SOCIAL DEVELOPMENT

AND

SOCIAL PLANNING

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I.

INTRODUCTION

In the last decades, different types of planning have been developed. We speak now of economic, educational, and health; or national, regional, and urban among other types of planning. Probably some of these terms did not exist twenty years ago.

Experts who prepare these plans, as well as the policymakers and government officials who use them, are aware of one common limitation: All of these plans leave out something that (for lack of a better name) we will call the social aspects.

A closer look at these social aspects show that some points not included in one type of planning are considered in the other types. For instance, the preparation of a qualified labour force is not considered in economic planning, despite its clear interest for the economic processes, but it is considered in educational planning. As a consequence, there is a need to integrate the different types of planning. As a matter of fact, most plans being prepared now try to integrate economic, educational, health, housing, etc. aspects. Such an integration constitutes one of the several steps already taken towards social planning. An attempt to include all of these steps in a more general frame of reference is made below.

First, a model of society is introduced. I do so, although I am painfully aware of my own limitations and those of the model, because this is the only logical approach to the study of social development and social planning. Next, a concept of planning is introduced. Finally, the model of society and the concept of planning are integrated to form social planning.

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II.

A MODEL OF SOCIETY

The following elements will be considered with respect to a society: Object world, structure of the society, functions of society and culture.

The object world is made up of the things that contribute to the social processes but do not interact actively with them. All geophysical aspects should be included in this category. Time is also an aspect of reality that should be considered as a part of the object world.

By structure of a society we mean the different social groups that it contains, for instance, families, labour unions, landowners, industrialists, Army, churches, etc. It will be seen below that it is impossible to give a complete list of the groups that should be considered in the planning of any society. This is so because the importance of these groups changes with the level of development[1] of the society.

In order to maintain a society, and in order to satisfy the needs of the members of a society, some functions must be fulfilled.[2] As an example, the following can be mentioned: Reproductive, health, nutrition, housing, employment, economic, education, polity, control of deviant behaviour, in particular crime, public administration, etc.

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1/ A precise definition of level of development will be presented later.

2/ The idea of social function used in this paper differs from the usual one among sociologists. For the sociologists' point of view, see references (5) and (15).

For the time being, the intuitive idea that all of us have of the content of these functions is sufficient. Later on, a more detailed analysis of some cases will be made.

The culture of a society consists of two types of norms. The first type regulates the relations among the different members of a society, in particular among groups in the structure, and among functions and groups. The second type of norms evaluates political, economic, educational, etc. aspects.

With the exception of the object world, each one of the processes considered before as elements of a society can be considered as input-output processes (15). These processes receive some inputs from outside themselves, and produce some outputs.

Both quantitative and qualitative aspects of each input-output process can be considered. Examples of quantitative aspects are the national accounts, for the economy; the number of graduates, for education; and life expectancy, for health.

The object world can not be considered as an input-output process because, by definition, it does not receive inputs. For instance, the amount of land available in a country is fixed, and no input can change it. The components of the object world influence the social processes because they are used as inputs in them.

It should be clear that it is possible to consider all the social functions as input-output processes. For instance, health receives physical goods and specialized labour as inputs, and produces better health as an output. Education receives similar inputs, and as a result produces educated people.

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The idea of input-output processes can be applied to social groups in several ways. Perhaps the simplest one is just, in a numerical sense, considering that the inputs are the persons moving to the social groups and the output the persons leaving the groups. This is an approach to the study of social mobility. Below, a different approach will be used. For this, it should be observed that the social groups control some things that might or might not be physical. Examples are goods, for instance, land in the hands of landowners; services, as in the case of the labour force, or such tangibles as influence and power. The groups that control these things give them or their services in exchange for goods and services that the group in control needs. In a simplified example, one may say that the labour force gives services in exchange for salary. In the same sense, the pressure that one social group exerts on another can be considered as an output of the group exerting the pressure and as an input of the group receiving it.

As mentioned before, cultural norms evaluate the outputs of the other social processes. So, the cultural evaluation can be considered as the output of culture. In addition, these cultural norms are modified due to the influence of social groups and/or functions, hence these influences can be considered the inputs of culture.

Using the model of society presented above, it is possible to give a meaningful definition of social development. Social development occurs when a society approaches the outputs of different social processes considered desirable in the culture of that society. The importance of this definition is that it establishes a criteria for judging social development based upon elements taken from the society itself, and not imposed on that society from

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outside. A simple example will clarify this point. In a monastic society, lack of economic goods is highly valued, so, development in this type of society will be exactly the opposite of what usually is meant by economic development. In this example it is clear that no outsider can impose his scale of value in order to define social development.

Human beings seem to be excluded from the model of society described above. This is true to the extent that no human being belongs 100% to any social group or that is only activity is in one social function. Any person plays a role in different social groups and functions. It is more meaningful to study society in terms of these roles than in terms of human beings. In order to pass from sets of roles to persons, constellations of different roles played by one person can be considered. In some cases, it is important to do so, for example in general education, because there an attempt is made to prepare a person for all the main roles that he will play in his life. On the other hand, in vocational education, only some specific role, usually an occupation in the economic function is considered.

All the social input-output processes mentioned before are interrelated among themselves, and, in addition, they depend upon the object world. This means that the outputs of each of the processes are used as inputs in some of the other processes. For instance, educated personnel, an output of the educational process, is utilized in the economy, health, etc. It should be observed that social processes classified - say - as functions, receive inputs not only from the other social functions, but also from the object world, social groups and from culture. The same is true for processes classified in any other aspect of social life. For instance, the norms determining the stratification of a social group are inputs from culture to the social group.

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In order to simplify the analysis, it is useful to think in terms of an input-output table. An outline of the body of this table appears in Table 1. In this Table there is one row and one column for each one of the four main subdivisions of social life introduced before. In practice there should be one row and one column for each input-output process mentioned before, for instance, there should be a row and one column for Reproduction, Health, nutrition, etc.

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Table 1.

Outline of an Input-Output
Matrix for the analysis of
Social Development

	Environment	Functions	Groups	Culture
Environment				
Functions				
Groups				
Culture				

The simplest method of study of the interrelations between the different input-output processes defined in society is to describe them. This approach will be used below with reference to the political function. In this description I will follow the presentation in reference (2).

The political function, besides physical goods and services of educated persons, has as inputs the pressures from the different social groups. These pressures can be expressed in such a tangible way as number of votes or even revolutions. The main outputs of polity are social goals for the other functions, for instance goals for the economy; health, etc. These social goals should reflect the pressures from the different social groups.

Public Administration can be presented as another example of description of an input-output social process. The administration receives as inputs, in addition to personal services and physical services, the social goals set by the political decision makers, with these inputs it should produce the services required to implement, or to make possible the implementation of the social goals.

A second approach to the analysis of a social input-output matrix is to evaluate correlations between different indices defined for the outputs of the social process. In this case a matrix of correlation coefficients such as the one presented in Table 2 would be obtained. Below, a brief description of the method used to obtain Table 2 will be presented.

Table 2 is obtained from reference (10). In this paper an attempt is made to apply the basic frame introduced before to the analysis of the Latin American countries. For this, different indices are defined for

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each country. These indices permit to rank the countries. Once rankings of the countries with respect to two indices are obtained, the correlation between such indices can be obtained. These correlations appear in Table 2.

Table 2.

Correlations between indices of the output of the social processes

	Landowners	Catholic Church	Armed Forces	Industrial Interests	Foreign Interests	Political Function	Economic Function	Educational Function
Landowners		-.517* n 12	-.627* n 11	-.923* n 12	-.350 n 12	.226 n 12	-.692* n 12	-.524* n 10
Catholic Church			.007 n 18	.632* n 13	-.226 n 19	-.307 n 20	.368 n 15	.620* n 13
Armed Forces				.567* n 12	.363 n 17	-.432* n 18	.253 n 14	.208 n 12
Industrial Interests					.467 n 13	-.313 n 13	.741* n 12	.730* n 10
Foreign Interests						-.018 n 19	.661* n 15	.507* n 13
Political Function							-.236 n 15	-.488* n 13
Economic Function								.852* n 13
Educational Function								

Source: Correa, H.
Structure du Pouvoir et développement sociale en Amérique Latine
Tiers Monde Tome VI, No. 24, Octobre-Décembre 1965.
n size of the sample; *significant at 5% level.

First indices of the power of Landowners, the clergy of the Catholic Church, the Armed Forces, Industrialists and Foreign Economic Interests were constructed.

The index of the power of the landowning class was constructed by using two sets of statistical data: share of agricultural production as compared with total production, and concentration of landownership. The larger the share of agricultural production as compared with total production, and the more concentrated the control of such production, the more powerful the landowning group.

The index for the power of the Catholic Church was constructed taking as starting points the ratio of inhabitants to priests, and enrolment in private schools as a percentage of school-age population. The ratio of persons to priests gives an idea of the capacity of the Church to influence the society of a given country. The smaller the number of persons per priest, the larger the capacity for influence. Enrolment in private schools as a percentage of school-age population shows whether that capacity has or has not been exerted.

To construct an index of the power of the Armed Forces, two sets of data were considered: expenditures for the Armed Forces as a percentage of national income, and size of the Armed Forces as a percentage of the size of active population. As in the case of the Catholic Church, size could be considered as an index of capacity to influence the life of the society, and the percentage of expenditures as an index of whether such capacity is or is not being exerted.

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An index constructed with a method similar to that used for landowners would be desirable for studying the power of the non-agricultural interests. Unfortunately, no data are available on the concentration of non-agricultural resources. Therefore, only figures for the amount of non-agricultural production as compared with total production were used as an index of the power of those groups.

Two factors can be considered as determinants of the power of the foreign economic interests: the magnitude of these interests in relation to those of other units, and their concentration.

Because of the limitations in the available data, United States private direct investments per inhabitant are taken as indices of the relative magnitude of foreign interests. In addition, no figures are available on the concentration of American investments in Latin American countries.

In Table 2 appear the values of the Spearman rank correlations between the rankings of the different countries according to the indices of power constructed with the data discussed above. These values show clearly that there are three clusters of groups: one, Landowners; two, Catholic Church, Armed Forces and Non-Agricultural Interests; and three, Foreign Economic Interests.

Three social functions are considered in Table 2: Political, Economic and Educational. Below a description is presented of the indices used of this level of their development.

In order to construct a completely satisfactory index of political development, we should begin with the quantification of the development of each of the functions of polity. For this, a scheme such as the one proposed by Almond and Coleman[2] should be used. Unfortunately, the present stage

of knowledge and the availability of statistical data do not permit such an approach. In order to overcome this difficulty, an over-all index of the efficiency of the political institutions is needed. On intuitive grounds, it seems that political stability provides such an over-all index. The average number of years between 1930 and 1957 that a government lasts is used as an index of political stability.

Well-known indices are used to represent the other two functions: Per capita gross domestic product as an index of economic development, and average number of years of education of the population as an index of educational development. The main limitation of this index is that it does not give any indication of the qualitative differences in the education.

In Table 2 appear the Spearman rank correlation coefficients among these indices of the level of development of the three social functions considered, and of them with the indices of the social groups.

The values of the correlation coefficients with respect to the functions permit the conclusion that economic and political development are independent, and, what is even more surprising, the higher the level of educational development, the lower that of political development. The comparison between the indices of the power of the social groups and the development of the function show that powerful landowners and a low level of economic and educational development occur together. No relationship between the power of the landowners and the degree of political stability can be established on the basis of the results in this comparison.

Correlation analysis such as the one just commented on are not very helpful in social planning. For policymaking, it is also required to know

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the quality and the quantity of the inputs required in order to attain specified level of outputs. Some comments on the information of these types and tables is presented below.

A fairly large amount of information exists with respect to the economic inputs of the economic process. As examples of this type information we have capital output ratios, economic input-output tables, etc. The information about the non-economic inputs of the economic process is much more limited. Some of this is reproduced in Tables 3 and 5.

The basic data to construct the estimates of working capacity as determined by nutritional conditions is presented in Table 4. The percentages of working capacity with respect to full capacity in Table 4 were obtained from experimental studies mentioned in reference (9).

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Table 3.

Working capacity as percentage of full capacity as determined by nutritional and health conditions

Country	Determined by Nutrition	Determined by Health	Combined Effect
Africa			
Egypt	84.69	83	69
Madagascar	61.91		
Morocco	63.05		
Tanganyika	70.69		
South Africa	79.81		
North America			
Canada	92.45	97	89
Cuba	93.30		
El Salvador	19.31		
Honduras	44.41		
Mexico	60.26	87	52
U.S.A.	96.23	97	93
South America			
Argentina	93.46		
Brazil	68.76		
Chile	69.44	87	60
Ecuador	56.42	85	48
Paraguay	78.24		
Venezuela	64.74		
Asia			
India	27.51		
Isreal	82.85		
Japan	59.22	97	57
Philippines	51.04		
Thailand	49.89		
Turkey	88.28		

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Table 3. (Continued)

Working capacity as percentage of full capacity as determined by nutritional and health conditions

Country	Determined by Nutrition	Determined by Health	Combined Effect
Europe			
Austria	91.53	96	88
Czechoslovakia	79.63	96	77
Denmark	97.41	98	95
Finland	91.28	97	88
France	90.68	96	87
West Germany	92.55	96	88
Greece	83.17	97	81
Italy	75.42	96	72
Netherlands	91.60	97	89
Norway	90.09	97	87
Portugal	65.85	93	61
Spain	66.88	94	63
Sweden	86.97	97	84
Switzerland	95.33	97	92
United Kingdom	97.84		
Yugoslavia	84.08	95	80
Oceania			
Australia	97.50	97	95
New Zealand	98.31	96	94

Source: Correa, H.
The Economics of Human Resources
North Holland Publishing Co.
Amsterdam, 1963.

Table 4.

Caloric intake and working capacity

for four types of work

Type A Commerce Bank Insurance Services		Type B Manufacture Construction Electricity Transportation		Type C Agriculture		Type D Mining	
Daily Intake	% Working Capacity	Daily Intake	% Working Capacity	Daily Intake	% Working Capacity	Daily Intake	% Working Capacity
1450		1450	0	1450	0	1450	0
1500		2000	27	2500	44	3000	55
1750	0	2250	42	2750	54	3300	64
2000	30	2500	58	3000	66	3600	76
2200	65	2750	76	3300	82	3900	88
2400	100	3000	100	3600	100	4200	100

Sources: Correa, H.

The Economics of Human Resources
North Holland Publishing Co.
Amsterdam, 1963

If the data in Table 4 is compared with the information on the number of calories consumed by the labour force in mining, say in Ecuador, and assuming that miners in Ecuador consume the same amount of calories (2,130 in 1959-56) as the rest of the population, it can be concluded that the working capacity of the miners in Ecuador is below 55%. In a similar way, the working capacity of those in services and clerical work will be about 65%. A weighted average of these results, with weights proportional to the labour force in each type of occupation, gives the main element of the results in Table 3. To obtain the final result corrections were introduced to take into consideration climatic conditions and the sex composition of the labour force.

To obtain the working capacity as determined by health conditions only the days of work lost due to bed disability were considered. To estimate the number of days of work lost due to bed disability, three sets of data were used. First, the results of a sample survey give the number of days of work lost due to bed disability in the U.S. for different types of sickness, second, the death rate in the U.S.A. due to the different sickness, and, finally, the death rate in the different countries due to the different sickness. It was assumed that the number of days of work lost due to bed disability brought by a sickness are directly proportional to the death rates caused by that sickness. The total of number of days of work lost due to sickness was compared with the number of days of work per year. This gave the percentage of working capacity lost by sickness. From this data the result in Table 3 was obtained.

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In order to integrate the results in Table 3 with the economic function in a society data on employment, underemployment and unemployment is required. Unfortunately, data of this type is very scarce.

Two approaches have been used to study education as an input of the economic processes. In the first one data on salaries is used. The difference in average income between persons with different levels of education is attributed to the difference in education (17). For instance, the difference between the salaries of the workers with university education and the workers with high school education is attributed to college education. In more refined studies attempts have been made to correct the differences in salaries taking into consideration the differences in innate abilities of the persons with different levels of education.

In the second approach the information of the number of workers with different levels of education are used. These data permit to see the changes in the educational composition of the labour force that accompany the changes in the productivity per worker. Besides they are useful for planning purposes. This second approach can be modified to consider an intermediate step between education and production. In this case the labour force is divided in occupations, and the education required for the different occupations is studied. The importance of this approach lies in the fact that the analysis of occupations permits to find out the content of the education required for these occupations. In addition, this approach can be generalized. In this generalization instead of considering just occupations, i.e. role in the economic function of a society, the role in all the social functions should be considered.

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It should be observed that none of the approaches mentioned above gives the contribution of education to the working capacity of the persons. In this sense, these approaches to the study of the relationship between education and the economy are different from those used to analysis of the relationship between health, nutrition and the economy. This is an important point. The indices of health and nutrition reflect the conditions of the supply of labour without taking into consideration demand aspects. The indices of the contribution of education reflect supply and demand conditions.

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A similar approach to the one just described to study health, nutrition and education as economic inputs, has been used to study housing as an economic input (8). In the study in reference the changes generated by a housing investment in a community within the Pine Ridge Indian Reservation in South Dakota was analyzed. From this study the results in Table 5 were obtained. A brief explanation of the meaning and method of computation of each of the entries in this Table 5 is presented below.

No explanation is needed with respect to capital needs and the direct annual benefits. Three indirect benefits are considered: In wages, in education, and in health. To measure these benefits the conditions of the persons before and after the housing project was completed in the community under study were considered. The wage benefits reflect the increment in production per hour and the number of hours worked. The educational benefits were measured taking as starting point figures of salaries by level of education. With these figures estimates of the increment in income brought by the reduction of days of absenteeism from the school was estimated. The figures in Table 5 are the increments in income due to less school absenteeism - that the children of school age in the household will receive when entering the labour force. Finally, health benefits are the family savings in hospital in-patient and out-patients expenses. The effect of health in number of hours worked is not considered under this heading, but under the heading of increased productivity.

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Table 5

Summary of Estimated Costs and Benefits per Dwelling or Household

Capital Costs		15,66
Total Annual Benefits		1,08
Net Direct Annual Benefits (rents and spending costs)	72	
Indirect Annual Benefits	1,006	
In wages	737	
In education	40	
In health	229	

Source: Burns, L.S. Case Study of a Cost Benefit Analysis of Improved Housing. United Nations Research Institute for Social Development, Meeting of Experts on Cost Benefit Analysis of Social Projects, Rennes (France) Sept. 1965.

From the observations above it follows that we are still far from the day when all the information required for an input-output social matrix useful for social planning will be available. On the other hand, the example presented show that such information can be obtained. I believe that the moment that we learn how to use such input-output social matrices and we begin using then, the additional data needed will become available.

III. WHAT IS PLANNING ?

As an element for the study of social planning, some idea of what is planning is required. A very brief analysis of this topic is presented in this section. A more complete study, from a different point of view, appears in (1).

Planning can be studied from two points of view: a) that of its formal elements, and b) that of the social groups of persons in charge of planning.

With respect to the formal elements of planning, we have to consider the object to be planned, the functions that have to be performed with respect to that object in order to plan, and the level of aggregation.

The object to be planned is always one or several input-output processes. From this statement it follows that society, defined before as a set of inter-related input-output processes, can be the object of a plan. A more detailed analysis of this point will be seen in section III.

In order to plan one or several input output processes, three main functions must be carried out. The first one is the construction of an objective function and setting of goals for the output of the processes to be planned. The second one is the technical preparation of the plan. In this function the availability of the inputs required to attain the goals of the plan is verified. The technical preparation of the plan is completed when a general time table for a series of decisions that must be taken and actions that must be performed is ready. During the implementation of the plan, the general directions resulting from the technical preparations. are traduced in actual day to day decisions and actions. In the description above the three functions that must be performed are presented as a sequence in time. In section IV it will be seen that in any stage of the preparation of the plan all the three functions must be considered simultaneously.

The third formal element in planning is the level of aggregation. Without entering into the details one can say that the level of aggregation in social planning is higher than, say, in economic planning. This type of aggregation refers to the content of planning. Aggregation in time and space can also be considered. Long-term planning usually represents the highest aggregation in time, while national plans are the highest aggregation in space. In actual planning it is usually required to pass from aggregated to disaggregated plans. Actually, it can be said that the only difference between the general time table of decisions and actions obtained from the technical preparation of a plan and list of letters to dictate, telephone calls to be made, orders to be given and action to perform in the desk calendar of a government official is only in the level of aggregation.

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As an introduction to the second point of view in the study of planning, it is important to observe that planning is performed inside a society by members of a society. This means that the persons in charge of fulfilling the three functions of planning mentioned before form a social group. This social group can be studied from two points of view. First the relationships between the group of planners and the rest of the society must be considered. Second, the main division in sub-groups of the group of planners and the relationship of three subgroups should be studied.

No study has been made of the two aspects mentioned above. Below we will mention only some of the points that should be clarified.

With respect to the relations between the group of planners and the other social groups let us observe its importance. Planning is possible only of the group of planners can direct the other social groups. Actually, in any planning process it is assumed that a planning group with the capacity to influence the other group exists. One of the questions that have to be clarified in social planning is the extent of the validity of such hypothesis. If the hypothesis is not true in the actual society to be planned, no plan is possible.

Three subgroups can be considered in the group of planners. They are: government, technical body and implementators. Each one of these social units should be in charge of one of the three functions required for planning: government of target setting; technical body of the technical preparation of the plan and implementators of its implementation.

As in the case of the relationships between the planning group and the other social groups, no study is available of the interaction of the three subgroups just mentioned.

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Such a study in terms of the theory of organization might be very useful. In particular, an analysis of the relations between policy-makers and technical planners in a way similar to that used for the relations between professionals and non-professionals in formal organizations (12) might clarify several conflicts already observed. Among these conflicts one well-known is who should set the targets: The policy-makers or the technicians.

IV. SOCIAL PLANNING

iv.1. Introduction

How do the elements of planning introduced in Section III combine with the model of society introduced in Section II to give social planning ? To answer this question we will study below the three main functions that have to be performed in order to plan, i.e. construction of an objective function, technical preparation of the plan, and implementation, when the object to be planned is the set of input-output processes that we have called society.

However, before proceeding, an important problem has to be solved. In section III we have seen that the group of planners is one of the groups of society, i.e. receives some inputs from the other social groups and produces a plan as out. This means that the group of planners is, at least partially, determined by society as a whole. In this context it is possible to ask the following question: is it possible to prepare and implement a plan that modified the evolution of a society ? This question is just a form of a basic one in sociology (4) and philosophy. It will not be answered here. Below we will assume that social planning is possible.

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IV. 2. Construction of the Social Welfare Function

Polity is among the input output processes of society in the model introduced in Section II. In the present section, a detailed study of the input and output of this process in any society will be made. Next we will see that only small formal modifications of this function found in any society are required when the construction of a social welfare function for planning is considered.

The main input of polity are the interests and aspirations of the different social groups as well as their power. The interests and aspirations of the different social groups refer to the outputs of each one of the processes considered in society. Different social groups will have different aspirations about health, nutrition, housing, behavioral norms, etc. Using their power, the different social groups will try to reach their aspirations and to satisfy their interests.

The interests, aspirations and power of the different social groups are expressed in several ways. Voting, systems of mass communication and coups d'état and evolution are direct means of expressaion. Also the high officials of a government muss express the desires, interest and power of the social groups if they want to remain in their positions.

The outputs of polity are social goals. These social goals are syntheses of the interest, aspirations and power of the different social groups. They are expressed by the higher officials of the Government of a country, and they serve as guidelines for the actions of all the government.

Using a different way of expression it can be said that the social goals obtained with the process described above reflect the aspirations of the society for social development, as defined in Section II.

The social goals obtained as the output of polity have to be frequently revised. The main reason for this is that scarcity of resources usually does not permit to attain all of them. These revisions imply a choice among the different goals, that is, the determination of the goals that should be achieved and those that should not. The preference of some goals over others imply that, at least implicitly, there is a preference function or a social welfare function.

The implicit welfare function that exists in any society as part of the polity input output process is the starting point of the social welfare function needed for planning. The planning problem is to pass from the implicit and imprecise welfare function existing in any society to an explicit and precise one. However, planners should not forget that the social welfare function is determined by the society being planned it-self. In particular, it should not be forgotten that one of the functions of the high officials of the government is to set the social goals. The persons encharged with the technical preparation of the plan should not replace them in this function. If this is done, the plan will not reflect the goals of the society as expressed by its government and will not be implemented.

The observations above also suggest another point. Plans should be made for a specific government. A change in government will usually call for a change in the plan. As a practical matter it is possible to say that the time horizon of a plan should be the life expectation of the governments of the country being planned. If political instability

is one of the characteristics of the society being planned, this characteristic should be taken into consideration in the plan.

The social welfare function needed in planning should tell the contribution to welfare of the output of the different social processes. In a simplified version it will be of the following form:

$$(i) \quad W = \sum a_i X_i$$

where

W = total welfare

X_i = the output of process i

a_i = the weight corresponding to the output of process i.

A social welfare function as the one in formula (i) will make it possible to determine that a level for the output, say of housing, will be satisfactory for all the groups of a society. This means that the level of housing should please the powerful groups of the society so that they are willing to work for it, and should not displease the groups with less power so much that they would challenge the powerful groups in such a way that will break society itself.

In reference (11) Dr. Drewnowski presents an interesting frame of reference for the construction of a social welfare function as the one in formula (1). In this frame special attention is paid to the outputs X_i that should be included in the function. The elements considered are:

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Satisfaction of physical needs with nutrition, shelter and health; satisfaction of cultural needs with education, leisure and recreation and security; and satisfaction of higher needs measured with surplus income. If this frame is compared with the list of different social processes presented in section I, it will be clear that it does not include all the elements. Aspects such as social stability has been left out. In any case, the frame of reference of Drewnowski is a useful starting point.

The main problem in the construction of a social welfare function is in the determination of the weights a_i. In this determination the inputs of polity should be explicitly taken into consideration by means of statistical surveys; the main social groups in a society should be identified and some idea of their power, and of their interests and aspirations should be obtained. These social surveys would provide more specific information than the methods - such as voting - usually employed. In addition, the analysis of time series or cross section data could provide useful information. It should be observed that the abstract concept of social welfare is - from the statistical point of view - similar to the concept of intelligence. The statistical techniques used to study intelligence - in particular factor analysis - could be used also for the analysis of social welfare.

In the observations made before I have followed the approach of political science (2) rather than that of welfare economics to the determination of the social welfare function . In political science, the social welfare function is the final result of the inter-relation with the aspirations, interests and power of the different social groups. In welfare economics (3) no attention is paid to the power of the social groups, that is, in the welfare function only the interest and aspirations of the social groups are considered.

I consider the first approach more useful because power is an important element of social reality. Actually, it is so important that without it, no social welfare function can be obtained. In addition, a plan using a welfare function in which the power of social groups is not considered, could not be implemented.

iv. 3. Technical preparation of the plan

It was mentioned before that in actual policy-making the government officials set goals for the output of the different social processes. When this approach is considered, the technical preparation of the plan reduces to first the determination of the inputs required in each input-output process, in order to obtain the output fixed as goals; second to the verifications that all the required inputs will be available. In other words, it can be said that during the technical preparation of the plan the consistency of the goals is verified. To explain this it should be observed that the output of each social process is an input of the other processes. These outputs are consistent if the output of each process satisfies the requirements of all the other processes. For example, the economic and educational outputs are consistent if economic production covers the need for goods of both the economy and education; and the number of educated persons covers the demand of both the economy and the educational system for educated personnel. Below the following way of expression will be used. Goals whose consistency has been verified will be called targets, and the term 'goals' will be kept only for the case in which consistency has not been verified. With this form of expression, the technical preparation of a plan can be described as the step from goals to targets. This step will be described below.

Let us begin assuming that goals have been set for the output of each of the processes considered in society. At this point it should be remembered that not only social functions such as production, education are considered input-output processes, but other social groups. In this sense, for instance, the personnel in the administration of a country is one of the input-output processes considered in a society, and a goal for their output is known among the goals for the outputs of all the other processes.

To simplify the expression below we will assume that each input-output process considered in a society is represented by a planner, so that a person is in charge of the planning of each input-output process. Given the goal for one

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process, the planner representing it will determine the inputs required to attain that goal and will notify of these requirements to the processes producing the required input. Once every planner has done this it is possible to add all the demands to a given process and check if the process will or will not have an output high enough as to cover those demands.

To clarify the description, let us consider a simple example. Let us suppose in a society only these elements exist: nature, education and production. The output of education is of qualified personnel and that of production is economic goods. The inputs of education and the economy are educated personnel, economic goods and nature.

Let us suppose that goals for education and the economy are fixed. From statistical information the educational planner can say the inputs of educated personnel, economic goods and nature required in education. The same thing can be done by the economic planner in respect to the sector he represents. Next the total of the number of educated persons needed by the educational processes plus that needed by the economy is obtained. Similar totals are obtained for the economic goods and for the aspects of nature to be used by the economy and the educational system. Finally, the total of educated persons is compared with the output considered as a goal for the educational system, and similar comparisons are made with the totals for the economy and nature with the output of those sectors.

If the outputs considered as goals are larger than the required totals, the goals are consistent and can be considered targets. If this is not the case it is required to rectify downward the goals.

The social welfare function provides us with the information required to determine the goals that should be revised downward and the magnitude of the revision. In principle, the downward revision should be made in such a way as to minimize the reduction of total welfare.

The fact that the required output of one process exceeds the goal set as starting point, does not give any information about which goal or goals should be revised downwards.

At this point a very important contribution of the process of technically preparing a plan with that of the construction of the social welfare factor can be mentioned. The study of the use as inputs of the output of the different social processes gives a clear idea of the interaction of the different processes. For instance, education begins to be a concrete thing in terms of rates of economic growth, changes in mortality, modifications of crime conditions, etc. As another example, housing becomes more tangible when its meaning in terms of production, education, health, etc. are spelled out. In such conditions more realistic weights can be attached to the outputs of the different social processes in the welfare function. This is so because it does not seem psychologically possible to attach preferences to abstract things beyond the senses of a person. I do not believe that such abstract concepts as health, education, etc. have much meaning for any person except when their implications are clearly described. During the technical preparations of a plan these implications become better known.

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iv.4. Implementation

The final output of the process of technical preparation of a plan is a list of decisions to be taken and actions to be performed, with the corresponding time table for them. In order to implement a plan, a series of synchronized decisions and actions is required. These decisions should be taken and these actions should be performed in part by the public administration of a country, and in part by all the other social groups. As output of the public administration there should be incentives that will bring the required decisions and actions of the other social groups. Below, special attention will be given to the public administration.

Why is it that frequently the decisions are not taken and the actions not performed ? Below an answer to these questions will be presented.

One reason is lack of the appropriate incentives, i.e. the public administration frequently is not interested in the success of the plan. This will be particularly true if the administration were not directly involved in the preparation of the plan.

Another, and possibly more important reason, is lack of knowledge. Under this title, several aspects can be introduced. First, the public administration might lack the knowledge of the decisions and actions required to implement a plan as of the appropriate time for them. To a certain extent these decisions and actions and their timing are described in the plan. However, regardless of the details with which a plan is presented, it will never include a complete description of all the decisions, actions and timing in all the levels of the government. The public administration must obtain this information from the general guidelines given in the plan. But, in many

cases, plans are expressed in a form above the heads of the public administration. This is a failure to adapt the plan to the conditions of society, that is, this is a defect of the plan.

Another reason why the government officials might not know the action or decisions required for the implementation of the plans or their timing might simply be lack of effective communication inside the administration itself. Slow communication due to excessive red tape might be an example of this problem. Finally, even if the government officials know which action must be performed, and their timing, they might not know how to perform the action, i.e. they might lack the skills required to perform them.

In section II it was observed that the administration of a country is one of the input-output processes considered in a society. This means that the administration is one of the elements that should be taken into consideration in the technical preparation of the plan. It can be said that the characteristics of the administration are one of the constraint that should be considered in the preparation of a plan. For instance, evaluations should be made of the capacity of the administrative officials to understand the technical language used in a plan, and it should be adapted to this level. Also, plans should not require a rate of exchange of communications far beyond the usual one in the administration. Unfortunately, this is not usually done. In most plans it is assumed that a "fiat" can change the administration in such a way as to make it able to implement any plan thrown to them by the planners. When the plans fail due to lack of implementation, it is considered that the guilt belongs to the administration, "the plan was good but it was not implemented." However, this is not the case. A plan that does not consider the characteristics of the administration, fails to consider one of the essential social processes. In the same way that a plan that does not consider, say, the amount of land avail-

able, or the time required by the crop to grow would be considered absurd, a plan that does not consider the characteristics of the administration is absurd.

In order to integrate the characteristics of the administration in a plan, the administration should participate in the technical preparation of the plan. The form of this participation becomes clear if we observe that the most obvious representatives of the different input output processes are the members of the administration in charge of them. For instance, the minister of health is the representant of the health sector. He will be informed of the level of health required by the other social functions, for instance education, and he should be the one that decides if the output of health will or will not meet the requirements of the other sectors, as well as the input that health needs. This is true not only for the higher administrative officials. Actually, every official in a government must participate in the preparation of a plan.

From the observations above it follows that the participation of the administration is an essential element in the technical preparation of the plan. Actually, it seems impossible to prepare a good plan without the information provided by the administration. However, there is another important point. The participation of the administration during the preparation of the plan is the only way to assure its collaboration in the implementation of the plan. Perhaps the most important reason for lack of implementation of the plan prepared up to now is the lack of participation of the administration in their preparation.

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The adaptation of a plan to the conditions of the public administration is a short-term solution. However, from a long-term point of view, in a social plan the development of the administration should also be considered. This includes not only the planning of the new services required, but also of the qualified personnel, the creation of the appropriate incentives, etc. That is, a part of a social plan is the planning of the change of public administration.

V. SUMMARY AND CONCLUSIONS

In the present paper an attempt has been made to present a general frame for the analysis of social development and social planning. In this frame society appears as an all enclosing universe. In this universe we find, first, as an endogeneous element, the basis for determining the level of social development. This endogeneously defined social development is also used to determine the goals of a social plan. Also, in the all enclosing universe of society the interaction of the three functions of planning takes place.

When planning is considered in this general frame, it loses some of its glamour. The word planning, or the establishment of some type of planning office, or the preparation of a book called plan will not change a society. Actually, when the general frame of reference described here is considered, a plan up to a certain extent, describes what is going to happen, and, most likely, would happen with or without the plan. This does not mean that planning is not useful. To see the future, to help the future to come, will save not only physical resources, but what is more important, human lives and human suffering.

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