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MAPS

HEALTH MANAGEMENT PROBLEM-SOLVING MODULES

HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

TOWARDS PROBLEM SOLUTION:

OPTIONS ANALYSIS AND IMPLEMENTATION

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TABLE OF CONTENTS

		Page
	Preface	v
	Introduction	1
I.	DEVELOPING ALTERNATIVE SOLUTIONS/OPTIONS FOR RESOLVING PRIORITY PROBLEMS	4
II.	SELECTING THE PREFERRED SOLUTION	10
III.	IMPLEMENTING THE PREFERRED SOLUTION	13
IV.	INTERVENTION STRATEGIES	21
V.	INFORMATION FOR MANAGING IMPLEMENTATION	32
	References	36

PREFACE

In 1977 officials of the Agency for International Development (AID) approached the Association of University Programs in Health Administration (AUPHA) because AUPHA's mission to promote education in health administration throughout the world seemed appropriate to AID's need for specialized expertise.

A recurring problem was confronting AID in its funding of health, population, and nutrition programs: how could managers of both relatively new and established programs in host country organizations determine areas of managerial weakness, and how could these individuals subsequently improve managerial processes or structures? Members of the AID Office of Rural Development and Development Administration and the AID Office of Health envisioned a project to study, develop, and test methods appropriate for management assessments conducted in developing country health programs, adaptable to the unique circumstances of individual countries.

This project, the Health Management Appraisal Methods Project, was designed to make available to developing country and international donor agency managers a methodology for self-assessment of the management of health services. The assessment tools which grew out of these efforts are the Management Problem-Solving (MAPS) modules.

The MAPS modules were developed through the worldwide consortium of health management specialists affiliated with AUPHA. Field consultations in developing countries in Africa, Asia, Latin America, and the Near East over a two-year period were carried out to meet three interrelated project purposes: identification of methodology strengths and weaknesses, identification of management problems and solutions, and training of participants in the appraisal processes.

This practical exposure to real and present situations faced by developing country health services managers gives the assessment tools developed from it a relevance and appropriateness in health management which they otherwise could not have. In addition, each of the MAPS modules benefit from a review by an international panel of specialists in the particular management areas.

These management assessment modules were prepared as a result of a four-year team effort by the following participants:

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Project work was coordinated at the Agency for International Development by project monitors on the staff of the Office of Rural Development and Development Administration: Jeanne F. North (1980-1981), Monteze Snyder (1979-80), Dr. Kenneth Kornher (1979), and Dr. Charles Briggs (1978). Their support and encouragement was essential to whatever success we had in these efforts.

Other individuals, including many AID and host country health officials, contributed countless hours of work and support on behalf of the project. The collaboration of all these people enriched every aspect of the work and was greatly appreciated by the project staff.

AUPHA HEALTH MANAGEMENT APPRAISAL METHODS PROGRAM

TOWARDS PROBLEM SOLUTION: OPTIONS ANALYSIS AND IMPLEMENTATION

INTRODUCTION

This paper is designed to help you with making some decisions about solutions--which are the best solutions for your problems? Which solutions are good but would not work in your organization? Which solutions would not be accepted by your staff? In considering problems and solutions, managers often do not know how to choose the best solution.

Moving from problem identification to problem solution is a very difficult task. Many solutions fail because they were not carefully analyzed before being tried; for example, required resources were not anticipated, staffing estimations were too low, work stages were not properly ordered, etc.

Once problems have been identified, it is helpful to classify problems. Is it a people problem or a technical problem? Is the cause of the problem inside your organization or outside it? Does the solution of the problem lie within your organization or outside? These answers will help you later as you analyze the difficulties with implementing solutions.

A very important aspect of problem solving is how important the problem is to your organization. What impact will solving the particular problem have on the overall performance of the organization?

What are the strengths which you have in the organization which you can mobilize to help solve the problem?

The MAPS modules stop short of problem analysis. It is a very complex and important process which cannot be accomplished by writing down a few scores. This paper will focus on possible solutions--weighing alternative solutions, analyzing constraints, assessing political influence necessary for implementation, etc.

We presume that you have done several steps prior to now. If you have not done the following, we suggest you complete these steps before continuing, since the rest of the paper is dependent upon your list of problems:

(1) List problems existing in your organization

(2) List possible solutions

(3) Decide which problems are the MOST important.
(that is, putting the problems in order from the most important to the least important

The most important problem is your PRIORITY PROBLEM.
State your priority problem here:

_____

_____

It is your priority problem that this paper will help you analyze--how to determine which will be the best solution for you and your staff.

The sections which follow will enable you to develop possible solutions for this problem and systematically weigh them to select a preferred solution; then you will consider what would be necessary to actually implement your preferred solution. For solutions which you would have little or no influence towards its implementation, you may need to

develop an intervention strategy. The final section will help you to organize information which you may need in order to implement your solution.

I. DEVELOPING ALTERNATIVE SOLUTIONS/OPTIONS FOR RESOLVING PRIORITY PROBLEMS

There are many things you could do to improve your priority problem. Do you need more inputs into the health system? Inputs are like raw materials which go into the health system. Do you need more clients or more personnel? The items listed below may give you some ideas about possible inputs.

Personnel:
- More primary health workers?
- More doctors?
- More supervisors?

Facilities:
- More rural health clinics?
- More hospitals?

Drugs and materials:
- More vaccines?
- More refrigerators?
- More essential drugs?

Information:
- More communication between ministries?
- More written reports?
- More medical reporting?

The most common solution to problems is to add more of something--more nurses, more doctors, more rural health posts, more land rovers, etc. If you are experiencing health management problems with the resources which you presently have, then adding more may just be making your problem worse!

A reorganization of your current health system resources may be the better solution. Do you need to consider organizing differently the personnel, facilities, or materials which you already have? For example, do you need:

New work groups?
Different reporting procedures?
New supervisory roles?
New budgetary procedures?
New training courses?
Better maintenance procedures?
New communication channels?

In the following exercise you will identify some possible solutions to your area of greatest need. You will need some blank cards or small pieces of paper. On each card list one solution. Also on each card list the person or organization in your community who would be responsible for the solution. Please see the example which follows. If there is no organization or person in the community which presently has responsibility, identify who should have the responsibility.

Solution: More primary health workers

Who's responsible: District health officer

Look at all the cards and <u>choose one or more</u> solutions which seem best to you and write it below.

Best solution(s):

_____

_____

These best solutions are your primary objectives--what you feel you should do to improve the area of greatest need in your health care delivery system.

Save your other solution cards as you will use them later.

For the best solutions you chose, list all the activities that would have to take place in order to reach the solution. List only one activity per card; you will probably have to make more cards for that solution. Each activity is called a sub-objective because it will contribute to accomplishing the primary objectives.

Lay the best solution cards out on a table and move them around so that you put them in order of what activity must be done first, second, etc., starting with the thing you must do first on the bottom. Each lower objective will help you accomplish the main objective and the objective immediately above it. Your primary objective is at the top.

This type of an arrangement of objectives is referred to as an objective tree, where the smaller objectives in the lower part feed into the higher objectives. Where two objectives must be done at the same time, or if there involves a choice of one or the other, the "tree" will branch out in several different directions. Using one idea per card makes it easy to discard bad ideas as you develop new ones, and gives you something to rearrange while you are thinking about the objectives. A sample objective tree is on the next page.

The primary objectives are seen as the main way by which the area of greatest community need is to be met. The purpose of carrying out all the other objectives in the objective tree is to enable the primary objectives to be fulfilled.

Based on the objective tree arrangement you just completed, which of your primary objectives would you select as the priority objective which your organization should be dealing with? In making this decision, consideration should be given to sub-objectives that must be completed by your organization before you can complete the primary objective. Circle your priority objective.

You may wish to select a second priority objective from among the primary objectives not previously chosen and repeat the process.

Review your tree arrangement to see if it is logical. Does each lower objective help you accomplish the main objective and the objective immediately above it?

After building this objective tree, you may decide that your primary objective is not really what your community needs the most. If you find that this objective is too difficult to achieve, go back and select a different solution or a different condition you think you most need to improve.

Once you have completed your objective tree, you may want to number or letter your objectives to make them easy to keep track of.

Copy the final arrangement of your objective tree onto the Table I. "Organizational Objectives Tree."

ORGANIZATIONAL OBJECTIVES TREE
(Example)

Condition to improve: Most people seldom use health services even when they are sick

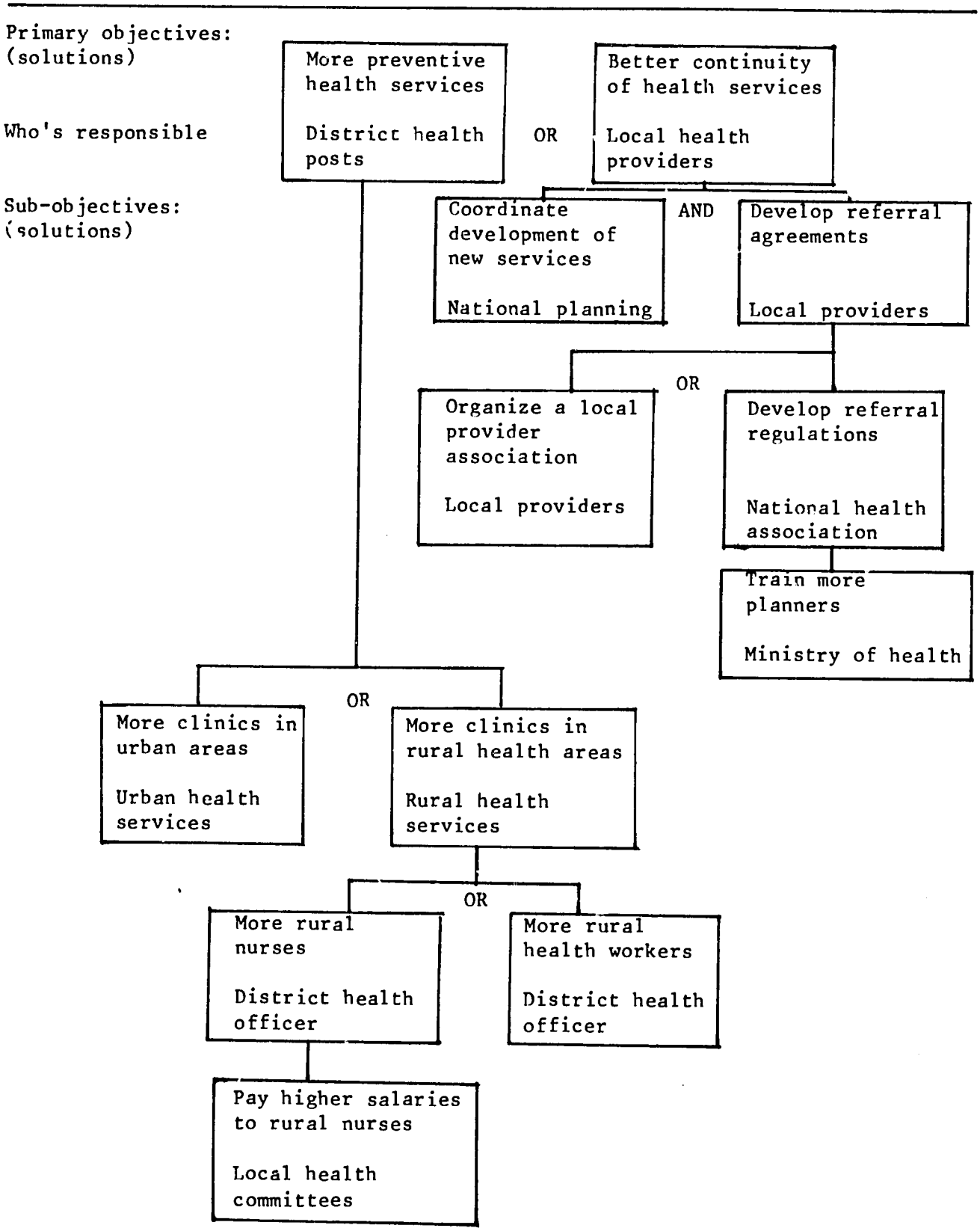

TABLE I.

ORGANIZATIONAL OBJECTIVES TREE

(Fill in your tree here)

II. SELECTING THE PREFERRED SOLUTION

The selection of the most appropriate solution from among the alternatives developed in Section 1 does not occur in isolation but within the political context which determines its overall feasibility and effectiveness. This determination is dependent upon the insight of the manager into the operations of his/her particular organization.

In order to provide some guidelines for the selection of the most appropriate solution for the priority problem you are requested to assess each of the alternatives in terms of: (a) the difference the alternative solution would make toward improving the particular problem; (b) the perceived cost, for example, time, personnel, and money, required to implement this solution in your organization; and (c) the control the manager has over the implementation of the solution, that is, the extent to which the manger does not need to consult with other people in the organization (or community) to get their concurrence to implement the solution for the resolution of their particular problem.

A number of techniques are available to assist you in weighing alternatives, including the following: contingency analysis, scenario, the delphi technique, benefit cost ratios, internal rate of return analysis, and cost effectiveness analysis. These as well as other analytical tools appropriate for selecting the best solution are explained in detail in Delp, et al., Systems Tools for Project Planning.

What follows is an illustration of a simplified technique for the selection of preferred solutions. The three following scales are useful in assessing each solution.

Estimated difference a solution would make toward improvement:

	1	2	3	4	5	
Little difference						A great deal of difference

Implementation costs:

	1	2	3	4	5	
High cost						Low cost

Managerial control over solution:

	1	2	3	4	5	
Low control						High control

In the space provided below, list the name of each solution identified and rate its perceived difference, cost, and your level of control. Multiply these values (difference X cost X control = total score) to achieve a total score.

Table II.

Feasibility Scores

Name of solution	Difference it makes	X	Cost	X	Control	=	Score

For example, you may think one solution would make a great deal of difference (a score of 5), that it would involve minimal cost in terms of time, supervision, staff morale (a score of 5), and you have a great deal of control, that is, does not require approval from higher authorities to implement (a score of 5). The total score would be 125. This may be contrasted with another solution which is less likely to make a

difference (a score of 2) but would have a low cost to the organization (a score of 5) as well as offer a high amount of control (a score of 5). The total score for the second solution is 50. The higher the score the more favorable the solution. Your preferred solution (as referred to in later sections) is the one with the highest total score.

In carrying out the assessment you may employ the above techniques or you may wish to explore some of the more sophisticated techniques described in Delp's book.

III. IMPLEMENTING THE PREFERRED SOLUTION

In the previous section you identified a preferred solution. The implementation of this solution depends on the control both you and your organization have over those affected by the solution, your power to make the decision to implement a particular solution, and your control over resources necessary to implement it. You should proceed cautiously and keep these things in mind:

(1) Most management decisions that fail do not fail because the solution is inappropriate for the problem; they fail because the manager fails in implementing the solution.

(2) While you might feel you have control, and legally you might have control over your staff, you might overestimate your power and ability to change your ogranization--to make your staff members change their behavior.

IMPLEMENTATION of management decisions is the key to good management.

Implementation depends on the following:

(1) Identifying constraints to implementing your preferred solution
(2) A willingness to take risks (either personal or organizational risks)
(3) Overcoming the constraints listed in (1).

Identifying Constraints

Referring to the list of preferred solutions in Table II., select the one with the highest score. This one will have the greatest impact on

improving organizational performance. In Table III. entitled "Preferred Solution and Constraints," write your preferred solution in the blank labeled preferred solution.

Focusing for the moment only on that solution, what are the major factors that keep your organization from implementing this solution? Record all of the constraining factors in Table III.

Note: Table IV. might be useful in helping you think of potential constraints outside your organization. Do not be concerned about the order in which you list constraints. The order is random and does not note importance or urgency.

TABLE III.

PREFERRED SOLUTION AND CONSTRAINTS

Preferred Solution: _____

Constraints:	Your Influence
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Once you have listed all the constraints, you need to determine whether or not your organization has any influence over the constraint. There are three possibilities: you do not have any influence over the constraint; you have some influence over the constraint; or you have the power to change the constraint.

In the space beside each constraint, indicate your influence:

"X" if you do not have any influence

"I" if you have some influence

"C" if you have the power to change the constraint

TABLE IV.

FACTORS BLOCKING IMPLEMENTATION OF PREFERRED SOLUTIONS

The many components of the external environment and the ways they can limit your organization's achievement of its health delivery goals include:

- Superordinate organizations: political ideology; regulations on area of service or services to be provided; level and type of expenditure; and organizational structure.

- Suppliers: trading restrictions; restrictions on international loans and foreign assistance grants; availability and quality of power supply, communications, transport, warehouses; capital market; and centralized purchasing.

- Competitors/Cooperators: incompatibility of programs; restrictions in international loans or assistance programs; consensus on the way to achieve agreed upon goals; relationship with superordinate organization; political and administrative stability; political ideology; established referral networks and service areas; and racial, religious, and linguistic differences.

- Legal: general legal structure for business (contracts, taxes, labor); restrictions on foreign enterprises and organizations; and flexibility of law and legal changes.

- Sociocultural: education, literacy, and technical training; view of authority and subordinates; class structure and mobility; sexual, racial, linguistic, and religious constraints; and view toward change, or traditionalism.

You will be examining the effects of these kinds of factors on your organization and identifying ways of dealing with them.

Willingness to Take Risks

If your organization is more conservative, then you may not be ready to take many risks and will want to make sure you have full support before you go ahead with any new strategies.

How would you rank your organization on taking risks?

1	2	3	4	5
Willing to take a lot of risks				Not willing to take any risks

This will give you some idea of whether you might be willing to take some risks. When you are in the process of taking some action, depending on what else is going on in your environment, you may decide it would be good to take risks or that it would not be good to take risks.

Overcoming the Constraints

At this point you are ready to choose the constraining factors you want to try to change, and to identify strategies or courses of action for most effectively changing them.

In analysis of your influence over implementing a particular solution, you need to look back at your objectives tree to see who is responsible for carrying out a particular solution. Where a sub-objective is identified as being the responsibility of another organization, your concern is to determine how to change that organization, not how to carry out that activity yourself. As an example, if it is necessary to get the ministry of health to train more primary health workers, you would want to get the ministry to change its manpower training policies, not for your organization to train more primary health workers. If you have no influence over the ministry's decision of how many primary health workers to train, then you would mark an "X" beside a constraint on manpower

policies--you cannot change it. If you do have some influence in whom the ministry of health trains, you would mark "I." And if you feel you would have the power to change the ministry's policies, you would mark a "C."

If the constraints occur within your organization, you may have a good chance of overcoming them. It is necessary for you to pay close attention to who, or what level in the organization has the responsibility for implementing a solution; or who or what level will be affected by it. Where the implementation of a solution is identified as being the responsibility of another person or level in the organization, your real problem is to determine how to bring about change in that level of the organization, not how to implement the solution yourself.

For example: If you identify a preferred solution as "getting better qualified people to perform in your department," such a solution might be met through various strategies. One strategy might be for you to initiate an on-the-job training program. If you have the power to implement this solution, you would mark a "C" under your influence in Table III. An alternative might be for the chief executive of your organization to initiate a new recruitment policy. As a department head you might have input into such a decision but no control--therefore mark "I" under your influence for this strategy. A final option might be for the minister of health to increase the salary level for employees, so that better qualified people would be attracted to posts in the ministry of health. You might have no input into this decision and would mark "X" for your influence.

If constraints occur in some other part of the health system or within another government sector, you may have a difficult time trying to bring about the change you want. It all depends on your influence. You may find it helpful and necessary to talk with other organizations and individuals to determine how they would react to a particular proposal--if you are uncertain how they might react. For example, what would the ministry of health think of spending more funds on clinics and

less on hospitals? What would the ministry of health think of hiring more female family planning workers? What would the district health officer think of allocating a fixed amount of district funds to communities who demonstrated independence and interest in the improvement of their own health services?

If you review Table III. and you have marked an "X" beside all the constraints, you need to go back and re-examine some of your answers! Certainly you have some areas of external influence which you are not recognizing.

When you should proceed directly with implementation:

If the constraints occur at your level within the organization, where you have control, you might have a good chance of overcoming them. These constraints will be designated by a "C" in Table III., and you can go ahead to change the constraints necessary and sufficient to implement the preferred solution.

When you should develop an implementation strategy:

If the constraints occur at a higher level in your organization or outside your organization, you may have a difficult time trying to bring about the change you want. These constraints will be marked by an "I" or "X" in Table III. It might be possible for you to bring about change at higher levels in the organization or system if you understand clearly the constraints you are dealing with and develop an effective implementation strategy. Part IV. which follows provides suggestions for implementing solutions over which you have little or no control.

Whether you proceed directly to implement a solution or develop an intervention strategy first, you may want to refer to Part V. which addresses how to identify necessary information for managing the implementation process.

Once you have begun to implement the PREFERRED SOLUTION, you may want to turn to Section I and select your second priority problem which will be your next problem to analyze through these steps. Ready?

IV. INTERVENTION STRATEGIES

Your proposed solution or objective and the constraining factors represent a relationship whereby change in one is brought about through a change in another. Performance is changed by altering one or more of the constraining factors. The constraining factors thus represent combinations of alternative ways for changing organizational performance to meet the proposed objective. Strategies to bring about these changes represent preferred management behavior.

Review how you completed Table III. for each objective. Look at which ones need to be changed in order to change performance to meet the sub-objective or activity. It should be noted that while each of the constraining factors limits performance, it may not be necessary or even desirable to change all of the factors in order to produce the desired results. For example the "level of expenditures fixed," "a single pay scale policy," "fixed salary levels," and "lack of consensus among administrators" may be factors which act to constrain an organization from paying higher salaries to rural nurses. However, in order to pay higher salaries to rural nurses it may only be necessary to increase the "level of expenditures"--the amount of money in the budget for salaries.

Where more than one factor needs to be changed to produce a desired result, these factors can be considered as units. For example, in order to pay higher salaries to rural nurses it might be considered necessary to change both the "fixed salary levels" and the "single pay scale policy." These two factors would therefore be considered as a unit and treated as such in the analysis.

Where different combinations of factors would bring about the desired change, these combinations can be considered as alternative actions. If, for example, the combination of changing the "level of expenditures," "fixed salary levels," and "single pay scale policy" is seen as being enough to enable the organization to pay higher salaries to rural nurses, it might be considered as one course of action to be followed. If the combination of changing the "fixed salary scale," "single pay scale policy," and the "lack of consensus among administrators" is also viewed as enough to enable the organization to pay higher salaries to rural nurses, it may be considered as an alternative to the first approach.

Your judgment will be necessary to determine which and how many of the constraining factors will need to be overcome in order to achieve your objective--how many are sufficient to bring about the desired change in performance and what options are available for alternative approaches to change.

After looking at the alternatives, select a constraining factor or factors that you wish to change to most effectively meet the proposed objective or action. Consider the control your organization has over the change, and the likelihood of the change being accepted and made.

After you have selected a constraining factor or combination of constraining factors to change, go on to analyze <u>how they can be most effectively changed</u>.

The selection of strategies to change constraining factors is based on:

- the extent of agreement on the proposed change among the individuals, groups and organizations; and
- the kind of control your organization has over factors in the environment.

You indicated your influence on each constraint by the codes you used in Table III., "Preferred Solution and Constraints":

If you marked an "X," then your organization currently has no input into the decision making process. In this case the analysis will consist of a description and selection of ways in which your input can be developed. If no viable alternatives exist for making a significant input, then the problem of management deficiency does not lie with your organization but at a higher level in the system. It must be emphasized, however, that the analysis should not be limited to existing types of input. New approaches and techniques should be considered for implementation.

If you marked an "I," then your organization currently has input into the process of decision making and change.

If you marked a "C," then your organization currently has decision-making control over the situation and can bring about change through its own action.

Where there is either an "I" or a "C," you will need to analyze the extent to which there is agreement or agreement can be reached among the individuals, groups, or organizations involved in the proposed change, and select a course of action most appropriate to the situation. In assessing the extent of agreement on the proposed change, three types of situations can be identified: (Description of situations and typology of intervention strategies is adapted from Roland Warren, Social Change and Human Purpose: Towards Understanding and Action, Chicago: Rand McNally, 1977.)

Cooperative--In this type of situation there is general agreement for changing the constraining factors. While the degree of enthusiasm the individuals, groups, or organizations involved show may range from general apathy to strong support, the important point is that they do not oppose the change. In this situation the activity would center on figuring out the details of the proposed change, overcoming apathy, securing active support, and getting the resources required to carry out and stabilize the change.

Campaign--In this type of situation there is no general agreement for changing the constraining factors. The individuals, groups, or organizations involved may either oppose such a change, feel that the objective being pursued is not worth the effort required, or disagree on the way the change is to be made. While there is a lack of agreement on the proposed change, there is, however, the belief that agreement can be reached through persuasion. The activities undertaken by the organization are therefore directed towards reaching consensus and gaining support for the change, so that the people involved can proceed cooperatively towards achieving the desired objective.

Contest--In this situation there is opposition to the proposed change. Furthermore one is convinced that the opposition can not be won over and must therefore be defeated if the change effort is to be successful.

In terms of priority actions, you should consider acting first in those areas in which a cooperative situation either exists or may be easily achieved. Generally it is the case that if people are willingly brought into the change process, they will be less likely to resist the specific actions as they develop. People are more likely to support the implementation and stabilization of the change; they help to insure that the change will be long lasting by not attempting to undo it.

Tables V., VI. and VII. list a range of possible strategies which correspond to the types of situations outlined above--cooperative, campaign and contest. In assessing the type of situation, you were asked to use your judgment in determining whether the people and organizations involved approved or disapproved of the proposed change, and to estimate the extent to which they hold these positions. In considering appropriate strategies for action, the concern becomes: given the position held by the various people concerned, what can be done to assure that the proposed change is actually made? It is necessary to look beyond simply the extent of agreement or disagreement. This will provide the additional information that will help to narrow the choice of strategies from among those included within each of the broad categories.

TABLE V.

COOPERATIVE STRATEGIES

Application:	Situations in which there is agreement on general change objective
Activities directed toward:	Determining specifics of desired change Securing active support and obtaining necessary resources
Strategies:	Obtaining data which provide clear understanding of the situation, types of approaches, and resources necessary for making the desired change Identifying the proposed changes with the true interests, values, and beliefs of the groups affected
Types of actions:	Conduct studies Surveys Data collection Education programs Community meetings Organizational meetings Develop a research function Develop an evaluation Educational meetings Counseling Position papers Campaigns

TABLE VI.

CAMPAIGN STRATEGIES

Application:	Situations in which desired agreement does not exist but can be obtained through persuasion
Activities directed toward:	Bringing about consensus among people and organizations involved in the proposed change, to allow for a cooperative strategy to be pursued Reducing possibility of opposition to proposed change
Strategies:	Convince people and organizations concerned that the outcome of the proposed change is desirable Provide knowledge of the facts involved, identifying the proposed change with the true interests, values, and beliefs of groups affected Try to alter the practices and values of these groups so that the proposed change is seen as being in-line with their own self interests. This is accomplished by internalizing new beliefs, or a more deeply rooted change in the practices and values of the group. Offer rewards for cooperation, so that the change becomes acceptable on a basis other than its own merits (positive sanctions)
Types of actions:	Conduct studies Surveys Consultants Data collection Education programs Community meetings Organizational meetings Develop research functions Develop evaluations Develop diffusion systems techniques Educational meetings Counseling Position papers Campaigns Increasing staff positions

TABLE VII.

CONTEST STRATEGIES

Application:	Situations in which there is an absence of agreement and the conviction that agreement is unattainable
Activities directed toward:	Defeating or overcoming the opposition through direct or third party intervention
Strategies:	Placing the authority of a third party (law, administrative policy, regulation, etc.) behind the changes to be affected Placing the authority of the organization (or one's own authority) behind the changes to be affected
Types of actions:	Development of administrative regulations Development of coalitions of organizations/groups Consolidation of programs Merger of organizations Development of agreements Proposing new laws and regulations Development of political contacts Organizational restructuring Judicial decisions

The constraining factors may be either structural, procedural, or based on a set of values or beliefs. Bringing about changes in these factors may therefore require the adoption of strategies which address the need for structural, procedural, or value changes in the target group or organization. For example, restrictions on levels of expenditures are seen as being procedural. In that case it is perhaps necessary only to bring additional information to the attention of the people concerned, so that they better understand the situation. The appropriate strategy may thus simply entail routine data collection or conducting a special study.

A second example involves altering the fixed salary levels to provide higher salaries for nurses in rural areas. As stated earlier, this may simply be seen as a procedural change. However, providing salaries to nurses in rural areas which are higher than those paid to their urban counterparts may be in conflict with certain sets of attitudes held by your community--only the less qualified nurses are assigned to the rural areas, indicating that the more qualified are assigned to urban hospitals. Opposition to such an action may thus persist until there is a change in those attitudes. The choice of a strategy which is not directed towards altering such attitudes would therefore be ineffective in this instance.

In summary, in selecting strategies:

1. Determine whether your organization currently has either decision-making control over the situation and can bring about change through its own action, or has input into the process of decision making and change. This information is in Table III.

2. Assess the extent to which there is agreement among the people and organizations concerned on the proposed change in the constraining factor.

3. Select the broad category of strategies which corresponds to your assessment of the situation, that is, cooperative, campaign, or contest.

4. Determine what is actually involved in changing the constraining factor. Does it involve structural change, a procedural change, or a change in attitudes values and beliefs?

5. Identify the specific type or types of strategies and activities to be pursued and record your answers in Table VIII.

In choosing a strategy, the organization increases the number of actions it takes for the purpose of increasing its control over decisions affecting organizational performance related to the priority objective. It should be recognized that it is not possible and would be undesirable to have the organization gain control over all decision areas. The level of control desired is that which produces the most preferred outcome. While this level can never be precisely defined or evaluated, it is the organization's responsibility, through its management, to set goals consistent with community values and to achieve levels of output to effectively meet these goals. The organization should attempt to increase its control over decisions to meet these ends.

Now proceed with developing strategies as needed, using Tables V., VI. and VII. as a guide to identify strategies appropriate for each constraint, for changing all constraining factors which you selected as being necessary and sufficient to bring about a desired affect. Your selection of strategies for Table VIII. is based on your belief that they will produce the desired affect. For each constraining factor you choose to change (identified by "X," "I," or "C") list one or more specific course of action that you might try. There will be more potential courses of action than you need or that you will be able to efficiently carry out, so it is necessary to choose only those necessary to produce the desired result, and those which you feel will be most effective in producing this result. Your organization should then proceed to design a plan for implementing the selected strategies.

TABLE VIII.

STRATEGIES

Objective: _____

Constraining factor
to be changed, and
your influence:

_____

Strategy category:

_____

What is involved with
the change:

_____

Strategy:

_____

Type of action:

_____

Objective: _____

Constraining factor
to be changed and
your influence:

_____

Strategy category:

_____

What is involved with
the change:

_____

Strategy:

Type of action:

Objective: _____

Constraining factor
to be changed and
your influence:

Strategy category:

What is involved with
the change:

Strategy:

Type of action:

V. INFORMATION FOR MANAGING IMPLEMENTATION

The information problems confronting your organization will probably be addressed in the course of assessing a specific functional management area (that is, patients and clients, financial management, facilities and materials management, personnel, etc.). However, it is recognized that some of your information concerns may lie in the area of "project monitoring" or managing the implementation of a solution. Specifically, you may require assistance in determining the information requirements for assessing the "progress towards the achievement of project objectives and goals and, if warranted, the necessary analysis of problems to take corrective action." (Imboden, 1980)

A number of techniques are available to assist you in this task including the following: brainstorming, synectics, logical framework analysis, etc. For a description and explanation of how these techniques may be used see Delp et al., Systems Tools for Project Planning. In this section, a further technique will be suggested to assist you in the identification of the relevant types of information necessary for managing the implementation of a decision solution. For those who have worked through the MAPS Organizational Design Module, you will note that the technique which follows is quite similar to the vertical information system design strategy exercise included in the organization design module. The concept was derived from the "systems definition matrix" as elaborated by Delp et al.

Using Table IX., "Information Identification/Information Inventory" on page 34,

1. List all of the relevant elements involved in the implementation of the decision solution in column 1. To assist this task, consideration should be given to:

(a) Inputs--the people, physical items, information, etc., will be transformed in the process of implementing the solution decision, i.e., the "raw materials" for implementing the solution.

(b) Outputs--the results of process of implementing the solution.

(c) Equipment, Facilities, etc.--items which are necessary for the inputs to be transformed into outputs but which are not themselves inputs or outputs.

(d) Personnel--individuals who may be necessary to implement the solution but are not themselves inputs or outputs.

(e) Communications--written or spoken messages and knowledge which enables the implementation process to occur but which are not inputs or outputs.

2. List in column 2 the specific type of information needed to assess the performance or availability of the elements in column 1. For example, if the solution you are attempting to implement involves the establishment of an inventory control system, one of the elements which may appear in column 1 would be trained personnel. The specific types of information needed would be the number of trained supply personnel at your facility. This would appear in column 2.

3. Note the source of the required information in column 3. In considering the source of information you should consider all of the information resources available in your organization.

4. Note in column 4 how often you get the information (frequency).

TABLE IX.

INFORMATION IDENTIFICATION/INFORMATION INVENTORY

(1) Elements Involved in Implementation of a Solution	(2) Information Needed	(3) Information Source	(4) Frequency

Analyze the information you recorded in Table IX. in the following manner:

a. What type of information do you need that you do not presently collect?

b. What can you do about the flow of information that will get the required information to you when you need it?

c. Can you identify certain bottlenecks where required information is not passed on in the organization?

Possible changes involve collecting new types of information, changing the frequency of reporting, making modifications in your report forms, etc.. In contemplating changes you should be alert to the qualities of information which affect its value, that is, timeliness, relevance, redundancy, accuracy, conciseness, clarity, and convenience. In Table X. below, list the areas you think need improving and possible solutions.

Table X.

Aspects of Information which need improvement	Possible Solutions

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