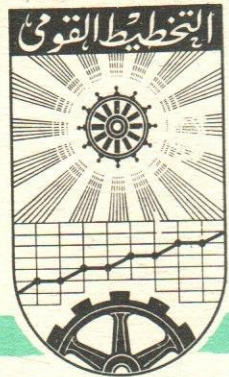


UNITED ARAB REPUBLIC

THE INSTITUTE OF NATIONAL PLANNING



Memo. No. 994

DECISION MAKING

PRIORITY DETERMINATION IN ^HWEALTH PLANNING

A POSITION PAPER

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March, 1971

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Introduction

In the discussion of the subject of decision making for determination of priorities in the field of health planning the term "Health Planning" will be used to denote the dynamic process of delineation of health goals, definition of health objectives, and specification of health targets for the formulation, implementation and evaluation of health plans. In each of these activities decisions are made consciously or unconsciously to determine priorities at the different stages and levels of health planning. It is important to clarify from the beginning that the author prefers not to use the term "irrational" to judge any decision, because the term reflects a judgment of values and is meaningless for practical purposes since every decision maker can justify his decisions as being rational, given his hypothesis. The crucial distinction is, rather, differentiation between the purely pragmatic and the scientific approach. The difference between these two is in the nature, quality and scope of data which are used in providing the information necessary for the decision making. In addition, the methods used to transform the data into the necessary information constitute an important variable which influences the type or approach (e.g. scientific) and the process of decision making.

The main variables in the decision making process are:

- (1) Data: nature, quality and quantity;
- (2) Methods of transforming data into information;
- (3) Information: nature, quality and quantity;
- (4) Societal and personal values of the decision maker himself which affect his preference and hence his decisions.

The Scientific Method

Before considering each of the variables of the decision making process it is helpful to clarify the term "scientific method". The word "scientific" conjures up images in the minds of many of electronic machinery, test tubes and reams of mathematical formulae. However, while the scientific method is often used in mathematics, chemistry, physics and other physical sciences, the scientific approach or method is a conceptual tool rather than a physical apparatus. In fact, all the sophisticated machinery in the world will not compensate for the absence of the scientific method.

The scientific method can be used in many areas of inquiry for the scientific method is a formal ordered approach whose objective is the establishment of a scientific truth in scientific research or of a utilitarian objective, usually prescriptive in nature. In the area of health practice research the objective of the scientific method (and other formal management methods such as budgeting, statistics, systems analysis, etc. which involve the use of the scientific method) is to assist in making decisions to change systems; that is to get something done. This implies descriptive, predictive, and prescriptive action which includes establishment of goals and objectives and measures of effectiveness and efficiency hence objectivity is introduced into the decision making.

We might characterize the scientific method by the following simple points:

- (1) an appeal to the facts;
- (2) conclusions reached by explicit reasoning;
- (3) objective (i.e., can be checked by anyone;

- (4) Procedure repeatable;
- (5) Whenever possible; quantitative;
- (6) Proceeds by counting and measuring;
- (7) Requires precise definition.

These seven fundamental characteristics of the scientific method considerably demythologize the term and make it obvious that this ordered logical approach to attainment of objectives for the health sector is desirable.

At present decision making in the health sector of most countries, the so-called developed as well as the developing, is characterized by an often inadequate or crude data base which makes an appeal to the facts a difficult task indeed. It is this ability to appeal to the facts which is the first characteristic of the scientific method.

Another characteristic of planning and management in the health field is that there is a lack of control by objective measures of performance. Specifically, there is very little information, and very limited methodologies for developing such information, on the output of health (whether health plans or on health activities).

These two constraints facing the health sector indicate the difficulty of applying the scientific method in the health field while at the same time these constraints indicate that the improvement in the data base and development of objective measures of performance are the necessary first steps toward the introduction of the scientific method in decision making for health.

Transformation of Data into Information

From the above discussion it can be seen that the scientific method is most desirable for decision making in health planning.

We have said that the first variable in the decision making process is the data itself and that the second is the method(s) of transforming data into information. In this regard, the question must be raised what is the role of Information and what characteristics are desirable in an information system for planning. Information, and not data, is the basis for decision making and control. In speaking about an information system for planning the following sketch of the planning process cycle will be of help.

FIGURE I: PLANNING PROCESS CYCLE

- . FORMULATION
- . IMPLEMENTATION
- . CONTROL

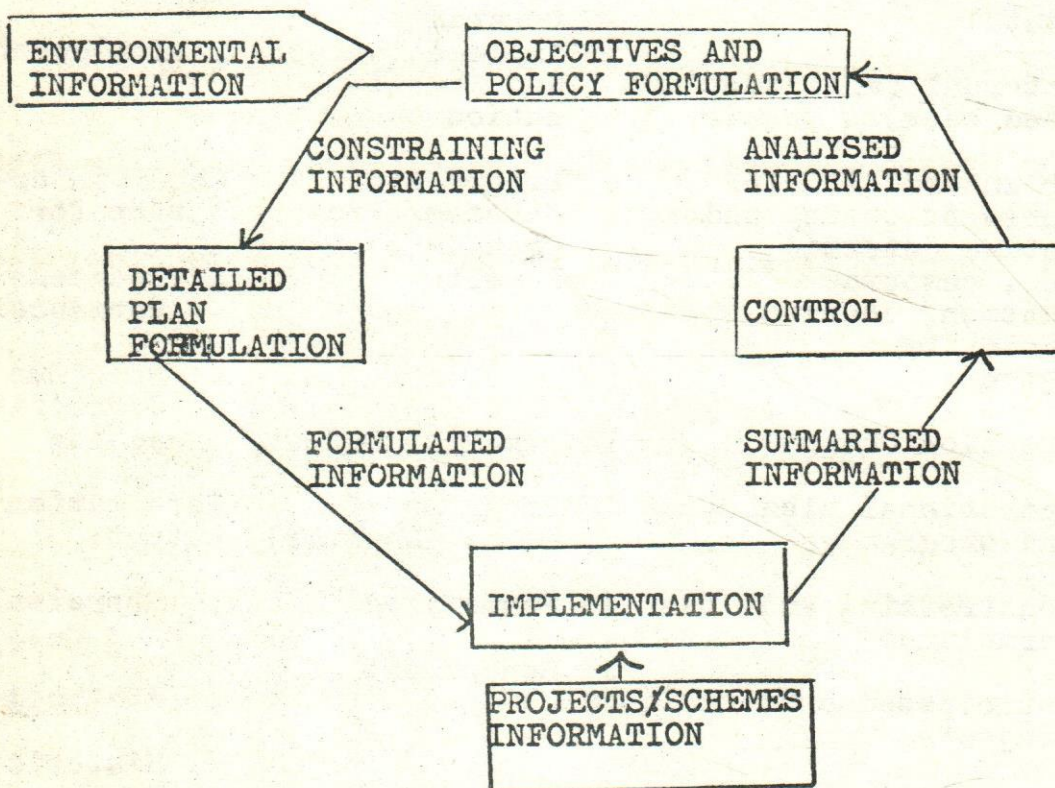


At each of these points of the planning cycle there is a need for information. Inputs of information are provided at each point of the cycle, there then follows an interaction between information inputs and finally an output is generated at each point.

Information

The third variable of the decision making process is information and in this respect one should consider the types and characteristics of information. The information bits generated as output or provided as input are of different types depending on the stage of the planning process cycle in which they occur. A conceptualization of various information types is contained in Figure II.

FIGURE II: INFORMATION TYPES IN THE PLANNING PROCESS CYCLE



Formulation, implementation, and control information can also be analyzed with respect to the source of their inputs and their outputs as follows:

<u>FORMULATION</u>	<u>INFORMATION</u>	<u>CONTROL</u>
Two Information Inputs:	Two information inputs:	Information Inputs:
<ul style="list-style-type: none">• External (environmental)• Internal (analysed, Feed back)	<ul style="list-style-type: none">• Plans oriented towards implementation and organization	<ul style="list-style-type: none">• Formulation• Implementation
Their interaction for putpurpose of policy and objective determination, resource allocation, choice and priority fixation	<ul style="list-style-type: none">• Progress of Schemes/ Programmes by Reports	Their inter-action for: <ul style="list-style-type: none">• Progress & Variances• Problems & Corrective Action
Information Output:	Information Output:	Information Output:
<ul style="list-style-type: none">• Operational plans and programmes• constraining and formulated• Anticipated and projected• Oriented towards future	<ul style="list-style-type: none">• Progress of Plans (Reports)• Summarised• Concurrent	<ul style="list-style-type: none">• Appraisal and Outlook• Analysed• Historical

In the process of transformation of data into information decisions have to be made about the information needs of various organizational levels. Quantitative accuracy and qualitative relevance are two factors which must be considered and about which judgments must be made in light of the fact that information costs money.

Societal and Personal Values of Decision Makers

The decision maker would do well to note that, while he sincerely attempts to base his decisions on accurate information in order to meet certain needs of the society, the determination of need and demand is a difficult task. In the field of health planning it is of utmost importance that the decision maker recognize that there are basically three need-demand relationships of which the professionally determined need is but one type.

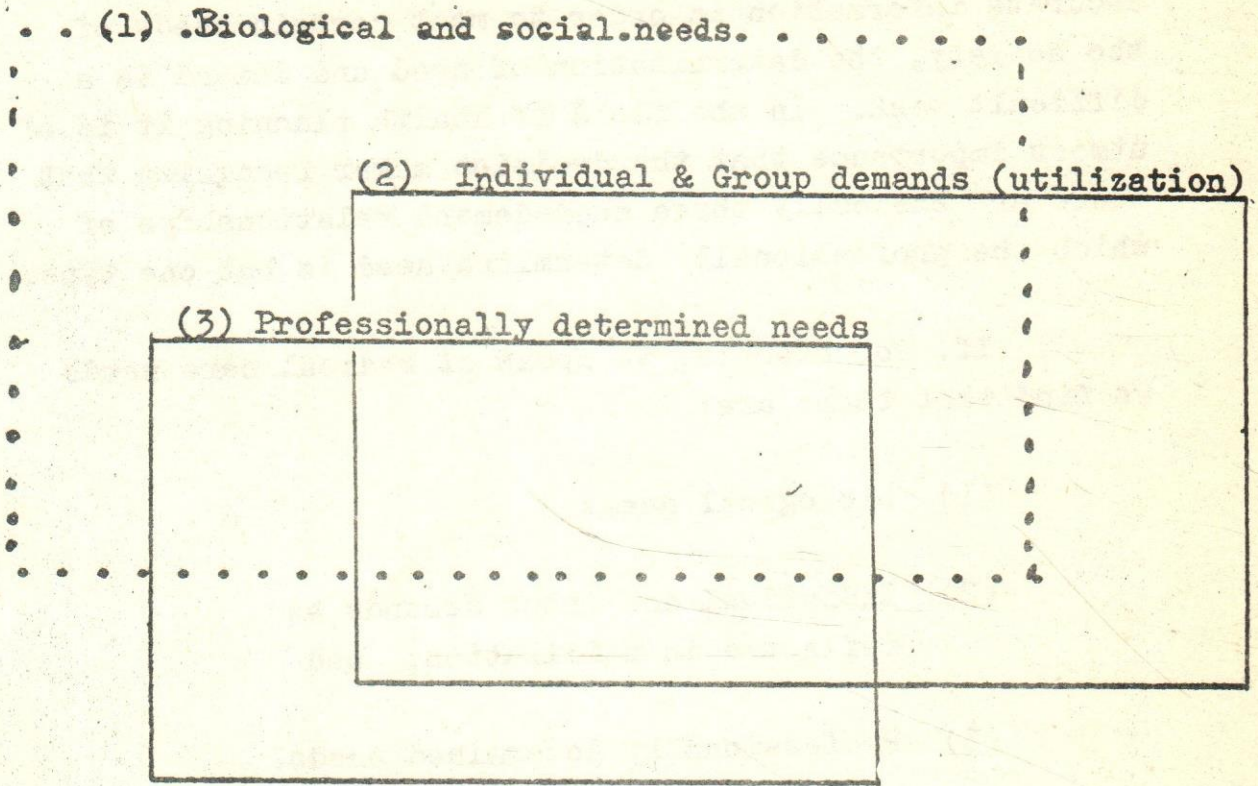
If, for example, we speak of medical care needs we find that there are:

- (1) biological needs;
- (2) Individual and group demands as reflected in utilization; and
- (3) Professionally determined needs.

These needs are not identical and the incongruities suggest that the planner has more to grapple with than his own professional determination when making decisions related to need determination in the health sector.

Figure III illustrates the incongruities between the three listed above with a dotted line for biological "needs" to indicate that such needs do not have fixed boundaries.

FIGURE III: NEED-DEMAND INCONGRUITIES



Having looked at some aspects of each of the four main variables of the decision making process we can now turn attention to the discussion of priority determination.

Priority Determination

Now we turn to the term "priorities" and try to see what this term really means. In fact, priorities are reflections of the "preferences" of decision makers in the area in which decisions are made. Whether priorities are determined by decisions which are influenced and/or made by one man or a group of men does not change the fact that they reflect the preferences of the people who determined them.

Naturally, the need for decisions to determine priorities does not arise in the case where there is only one way to achieve certain goals, objectives or targets. In fact, the need does not arise except when there is more than one way to achieve a goal, an objective or a target. Thus, in general, one can say that the existence of alternative ways in which the same resources can be utilized to achieve the same goals, objectives or targets is a pre-requisite for determining priorities.

Applying this to any society one can immediately visualize that the bulk of available resources to the society (a single nation, community or group of nations etc) can be utilized in more than several alternative activities in order to achieve the development goals of the society. The simple well-known controversial issue on whether developing nations should give more attention and thus invest more resources in production or in services is a typical example of a situation which requires decision making to determine priorities at the highest decision making level in a nation.

Let us now move to the field of health planning and identify the main levels at which decisions to determine priorities should be made. Viewing the health system as an integral part of the socio-economic system and observing that its planning should constitute an integral part of the overall planning process, the following decision making levels can be identified:

- (1) In the determination of the overall goals of socio-economic development;
- (2) In the determination of the overall objectives of the socio-economic development;
- (3) In the determination of the targets of the health system;
- (4) In the determination of the activities of the different components of the health system.

It is quite clear that the above levels constitute a definite hierarchical structure at which decisions are taken which affect the determination of priorities in the health system. It seems necessary at this stage that the terms "goals", "objectives", "targets", and "activities" should be defined as used in the context of this paper.

Health Planning Goals

The term "goals" refers to the overall desires or aspirations of the society or nation expressed as general principles and guidelines which the nation intends to pursue in its endeavours towards development.

Naturally, in this sense the determination of overall development goals is mainly, if not totally, influenced by societal values and hopes and/or by the leaders. The formulation of these goals requires imaginative capacities more than it requires precise information. It should be clear that the purpose of goals per se is to guide and inspire the nation. They are not intended to be used by planners as planning objectives. According to this definition, goals are not measurable and hence should not include any time specification for their achievement. At this level of aspiration health goals may be reflected in such statements as: 'Our society recognizes health as a right; we should strive to provide man with all possible ways and means to enable him to achieve his right...there should be no barrier whatsoever, legal, political, racial religious, etc. which prevents the citizens of these nations from acquiring all the health services which they may need'.

At the level of statements of national goals quite heavy emphasis is usually put on the social aspects of development "the welfare of the people" including their health, since these are really the ultimate goals of development. One can safely say that statements about health at this level are of an aspirational nature which serve to guide decisions in the next hierarchical level(s) which is the determination of overall planning objectives.

Formulation of Planning Objectives

As used in this paper the term "planning objectives" refers to concrete statements which are used to reflect the decision makers' preferences of specific achievements within a specific period of time.

Thus, a planning objective should be concrete, measurable, and should include a specific expected time period for its realization (e.g. double the national income in ten years). Naturally this indirectly means that the decision maker will give preference to societal activities which can contribute more to the realization of this objective. Therefore this is the level at which the decision maker shows his preferences in a clear way. Decisions at this level are decisions which affect the priority of the health sector as well as all other socio-economic sectors. Further, it is at this level that decisions are made which affect the priority pattern among sectors.

The formulation of planning objectives should not be determined by imaginative powers but rather should stem from a realistic assessment of the nation's resources, and from its potentialities for development. There must be a diagnosis of the situation and a determination of future courses of action to achieve certain changes. At this level the kind of information necessary for decision making is of the aggregate type and several development models (i.e., macro-economic models) are now available to help the decision maker at this stage of planning. As should be expected, the results of using such models are highly dependant on the quality and quantity of information used and the skill of the development planner in using these models.

The formulation of planning objectives stage is usually followed by allocation of resources to different societal activities after assembling them into a number of sectors which varies from very few sectors to more than on hundred depending on the availability of precise information.

Naturally the health sector forms one of these sectors and the decisions taken at this stage determine the amount of resources - usually calculated in monetary terms - which could be allocated to this sector and hence its basic priority (i.e., its priority among the other socio-economic sectors). Several allocation techniques could be used at this stage but the most common is usually an input/output analysis of some sort which requires information about the production function in each sector in order to estimate the impact of investment in the various sectors on the achievement of the overall planning objective. The solution is usually obtained with the help of a computer and several alternative patterns of investment could be obtained by manipulation of the basic information entered in the input/output table. It is not always possible to produce the pattern which exactly achieves the planning objective without sacrifices which the decision maker may not want to make his nation bear.

Since this is an important stage in planning on which depends the amount of resources the health services will be able to use during the plan period, the health system should play a role in the decision making process. Such a role can be of a political nature, which is usually the case, or of a scientific nature. To play a scientific role means that the health system representative, assisted by a health planner, convince the socio-economic planner that the allocation of more resources to the health sector will enable him to achieve the planning objectives. Unfortunately, the author cannot recall any cases in which the health sector received additional funds because its representative was able to scientifically demonstrate the effect the additional amount would have on achievement of the planning objectives. Many cases can be cited in which a health sector was given more resources on political grounds alone.

Whatever methods the representative of the health system uses and whatever success he achieves, he will be ultimately given a definite amount of resources for his sector. In spite of the fact that the representative of the health services could play a role at this stage, the author tends not to give too much weight to the impact of this role on the final determination of the priority of the health sector among the other socio-economic sectors.

Health Planning Targets

Given the quantity and quality of the resources allocated to the health system, the health planner has to formulate a plan to achieve a number of health "targets" which could contribute to the realization of the overall planning objectives in the planning period. The term "targets" is used to refer to measurable achievements at the sectoral level with specific quantity and quality resources within a certain period of time which is usually the plan period. As an example from the health sector a target may be stated as follows:

'Reduction of the prevalence of a certain hazard by 10% of its prevalence at the beginning of the planning period using 100,000 resource units every year for the period of the five year plan'

The setting of the targets for the health system requires decision making to determine the priority of regulating different health hazards.

This is the stage in which intra-sectoral decisions have to be made and, and as was said before, this requires information about the impact of resource allocation to regulate a specific health hazard. This requires a sort of cost benefit or cost effectiveness analysis followed by comparing the benefits or effects of regulating each hazard and then selecting the group of hazards whose regulation will give the maximum benefit or effect within the limits of the allocated resources (ie., maximize benefit or effect of resources).

Naturally such benefits or effects are then viewed in relation to their impact on the achievement of the overall planning objectives for the socio-economic system. If the planner could define such a group of health hazards he will be able to allocate the available resources according to their impact on the achievement of the overall planning objectives. This usually requires the utilization of linear programming or input/output techniques with the help of a computer. The solution could be utilized in developing a number of health targets which represent the health priorities of the plan.

Health Planning activities

Reaching a priority pattern composed of a number of health targets does not end the role of the health planner, on the contrary, his most important and harder task begins. In order to be achieved these targets have to be translated into "activities" which should be undertaken by the different components of the health system. The term "activities" in this paper is intentionally used to avoid the use of the terms "projects" and/or "programmes" which are often used to mean different things by different people.

In fact, the term activities as used in the context of this discussion should be taken to include both projects and programmes since this paper is not intended to settle the debate about these two terms. Thus, as used in the paper "activities" refers to all necessary actions required to be taken by the different components of the health system which are designed to achieve one or more of the health targets within the plan period. Activities should be stated in terms of methodology, nature, quality, quantity, form and cost of resources. These activities will form the details of the health plan, which if accepted, should be transformed into a detailed managerial plan for implementation, a task which is rarely done.

Before concluding this paper and the discussion about development "goals", overall planning "objectives", health planning "targets" and "activities", the author would like to give an example of statements which represent these terms and clarify the relationship between them as discussed here.

Development Goal:

'Our aim in the health field is to free man from all health hazards which prevent him from reaping the fruits of the development of our Great Nation'

Planning Objectives

'Our struggle for development and welfare for man makes it a must to double our national income in the next ten years. As a step towards the achievement of this objective the planning commission has been given the authorization to start developing an overall plan in collaboration with all responsible personnel, about the different social and economic sectors of the nation'

Health Planning Target

'Our target in the health system is to direct major efforts to reduce the prevalence of endemic diseases which greatly affect the productivity and enjoyment of life of our citizens. We have decided to give priority to the endemic diseases A, B and C in order to reduce their prevalence by 5% for A, 10% for B and 3% for C at the cost of 50,000 resource units for A, 40,000 for B and 10,000 for C. We hope to achieve these targets by the end of the plan period (i.e, by 1975)'.

Health Planning Activities

Disease A Preventive Approach - inoculation of "X" number of persons in the next five years using "Y" mobile unit teams, each composed of an R.N. and an assistant male nurse and a nurse aide. Capital and running expenses of each unit will be " C_1 " and " C_2 ".

Disease B Curative Approach - Treatment of "X" number of persons during the next five years, using " Y_1 " number of physicians, " Y_2 " nurses, " Y_3 " nurse aides, utilizing our existing rural health centers. At the cost of "C" units of resources out of which C_1 will be capital cost and C_2 will be running costs.

Summary

The decision making process is an intricate process in which the four main variables are highly dependent on each other and which intimately affect the quality of the decision made. Hence, some attention was devoted to considering these four variables in detail. Further, the author discussed within the context of the health sector planning the various levels at which decisions to determine priorities are made.

In conclusion the author presented a concrete example from the health field of the type of decision which is made at each level i.e., determination of goals; determination of objectives; establishment of targets; and activities.