

Wanted: A World Development Plan

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THE CASE FOR A WORLD INDICATIVE DEVELOPMENT PLAN

DEVELOPMENT planning has become a routine activity for large numbers of corporations as well as for public authorities at various levels, particularly national governments. The time has come to make an attempt to create a framework for all these activities at the highest, that is, the world, level. Several of the most important arguments in favor of the construction of such a world “indicative” development plan¹ will thus be discussed in this introductory section.

To Avoid Duplication in National Planning

The national plan of any country, irrespective of its precise character, always needs as part of its data a set of figures about the world markets for its imports and exports. In quite a few national planning agencies extensive analyses of the probable expansion of world supply and demand and of prices are made. Such analyses require projections of the probable development of a group of autonomous factors, say, public expenditure and private investment, for a number of foreign countries. They also need estimates of the crops of some major agricultural products. Finally, they require knowledge of a number of coefficients or standard ratios of various kinds for the countries and commodities analyzed. Clearly, there is a considerable degree of duplication in much of this work which could be avoided if an international system of information and coordination was in existence which would in fact be a type of planning operation on a world scale.

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¹ By an indicative plan we mean one that is not imposed on any institution but only serves as a guideline for the activities of the institutions concerned (governments, enterprises, families, and so on).

To Supply Market Analysis Materials for Business

In addition to national planning agencies numerous large enterprises are also making studies of the type just discussed, usually concentrating in their later stages on some commodity groups. A number of the more general indicators of probable developments of incomes, prices, and costs which would be the by-products of an international planning operation would therefore facilitate their work. There is also the possibility, which will be discussed later, that the specific studies characteristic of market analysis work as done by business for individual, narrowly defined commodities could be useful to both national and international public planning work.

To Contribute to the Establishment of an International Order

Today's world urgently requires a reinforcement of all orderly procedures of peacekeeping and the relevant forms and types of cooperation between nations. In other words, there is a pressing need for an international order instead of the junglelike behavior of national governments. This is an old topic with a variety of aspects, above all, political and military. In the present situation it is difficult to see what can be accomplished in the political and military fields and it is, moreover, outside the scope of this essay to discuss them. Yet the socioeconomic background is also important. Since economic and social problems are among the most urgent considerations for the larger part of the world—the low-income countries—an international order must have important tasks in this field, too, as has been recognized from the start by the builders of the United Nations Organization. This is clear from Article 1 (3) and from Articles 55–72 of the Charter of the United Nations. For present-day circumstances these articles are, however, far too general and too vague to be of any help in really establishing an international order. Consequently the General Assembly at its 1408th plenary meeting on December 19, 1966, adopted Resolution 2218 (XXI), which in Part A requests the Secretary-General

to prepare a concise and systematic survey of the various principles, directives and guidelines for action in the field of development, as contained in the resolutions, declarations and similar texts of the United Nations and related agencies and in other relevant sources;

and in Part B

to elaborate . . . a preliminary framework of international development strategy for the 1970's within which initial efforts could be concentrated on the elaboration of specific goals and targets for individual sectors and components.

A world indicative plan is an indispensable ingredient for a proper answer to both requests; quite apart from that we think it an essential element as well for any international order in the economic and social fields. Generally speaking, the United Nations family of institutions is much too weak to represent a real international order in the field of economic policies. In order to be stronger these institutions should be endowed with more economic power. Such power can be used satisfactorily only if there is an international economic policy and this again requires a plan.

In the next paragraph and in the next section of this essay we will elaborate on this.

To Specify the Aims of International Economic Policies

Although most political decisions are still taken at the national level, the nature of the problems to be solved has already imposed on national governments various forms of international cooperation in economic policies. The technical elements involved simply compel even the most nationalistic government to admit the necessity of such cooperation. In the end it will become clear that the division of the world into autonomous nations is outmoded and further technological and other extranational development will at some point break up this outmoded structure. Already the existing weak forms of cooperation, in order to be carried out as efficiently as possible, need the background of a set of aims to be pursued. Efficiency requires that no inconsistent policies be pursued. It is inconsistent, for example, to strive for the economic development of low-income countries without adapting to that aim the commercial policies of the developed countries. Finally, any inconsistency will also hurt the interests of the developed countries, not to speak of the damage already done to the interests of developing countries. Even though we will never be able to avoid all inconsistencies which may arise in 100-odd country plans, some of the most serious may at least be reduced.

Again, the only way to formulate a consistent set of policies in the international economic sphere is to construct an indicative world plan. In it a number of aims will have to be formulated with regard to the growth in incomes and in production in the various parts of the world and in the sectors of which the plan is composed. The consequences for investments, consumption, and trade will be estimated. Some of the most important means to be applied to influence the economies in the direction desired can be derived. These then can be the "directives and guidelines for action" which together are identical to the "framework of international development strategy" asked for in the General Assembly resolution quoted above.

To Exert Pressure on the Developed Countries

It is now generally known that the results of the Development Decade are disappointing. The Secretary-General of the United Nations has elaborated on this painful subject on various occasions.² In his inaugural address to the Institute of Social Studies at The Hague Hans Linnemann spoke of the Development Decade as the "plan that failed." The reasons are several, of course. A very serious aspect of the lag of development behind the modest goals so far set is that one of the principal bottlenecks is lack of foreign exchange, or in other words, financial assistance by the developed countries. It is embarrassing, to say the least, that it is a failure on the side of these countries which increasingly has become a dominating feature of the situation. While in the early phases of the United Nations' development efforts the absorptive capacity of developing countries could be said to be the main reason for the widening gap in welfare between the richer and the poorer countries, this argument no longer applies. For the past several years the President of the International Bank for Reconstruction and Development (IBRD), George D. Woods, has declared that the World Bank family of institutions—especially the International Development Association (IDA)—could channel some \$3 or \$4 billion more per annum to the developing countries. The representatives of the governments of the prosperous countries by their vote endorsed the General Assembly resolution quoted before which

calls upon all concerned to make the utmost effort possible towards the realization of the modest targets of the present United Nations Development Decade.

Yet, the United States Congress has repeatedly reduced the President's proposed amounts of aid, and similar trends prevail in some European countries. These tendencies display a dangerous lack of comprehension of those countries' longer-range interests. One widespread example of such misunderstanding is that an adverse balance-of-payments situation often is considered by a prosperous country as an excuse for not stepping up its assistance. The other more serious misunderstanding at play is that public opinion in these countries does not see the dangers to its own populations springing from a situation of despair in some of the largest developing countries. Other aspects of the future economic situation giving rise to particular concern are the employment situation (and the ensuing tensions) to be expected in several developing countries and, of course, the food situation.

The lack of activity in the international development field is also partly

² See *The United Nations Development Decade at Mid-Point: An Appraisal by the Secretary-General* (United Nations Publication Sales No: 65.I.26 [UN Document E/4071/Rev.1]) (New York, 1965) and subsequent reports.

due to the absence of institutions responsible for world welfare as distinct from the welfare of individual nations and endowed at the same time with more economic power. If, say, the UN Secretariat were given a much larger budget, it could exert pressure, by the way it spent the money, on Member governments just as a federal government can influence state governments by changing the means of subsidizing some state activities or the orders placed in a certain state. Once some eminent statesmen were charged with such a worldwide responsibility, they would probably follow a policy different from the present, simply because they now only have national responsibilities.

A world indicative plan may also help to exert pressure on the governments and the publics in the prosperous countries since it can show by alternative sets of figures what a desperate situation is bound to develop if "the utmost effort possible" is not made by "all concerned," especially those which can relatively easily afford to make the efforts expected from them.

The above arguments are not new and have not been ignored by the few who, notwithstanding the insufficient support they get from public opinion, have nevertheless tried to create the beginnings of world indicative planning. In a number of international institutions within and outside the United Nations family of agencies activities have been started which are a sound basis for future work.³ Meanwhile, the United Nations Committee for Development Planning had its first meeting and made its first report to the Economic and Social Council (ECOSOC)⁴ outlining a program of future work, especially of the Center for Development Planning, Projections, and Policies at United Nations Headquarters.

The present essay will elaborate on a number of the technical problems of planning at a world level, some of which have been set out in another article by the author.⁵ Following a distinction we proposed elsewhere⁶ between the tasks, the methods, and the procedures of planning we will deal with these in succession in the remaining sections of this essay.

TASKS OF AN INDICATIVE WORLD PLAN

The tasks of an indicative world plan may be summarized as the specification of a world development policy or strategy and will be dis-

³ For a brief survey of these activities see Jan Tinbergen, "International Economic Planning," *Daedalus*, Spring 1966 (Vol. 95, No. 2), pp. 537-544.

⁴ "Economic Planning and Projections, Report of the Committee for Development Planning on its first session" (UN Document E/4207 and Add.1-2, May 12, 1966).

⁵ Tinbergen, *Daedalus*, Vol. 95, No. 2, pp. 544-557.

⁶ J. Tinbergen, *Central Planning* (Studies in Comparative Economics No. 4) (New Haven, Conn: Yale University Press, 1964), pp. 8, 14, and 22.

cussed more systematically in the present section. It is useful to distinguish between the qualitative and the quantitative aspects of the specification.

Qualitatively the specification of any policy and hence also of an international development policy consists of listing the aims of such a policy and the means to be used. Both will be discussed here only in their main elements.

For practical purposes we think the main aims are the growth of production and hence incomes and the distribution of the growth among the countries of the world and among the social groups involved. As a consequence of a specification of these growth and distribution figures the distribution of the growth envisaged over the various industries and other economic activities will also be determined.

The means needed to attain the main aims are manifold and have to be applied at many different levels: at the national level; at lower levels, down to local authorities and private firms and individuals; and also at supranational levels. For an international development policy the latter are the most important ones. Among the means, investments in capital goods as well as in human beings, through education and training stand out. Such investments can be public or private. Public investments can be undertaken by the authorities themselves; private investments can be encouraged and stimulated by a system of insurance against non-economic risks, by tax facilities and subsidies, and by various types of technical assistance, both from public and from private organizations, including private business. The appropriate choice of the sectors to be developed, for instance, agriculture or various types of manufacturing industries, must also be given attention. With regard to education the methods to be used are no less important than the extent of the educational facilities offered.

Large financial resources will be needed in order to effectuate an investment program. A considerable part of such resources must be provided by the developing countries' own governments. This implies that the collection of taxes as well as saving on current expenditure will be an important factor.

Another set of means must be applied in order to safeguard the flow of necessary imports into developing countries. This can be done, first of all, by the expansion of export earnings by those countries. Since a large portion of the developing countries' exports consists of primary commodities, market regulations for some of these commodities will be necessary in order to create some stability in export proceeds. It is an open question which markets actually need regulation. In any case those characterized by a long production period, such as a long growth period for

trees producing a product (coffee, rubber), are in need of controls. Other markets need regulation if they are in fundamental disequilibrium as a consequence of past policies; sugar is one of these. Even if some long-term stability has been organized or can be expected a priori, the well-known irregular short-term fluctuations due to crop variations require a system of supplementary finance. Under such a system a country whose export proceeds were below the most reasonable forecasts would receive supplementary revenues from a fund created for this purpose. An outline of such a system was made at the instigation of the first UN Conference on Trade and Development (UNCTAD).⁷

For some primary and some other export products the developing countries experience difficulties as a consequence of restrictive trade policies of the developed countries. This is true, *inter alia*, for sugar, for some ores, and for textile products. These restrictions must be reduced. In addition, most developed countries' tariffs show an "antiprocessing structure": Raw materials are imported freely or at low import duties whereas these duties are higher for processed articles. So far little has been done to change this structure, which constitutes a brake on the industrialization of developing countries.

While as high a rate of expansion of exports as possible remains desirable, it will not be sufficient to enable the developing countries to import all the capital goods and raw materials they need for their development. Direct financial transfers therefore remain necessary and at higher levels than at present.

Many other elements of a well-designed development policy could be added to the list given already. For the present purpose we only mention a policy of family planning. As long as the expansion of the developing countries' population is not slowed down, several of the other measures proposed are of small importance. Thus, an increase in general efficiency which is basic in later stages of development does not work out favorably in many respects if there is still a surplus of unemployed.

While a general recognition—perhaps in the text of some development charter—of the need for using the means summarized here is desirable, it is much more important that a development strategy be expressed quantitatively. In all practical walks of life tasks can only be set—and efficiency checked—if they are given numerical expression. If we really are in earnest about development policies, we must commit ourselves to hard figures even if some danger of arbitrariness is involved. As long as no figures are mentioned, even the smallest contribution made in any

⁷ See *Supplementary Financial Measures: A Study Requested by the United Nations Conference on Trade and Development* (Washington: International Bank for Reconstruction and Development, December 1965).

direction may serve as an excuse for postponing larger efforts. Most of the programs set out above are being pursued already, but the crucial point is that they are not being carried out on a sufficiently large scale. Figures are therefore needed. But such figures must be mutually consistent and that is exactly what a plan tries to bring: a coordinated set of targets and means. To a large extent the targets determine what the magnitude of the means must be. Let us therefore first discuss the targets. Among these the average growth targets for the developed and the developing countries stand out.

The targets must satisfy the fundamental condition that the gap in well-being between developing and developed countries must eventually be narrowed. Since it would be difficult to reduce the rates of growth of the developed countries and perhaps would not even be desirable for the developing countries themselves, we think that an overall annual rate of increase in their real national product per capita of some 3 percent—being the average performance over the last fifteen years or so—remains desirable. If one starts from this premise, there is practically no escape from an average annual target rate of growth for the total national incomes of the developing countries of 7 percent. The only counter-argument so far produced is that this goal is difficult to attain. It would be more difficult to deal with the consequences ten years from now of a rate of growth less than 7 percent. Most of us still do not seem to understand how serious the challenge is that we are up against.⁸

Granted the need for an average rate of growth of 7 percent for the developing world as a whole, one of the tasks of the planners is to differentiate this target between countries with a lower and a higher rate of population growth, a lower and a higher initial level of income, and lower and higher potentialities. The one published exercise in this problem by Paul N. Rosenstein-Rodan⁹ was made as early as 1960 and in my opinion needs revision. I cannot help feeling it was too modest.

From the rates of growth for single countries we can derive the rates of growth needed in various industries as well as the distribution of these sectors over countries. I consider this the main planning problem involved and I will make a few suggestions for its solution in the next section of this essay.

We also need a specification of the extent to which the various means

⁸ Max F. Millikan regards the criterion chosen here as an undesirable way to argue that a much higher rate of growth than the prevailing one is needed for the developing countries. His main argument to arrive at the same conclusion is that only with the rates of growth mentioned is there a real prospect that a shortening of the period of dependence on large-scale aid can be attained. However one looks at the matter the common conclusion is that the growth rates just quoted are what we need.

⁹ P. N. Rosenstein-Rodan, "International Aid for Underdeveloped Countries," *Review of Economics and Statistics*, May 1961 (Vol. 43, No. 2), pp. 107-138.

must be applied. Here we have to be aware of the margins of error existing in our best estimates. Among these means financial transfers and training rank high. They have to be derived from the total investments needed and from the needs for trained manpower by deducting what the developing countries can do by themselves. Thus, the level of financial transfers from developed to developing countries, which still constitutes the most important single figure among the means, cannot be estimated with precision and may contain an error of more than one billion dollars per annum. Yet all practical evidence suggests that the figure—now estimated at some \$10 billion by the Organization for Economic Cooperation and Development (OECD)¹⁰—must at least be raised by the amount of \$3 to \$4 billion mentioned on various occasions by the President of the World Bank. It is my contention that we must also set tasks for the individual prosperous countries, that is, define and accept some criterion of distribution. In principle, that proposed by Rosenstein-Rodan is the best before us.

Such a specification of the financial assistance to be produced by the developed countries should be matched by targets to be set for the resources to be made available for development purposes by the individual developing countries. One can even think of a sliding scale of foreign contributions depending on the efforts made by each developing country itself.

Quantitative targets in the fields of market regulations and of trade policy generally may be expressed in terms of prices of single commodities or levels of single import duties, but they may perhaps more comfortably be expressed in terms of macrotargets for total imports from developing countries by individual developed countries or for the percentage of total imports into the latter that has to originate from developing countries.

There are two other important targets. Developing countries should set themselves export targets to be attained through a more systematic export promotion policy. Several developing countries suffering from inflation should also establish targets in the field of tax collection in order to curb inflation.

Summarizing, we feel that for an effective international development policy numerical tasks have to be formulated for individual countries—both developed and developing—with regard to the main aims and means of such a policy. Since an effective policy is in the broader interest of all countries, we must overcome the difficulties, however large they

¹⁰ *Development Assistance Efforts and Policies of the Members of the Development Assistance Committee: 1966 Review* (Report by Willard L. Thorp, Chairman of the Development Assistance Committee) (Paris: Organization for Economic Cooperation and Development, September 1966), p. 27.

seem, if we want to be serious at all about the subject. The figures most needed are those concerning the envisaged growth of income and production by countries and sectors, the financial transfers and the internal public finance by countries of origin and destination, and trade figures by countries. The smaller developing countries may be grouped in order to reduce the amount of detail. The estimation of the figures mentioned typically represents the task of an indicative world plan.

METHODS TO BE USED

By the phrase "methods" we indicate the scientific process of establishing a first draft of the consistent set of figures which any plan aspires to be. It is far beyond the scope of an essay of this kind to give adequate treatment to the question of what methods are available; in fact, one could fill a library with what has been written about the subject. We want only to stress some aspects which still seem in need of more attention than has been given to them so far.

For a problem of the complexity shown such methods have to be mathematical. But there are mathematical methods of very different degrees of sophistication. All procedures able to make a useful contribution must be tried out and their results checked against each other. There can be no doubt that approximative methods or models only are possible; one limit is set by the computer capacity but much narrower limits are set by the needs of communicating about the subject with those responsible for the final decisions. While others are much more qualified than I am to devise detailed and complicated models of the mathematical programming type, I will make an attempt at sketching a model which may be helpful as a check and for communications purposes.

In a planning exercise of the type described the element of distance and mobility of products cannot be neglected. Since it is virtually impossible to introduce transportation and similar costs to overcome distances for each commodity individually, a classification of commodities according to their degree of mobility seems to be attractive. One such category would be domestic products or nontradables,¹¹ that is, products which cannot be imported or exported for technical or cultural reasons (buildings, many services, very perishable goods, goods only in demand by local consumers, and often electricity; also, as a first approximation, very heavy goods). Together their production amounts to one-half of national income in most countries. Another category, covering primarily most agricultural, mining, and manufacturing products, will be called international goods or tradables. It is characteristic for the former cate-

¹¹ This expression is Ian M. D. Little's.

gory that their production must be equal to the demand exerted by the nation in which they are produced, and it may be assumed that once the income targets for the country have been fixed, their demand and hence their production can be derived directly.

The planning problem of estimating the production increases by country and commodity groups then reduces to the category of international commodities. What we are after here may also be called the "best division of labor" between the countries of the world. More precisely formulated it is the problem of minimizing costs of the production of all these goods under a number of restrictions. Costs must be seen as opportunity costs neglecting the "costs" of abundant resources, even if they are paid, in other words, using shadow prices wherever necessary. Costs must also be seen as long-run costs, taking into account gains from learning. Then, costs must be interpreted to imply costs of complementary production processes. In our context this means that the expansion of any international industry in any country requires the expansion of a number of national industries, including needed infrastructural provisions, and of some international industries producing heavy goods (if we have not classified them as national already for that very reason). I have devised a method known as the semi-input-output method in order to estimate these complementary costs.

The main restrictions are of two types. First, total demand for each commodity group will be determined by the increase in incomes. Second, the production increases planned for any single country must be sufficient to attain the income targets set for that country. Both types of restrictions depend therefore on the income targets chosen. This underlines the importance of the choice of these targets, the principles of which were discussed in the previous section.

One implication of the restrictions should be clearly understood. Any single group of commodities should not necessarily be produced where it is cheapest. This might well lead to too small an income increase in the less developed countries. The plan should not try to find the absolute minimum of the joint production costs of all goods, but a relative minimum: The developing countries may have to produce a number of goods in which they are not yet competitive but in which they are "as competitive as possible."

In a previous article I briefly sketched the main factors to be taken into account in finding this relative minimum of costs.¹² We will now elaborate somewhat on possible methods to find the optimum as defined. Suppose that the endowment of natural resources were the same everywhere and our approach to the problem of transportation obstacles were

¹² Tinbergen, *Daedalus*, Vol. 95, No. 2, p. 551.

accepted as sufficient. Later we will remove these oversimplifications. Proceeding from these assumptions, however, the main problem remaining is the distribution of the industries and the countries of the world by their degree of capital intensity. By the capital intensity of an industry I mean the ratio of capital (including educational capital) to (unskilled) labor used in the industry. For some industries this is not a fixed ratio but a range of ratios.¹⁸ By the capital intensity of a country is meant the ratio of capital to labor (defined in the same way) the country is endowed with after deduction of the quantities of both factors needed for the domestic industries. Both the countries and the industries (in the widest sense) can be arranged in the order of their capital intensity. The best division of labor in these simple circumstances would then be a specialization in each country—as far as its international industries are concerned—such that the order in which the countries are arranged coincides with the order in which the industries are arranged. Of course, no more should be produced of each international commodity than its world demand which can be estimated from the income targets set. Having arranged the commodities in order of their capital intensity and knowing the demand for them and having also arranged the countries according to their capital endowment per capita, we would then suggest that the least capital-intensive products be produced by the countries having the smallest amount of capital per head; the next least capital-intensive products by the country endowed with the second smallest amount of capital per head, and so on. Even so it will happen that the poorest countries will then have too little capital. This should be provided to them by capital transfers or so-called aid.

So far the exercise is simple. We must now introduce the element of national resources. This can be seen as a correction on the distribution thus far obtained, tending to replace some of the industries provisionally allocated to each country by others more in accordance with the countries' endowments and the industries' needs for some natural resources. It will be necessary to recognize a large number of natural resources, each to be represented by some primary commodity. The problem to be solved is what influence should be given in any country's industrial structure to the presence or absence of a number of specified natural resources. I think a similar method can be followed as was sketched for the capital factor, now using several factors and consequently applying more complicated methods, known to the mathematician as "multidimensional," for both the ordering of the products and of the countries.

¹⁸ See Gerard Karel Boon, *Economic Choice of Human and Physical Factors in Production: An attempt to measure the micro-economic and macro-economic possibilities of variation in factor-proportions of productions* (Contributions to Economic Analysis, 35) (Amsterdam: North Holland, 1964).

It stands to reason that for the final decision about the extension of any industry in any country the usual project appraisal must be undertaken. But a first crude sketch may well be obtained with the aid of the method just suggested or of similar methods.

Finally, the element of transportation costs may also be brought in in a more refined way. For some categories of heavy goods these costs may be introduced explicitly. Here we are only in the first stages of systematic research, especially when economies as a whole are considered, but some methods have been suggested.¹⁴ It is also possible to study this factor for each industry separately as a further correction of the initial approximations.

The methods discussed so far are meant to be directed at finding a first approximation for a consistent set of figures for production increases. A confrontation of these figures with the increases in consumption to be expected will yield indications about the changes in exports and imports implied.

The first approximation discussed should be seen as the set of figures which the central planning agency submits to the "lower-level" agencies involved. These will have to carry the main burden of the planning work, but they need some frame of reference comparable to what is known in the Union of Soviet Socialist Republics as the "control figures," in India as the "plan outline," and what without a special name was also practiced by the Organization for European Economic Cooperation (OEEC) during the Marshall Plan period. This brings us to the last subject to be discussed, the procedure for world planning.

PROCEDURE FOR INTERNATIONAL PLANNING: CONCLUDING REMARKS

We use the word procedure here to indicate the succession and nature of contacts with the outside world needed by a central agency for constructing its plan. It is now generally understood that the first act in a planning process is the submission by the central planning agency to the responsible policymakers of a first set of tentative targets and means. The policymakers are then supposed to approve them, possibly after amendments have been indicated. This first set of broadly consistent figures is then sent to various lower levels with a request to submit more detailed partial plans. These "lower levels" may be and should be geographical as well as sectoral levels or national governments as well as branch representatives if they exist. These partial plans must again be coordinated, that is, made consistent, by the central planning agency.

¹⁴ See a forthcoming publication by the Netherlands Economic Institute, *The Element of Space in Development Planning*.

More than one round of consultation with the lower levels may be necessary. Finally the integrated plan is submitted again to the policymakers for their final approval.

At the world level this procedure is a much more difficult issue than at the national level. For one thing there is no world government. There is only a very weak analogue, the General Assembly of the United Nations, with the Economic and Social Council as its organ in socioeconomic matters. Elsewhere I defended a procedure in which the Council might play the role of the central policymaker.¹⁵ I suggested that another character be given to the annual meetings of ECOSOC and that indeed world targets be discussed there as well as—following the example of OEEC—policies of individual countries in the light of these targets. I submitted that a subtle mixture of tact and courage would be needed and that a scientific approach to the problems must be attempted.

The other enormous difficulty for any world planning, even if indicative only, is the size of the area covered: in fact, the world at large. This means that more than 100 governments are involved. There is also the problem that many industries are not sufficiently well organized at the world level to be partners in the process.

The number of 100 or more necessitates an intermediary level for which the UN regional economic commissions are the only bodies available in most of the world—but not even this mechanism exists in the Western Asian region and the Asian Communist area. The latter area probably does not want any cooperation of this kind, and hypothetical figures for it may have to be estimated by, say, the Economic Commission for Asia and the Far East (ECAFE). Anyway these complications imply a planning procedure taking more time, with the likelihood that figures may have to be inserted into the plan which have not actually been estimated in each case by the governments of all the countries involved.

In some industries, such as agriculture, an old well-established agency like the Food and Agriculture Organization (FAO) exists, fully able to play the part supposed to be fulfilled by sector representatives. For manufacturing some worldwide private organizations exist although it is not certain that they are sufficiently equipped to cooperate. Such cooperation should be encouraged nevertheless. Also, the UN Industrial Development Organization (UNIDO) may be able to make useful contributions. In some service industries, especially in the field of transportation, capable organizations exist. Their cooperation must be sought. In the education sector the UN Educational, Scientific and Cultural Organization (UNESCO) and in the health sector the World Health Organization (WHO) are the natural partners.

¹⁵ Tinbergen, *Daedalus*, Vol. 95, No. 2.

Business as well as trade unions should be asked for their advice and suggestions. Here some organizations are available. Moreover, the International Labor Organization (ILO) will be available. Generally, the cooperation of all of the United Nations specialized organizations should be sought as a matter of course. This is true in particular also for UNCTAD.

The procedure in outline then looks as follows: The United Nations Center for Development Planning, Projections, and Policies starts out by constructing a first set of broadly consistent targets and means figures. This is submitted to ECOSOC and through it to the General Assembly. After possible amendment this "plan outline" is then submitted to the UN regional economic commissions which would consult the governments of their region. Simultaneously the plan outline is submitted to the specialized agencies and to some interested private organizations.

It will be a great experiment for the Center for Development Planning, Projections, and Policies to receive the reactions of a number of these "lower levels" and to see whether some common denominator can be found for their coordination. One is inclined to "wait and see" what the first exercise will bring. Like every other new human activity world planning is a process of experimenting in which trial and error as well as a learning process will play their part. It will require a sense of proportion and much wisdom and courage to cut off unimportant issues in order that the relevant ones get the attention they need.

The right timing for initiating the procedure will be the most difficult problem. The subject of the exercise probably should be the period 1971-1980; it is hardly conceivable to consider an earlier period, however desirable it may be. Even then the timing will allow little leeway.

In conclusion we want to emphasize that this essay has been only a very crude sketch of how a world indicative plan might be constructed. A large number of details have been left untouched. Partly this has been done because they are well-known to every planner and to most policy-makers. Partly it has been done because so many decisions on details can only be taken after the experiment has been started and difficulties have been experienced which could not have been foreseen. Even so, there are compelling reasons to implement the operation, first and foremost because it is so necessary and, also, because our experience with planning at lower levels gives us confidence that the difficulties are not unsurmountable.