decision-makers in government and are therefore in a more favorable position to influence the course of a country's statistical policy.

Besides the "statistician's view" represented by the United Nations Statistical Commission, examples of the "economist's view" can also be found in the United Nations. Thus, the Economic Commission for Latin America has put the greatest stress on national accounts and related statistics in contrast to basic statistical series.[41] And in practice, it has been this view which has prevailed in the less developed countries, in many of which the preparation of a national income or product series has been elevated to the level of an economic rite.

> For reasons of prestige, many of these nations have felt compelled to concentrate their statistical activities to compilation of such global estimates as those of national income, capital formation, and savings. When an expert, under the auspices of the UN, has gone out to a country on a short-term assignment, pressure has been brought upon him to help the local statisticians in assembling glamorous macro-economic estimates. Fashion has thus pushed aside necessity. As a result, development of basic statistics, such as data on production, prices, population movements, growth and

[40] UN. ECA. *Memorandum on Statistical Development*, p. 2.

[41] See, for example, UN. ECLA. *Use of National Accounts for Economic Analysis and Development Planning*, p. 3.

> distribution of labor force, variation in money supply, etc., has been on the whole neglected.[42]

Unfortunately, regardless of whether basic statistical series or national income estimates are given preference, the results are likely to be partial or unreliable. The question then facing the planner is whether the available data, although inadequate, should be used to start to plan immediately or whether planning should be postponed until improved information in sufficient quantity is obtained. There are considerable risks in using poor data. The planner is warned that

> 'bad' statistics are possibly worse than no statistics, when viewed in terms of the role statistics can play in planning. It would be a grave error to formulate a plan that is heavily dependent on statistical series when these statistics admittedly are of poor quality.[43]

This is also the view of the Economic Commission for Asia and the Far East:

> Planning on the basis of inaccurate data may be worse than no planning at all, since such data may not only point to wrong solutions to problems but also create a false sense of complacency and lead to serious bottlenecks and rigidities.[44]

For some planners, therefore, the answer to the question of priorities is to postpone planning and concentrate first on collecting and analyzing data needed to formulate a plan. In Ethiopia, for example, up to 12 Yugoslav experts and an Ethiopian staff worked for a year on this preparatory task before starting to formulate Ethiopia's First Five-Year Plan. The preparation of "pre-planning" surveys required about a year and a half in Nigeria, and similar studies in Senegal, conducted with the aid of French foreign technical assistance, took two years to complete. Nicaragua's National Planning Office, which was established early in 1962, was for a long time entirely absorbed in preparing an over-all historical "diagnosis" of the Nicaraguan economy as it was in 1945–60. Only after this task was completed was the Planning Office prepared to turn to the job of formulating a development plan. In order

[42] Mitra, Ashok. "Underdeveloped Statistics," p. 315.

[43] Krause, Walter. *Economic Development: The Underdeveloped World and the American Interest,* p. 208.

[44] UN. ECAFE. "Economic Development and Planning in Asia and the Far East," *Economic Bulletin for Asia and the Far East,* November 1955, p. 69.

to provide a firmer informational basis for future planning in Latin American countries, tripartite groups of foreign experts sponsored by ECLA, OAS and the IDB have been gathering and collating statistics and making national income studies in some countries. After working for more than a year, a tripartite team of experts with a staff totaling 70 persons began publishing in May 1963 a detailed "diagnosis" of the Uruguayan economy, which is eventually to comprise 15 volumes and thousands of pages. The report contains a description of basic economic problems in Uruguay, a statistical description of the various sectors of the economy, a first attempt to prepare national income estimates and a comprehensive list of public investment projects, many of which are in an embryonic stage. During a six-month period in 1963, another tripartite group of 16 experts, aided by a staff of 50 in the Peruvian central planning office, prepared a seven-volume "diagnosis" of the Peruvian economy which ran to about 1,500 pages. The report is mainly a compilation of statistical information and a detailed description of all aspects of the Peruvian economy.

By adding to the small fund of knowledge about the economies concerned, such studies are of great potential value. But since they require the concentration of scarce planning expertise on laying the informational groundwork for planning in the future, they frequently have the effect of diverting official attention and effort from all planning activities. It is sometimes forgotten how high the "opportunity cost" of collecting data can be because of the need to use scarce technicians who could be used elsewhere. For example, concentration on statistical research completely occupied planners in Nicaragua, Uruguay and Peru while their diagnostic studies were being prepared, with the result that no planning was undertaken.

Planning with Inadequate Data

But most planners are not prepared to delay all planning activities until inadequacies in data are overcome. They take the ECAFE position that

> in view of the generally limited financial resources available for planning and the scarcity of trained personnel, it would be wise to avoid devoting too many resources to the collection of new data as a preliminary to planning.[45]

[45] *Ibid.*, p. 63.

The accumulation of reliable statistics in quantity is a task which takes a long time. Most planners feel that "development planning cannot await the building of a comprehensive system of statistics." [46] Or as one writer put it,

> it does not make good sense to delay action on grounds that 'one *cannot* plan without good statistics.' If good statistics are regarded as an absolute prerequisite, the day when serious economic planning will commence in numerous countries is not yet in sight.[47]

The Economic Commission for Africa (ECA) feels at least as strongly about this question. To its rhetorical question: "Must the preparation of the plan, then, await the completion of the most important statistical survey?" [48] it replies,

> This would be absurd; for it would mean a loss of valuable time for many valuable projects that are known to be useful even if their influence on the general economy of the country cannot be measured.[49]

ECA points to Somalia's Five-Year Plan for 1963–67 as an instructive example for those who assert that the preparation of a development plan is a pointless exercise in countries where basic indicators are absent. In the words of Somalia's planners:

> The methodology of planning for the Somali Republic does not follow the usual pattern based on the GDP [Gross Domestic Product] approach, for the simple reason that information about GDP is not available. Certain other necessary data are either not available at all, or if available, are unreliable and incomplete. This is true of population, birth and death rates, age distribution, immigration and emigration, labour force, employment and unemployment, wages and salaries, areas under different crops, agricultural production, yields of different crops, agricultural holdings, livestock products, livestock trade, forestry, fisheries, small scale and handicraft industries, building construction, electricity, etc.[50]

[46] United Nations Center for Industrial Development. *Organizational Aspects of Planning*, p. 18.

[47] Krause, Walter. *Economic Development: The Underdeveloped World and the American Interest*, p. 208.

[48] UN. ECA. *Memorandum on Statistical Development*, p. 2.

[49] *Ibid.*

[50] UN. ECA. *Outlines and Selected Indicators of African Development Plans*, pp. 79–80.

Despite these truly formidable informational gaps, Somalia's planners found it possible to formulate a development plan which, although deficient, constituted as valid an effort as those of most other countries at the start of their planning experience in attempting to improve living standards by raising incomes, output and employment.

Planners who concur with the ECA point of view recognize that good statistical data are important for planning, but they believe that where, as in most countries, such data are not available, "recourse has to be taken to statistics of the second-best, and make do with rough and ready indicators. . . ." [51] Even inaccurate or incomplete data can disclose bottlenecks or gaps in an economy, and a plan which employs such data judiciously can still promote development.

> It should . . . be remembered that it is not the ultimate test of a good development programme that the data contained in it should be accurate. . . . Rather, the test of a good development programme is that it should lead to measures which make growth more rapid, and make total investment more efficient, than would otherwise have been the case.[52]

Of course, care must be exercised in interpreting inadequate statistics, but most planners would agree with Arthur Lewis that "it is better to rely on figures and hunch rather than upon hunch alone." [53]

A little economic detective work can be rewarding. By comparing different statistical series within the planning country or the data of that country with those of comparable countries, or by studying earlier data for more advanced countries, the planner may be able to fill statistical gaps in his information or discover and eliminate errors in estimates. Thus, if production data are inconsistent with consumption statistics, it may be possible to track down sources of error by referring to available data within the country for incomes, imports and exports; [54] the likely yield from a unit of investment may be estimated by reference to investment yields in countries of similar size and situation; or consumer expenditure studies in advanced countries may

[51] Mitra, Ashok. "Underdeveloped Statistics," p. 316.

[52] UN. ECA. *Problems Concerning Techniques of Development Programming in African Countries*, p. 16.

[53] Lewis, W. Arthur. *Theory of Economic Growth*, pp. 389–390.

[54] Where regional income figures are difficult to collect, some idea of regional relationships can be obtained in certain African countries by examining the district sales records of the large tobacco and shoe manufacturers. Useful indication of changes in income over time can be seen from the changing sales of such consumer goods.

furnish leads about the way changing incomes are likely to be spent in a less developed country. Finally, even in the absence of statistics, it is

> often possible to find officials, experts and other personnel who were sufficiently well acquainted with the country, its problems and the relevant aspects of such problems to be able to make a reasonably accurate contribution to an analysis of the situation.[55]

The planner who must resort to guesses must, of course, be on guard because

> the danger for those drawing up development programmes is that they become prisoners of their own guesses, i.e., having once put the best figure down they may assume that this figure is a fact, when it may be a guess.[56]

Nevertheless, "it is surprising how much can be learned if the right sort of questions are asked." [57]

But while the planner can improve on existing statistical and other information, he should not try to make poor data provide a foundation for a plan which only good data can provide. As has been indicated, this is precisely what planners in Bolivia, Burma, Indonesia, Morocco, Nepal and other countries in early stages of development have done by introducing comprehensive planning before adequate supporting statistical and other information were available. Experience has shown this to be a mistake. Ambitious comprehensive plans which were prepared without sufficient data to guide action have resulted in bottlenecks which prevented completion of the plans. Lack of facts has resulted in shortages of goods to meet increased effective demand, and ignorance because of the absence of good data has allowed balance of payments difficulties to arise and plague some countries. When comprehensive planning is attempted without adequate data, the remarks of Professor Tress are particularly relevant:

> Complex planning, without statistical data, knowledge of vital inter-relationships or adequate intellectual grasp is bound whatever the circumstances . . . , eventually to lead to error, to the

[55] UN. ECLA. *Report of the Latin American Seminar on Planning*, p. 8.
[56] UN. ECA. *Problems Concerning Techniques of Development Programming in African Countries*, p. 15.
[57] UN. ECA. *Comprehensive Development Planning*, pp. 15–16.

creation of numerous bottlenecks and hence to a serious waste of resources.[58]

But this does not mean, as some think, that all planning needs to be postponed until statistics have been improved to a point where comprehensive planning become feasible. It only means that, where data are lacking or inaccurate, it is possible to start planning immediately on the limited scale permitted by the existing data.

All planning, whether comprehensive or partial, requires some basic resource data and statistics. So do individual projects and programs. There are pitfalls to the establishment of industry without market and other data. A lumbering industry established by sponsors who do not have knowledge of forestry resources, the type of tree best suited for timber and climate, the years of growth to maturity and other technical and economic factors, is not likely to be successful. The creation of a paper mill without data on raw materials, water supply and the demand for the kind of paper to be produced, can be costly. In Pakistan, for example, a new paper mill miscalculated the market and produced enough blotters in a short while to take care of Pakistan's demand for several decades. There is no point in establishing industries based on local raw materials if geological or other surveys have not been made to discover the extent of availability of these resources. In some countries, cement works have been placed on uneconomic sites because of the absence of resource data. There are countries where sugar industries have been set up without knowledge of the suitability of the soils for sugar production, the amount of rainfall or water supplies. A well-known example of the bad effects which lack of information may produce was the attempt to grow groundnuts in Tanganyika in 1947 without sufficient knowledge of resources. This led, among other things, to the establishment of farms where it was impossible to drink the local water.

But partial planning, in the form of an integrated public investment plan or a sectoral program requires fewer data than comprehensive planning, whether mathematical or pragmatic. Moreover, the data need not be as precise for partial as for comprehensive planning. The kind of data needed for the former are less rigorous, and rough and ready indicators may often be used.[59] While basic soil, land use, mineral,

[58] Tress, R. C. "The Practice of Economic Planning," p. 212.

[59] UN. ECAFE. "Economic Development and Planning in Asia and the Far East," *Economic Bulletin for Asia and the Far East,* December 1961, p. 2.

water and other resource surveys are useful for partial as well as comprehensive planning, in most countries at early stages of development the need for specific projects and their scope is so obvious that decision to proceed with them does not depend on the completion of detailed surveys. Most of the statistical and other information needed to carry out the projects in a public investment project are to be found in government offices, and additional data are obtainable from foreign technicians or engineering and other concerns which have had experience in carrying out similar projects in other countries.

IMPROVING PLANNING DATA

As has been seen, many countries do not have accurate information in sufficient detail to make sound decisions on economic policy. The advent of development planning in these countries has greatly increased the need for reliable statistical and other information. Although this has led to some improvements in statistical systems, surprisingly little has been done in most countries in the last 10 or 15 years to overcome obvious deficiencies in their basic data. This could not have been because of a lack of technical assistance. Many countries have had the benefit of expert advice on how to improve their statistics and other data from foreign technicians furnished by the United Nations and the more advanced countries engaged in bilateral aid programs. Nor could it be because of a lack of interest in the subject on the part of international organizations. The type of information needed for planning has been described in many documents and has been the subject of extensive discussion in many international conferences. Principles have been enunciated, lists of required data have been drawn up and resolutions adopted advocating that governments take steps to improve their data.[60] The 1961 Conference of Asian Economic Planners made a typical recommendation, repeating a plea other conferences and groups have made many times before:

> urgent action should be taken by all the countries in the region to improve the quality of available statistical and other information,

[60] See, for example, UN. Statistical Commission. *Basic List of Statistics for Economic and Social Development;* UN. ECA. *Report of the First Conference of African Statisticians;* UN. ECAFE. *Report of the Seminar on Basic Statistics for Economic and Social Development;* and UN. ECLA. *Use of National Accounts for Economic Analysis and Development Planning.*

to enlarge its coverage and to ensure its systematic use both in planning and in reporting on plan fulfillment.[61]

But there is no evidence that this recommendation had any greater effect than previous recommendations in increasing government efforts to improve and expand statistical and other informational data. Several reasons appear to account for the general failure of governments to take action. With some experts insisting that planning data must take the form of national income estimates, and others equally insistent that such aggregates are less important for most less developed countries than the accumulation of basic statistical series, there has been understandably some uncertainty in less developed countries about what action is appropriate. But a more important factor, perhaps, has been the discovery, by experience in most countries, that it is possible to plan in the rudimentary way most governments plan, without making the ambitious revisions and expansions in national statistical systems called for by the experts. This appears to be true even in India, which has one of the more advanced comprehensive planning systems among less developed countries.

The usual proposals by experts for enlarging the scope and improving the accuracy of statistical and other data look to the building up of advanced statistical systems which are capable of producing information needed for comprehensive planning. Many experts consider the lack of data as a major stumbling block to comprehensive planning. But it appears more likely that in most countries, it is government unwillingness or lack of readiness to engage in comprehensive planning which mainly accounts for the lack of reliable planning data. The need for improved data in greater quantity may therefore not be as critical as outside experts sometimes think. Rudimentary public administration and planning have in general been able to get by with rudimentary statistics.

Most international agencies concerned with economic development or statistics, or conferences sponsored by them, have issued prescriptions for improving data needed for planning in less developed countries. Not only has there been, in large part, a failure to co-ordinate these proposals among these agencies; there has sometimes been a failure to co-ordinate the proposals made by the same agency at different times. The Final Report of the Fourth Inter-American Statisti-

[61] UN. ECAFE. "Economic Development and Planning in Asia and the Far East," *Economic Bulletin for Asia and the Far East,* December 1961, p. 78.

cal Conference of the Pan American Union listed criticisms which planners in less developed countries had made against international agencies because of these proposals. Besides the lack of co-ordination within and among the agencies concerned, mention was made of

> the pressure they [the international agencies] sometimes brought to bear in favor of the production of statistics that answer to their interests rather than statistics that are more useful to the countries themselves . . . and the lack of continuity in the activities which they encourage.[62]

To make matters worse, many planning experts have a tendency to use the more developed countries as a model. This has induced

> some statistical services to carry out investigations under the influence of the programs developed by more advanced countries even though there was no real demand for the information sought.[63]

Thus, the preparation of national income estimates, when given first priority, can take precedence over the production of information which is much more important. For example, Burmese national income estimates released in 1951 were used in 1952–53 as a basis for preparing Burma's Eight-Year Plan. When income from rice exports, a prime determinant of the country's national income, fell sharply in 1954–55, it became evident that it would have been better for planning purposes if the time and effort spent in producing the national income estimates had been used instead to make market and foreign trade studies for rice.[64] Those who insist that effective planning in less developed countries must be based on estimates of national product sometimes forget that many of the main effects of development are on variables which are excluded from the national product but are nonetheless of great importance.[65]

Scarce professional talent can also be misused in the collection of data for, and the preparation of, input-output matrices, a favorite instrument of planning experts from the more advanced countries.

[62] OAS. Fourth Inter-American Statistical Conference. *Final Report,* p. 10.

[63] OAS. Fourth Inter-American Statistical Conference. *Factors Affecting the Statistical Development of America,* p. 29.

[64] UN. ECAFE. "Economic Development and Planning in Asia and the Far East," *Economic Bulletin for Asia and the Far East,* November 1955, p. 64.

[65] Seers, Dudley. "The Role of National Income Estimates in the Statistical Policy of an Under Developed Area," p. 168.

Input-output analysis undoubtedly has considerable potentialities for planning, but most less developed countries are not yet able to employ the technique effectively. Yet, quite a few less developed countries have constructed input-output tables of their economies, although it would be hard to find one which has made effective use of them for planning purposes. The testimony of one planning expert with experience in less developed countries could be confirmed by others:

> I have been exposed to [input-output] matrices in the United States, India and Puerto Rico. In each case I was working in the field to which they had been presumably dedicated. Upon investigation I found that in no instance were they used for making development planning decisions.[66]

There is thus a great difference between the limited immediate needs for planning data in most less developed countries and the ambitious, seemingly insatiable, programs sometimes advocated by the experts. Because of this, few government authorities in less developed countries have seriously entertained any thought of executing the sometimes grandiose and costly proposals for statistical betterment which foreign advisers make. Instead, attempts to improve data are usually haphazard and piecemeal. It is a classic example of the perfect being the enemy of the good.

In most less developed countries, there is little official appreciation of the need for data. The collection and tabulation of statistics therefore remain a neglected function of government. Most less developed countries have only elementary statistical services and their statistical organizations are almost invariably weak and ineffective. The complaint of Turkey's State Planning Office that Turkey's Central Statistical Office

> under present conditions is unable to perform the functions expected of it,[67]

is typical of similar complaints made in other countries. There is a commonly held belief in less developed countries that statistical work requires little or no professional knowledge. The gathering, classification and evaluation of statistics are often regarded as

[66] Mayne, Alvin. "Designing and Administering a Regional Economic Development Plan with Specific Reference to Puerto Rico," p. 142.

[67] Turkey. State Planning Organization. *Program for the Year 1962*, pp. 179–180.

> inferior, degrading and routine work on which the most inefficient clerical staff could best be employed [when], in fact, this sort of work demands a high degree of skill. . . .[68]

Many persons engaged in statistical work are inadequately trained. What a World Bank survey mission found in Thailand in 1959 describes the general situation in many countries:

> In . . . the Central Statistical Office (CSO), there is no single individual trained specifically for the career of statistician. Those in supervisory positions in the CSO have received only incidental statistical training. . . . The remainder of the CSO staff of some 50 persons, except for two or three with some mathematical competence, are simply clerks assigned to statistical work.[69]

Even when trained statisticians are available, they are likely to find salaries and working conditions unattractive in government statistical services. There is usually a shortage of funds for statistical work which reflects government failure to recognize the importance of basic data. Spain is one example among many. In that country, economic censuses for industry and agriculture, authorized by a law approved in 1957, had not yet been carried out by 1963 because of the Government's failure to make the necessary money and machines available to the National Statistical Institute (INE). The report of the World Bank survey mission to that country concluded that

> the trouble is certainly not a dearth of talented Spanish statisticians. But the INE is not in a position to offer them a career. This is an outstanding case . . . of the present system of remuneration of public servants. As a consequence, most of the best talent is working either whole-time or part-time in the universities, in other branches of the Government or for private firms; some have gone abroad.[70]

Analogous conditions obtain in Latin American countries:

> Aside from the lack of financial resources, there are, for example, other factors which are often felt with greater impact, such as the absence of conditions that would make it possible to utilize the services of increasing numbers of trained statistical workers and to keep them on the job, the lack of coordination between units operating in the statistical field, and the lack of interest on the part

[68] Devons, Ely. *Planning in Practice,* p. 134.
[69] IBRD. *A Public Development Program for Thailand,* p. 216.
[70] IBRD. *Economic Development of Spain,* p. 78.

> of the higher governmental agencies to which these units pertain within the national administration.[71]

Any serious attempt to increase the basic stock of reliable planning data in most less developed countries must therefore include provision for strengthening the financial position and status of government statistical agencies and the quality and standing of their staffs. It is also essential to build up organizations which can make surveys of land, forest, water, energy and mineral resources to fill basic gaps in planning information. The establishment, strengthening and perfecting of such institutions, and the training and creation of staffs to administer and operate them, is a slow process. To carry out the required censuses, studies and surveys and to obtain usable results from them may take years. Since it is very costly to create and maintain such bodies, their establishment and expansion have to be phased in accordance with the availability of budgetary funds.

Blueprints for Statistical Betterment

The character of the statistical apparatus and the organizations for making natural resource studies, as well as the speed with which they are established, enlarged and staffed, depends on the kind of planning information required. While the planner should adapt his planning techniques at first to the state of the existing statistical apparatus,

> the statistical apparatus should, over a longer period, be adapted to more advanced planning techniques.[72]

To accomplish this, it would be useful to include in each national development plan a program or blueprint for expanding and improving the statistical and other data needed only to formulate and implement the next plan. The statistician or other fact-finder must always be ahead of the planner if he is to provide the planner with information when it is required. Rarely is it possible to collect information which can greatly influence present planning decisions. Usually, information collected now can only influence future decisions. To permit statisticians to provide data for future planning needs in an organized way requires a decision by planners about the kind of planning they intend to do in the future.

[71] OAS. Fourth Inter-American Statistical Conference. *Final Report*, p. 9.
[72] UN. ECA. *Memorandum on Statistical Development*, p. 3.

It is, of course, possible to draw up a statistical program or blueprint which goes beyond the needs of the next plan. Since 1947, for example, the Inter-American Institute of the Pan American Union has been trying to persuade Latin American countries to adopt a much more ambitious program for improving statistical services. The Final Report of the Fourth Inter-American Statistical Conference, sponsored by the Institute, itself states that the all-embracing list of the Institute's statistical aims

> suffices to show that what has been attempted in the American region has constituted a program which, because of its scope, is without precedent even in regions with more tradition and experience in the field of statistics.[73]

The fact is, however, that the Institute's program has not been adopted in its essentials by any Latin American country. It has been found, outside as well as within Latin America, that it is extremely difficult to get government support for such ambitious and costly statistical improvement programs.

A blueprint for statistical betterment related specifically to the next plan would be much more modest than most proposals to overhaul the statistical apparatus and practices prevailing in less developed countries. It is likely to be much easier to achieve, given the scarcity of statistical and technical staffs and the uncertain interest of governments in most less developed countries in the collection of data. A blueprint which would limit the acquisition of data primarily to essentials for the next plan would make it easier to set up priorities for data and to weed out unnecessary items. Few planners ever feel they have all the information they need. They would therefore have to exercise restraint in setting up the blueprint. Thus, while there might be instances when items which take a long time to gestate would have to be included in the blueprint to permit planning advances after the next plan period, they would be exceptional.

Any blueprint for improving statistics for planning purposes should be included as a project or program in the current development plan to allow appropriate financial, personnel and other resources to be allocated for its implementation and to make certain that the data to be produced meet planning needs.[74] Unless planners and producers of the

[73] OAS. Fourth Inter-American Statistical Conference. *Final Report*, p. 6.

[74] Provision would also have to be made for betterment of non-planning information.

data co-operate closely in this endeavor, the data may be found, like the list of basic statistics for planning produced by the First Conference of African Statisticians, to have been

> constructed for the producer of statistics and not for the convenience of the user.[75]

Attempts have been made on an international basis to prescribe a uniform system for collecting data for all countries. As has been seen, some experts consider the establishment of basic statistical series in less developed countries more important than the preparation of national income estimates; others believe the reverse to be true. Regardless of the substantive content of the prescription, it is doubtful whether a single prescription for all countries is practicable. It has not produced appreciable results despite persistent effort. It is equally doubtful whether one prescription is feasible even for all countries in the same region. The Economic Commission for Africa has pointed out, for example, that the basic list of planning statistics produced by the First Conference of African Statisticians was inadequate, among other reasons, because it failed to

> distinguish among the very different situations prevailing in African countries, some of which have a statistical development going back more than fifty years, while others have just created a central statistical service.[76]

There seems to be no better way of improving the stock of planning information for any country than by fitting its program for informational improvement to its own particular needs at the particular stage of development which it has reached. This does not mean that each country's requirements for planning data are fundamentally different from those of all other countries. It means only that a blueprint for improving a country's statistical and other data is likely to come closer to meeting the country's urgent and essential informational needs, if it is fitted to the kind of planning the country is *going* to attempt, than if it is prepared on the basis of the kind of planning someone outside the government thinks the country *ought* to attempt. Since most countries engage in simple forms of planning, a blueprint adapted to such planning will call for a limited amount of simple data which can be put

[75] UN. ECA. *Memorandum on Statistical Development,* p. 6.
[76] *Ibid.*

to use quickly. It would therefore have a better chance of being carried out than a larger, more complex program, like those generally proposed by advocates of comprehensive planning for all countries and for which there is no immediate use in many lands.

In an era when international regional co-operation is becoming increasingly important, international statistical groups and conferences have urged developing countries to adopt statistical classification systems which permit international comparisons of country data. But if each informational improvement program is to be tailored to the specific requirements of a country, it may be necessary to sacrifice international comparability if it is against the interests of a country. Thus, where hoes are important in a country's agriculture, as in some African countries, it will not do for the country's planning purposes to adopt a broader definition for agricultural implements advocated by an international agency which may result in concealing the number of hoes imported. Or in a country where, say, cedar and graphite exist, it may be desirable to separate out even so small a classification as pencils from larger import classifications recommended by an international group of statistical experts, to provide market information for a would-be investor in a pencil manufacturing plant utilizing the indigenous raw materials.

The type of information required will therefore differ from one country to another even if the different countries are at the same level of development. If planners' activities in the short run are to be limited to one or two sectors, statisticians and other fact-finders might well largely limit themselves at first to the collection or improvement of information in those sectors. If the planners intend to work on a public investment plan providing a basic infrastructure, information for appraising the possible direction of transport, power, water supplies and related development should get the highest priority. If the public investment plan includes agriculture, basic resource information on soils, land use and other data will be required. And if the plan comprehends the private sector, market research and other information to guide and encourage private investors should be gathered and made available. Although hard and fast rules cannot be made, there is a strong probability that for most developing countries the approach described would result in concentrating scarce statistical and other fact-finding personnel on the improvement of basic statistical and resource data in early planning stages, and the development of national

income and other aggregative estimates in later planning stages.[77] In some less developed countries in an early development stage, it may be desirable to make aggregative estimates. But for most countries,

> a line must be drawn beyond which ambitious and, for the present, futile efforts to concoct aggregative figures should be discouraged. For each such country efforts must be made to work out a rough and ready allocation of statistical resources which, while not ruling out global estimations altogether, should assign adequate importance to strengthening basic data.[78]

SUMMARY AND CONCLUSIONS

In summary, planning depends on the existence of qualitative and quantitative facts about resources and economic and social activity. All countries need information about basic resources to plan effectively, but the kind of statistical information needed, and its detail, depends on the type of planning.

The usefulness of available data depends on its accuracy, coverage, form and timeliness. If existing statistics are full of mistakes, the coverage is limited or changes frequently, the form of the data restricts or precludes comparisons with other data, or the data are out-of-date, they may do more harm than good.

Planning in most less developed countries is severely handicapped by the lack of dependable data in sufficient quantity. While some countries lack data, others, because of a lack of co-ordination, produce two or more sets of similar data. There is need to co-ordinate statistical activities in many countries, not only to eliminate duplication, but also to improve comparability and a freer flow of information within governments.

A country which seeks to improve its statistics for planning must set priorities. It must decide, for example, whether to build up its basic

[77] The speed with which reliable data may be accumulated in many fields can be accelerated through the use of aerial photography. Aerial photography has proven feasible for the discovery and analysis of mineral deposits; the exploration of forest resources; the mapping of soil types; and hydrological surveys. But it is also possible that it could be put to use in developing countries (in conjunction with sampling surveys) for estimating population, numbers of grazing animals, the kinds and quantities of growing crops, land use patterns, etc. (National Planning Association. "Aerial Photography and Development Planning.")

[78] Mitra, Ashok. "Underdeveloped Statistics," p. 315.

data first or whether it is more desirable to prepare aggregative national accounts estimates, even though the data on which they are based are inadequate. Some experts advocate the first course; others the second. There is also the question whether the available data, although inadequate, should be used to start planning immediately or whether planning should be postponed until improved information is obtained. Some planners prefer to postpone planning for a year or two until they accumulate more reliable information. But this causes great delays in meeting a country's problems through planning and most planners feel that it is preferable to start planning as soon as possible even if there is need to use statistics that are second-best.

This approach makes sense provided the planner does not try to support a complex plan with poor data. But this is exactly what many planners have tried to do by introducing comprehensive planning before necessary supporting information was available. All planning requires data. But partial planning requires fewer and less precise data than comprehensive planning.

Although some countries have improved their statistical systems, surprisingly little has been done to remedy known deficiencies. One explanation for the widespread failure of governments to act may be the frequently conflicting recommendations made by the experts. Another, and perhaps more significant explanation for inaction, may be the realization in many countries that it is possible to plan without making the basic reforms in statistics which most international experts consider a *sine qua non* for effective planning. Experts tend to blame the lack of data for the lack of comprehensive plans. But the greater likelihood is that most countries are not prepared to adopt grandiose and costly programs for providing data for comprehensive planning because they are not yet ready, for other reasons, to plan comprehensively.

There is a great divergence between the limited needs for planning data in most less developed countries and the ambitious programs sometimes advocated by international statistical or planning experts. Since there is little appreciation of the importance of data in the governments of most of these countries, there is little genuine interest in carrying out the experts' recommendations. Instead, most countries make *ad hoc* and piecemeal attempts to improve planning data. Statistical services are generally rudimentary, neglected and without adequate funds. Statisticians in government service are not given appropriate status and are underpaid.

There is great need in most countries, regardless of the kind of planning they attempt, to improve both the quantity and quality of planning data. But it might be the wiser course to take a more modest and realistic approach than the usual one, and include in each development plan a program for expanding and improving the statistical and other data only to the extent it is needed to formulate and implement the next plan. By making provision for the blueprint in the current development plan, attention can be drawn to the need for tying in statistical improvement with planning and for providing resources in the plan to carry out the betterment program. By relating the blueprint specifically to the next plan, it is possible to concentrate on essentials only and to weed out unnecessary items. Since it is not feasible to prescribe a uniform system of data collection for all countries, blueprints should be fitted to the specific needs of each country.