



A WORKSHOP APPROACH TO HEALTH PROGRAMMING
 AND PROJECT MANAGEMENT

CONTENTS

	<u>page</u>
1. Introduction	2
2. Setting up a workshop	2
2.1 Establishing course objectives	2
2.2 Developing workshop sessions	3
2.3 Selection and grouping of participants	4
2.4 Organizing the organizers	4
2.5 Setting up the classroom	5
2.6 Advance documentation	6
3. Conducting the workshop	6
3.1 Introducing the workshop approach	6
3.2 Controlling the workshop	6
3.3 The use of visual aids	8
3.4 Evaluation of the workshop	9
ANNEX A Workshop Schedules	12
ANNEX B Workshop Session Guides	14
ANNEX C Classroom Layout	53
ANNEX D The Workshop Approach	54
ANNEX E.1 Session Evaluation Sheet	56
ANNEX E.2 Final Evaluation Questionnaire	57
ANNEX F Bibliography	63

The issue of this document does not constitute formal publication. It should not be reviewed, abstracted or quoted without the agreement of the World Health Organization. Authors alone are responsible for views expressed in signed articles.

Ce document ne constitue pas une publication. Il ne doit faire l'objet d'aucun compte rendu ou résumé ni d'aucune citation sans l'autorisation de l'Organisation Mondiale de la Santé. Les opinions exprimées dans les articles signés n'engagent que leurs auteurs.

1. Introduction

1.1 This document offers guidance and illustrative material for use in learning Country Health Programming (CHP) and Project Management* (PM). It is specifically intended for national and WHO staff engaged in developing and directing short (one to two week) in-service orientation courses on health programme planning and management methods for health administrators.

1.2 Detailed guidance on the methods themselves can be found in the following WHO publications: Health Programme Planning and Project Selection (PSA/EC/75.6) and Health Project Management (WHO Offset Publication No. 12)

1.3 In putting together this material it has been assumed that the organizers of any workshop on CHP/PM will always have to develop their own course material taking into consideration the cultural, educational and professional backgrounds of the participants, the specific tasks they will subsequently be expected to perform, the organizers' own experience with CHP/PM, and, of course, time and cost constraints. It is hoped to help workshop organizers by providing them with guidance on how to set up and administer such a workshop, and with specific workshop session guides which they can modify as required.

1.4 This material has been developed after approximately five years' experience in teaching and applying these planning/management methods. Experience to date appears to indicate that learning occurs mainly through application in real-life situations rather than through workshops alone. It is assumed, therefore, that the main purpose of a workshop will be to provide the prospective "doers" with sufficient understanding of the procedures and the underlying concepts to apply them in practice. In addition, it is considered that a number of other WHO and national staff (e.g., steering committee members, officials in the sponsoring office) will need orientation in these methods even though they will only be involved in CHP/PM in a peripheral way. It is hoped that this material will help workshop organizers to cater to both these groups.

1.5 A participant-centered approach to the learning process has been taken in developing the guidelines and illustrations. Emphasis has been placed on developing the workshop around the specific things that participants should be able to do upon completion of the workshop. Stress has also been put on individual reading, practical exercises and group discussions rather than on lecturing. Modification of the course content during the workshop based upon feedback from participants is also inherent. This approach is described in more detail in the following publications: Handbook for Teachers of Health Sciences, WHO publication HMD/75.1 and Teaching and Training Methods for Management Development, ILO Management Development Manual 36. It is recommended that workshop organizers review these documents when developing their course material.

2. Setting up a workshop

2.1 Establishing course objectives. Assuming that most organizers will begin with some knowledge as to the likely participants and time constraints (several months prior to the workshop), relying on the advice of participants whenever possible, they should then specify one or more major workshop objectives in order to guide the process of developing specific workshop sessions. These objectives should be expressed in behavioural terms,** and for most workshops will include one or more of the following. Participants should be able to

(a) recognize situations in which the methods (Country Health Programming, Project Formulation and Project Implementation) would be useful and take action to promote their use.

(b) organize a CHP, PF or PI effort.

* Project Management comprises Project Formulation and Project Implementation.

** For more detailed guidance on how to establish educational objectives, see HMD/75.1, Chapter 1.

- (c) participate in a CHP, PF or PI effort.
- (d) review the products of a CHP, PF or PI effort and decide what action should be taken.
- (e) manage a CHP, PF or PI effort.
- (f) apply selected methods in their day-to-day work.
- (g) apply the logical thinking process inherent in the method in their day-to-day work.

2.2 Developing workshop sessions. Having established the course objectives, the organizers (see section 2.4) can then begin to develop individual workshop sessions. This process, which is the key step in producing a successful workshop, requires a great deal of imagination on the part of the organizers in order to relate the workshop as much as possible to both the participants' current environment and perceptions and to the specific tasks they will subsequently be expected to perform. Experience has proven that it takes approximately two-three man-days of organizers' time to develop one 2-2½ hour workshop session. In developing individual sessions and allotting time to various subjects the following factors should be taken into consideration.

- (a) In general the workshop should be concentrated around helping participants to understand the essential (5 - 6) steps in the relevant process (i.e., Country Health Programming or Project Formulation or Project Implementation) and their underlying concepts, as opposed to attempting to cover all the details of the relevant procedures. Annex A contains illustrations of possible workshop schedules for prospective appliers of CHP, PF and PI procedures to demonstrate this principle.
- (b) Each workshop session should have a limited number (2-4) of precise and measurable objectives stated in terms of what participants should be able to do upon completion of that session, a minimum amount of reading (not more than 10-15 pages), and not more than 2-3 practical exercises related to these objectives.
- (c) In general, wherever possible, participants should be encouraged to discover the relevant concept (and devise their own procedures) through the medium of the individual and the group practical exercises rather than by being told the response by the organizer or through the reading material.
- (d) In developing practical exercises, the organizer has a number of options. He can relate some exercises to the environment of the participants; he can create a hypothetical situation, or he can relate many of the exercises to the specific environment that the participants will have to face when using the methods following the workshop. The choice of which of these three options to use depends upon the overall course objectives, the specific workshop session objective and the degree of homogeneity of the participants current environment. Most workshops will call for a mix of these three options.
- (e) For both practical and educational reasons, it would appear that approximately two weeks should be the maximum time period for a workshop (even for "doers"). Conversely, it has proven to be very difficult to learn even the basic concepts in less than three days.
- (f) Experience has shown that the participants themselves can do a reasonably effective job at defining the additional knowledge they require, once they have grasped the basic steps in the process. Therefore, at least 20% of the time should be left free to be scheduled by the participants.
- (g) No more than four-five hours of structured sessions should be scheduled on any day (i.e., two 2-2½ hour sessions per day). Two to five hours per day should be free for (unstructured) reading and practical exercises.

- (h) No more than 10-20 pages of reading should be assigned on any evening, since participants are expected at the same time to undertake practical exercises.
- (i) Most participants will not do their reading and practical exercises prior to the first day. Therefore "homework" for the first day should be minimal.

Annex B contains sixteen illustrations of workshop session guides which have been developed according to the above-mentioned principles and which have been tested in actual workshops for national staff about to undertake the relevant process. Six of these sessions relate primarily to Country Health Programming, five to Project Formulation and five to Project Implementation. Depending on the purpose of the workshop, many of the session guides can be used with minor modifications in more than one workshop (e.g. objective setting for CHP can be used for teaching objective setting for Project Formulation). It should be emphasized, however, that these session guides are for illustrative purposes and must be adapted to the specific requirements of the local situation. They are not meant to be prescriptive.

For further information about related managerial or pedagogical concepts and methods it is recommended that organizers of workshops consult the publications listed in Annex F.

2.3 Selection and grouping of participants. To the extent that the organizers can influence the selection of participants for a workshop, they should try to adhere as much as possible to the following norms.

- (a) From the standpoint of the organizers the ideal number of participants is 15-18, these participants being divided into three groups (5-6 per group). A fewer number of participants reduces the amount of group interaction. Increasing the number of participants beyond 18 normally means that a fourth group must be created. The minimum number of participants is therefore probably around 12, the maximum about 24.
- (b) From the organizers' standpoint the more homogeneous the group is in terms of cultural background and, more importantly, in terms of the specific use they will make of the methods, the easier it is to structure the workshop. A workshop exclusively for nationals about to undertake Country Health Programming is much easier to structure than a workshop where there are also nationals merely interested in learning the method without any commitment to apply it. It is more difficult to organize a workshop consisting of nationals committed to applying the method, nationals who will review the products but will not actually apply the method, and WHO staff or representatives from other countries or agencies who are not familiar with the local situation.
- (c) In dividing the participants into three or four groups for group work, the organizers should try to optimize participation by (a) distributing the most vociferous and least vociferous evenly among the groups, (b) minimizing cliques based on prior informal or hierarchical relationships, (c) creating groups which are heterogeneous in terms of professional background and work experience.

2.4 Organizing the organizers. Workshops of this nature normally require 3-5 organizers who are familiar with the methods, preferably through having put them into practice. They would have the following functions.

- (a) Workshop Director. The person with overall responsibility for the workshop
 - decides (on the advice of moderators and participants) on the material to be included in the workshop.
 - ensures that the necessary material is provided to participants.

- ensures that the "classroom" is properly set up.
 - introduces the workshop approach to participants.
 - allocates participants to working groups.
 - obtains feedback from students and decides on changes in session objectives, content, time schedule or grouping of participants.
 - advises moderators on effective teaching methods.
 - monitors and coordinates the progress of the workshop.
- (b) Moderator. Each session will have a moderator who
- suggests the specific subjects to be covered in his session depending on the needs of the participants.
 - modifies the material for each subject (session objectives, readings, practical exercises) in light of his experience and in light of the particular needs of the participants.
 - introduces his session explaining the objectives and exercises and how that session relates to other sessions.
 - monitors his session to ensure the objectives are fulfilled and the time schedules are adhered to.
 - organizes and coordinates the group presentation.
 - summarizes the session introducing his own experience where relevant in the context of participants' solutions.
- (c) Resource people. Each of the groups is assisted by a resource person. Members of the group should feel free to consult the resource person or any other member of the organizing committee during the working group activities. The resource people can also be consulted outside the structured workshop sessions. Normally resource people do not intervene in, or comment on, the group discussions except when requested to do so by the participants, or when the latter appear to have misunderstood a particular exercise.

In addition the resource person can help

- the moderator by informing him of important points that are not understood by a substantial number of participants.
- the workshop director by informing him if any participant is consistently under or over participating.

2.5 Setting up the classroom. If possible, the classroom should be large enough for plenary sessions and should have a viewgraph projector for each working group and for the moderator. There should be a blackboard. The room should be quite separate from the participants' normal working environment so that they cannot be easily distracted or called away. Annex C is an example of the layout of a classroom.

Prior to the course (and each day) the director should ensure that:

- (a) each participant has paper and pencils
- (b) the viewgraph projectors are working.
- (c) there are adequate unused transparencies and scissors.
- (d) a different coloured water soluble pen (in working condition) is at hand for each working group to write on the transparencies.

2.6 Advance documentation. Approximately one month before the workshop the organizers should send the participants the following:

- (a) a short description of the workshop objectives and approach. (See Annex D)
- (b) the main documents to be used in the workshop, with guidance as to which documents should be read or studied in advance.
- (c) a tentative workshop schedule.
- (d) administrative information (e.g., the location, starting time, hotel arrangements, daily allowances, etc.).

3. Conducting the workshop

3.1 Introducing the workshop approach. Preferably the day before the workshop begins the organizers should brief participants on the approach to be followed and should hand out course material, highlighting the following:

- (a) workshop objectives.
- (b) the workshop approach, with emphasis on the need for participants to prepare individually and participate actively during the sessions. (See Annex D)
- (c) the organization of the material (session guides, manuals, case study material).
- (d) the role evaluation can play in dynamically altering the conduct of the workshop.
- (e) the division of participants into working groups.
- (f) the pretest (if utilized, see 3.4)

3.2 Controlling the workshop. In conducting the sessions the organizers should try to adhere to the following general principles:

- Keep to the time schedule as closely as possible and draw the participants' attention to this. Write the time for beginning and completing each exercise on the blackboard.
- Reduce "lecturing" to a minimum. Never answer a question himself if there is a possibility that a participant can answer.

In connection with organization and conduct of workshop sessions, the organizers and moderator should bear the following in mind:

- (a) Preferably before the first session participants should be briefed on using the overhead projector and transparencies (see also section 3.3), including
 - how to turn the projector on and off.
 - the use of the minimum number of words (synthesize).
 - the use of graphs instead of words where possible.
 - the use of colours to highlight important aspects.
 - once the transparency is focussed, to look at the audience.
 - if they wish to point to an item on the transparency to lay the pencil down on the transparency.
 - numbering of transparencies (session no., exercise no., subgroup identification) to facilitate typing of group solutions at the end of the day.

(b) In opening each session the moderator should:

- identify how that session relates to the overall process (using a viewgraph showing the major steps).
- review the objectives of the session to see if they are clear to participants.
- answer any non-substantive questions on the reading material, e.g., terminology.
- advise the participants which of the results of previous exercises should be used in the exercises of that session.
- reassign, if necessary, participants to working groups and suggest the time schedule for the exercises.

(The above should take approximately 5-10 minutes.)

(c) During the workshop sessions the organizers should be watching for:

- participants who over or under participate.
- important comments that are not understood by a substantial number of participants.
- one working group consistently out-performing the other working groups.
- moderators who are constantly being criticized by participants.

Possible remedies for the above are:

- individual counselling of participants and moderators.
- additional sessions on specific subjects.
- restructuring working groups to achieve a better balance.

(d) In summarizing the presentations of working groups at the end of each session the moderator or one of the participants should:

- using a transparency, draw the participants' attention to where they are in the process and tie the session's theme up with preceding steps.
- emphasize agreements among working groups.
- identify major differences among working groups.
- not insert his own biases.

It is most important that individual working group solutions or a consolidated statement of all working group solutions are prepared in writing for each session.

In addition, on a day-to-day basis, organizers and moderators should observe the following:

(e) At the end of the first day the organizers should brief the participants on the evaluation sheets (see section 3.4), specifically

- how each response will be used.
- what the symbols mean, and how forms should be filled in.
- the importance of completing them.
- anonymity will be respected.

- (f) At the beginning of each day the workshop director should:
- ensure that the materials and equipment are available and functioning.
 - collect the evaluation sheets from each participant.
 - hand out the typed copies of the previous day's transparencies.
- (g) At the end of each day the workshop director should:
- review the next day's assignments with the participants emphasizing which readings and which exercises are most important.
 - remind participants to complete their evaluation sheets for each session and turn them in the following morning.
 - collect the transparencies and give them to the secretary for typing/photocopying (one set for each participant).

3.3 The use of visual aids. The ILO Management Development Manual 36 contains a detailed discussion on the use of visual aids, which can be summarized as follows:

- (a) Blackboards. Blackboards are generally available and inexpensive and require no advance preparation of visuals. However, they can only be seen from a limited distance.
- (b) Flipcharts. The major advantages of using flipcharts are that i) they are suitable for one-time briefing which does not justify much time and money in preparation of more elaborate visuals; ii) they are good for telling consecutive stories with a number of points which need to be emphasized in outline fashion; iii) if sheets are just flipped over and not torn off, material is available for recapitulation and review. The disadvantages of flipcharts are that (a) pages have limited space; (b) the transportation of flipcharts poses a problem; and (c) the dramatic effects are greatly limited.
- (c) Overhead projector. This machine, which comes in models of various kinds, projects large size transparent images on to a screen under normal daylight conditions. Transparencies may be conveniently produced by drawing or writing directly on to transparent acetate sheets (up to 25 x 25 cm) with grease pencils or felt-tip pens of a type suitable for working on glass or plastic surfaces. They may also be prepared using a photocopy process, in which case the drawing is prepared on an ordinary sheet of white paper. A piece of sensitized plastic is placed on top of the paper and the two are run through the Thermofax Duplicator. This produces a black on white visual. If a coloured image is desired, colour adhesive film may be added, or a coloured pen may be rubbed lightly over the image area. When photocopying diagrams or excerpts from books in this manner, remember that typescripts will generally be too small for the audience to read even when projected. Cardboard frames are available as permanent mounts for the plastic sheets; they also serve as a base on which to attach overlay sheets and taps to be used in flip-off and flip-on displays.

The overhead projector is very flexible for presenting complex results through three devices: 1) slides, 2) flip-offs and 3) drop-ons. A slide (an opaque sheet of paper) conceals all but that portion of the transparency that is to be introduced, and can be pulled out bit by bit as new portions of the image are to be revealed. A flip-off (which can cover portions of the transparency) can be used to accomplish the same results, especially for complex visuals in which odd shaped portions can be

revealed. A drop-on is a visual in which items are added to a basic foundation. The number of drop-ons for a particular visual is limited only by the transparency of the plastic material. (For more explanation, see ILO Management Development Manual No. 36, section 4, Audio-Visual Aids.)

The major advantages of using an overhead projector are that (i) the speaker can always face his audience; (ii) he can remain seated while working; (iii) it permits the combination of a number of methods of visual presentation: prepared visuals (from elaborate professionally made, multi-colour, multi-effect to simple home-made visuals) and use of a roll of plastic to use as a blackboard in writing your own visuals in front of the participants; (iv) it permits elaborate effects: slides, flip-offs and drop-ons; (v) it also permits the use of colour, and is quick and clean. Furthermore, the overhead projector can be used without complete darkening of the workshop room, which permits notetaking by the participants.

The disadvantages of overhead projectors are that some types of writing pens smudge easily or evaporate on plastic. In consequence, in using an overhead projector, one should keep in mind the following tips: (i) test felt pens to make sure the ink does not evaporate; (ii) switch off the projector when not in use; (iii) rehearse the use of special effect visuals such as slides, flip-offs and flip-ons.

(d) General comments on visual aids

In preparing visuals one should give highest priority to the use of pictures whenever possible. Words, single or in phrases, should only be used as a second choice. The image approach can further be used as a graph to present statistics and for statistical processes. The image area can also be used as a form to present accounting reports, statistical tabulations, etc. Unusual devices such as lines, arrows, elastic, movable ribbons, multiple-layer images can also be used. Colour should basically be used to stress key facts; imagination is the major asset for designing visuals.

Whenever it is necessary to use the image area for presenting a very complex set of visuals it is a fatal error to present such visuals to participants all at once. Complex pictures should therefore be built up item by item. Participants can readily absorb one idea at a time and be quite ready to accept a complicated final picture. In consequence, never present complex processes as a completed matter, show one piece at a time and keep adding pieces or portions; never present a statistical graph all filled in. Show first a graph, explain the co-ordinates used and add the figures or points a few at a time.

Colour can increase the effectiveness of almost any display by drawing attention to key points, coding the functions represented in a complex diagram, improving visibility. Contrast is best: black on white, black on yellow; avoid such combinations as light cream on dark green.

Where ideas or objects can be symbolized clearly rather than represented in words or in complex drawings, understanding is more rapid and display is more concise and bold. Working out effective symbols takes time and imagination but the end result can be well worth the effort.

All visual aids, whether charts, graphs, common models or diagrams, should aim at being simple, bold and clear.

3.4 Evaluation of the workshop. By evaluation of the workshop we mean any attempt to obtain information on the effect of the learning process and to assess the value of the learning in the light of that information.

Why evaluate a workshop? The purpose is twofold. First, it is to assess the affectiveness of the learning process in order to improve future workshops. Second, it is an aid to learning because evaluation affects learning and can help participants to learn more effectively.

How can a workshop on CHP/PM be evaluated? The processes which occur as a result of a successful workshop can be divided into four levels.¹ At any of these levels evaluation can be carried out.

Level 1. Reactions

During the workshop participants will form opinions and attitudes about the organizers, the method of training, the usefulness and interest of the subject matter, their own enjoyment and involvement, etc. In brief, they will react to the workshop. Information about their reaction will be obtained by the moderator observing and listening to the discussions. This unsystematic information will be supplemented by participants' daily evaluation of the sessions. A small form has been designed for this purpose (see Annex E.1) on which all participants can daily tick-off on a five point scale their evaluation of the sessions. This information will be used "to steer" the workshop, i.e., organizers will use the information for preparing the next day's activities.

Level 2. Learning

During the workshop participants acquire knowledge, skills and attitudes about the subject matter which they are capable of translating into behaviour in the workshop. Evaluation at this level aims at obtaining information on the amount of learning participants acquire during the workshop, irrespective of whether they go on to apply the learning in an actual situation. In order to measure the amount of learning that has occurred, it would be necessary to compare the results of tests at the beginning of the workshop with the results of tests at the end of the workshop. It is impossible, however, to design a simple questionnaire that would measure participants' beginning and end knowledge. Therefore, the results of two exercises, one undertaken as part of the initial session and the other undertaken as part of the final session, can be reviewed by the participants themselves at the end, so that they can assess individually the learning experience they have acquired. (See pages 7 and 8 and section 4 of HMD/75.1 for more information on pretests and posttests.)

Level 3. Behaviour

Following the workshop most participants will have an opportunity to apply their learning in an actual country situation. At the job behaviour level, evaluation aims at discovering whether participants have applied their learning in the form of changed behaviour on the job. For manual jobs it is possible to evaluate job behaviour almost completely by systematic observation. For more complex jobs, e.g., of a managerial nature, it is not possible to obtain such complete information on job behaviour and several approaches must be used. The following techniques are proposed:

- At the end of CHP or PF or PI participants should appraise the application of the method. This appraisal can contain suggestions on the workshop (content, balance between sessions, method of training, total time allotted, etc.) or its application, or both. (Annex E.2 contains a format for evaluating the workshop either immediately after the workshop, or upon completion of the application of the method in a real-life situation, or both.)

¹A.C. Hamblin "Evaluation of Training", Industrial Training International, November 1970, pp. 33-36.

Level 4. Functioning

Changed job behaviour on the part of the participants might affect the functioning of the Ministry of Health, which might influence the functioning of the health system in the country, and ultimately produce some health impact. These changes, which only occur after a time lag, are not easy to observe, let alone measure. Evaluation at this level consists of any attempt to observe (or measure) the effects of participants' job behaviour, whether on the productivity or efficiency of the department they work in, or on the morale of their subordinates. Any index of functioning related to the objectives of CHP or PF or PI can be used. The following indices can be considered:

- whether the project proposal is approved;
- whether the health projects are implemented;
- whether the implemented programmes or projects had any health impact.

ooooo000ooooo

ANNEX A

WORKSHOP SCHEDULES

A. Country Health Programming
(Five days)

Time	Day	1	2	3	4	5
8.00-10.30		Course Introduction	Definition and Selection of Priority Problems	Health Strategy Design	Institutional Feasibility Analysis	Economic Appraisal of Health Programmes/Projects
11.00-13.30		Overview of CHP	Setting Objectives	Technical Feasibility Analysis	Costing and Financial Analysis of Strategies	Proposal Writing Workshop Evaluation
14.00 -		Unstructured time for practical exercises and reading				

B. Project Formulation
(Ten days)

Time	Day	1	2	3	4	5
8.00-10.30		Course Introduction	Organization Analysis	Definition and Selection of Priority Problems	Setting Objectives	Obstacle Analysis
11.00-13.30		Overview of Project Formulation	Organization Analysis	Definition and Selection of Priority Problems	Setting Objectives	Obstacle Analysis Workshop Evaluation
14.00-		Unstructured time for practical exercises and reading				
Time	Day	6	7	8	9	10
8.00-10.30		Detailed Strategy Design	Implementation Planning	Proposal Writing	Scheduled by Participants	Scheduled by Participants
11.00-13.30		Detailed Strategy Design	Implementation Planning	Scheduled by Participants	Scheduled by Participants	Workshop Evaluation
14.00-		Unstructured time for practical exercises and reading				

ANNEX A (Continued)

C. Project Implementation
(Three days)

Time	Day	1	2	3
8.00-10.30		Course Introduction	Proposal Approval	Clarifying authority, responsibility and relationships
11.00-13.30		Overview of Project Implementation	Specifying and Scheduling the Work	Establishing the Control System
				Workshop Evaluation
14.00-		Unstructured time for practical exercises and reading		

ANNEX B

WORKSHOP SESSION GUIDES

		<u>page</u>
SESSION NO. 1	DEFINITION AND SELECTION OF PRIORITY PROBLEMS	15
SESSION NO. 2	SETTING OBJECTIVES	17
SESSION NO. 3	HEALTH STRATEGY DESIGN	20
SESSION NO. 4	TECHNICAL AND INSTITUTIONAL FEASIBILITY ANALYSIS	22
SESSION NO. 5	COSTING AND FINANCIAL ANALYSIS OF STRATEGIES	26
SESSION NO. 6	ECONOMIC APPRAISAL OF HEALTH PROGRAMMES/PROJECTS	29
SESSION NO. 7	IDENTIFYING AND FULFILLING INFORMATION REQUIREMENTS	32
SESSION NO. 8	OBSTACLE ANALYSIS	34
SESSION NO. 9	DETAILED STRATEGY DESIGN	36
SESSION NO. 10	IMPLEMENTATION PLANNING	38
SESSION NO. 11	ADMINISTRATION OF PROJECT FORMULATION	40
SESSION NO. 12	PROPOSAL APPROVAL	42
SESSION NO. 13	SPECIFYING AND SCHEDULING THE WORK	44
SESSION NO. 14	CLARIFYING AUTHORITY, RESPONSIBILITY AND RELATIONSHIPS	47
SESSION NO. 15	ESTABLISHING THE CONTROL SYSTEM	49
SESSION NO. 16	COMMUNICATION AND MOTIVATION	51

ANNEX B (Continued)

DEFINITION AND SELECTION OF PRIORITY PROBLEMS

SESSION NO. 1

OBJECTIVES:

Participants should be able to:

1. Formulate criteria for the definition and selection of priority health problems.
2. Define and select priority health problems on the basis of a set of criteria.
3. Identify and use indices for the measurement of current and future levels of priority problems.

REFERENCES:

- ** - Health Programme Planning and Project Selection (PSA/EC/75.6), WHO, Geneva, 1975 Part II, Section 2, pages 40 to 44 and Illustrations E, F and G, pages 45 to 50.
 - * - Interaction between Health Programmes and Socio-economic Development, Public Health Paper No. 49, WHO, 1973.
 - * - Causes of Poor Health (Chapter 2) and Approach to Health Policy (Chapter 3) in Assault on World Poverty, Johns Hopkins University Press, Baltimore, 1975.
- ** Recommended reading
* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

DEFINITION AND SELECTION OF PRIORITY PROBLEMS

SESSION NO. 1

EXERCISES:

1. List and categorize 10 specific criteria for selecting priority health problems in country X.
2. On the basis of these specific criteria, define and select priority health problems in country X. Make sure that at least a majority of the 10 specific criteria apply to each health or health-related problem you identify. Present the results of this exercise in a format similar to Illustration F in Health Programme Planning and Project Selection.
3. For each of the priority health and health-related problems defined in exercise 2:
 - (a) select an index by which the problem level can be measured appropriately.
 - (b) estimate current and future levels of priority problems in country X.

ANNEX B (Continued)

SETTING OBJECTIVES	SESSION NO. 2
OBJECTIVES:	
Participants should be able to:	
<ol style="list-style-type: none">1. Identify well stated objectives and the reasons why they are well stated.2. Formulate well stated objectives.3. Define in general terms problem reduction levels for priority problems by the end of a plan period, and their distribution over time, space or target group.4. Define and distinguish between goals, objectives and targets.	
REFERENCES:	
<p>** - <u>Health Programme Planning and Project Selection</u> (PSA/EC/75.6), WHO, Geneva, 1975, Part II, Section 3, pages 51 to 55 and Illustrations H and I, pages 56 to 68.</p> <p>* - <u>Health Project Management</u>, A Manual of Procedures for formulating and implementing health projects, Offset Publication No. 12, WHO, Geneva, 1974, chapter 5, pages 95 to 99.</p> <p>** Recommended reading * Background reading</p>	
HANDOUT MATERIAL:	

ANNEX B (Continued)

SETTING OBJECTIVES

SESSION NO. 2

EXERCISES:

1. Review the following list of statements and identify those you would consider to be well-stated objectives. Explain your choice by defining what you consider to be major characteristics of well-stated objectives.
 - (i) Health administrators hold firmly to the general principle that the level of health can be improved by the expansion of water and sanitation programmes.
 - (ii) To secure our objectives for growth either by developing our own resources or by acquiring or merging with other companies, provided that other objectives are fulfilled.
 - (iii) To obtain annual earnings after income tax of Z per cent on total assets.
 - (iv) The purpose of the present action programme proposal is to provide safe water to the rural population of country X.
 - (v) To maintain continuous study of the products and marketing methods used by our competitors.
 - (vi) Disproportionate resources are at present being expended upon some health-related problems.
 - (vii) Midwifery coverage for ante-natal, childbirth and post-natal services should be increased.
 - (viii) Smallpox should be eradicated in all countries.
 - (ix) There is a need for representation of X at the country level.
 - (x) The objective is to reduce the incidence of malaria to a level at which it will no longer constitute a public health problem
 - (xi) To reduce the risk of contact between man and mosquitoes.
 - (xii) To execute a feasibility study on the construction of rural health centres.
 - (xiii) Each worker should spray with DDT Y square metres per house in one hour.
 - (xiv) To maximize your family's lifetime net earnings.
 - (xv) To reduce the population growth rate from 3% to 2.8% in the present plan period.
 - (xvi) To transform the institutional and technological base of agriculture with a view to attaining self-sufficiency before the end of the present plan period.

ANNEX B (Continued)

SETTING OBJECTIVES

SESSION NO. 2

EXERCISES (Continued):

- (xvii) The basic strategy of the plan is to concentrate on increasing output in those sectors of the economy which use large amounts of labour, and to use methods of production which are labour intensive. Within this general strategy the overwhelming need is to reduce dependence on import of food grain and to improve the balance of payments by import substitution and export promotion.
 - (xviii) Foremost among the targets of this five-year plan is to increase the level of employment.
 - (xix) To pursue principles of social justice in the distribution of health services to the population in province X.
 - (xx) To create a pharmaceutical production industry within two plan periods.
 - (xxi) To provide a well-organized health care programme to infants, children and mothers by strengthening MCH services and reducing infant and maternal mortality rates by X% in Y number of years.
 - (xxii) To establish 25-bed hospitals in 20 rural districts over the next plan period.
 - (xxiii) To increase the number of registered pregnant women as a percentage of the total number of pregnant women from 1.4% to 10% by 1980.
 - (xxiv) To increase the number of births averted per 1000 users of I.U.Ds by 20% over five years.
 - (xxv) To increase basic health services coverage.
 - (xxvi) To double the number of primary immunizations against smallpox in 10 years' time.
 - (xxvii) To provide the total population of city W with 60 litres of water of minimum standard per capita per day by 1975.
 - (xxviii) To increase life expectancy at birth from 45 years to 48 years by 1988.
 - (xxix) To ensure intersectoral coordination for the improvement of the environmental sanitation and nutritional status of the population.
 - (xxx) To train 3,500 Mds, 700 basic nurses and 200 sanitary inspectors over the next 5 years.
2. For each of the priority health and health-related problems selected in the previous session, formulate a well-stated objective.
 3. Translate the well-stated objectives formulated in exercise 2 into problem reduction levels to be achieved by the end of the plan period. Specify some problem reduction levels over time, space or target group.

ANNEX B (Continued)

HEALTH STRATEGY DESIGN

SESSION NO. 3

OBJECTIVES:

Participants should be able to:

1. Identify the components of a health strategy.
2. Define criteria for the design of alternative health strategies.
3. Design alternative health strategies.
4. Distinguish between internal and external strategies.

REFERENCES:

- ** - Health Programme Planning and Project Selection (PSA/EC/75.6), WHO, Geneva, Section 4, pages 62 to 67, and illustrations J and K, pages 67 to 71.
- ** Recommended reading
- * Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

HEALTH STRATEGY DESIGN

SESSION NO. 3

EXERCISES:

1. On the basis of Illustration J in Health Programme Planning and Project Selection identify the components of a health strategy.
2. On the basis of the health and health-related priority problems identified in session 1 and the problem reduction levels specified in session 2, define a list of criteria for the design of alternative health strategies in country X.
3. Using the components of a health strategy identified through exercise 1, design two alternative strategies for one or more objectives specified in previous sessions. Make sure that both alternative strategies satisfy the criteria specified in exercise 2.

ANNEX B (Continued)

TECHNICAL AND INSTITUTIONAL FEASIBILITY ANALYSIS

SESSION NO. 4

OBJECTIVES:

Participants should be able to:

1. Identify, categorize and judge technical obstacles to the achievement of alternative health strategies.
2. Analyze institutional implications of alternative health strategies and judge the institutional capacity to meet them.

REFERENCES:

- ** - Health Programme Planning and Project Selection (PSA/EC/75.6), WHO, Geneva, 1975, Sections 5.1 and 5.2, pages 72 to 87.
 - * - A research model for the Effective Organization, Chapter 21, in D.J. Lawless "Effective Management: Social Psychological Approach", Prentice Hall, Englewood Cliffs, New Jersey, 1972.
- ** Recommended reading
* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

TECHNICAL AND INSTITUTIONAL FEASIBILITY ANALYSIS

SESSION NO. 4

EXERCISES:

1. For each of the strategies designed in the previous session, identify a list of "technical" obstacles which might make implementation difficult or impossible in country X. Categorize all identified "technical" obstacles on the basis of whether they can or cannot be overcome, as well as whether they pertain to the production, delivery or impact of health activities implied by each strategy.
2. Determine the institutional feasibility of the following health programme:
 - The total personnel required to carry out a health development plan integrating family planning services and rural public health services, from 1975-1980, is shown in Figure 1.
 - Figure 2 shows these requirements by year.
 - The stocks and availability of different categories of personnel for the proposed health development plan are shown in Figure 3.
 - It is expected that institutes and health personnel training programmes will produce in the following years:
 - 178 administrators for district health services per year;
 - 325 family planning agents per year;
 - 40 hygiene inspectors per year;
 - 50 laboratory technicians per year;
 - 300 assistants/dressers per year.

Taking the medical education development plans into account, it is estimated that:

- the annual production of male doctors will increase from 440 to 600 in 1977;
- the annual production of female doctors will increase from 60 to 100 in 1977;
- the annual production of nurses/midwives will increase from 150 to 200 in 1976 and from 200 to 400 in 1978;
- the annual production of visiting nurses will be about the same as that for nurses/midwives.

Indicate the deficits in health manpower by type. What would you recommend for additional health manpower training?

TECHNICAL AND INSTITUTIONAL FEASIBILITY ANALYSIS

SESSION NO. 4

FIGURE 1

Total number of personnel needed by 1980

Categories of personnel	At village level	At subdistrict level	At district level	Total
Administrators of district health services	-	-	360	360
Doctors	-	-	720	720
Agents of family planning	-	-	720	720
Nurses/midwives	-	-	4,070	4,070
Nurses/assistant midwives	-	-	-	-
Visiting nurses	-	-	-	4,380
Hygiene inspectors	550	-	-	550
Hygiene auxiliary inspectors	2,850	-	-	2,850
Laboratory technicians	-	-	1,400	1,400
Family assistants (primary health care worker)	28,500	-	-	28,500
Assistants/dressers	-	3,698	712	4,410
Shop assistants	-	-	1,068	1,068
Others (workers, sweepers, chauffeurs, etc.)	-	11,088	4,984	16,428

FIGURE 2

Schedule of Personnel Needs by Year

	Needed in				
	1975	1976	1977	1978	1979
Family assistants	28,500	-	-	-	-
Laboratory technicians	+400	+400	+400	+100	+100
Hygiene auxiliary inspectors	+2,850	-	-	-	-
Hygiene inspectors	+160	+160	+80	+100	+50
Visiting nurses	+1,200	+1,200	+640	+840	+500
Nurses/midwives	+1,100	+1,100	+600	+770	+500
Agents for family planning	+200	+210	+100	+140	+70
Doctors (50% male and 50% female)	+400	+20	+100	+140	+60
Administrators for district health services	+350				

FIGURE 3

Stocks and availability of personnel

	1974 Stocks	Availability for the proposed health development plan
Administrators for district health services	220	50%
Doctors	3,600	-
Agents of family planning	900	100%
Nurses/midwives	250	100%
Visiting nurses	300	100%
Hygiene inspectors	980	100%
Laboratory technicians	50	-
Family assistants	12,000	100%
Assistants/dressers	(new recruits) 1,000	100%

ANNEX B (Continued)

COSTING AND FINANCIAL ANALYSIS OF STRATEGIES

SESSION NO. 5

OBJECTIVES:

Participants should be able to:

1. Compute the recurrent and development costs of a health strategy.
2. Project or estimate the future availability of financial resources and judge the financial feasibility of a health strategy.
3. Define unit costs, unit recurrent costs, capital costs, and user cost of capital.

REFERENCES:

- ** - Health Programme Planning and Project Selection, Part II, step 1.24, pages 25 to 32, step 1.43, pages 35 to 36, and step 5.3, pages 88 to 92.
- * - Budget and Finance Organization and Processes, Description of a Country Situation. In: Management Support for Rural and Family Health Services, A Project of the Ministry of Public Health, Republic of Afghanistan, Initial Analysis and Work Plan, March 1974 (Hoot, 1352), Management Sciences for Health, Cambridge, Mass. section 3.3.
- ** Recommended reading
Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

COSTING AND FINANCIAL ANALYSIS OF STRATEGIES

SESSION NO. 5

EXERCISES:

1. A health plan (1975-80) gives high priority to the strengthening of rural health services by incorporating an expanded programme of rural health centre construction. You are asked to evaluate the financial feasibility of this programme given the following information (a to p):

- (a) It is planned to construct over the five years of the plan period 180 additional rural health centres.
- (b) It is envisaged that completion of the basic design and site selection can be accomplished during the first six months of year one.
- (c) Thereafter construction will proceed in three 18-month phases of 60 centres each.
- (d) It is estimated that the construction of one centre will cost approximately one million U.A.*
- (e) Furniture and equipment for each centre will amount to 4,000 U.A.
- (f) The total cost of the basic design, plus local adaptation for each site, is estimated at 280,000 U.A.
- (g) Each health centre is to be staffed as follows:

<u>Staff type</u>	<u>Number</u>	<u>Annual salary per staff member</u>
Health Administrator	1	6,000 U.A.
Medical Officer	2	5,500 U.A.
Public Health Nurse	1	3,000 U.A.
Assistant Nurse/Midwife	4	1,000 U.A.

- (h) Staff salaries are expected to rise at the same rate as the cost of living, which over the next five years is estimated at 10% per year.
- (i) Adequate numbers of staff will be recruited the first year to assignment to these new facilities as they are completed.
- (j) Development funds for this expansion have been provided in the amount of 150 million U.A. (of which 50 million U.A. is available immediately and 100 million U.S. will only be available at the beginning of the 5th year.)
- (k) A foreign donor has agreed to pay for the construction costs of the first thirty centres as soon as they are completed.
- (l) Another agency has agreed to provide all necessary equipment and furniture for the planned centres and the costs for architectural design.

*U.A. = units of account, or currency of country X.

ANNEX B (Continued)

COSTING AND FINANCIAL ANALYSIS OF STRATEGIES

SESSION NO. 5

EXERCISES:

- (m) The recurrent budget of the Ministry of Health is 120 million U.A. during the current year, 2.5% or 3 million U.A. of which is allocated for the salaries of staff in existing rural health centres.
- (n) The Ministry of Finance has approved a five per cent annual increase in the recurrent budget of the Ministry of Health over the years of the forthcoming plan period. The allocation of health centre staff salaries will remain at 2.5% of the total. (See Figure 1).
- (o) The Ministry of Health has committed all additional resources in the category of Health Centre Operating Costs, i.e. those above 3 million U.A., to the cost of operating the planned additional health centres.
- (p) You may assume that all health centres constructed in the same phase begin operation at the same time, that is, as soon as they are built.

FIGURE 1

Projected recurrent budget - health total, and health centre operations
(millions of U.A.)

	Current year	1974-75	1975-76	1976-77	1977-78	1978-79
Total recurrent	120.0	126.0	132.3	138.9	145.9	153.2
Health centre operations	3.0	3.15	3.31	3.47	3.65	3.83

- 1.1 List all financial difficulties that this programme may be expected to encounter.
- 1.2 Draw your conclusion about the ultimate feasibility of the programme.

ANNEX B (Continued)

ECONOMIC APPRAISAL OF HEALTH PROGRAMMES/PROJECTS

SESSION NO. 6

OBJECTIVES:

Participants should be able to:

1. List the types of benefits that may be expected to result from the strategies designed in session 3.
2. Quantify benefits and calculate present value of a future stream of benefits resulting from implementation of a programme or project.
3. Define the terms "cost-benefit analysis", "cost-effectiveness analysis", and "shadow price".
4. Distinguish between financial, economic and social/political appraisals of health programmes/projects.

REFERENCES:

- ** - Health Programme Planning and Project Selection (PSA/EC/75.6), WHO Geneva, 1975, Part II, section 6, pages 93 to 109.
 - * - N.R. Gross, "Cost-Benefit Analysis of Health Services" in The Annals of the American Academy, 1974.
 - * - "Need for Cost-Benefit Analysis", Chapter 2 in I.M.D. Little and J.A. Mirrlees Project Appraisal and Planning for Developing Countries, Basic Books Inc., New York, 1974, pages 18 to 37.
- ** Recommended reading
* Background reading

HANDOUT MATERIAL:

ANNEX B(Continued)

ECONOMIC APPRAISAL OF HEALTH PROGRAMMES/PROJECTS

SESSION NO. 6

EXERCISES:

1. For each of the strategies defined in session 3 list types of benefits that might be expected to result from the implementation of those strategies. Indicate which types of benefits are more likely to be quantifiable.
2. Among the quantifiable types of benefits identified in the previous exercise, select one type to project the future stream of benefits to be expected (make any simplifying assumption you want to in order to arrive at a quantified stream of future benefits). Compute on the basis of at least two discount rates (see Table 1) the present values of the future stream of benefits you have projected.

TABLE 1

DISCOUNT FACTOR—How much 1 at a future date is worth today.		DISCOUNT FACTOR—How much 1 at a future date is worth today.																				
Year	1%	3%	5%	6%	8%	10%	12%	14%	15%	16%	18%	20%	22%	24%	25%	26%	28%	30%	35%	40%	45%	50%
1	.990	.971	.952	.943	.926	.909	.893	.877	.870	.862	.847	.833	.820	.806	.800	.794	.781	.769	.741	.714	.690	.667
2	.980	.943	.907	.890	.857	.826	.797	.769	.756	.743	.718	.694	.672	.650	.640	.630	.610	.592	.549	.510	.478	.444
3	.971	.915	.864	.840	.794	.751	.712	.675	.658	.641	.609	.579	.551	.524	.512	.500	.477	.455	.406	.364	.328	.296
4	.961	.888	.823	.792	.735	.683	.636	.592	.572	.552	.516	.482	.451	.423	.410	.397	.373	.350	.301	.260	.226	.198
5	.951	.863	.784	.747	.681	.621	.567	.519	.497	.476	.437	.402	.370	.341	.328	.315	.291	.269	.223	.186	.156	.132
6	.942	.837	.746	.705	.630	.564	.507	.456	.432	.410	.370	.335	.303	.275	.262	.250	.227	.207	.165	.133	.108	.088
7	.933	.813	.711	.665	.583	.513	.452	.400	.376	.354	.314	.279	.249	.222	.210	.198	.178	.159	.122	.095	.074	.059
8	.923	.789	.677	.627	.540	.467	.404	.351	.327	.305	.266	.233	.204	.179	.168	.157	.139	.123	.091	.068	.051	.039
9	.914	.766	.645	.592	.500	.424	.361	.308	.284	.263	.225	.194	.167	.144	.134	.125	.108	.094	.067	.048	.035	.026
10	.905	.744	.614	.558	.463	.386	.322	.270	.247	.227	.191	.162	.137	.116	.107	.099	.085	.073	.050	.035	.024	.016
11	.896	.722	.585	.527	.429	.350	.287	.237	.215	.195	.162	.135	.112	.094	.086	.079	.066	.056	.037	.025	.017	.012
12	.887	.701	.557	.497	.397	.319	.257	.208	.187	.168	.137	.112	.092	.076	.069	.062	.052	.043	.027	.018	.012	.008
13	.879	.681	.530	.469	.368	.290	.229	.182	.163	.145	.116	.093	.075	.061	.055	.050	.040	.033	.020	.013	.008	.005
14	.870	.661	.505	.442	.340	.263	.205	.160	.141	.125	.099	.078	.062	.049	.044	.039	.032	.025	.015	.009	.006	.003
15	.861	.642	.481	.417	.315	.239	.183	.140	.123	.108	.084	.065	.051	.040	.035	.031	.025	.020	.011	.006	.004	.002
16	.853	.623	.458	.394	.292	.218	.163	.123	.107	.093	.071	.054	.042	.032	.028	.025	.019	.015	.008	.005	.003	.002
17	.844	.605	.436	.371	.270	.198	.146	.108	.093	.080	.060	.045	.034	.026	.023	.020	.015	.012	.006	.003	.002	.001
18	.836	.587	.416	.350	.250	.180	.130	.095	.081	.069	.051	.038	.028	.021	.018	.016	.012	.009	.005	.002	.001	.001
19	.828	.570	.396	.331	.232	.164	.116	.083	.070	.060	.043	.031	.023	.017	.014	.012	.009	.007	.003	.002	.001	.000
20	.820	.554	.377	.312	.215	.149	.104	.073	.061	.051	.037	.026	.019	.014	.012	.010	.007	.005	.002	.001	.000	.000
21	.811	.538	.359	.294	.199	.135	.093	.064	.053	.044	.031	.022	.015	.011	.009	.008	.006	.004	.002	.001	.000	.000
22	.803	.522	.342	.278	.184	.123	.083	.056	.046	.038	.026	.018	.013	.009	.007	.006	.004	.003	.001	.001	.000	.000
23	.795	.507	.326	.262	.170	.112	.074	.049	.040	.033	.022	.015	.010	.007	.006	.005	.003	.002	.001	.000	.000	.000
24	.788	.492	.310	.247	.158	.102	.066	.043	.035	.028	.019	.013	.008	.006	.005	.004	.003	.002	.001	.000	.000	.000
25	.780	.478	.295	.233	.146	.092	.059	.038	.030	.024	.016	.010	.007	.005	.004	.003	.002	.001	.000	.000	.000	.000
26	.772	.464	.281	.220	.135	.084	.053	.033	.026	.021	.014	.009	.006	.004	.003	.002	.002	.001	.000	.000	.000	.000
27	.764	.450	.268	.207	.125	.076	.047	.029	.023	.018	.011	.007	.004	.003	.002	.002	.001	.001	.000	.000	.000	.000
28	.757	.437	.255	.196	.116	.069	.042	.026	.020	.016	.010	.006	.004	.002	.002	.002	.001	.001	.000	.000	.000	.000
29	.749	.424	.243	.185	.107	.063	.037	.022	.017	.014	.008	.005	.003	.002	.002	.001	.001	.000	.000	.000	.000	.000
30	.742	.412	.231	.174	.099	.057	.033	.020	.015	.012	.007	.004	.003	.002	.001	.001	.001	.000	.000	.000	.000	.000
35	.706	.355	.181	.130	.068	.036	.019	.010	.008	.006	.003	.002	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000
40	.672	.307	.142	.097	.046	.022	.011	.005	.004	.003	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
45	.639	.264	.111	.073	.031	.014	.006	.003	.002	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
50	.608	.228	.087	.054	.021	.009	.003	.001	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

$$\text{Formula } v^n = \frac{1}{(1+i)^n}$$

where i = discount rate
 n = number of periods
 v^n = present worth of 1 at the end of period n with a discount rate of i per period

ANNEX B (Continued)

IDENTIFYING AND FULFILLING INFORMATION REQUIREMENTS

SESSION NO. 7

OBJECTIVES:

Participants should be able to:

1. Identify what types of data must be assembled and their likely sources.
2. Suggest useful formats for analyzing and presenting data.
3. Indicate what projections are necessary.

REFERENCES:

** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974.

** Recommended reading

* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

IDENTIFYING AND FULFILLING INFORMATION REQUIREMENTS

SESSION NO. 7

EXERCISES:

1. From your review of chapters 2 and 3 list the categories of information which are suggested as being relevant to any planning activity.
2. From your list
 - (a) indicate which categories deserve particular emphasis in your situation.
 - (b) within each selected category list the types of data or information required and potential sources.
 - (c) for each type of information indicate when it will be used in later steps of the process.
3. Suggest how the overall set of information may be collected, how it could be presented, by whom, and how much time it will take.
4. Which types of information will require projections into the future. For each indicate the method of projection which you recommend.
5. List the conditions or service operations for which you feel a description of health work should be prepared. List any adjustments to the format of the health work description which you feel are necessary.

ANNEX B (Continued)

OBSTACLE ANALYSIS

SESSION NO. 8

OBJECTIVES:

Participants should be able to:

1. Choose subjects or areas deserving obstacle analysis.
2. Describe processes (service operations, administrative procedures) in terms of sequences of steps.
3. Plan the conduct of obstacle analysis and the method of presentation and ranking.

REFERENCES:

** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, Chapter 6, pages 104 to 109.

** Recommended reading

* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

OBSTACLE ANALYSIS

SESSION NO. 8

EXERCISES:

1. How might topics for obstacle analysis be selected? List 3-5 possible criteria for selecting areas deserving obstacle analysis.
2. List situations which might require obstacle analysis in the forthcoming project formulation. Consider one or more topics in each of the following categories:
 - (a) service (health system) response to a particular disease or condition.
 - (b) health service response to public need/demand in general.
 - (c) the ability to carry out a particular service operation or activity (e.g., school immunization, ante-natal care, etc.)
 - (d) the ability to conduct efficiently a particular administrative process (e.g., establish and fill a number of new staff positions, conduct a large in-service training programme).
3. For one of the situations which you list in exercise 2, construct the framework for obstacle analysis by:
 - (a) describing the situation or process in a graphical form which depicts the primary stages or steps.
 - (b) record existing or potential targets (if any are known from CHP or the exercise on target setting) at the relevant stages or steps within the diagram.
 - (c) record known or estimated operational levels at the relevant stages or steps.
 - (d) identify which stages or steps deserve most attention.
4. In relation to your diagram of exercise 3, list the best possible sources of information about the existing situation and its difficulties for each stage deserving review.
5. Describe briefly how you would organize and undertake obstacle analysis, who should be involved and the time to be allocated to this activity.
6. Outline a format for summarizing and ranking the obstacles found.

ANNEX B(Continued)

DETAILED STRATEGY DESIGN

SESSION NO. 9

OBJECTIVES:

Participants should be able to:

1. State the purpose of the detailed design that is undertaken during project formulation.
2. Specify the aspects of a given strategy which should be designed during project formulation.
3. Indicate the means by which a strategy may be monitored once it is implemented.

REFERENCES:

** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, chapter 7, pages 118 to 127, illustration material in chapter 4 (pages 84 to 90), chapter 5 (pages 100 to 102), chapter 6 (pages 110 to 115) and chapter 6 (pages 128 to 135).

** Recommended reading

* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

DETAILED STRATEGY DESIGN

SESSION NO. 9

EXERCISES:

1. Who are likely to be the users of the design products generated during project formulation?
2. From the text of Chapter 7, what should a formulation team normally be expected to produce in the way of a detailed description of a new or revised health strategy.
3. Review the substance of the health manpower development programme mentioned in the example on page 25 of the Management Manual.
 - (a) List the design products which you think a formulation team should produce to support such a programme. State why each product is required.
 - (b) List the design steps which you feel are necessary to generate the required products.
4. Review the illustration material supporting the Management Manual, particularly in chapters 4, 5, 6 and 7. List the items which you think should be monitored in order to evaluate the impact of that project once the strategies are implemented.

ANNEX B(Continued)

IMPLEMENTATION PLANNING

SESSION NO.10

Participants should be able to

1. Write implementation objectives.
2. List and schedule implementation activities and milestones.
3. Describe alternative organizational approaches to implementation.

REFERENCES:

** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, chapter 8, pages 140 to 149.

** Recommended reading

* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

IMPLEMENTATION PLANNING

SESSION NO. 10

EXERCISES:

Refer to the illustration section of chapter 1 of the Management Manual, page 25. Assume that the formulation team dealing with the "provincial level health management system" proposed among other things the following changes:

- (a) that the Provincial Medical Officer's staff should be supplemented with a statistician, an administrative officer, a supply and vehicle maintenance officer, and a training coordinator.
- (b) that district health centres should be expanded to include a sideroom laboratory and should receive two additional health workers, one for basic laboratory work and the other to serve as an epidemiological surveillance worker.
- (c) that the following systems should be redesigned for control within the provincial health administration
 - (1) annual budgeting
 - (2) communicable disease reporting
 - (3) supplies management
 - (4) vehicle maintenance.

These changes should be implemented within 45 provinces in five years.

1. Write project objective statements which you feel adequately cover these changes.
2. Construct a change/activity matrix as illustrated on page 152 of the Management Manual
 - (a) placing into it the changes listed above, reworded as necessary.
 - (b) listing the activities you feel are necessary to accomplish the stated changes, under the appropriate categorical headings.
3. Construct a preliminary activity network, as discussed in step 8.51 and illustrated on pages 155-156 of the Management Manual, with the activities listed in exercise 2.
4. Outline two possible organizational approaches for implementing the proposed changes in all 45 provinces. (See step 8.6 of the Management Manual.)

ANNEX B (Continued)

ADMINISTRATION OF PROJECT FORMULATION

SESSION NO. 11

OBJECTIVES:

Participants should be able to:

1. Draft a project formulation terms of reference.
2. Select and schedule the necessary formulation steps.
3. Identify required staff support and assign responsibilities.
4. Draft a project proposal outline.

REFERENCES:

** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, (a) Introduction to formulation, pages 5 to 11, (b) Chapter 1, pages 14 to 24, (c) Chapter 9, step 9.4, pages 164 to 167.

** Recommended reading

* Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

ADMINISTRATION OF PROJECT FORMULATION

SESSION NO. 11

EXERCISES:

1. Referring to your answer to exercise 3 of session 9, and to the illustration material in all chapters of Part I,
 - (a) structure a terms of reference for formulation of the health manpower development programme.
 - (b) referring to step 9.4 and your terms of reference from (a), write an outline for the proposal.
 - (c) with the terms of reference and proposal outline in mind, identify the formulation steps which you feel would deserve emphasis. Place them on a schedule as shown in figure 2, page 30.
 - (d) estimate type and amount of manpower needed for each step.
 - (e) suggest who you feel should be on a steering committee for this formulation and when the committee's involvement will be required.

ANNEX B (Continued)

PROPOSAL APPROVAL

SESSION NO. 12

OBJECTIVES:

Participants should be able to:

1. Identify relevant decisions and decision makers.
2. Prepare a plan for obtaining approval of a project, programme or country health programme proposal.

REFERENCES:

- ** - Project, Programme or CHP proposal, Country X
 - ** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, pages 182 to 186.
 - ** - Administration of Environmental Health Programmes: A Systems View, Public Health Paper No. 59, Morris Schaefer, WHO, Geneva, 1974, pages 26 and 120 to 122.
 - * - Alternative Rationalities Affecting Health Planning Decisions, In: Evaluation/ Decision Making in Health Planning and Administration, Morris Schaefer, HADM Monograph Series No. 3, Department of Health Administration, School of Public Health, University of North Carolina, Chapel Hill, 1973, pages 29 to 43
- ** Recommended reading
* Background reading

HANDOUT MATERIAL

ANNEX B (Continued)

PROPOSAL APPROVAL

SESSION NO. 12

EXERCISES:

1. Assuming that you are advising the Chartering Agency on how to obtain approval of the project, programme or country health programme proposal which has just been formulated in country X, review section 10.11 of the Management Manual and identify:
 - (a) the decisions that are absolutely necessary to initiate implementation.
 - (b) who will make these decisions.
 - (c) the criteria they are likely to use in making these decisions.
2. Again assuming that you are advising the Chartering Agency on how to obtain approval of the proposal, review section 10.12 of the Management Manual and prepare a plan for completing the proposal approval process.

ANNEX B (Continued)

SPECIFYING AND SCHEDULING THE WORK

SESSION NO. 13

OBJECTIVES:

Participants should be able to:

1. Identify staff to prepare detailed work plans and schedules.
2. Define the contents of a detailed work plan.
3. Explain why and to what extent detailed work plans and schedules are necessary for successful project/programme implementation.

REFERENCES:

- ** - Project Proposal, Country X
- ** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, pages 194 to 200.
- ** - Problems of Implementation - attached
- * - Administration of Environmental Health Programmes: A Systems View, Public Health Paper No. 59, Morris Schaefer, WHO, Geneva, 1974, pages 169 to 175, 177 to 188
- ** Recommended reading
- * Background reading

HANDOUT MATERIAL:

SPECIFYING AND SCHEDULING THE WORK

SESSION NO. 13

EXERCISES:

Assuming that you have been made responsible for implementing the proposed health project or programme in Country X:

1. Review the attached list of problems of implementation and
 - (a) identify those which exist at present (or will exist) in your project or programme and which are likely to seriously hamper the achievement of the project objectives.
 - (b) identify those problems listed in exercise 1(a) which will be minimized or significantly reduced by following the steps in chapter 11 of the Management Manual.
2. Review the project implementation section of the proposal (end products, activities, schedule, budget, manpower assignments). Identify those aspects of the implementation plan which in your opinion need further elaboration or modification at this stage.
3. Identify by name and title the individuals who should be involved full and part time in further elaboration of the implementation plan.
4. Identify any activities in the project schedule for which you feel something similar to a written activity description (see figure 1, page 203 of the Management Manual) is required. Justify your answers. If you feel an activity description is necessary prepare an appropriate format for this (i.e., modify figure 1 as you see fit).

ANNEX B (Continued)

SPECIFYING AND SCHEDULING THE WORK

SESSION NO. 13

PROBLEMS OF IMPLEMENTATION

1. Many people engaged in project/programme implementation do not know exactly what to do or who is responsible for what.
2. The Ministry puts unrealistic demands on the project/programme organization. For example, senior officials demand that a project be completed at the stipulated time and at the same time take away manpower from the project. Or they insist that the total project time remains unchanged, or is reduced, while increasing their demands in the quality of the work without giving additional manpower.
3. Delays in necessary decisions from the Ministry may mean that implementors either sit idle or continue to work in anticipation of a forthcoming decision.
4. Members of the project team, chosen from various parts of the Ministry and other organizations, may have widely differing degrees of knowledge and differing frames of reference regarding the work they are to do and the objectives of the project/programme.
5. Dissent may exist among the people carrying out the project, i.e., disagreement over the project's objectives and the results of specific activities.
6. The project activities do not give the expected results.
7. The project takes longer time, costs more, and consumes more resources than originally anticipated.
8. The project has difficulty in obtaining the resources required. Managers and others in the organization have a tendency to regard the project's requirements as secondary to the interests of their own units. Furthermore, the persons best suited for the project are often already under the heaviest workload. Manpower is often removed from the project, supplied for other time periods than agreed upon, or substituted for by people of less ability in a seemingly arbitrary manner.
9. A project may continue for an excessively long time because new activities are added to it.
10. A project has to be terminated before it is completed because (a) the work results are different from what was originally intended, (b) the organizational environment has changed in such a way as to make the desired effects of the project seem less desirable, and (c) the project can be expected to consume more resources and take longer than originally anticipated.

ANNEX B (Continued)

CLARIFYING AUTHORITY, RESPONSIBILITY AND RELATIONSHIPS

SESSION NO. 14

OBJECTIVES:

Participants should be able to:

1. Clarify the authority, responsibility and relationships of the organizational entities and individuals involved in programme / project implementation, where necessary and feasible.

REFERENCES:

- ** - Project Proposal, Country X
- ** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, pages 208 to 223.
- * - Administration of Environmental Health Programmes: A Systems View, Public Health Paper No. 59, Morris Schaefer, WHO, Geneva, 1974, pages 17 to 31 and 135 to 139
- ** Recommended reading
- * Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

CLARIFYING AUTHORITY, RESPONSIBILITY AND RELATIONSHIPS

SESSION NO. 14

EXERCISES:

1. Review step 12.1 of the Management Manual. For each of the first five activities in the project schedule of Country X, identify
 - (a) who in your opinion should do the work.
 - (b) who should supervise the work.
 - (c) who, if anybody, should review, advise or otherwise support the activity.
 - (d) which, if any, of the manpower commitments you identified in exercises (a), (b) and (c) need to be formalized in the form of a written manpower agreement.
2. Review step 12.3 of the Management Manual.
 - (a) Draw an organization chart (similar to Figure 1 on page 214 of the Manual) reflecting your understanding as to the implementation for your (Country X) project or programme.
 - (b) Define the authority and responsibility of the project/programme manager.
 - (c) State whether or not the above authorities, responsibilities and relationships (2(a) and 2(b)) should be clarified in writing, and give your reasons.

ANNEX B (Continued)

ESTABLISHING THE CONTROL SYSTEM

SESSION NO. 15

OBJECTIVES:

Participants should be able to:

1. Identify relevant, sensitive and feasible project control indicators.
2. Identify feasible sources of information on control indicators.
3. Specify the frequency and mechanism for collecting project control information.

REFERENCES:

- ** - Project Proposal, Country X
- ** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, pages 236 to 247.
- * - Administration of Environmental Health Programmes: A Systems View, Public Health Paper No. 59, Morris Schaefer, WHO, Geneva, 1974, pages 210 to 228.
- ** Recommended reading
- * Background reading

HANDOUT MATERIAL:

ANNEX B (Continued)

ESTABLISHING THE CONTROL SYSTEM

SESSION NO. 15

EXERCISES:

Assuming that you are the project/programme manager in Country X

1. Identify what you consider to be the three-five most important control indicators to ensure that your project is successfully implemented.
2. For each of the indicators you have identified in exercise 1, specify
 - (a) who will provide that information
 - (b) how often it should be provided
 - (c) whether anyone else should receive this information, and if so, who.
 - (d) what will you (and they) do with it.

ANNEX B (Continued)

COMMUNICATION AND MOTIVATION

SESSION NO. 16

OBJECTIVES:

Participants should be able to:

1. Obtain support from relevant units involved in programme/project implementation.

REFERENCES:

- ** - Project Proposal, Country X
- ** - Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, J. Bainbridge and S. Sapirie, WHO Offset Publication No. 12, Geneva, 1974, pages 255 to 259.
- ** - Administration of Environmental Health Programmes: A Systems View, Public Health Paper No. 59, Morris Schaefer, WHO, Geneva, 1974, pages 189 to 196
- * - Skills of an effective administrator, Robert L. Katz, Harvard Business Review, September-October 1974, pages 90 to 102.
- * - Antecedent Attitudes of Effective Managerial Performance, Edward E. Lawler, III, and Lyman Porter, Organizational Behavior and Human Performance, vol. 2, 1967, pages 122 to 142.
- ** Recommended reading
- * Background reading

HANDOUT MATERIAL:

COMMUNICATION AND MOTIVATION

SESSION NO. 16

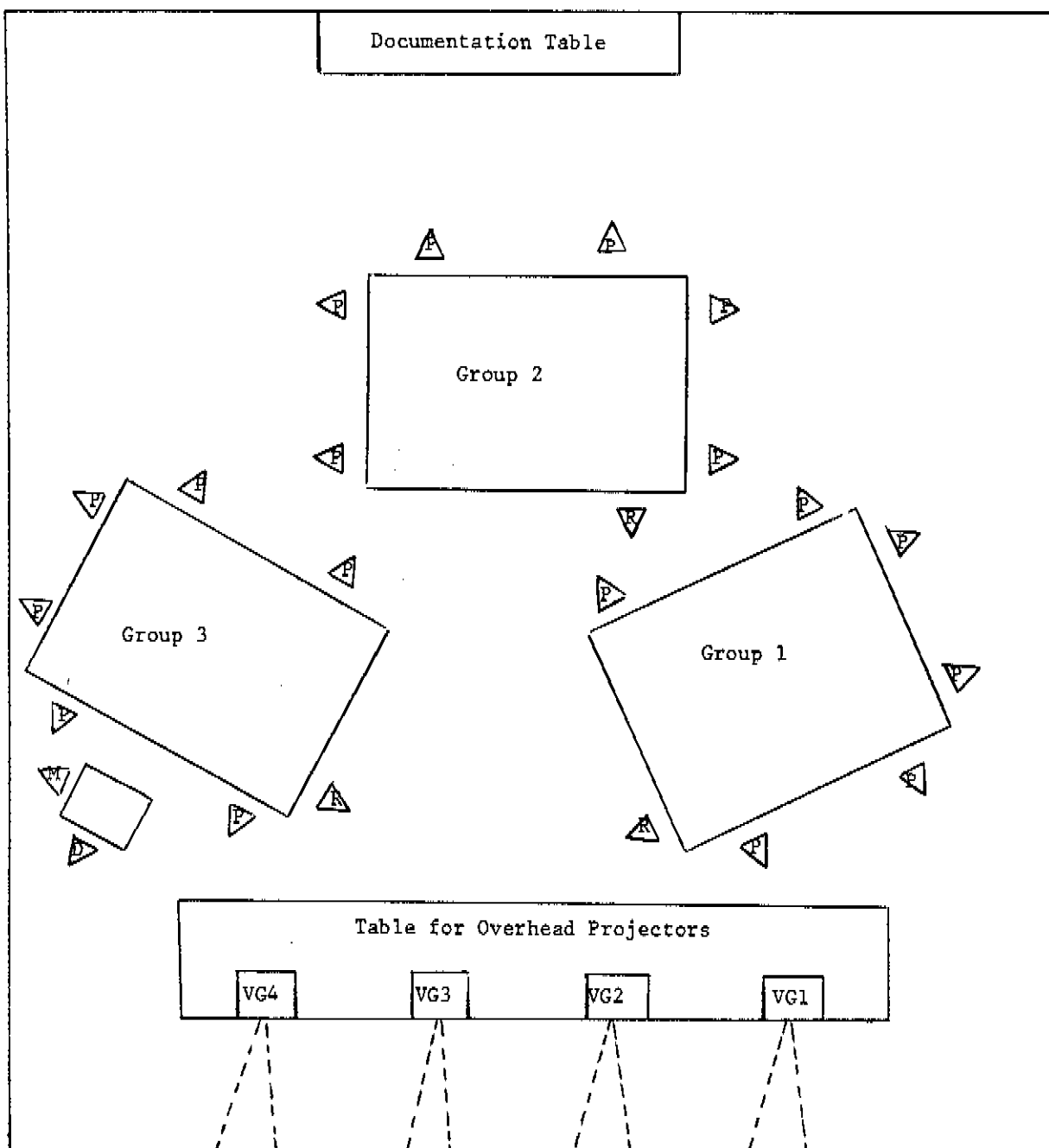
EXERCISES:

Assuming that you are the project manager in Country X,

1. Select one activity in the project schedule which is critical to the success of the project, which relies primarily on manpower outside the project/programme team, and which is unlikely to be done effectively without a change in the motivation of the individual(s) responsible for doing the activity. Identify:
 - (a) why the individuals are not likely to be motivated to perform the activity.
 - (b) the specific steps that should be taken to secure and maintain their cooperation (i.e., the content, method and person(s) responsible for the necessary communications).
2. Identify the three most important units (organizational entities) outside the project/programme team with which effective communication must take place throughout the life of the project. For each unit identified specify the purpose, frequency method, communication, and outline the contents of such communication.
3. (Outside of the workshop) perform the steps you have identified in exercise 1(b). Analyze the results and revise your step 3 accordingly.

ANNEX C

CLASSROOM LAYOUT



Key: VG - Viewgraph projector
M - Moderator
D - Course Director
P - Participant
R - Resource Person

ANNEX D

THE WORKSHOP APPROACH

The prime feature of a workshop is to create the opportunity for participants to acquire and practise the techniques necessary for the formulation/management of health programmes/projects. Because of the limited time available, however, assignments have to be carefully scheduled. It is a principle of the workshop approach that those attending are not students in the usual sense but active participants. As a corollary, those responsible for the presentation of the material are not instructors but people familiar with the particular method, who will help the participants to learn it. They are referred to as "moderators".

Exposition and learning will operate at three levels - individually, in groups, and in plenary sessions. The programme is designed for 3 to 5 multidisciplinary teams, each of four to five participants.

The daily programme consists of unstructured time (approximately 3 hours) and structured time (approximately 5 hours). Participants are invited to devote the unstructured time (late afternoons and evenings) to individual preparation of exercises and reading. This allows for variations in participants' background, method of study and allocation of time.¹ Structured sessions take two forms: group work and plenary sessions. The purpose of the group work is to produce, in a limited time, on the basis of the individually prepared exercises, a written group consensus solution to exercises. Each group elects its speaker, who will normally also chair group discussions. Workshop moderators may be called on by any group in a consultative capacity.²

The plenary sessions fulfil two functions. First, and most important, they provide the forum for joint presentation and comparative evaluation of the group exercises, and for reaching a common understanding of the underlying issues. A representative from each working group will present his group's solution using an overhead projector. This will also allow participants to compare and learn from the solutions of other groups. The moderator for the particular exercise will chair the plenary session and summarise the main concepts and techniques.³ Second, plenary sessions give an opportunity for the moderator to answer any questions on the preparation of the following day's work.

¹ Participants are advised to carry out the exercises individually first, thereby assessing whether there is any conceptual gap in their knowledge or any methodological difficulties. They may resort to the reading material to fill in any gaps and resolve their problems, proceeding from the "recommended" references to the "background" references. An earnest attempt to complete the exercises is the key to the success of a workshop. Reading alone does not achieve the educational objectives.

² In many instances the material produced by working groups will serve as the basis for exercises to be performed in the following session(s). Thus the need arises for working groups to reach consensus and to identify any remaining conceptual or methodological gaps, which may be studied further in plenary session.

³ Plenary sessions are committed to producing a documented expression of consensus, including the "best" solution to exercises, which will be used, in most instances, by individual participants for the ensuing sessions. The workshop manager and moderators will issue this documentation as "handouts".

ANNEX D (Continued)

Most of the structured time will be spent in practical work and group discussions. There should be no formal presentations. It cannot be stressed enough that the primary onus is on the participants. The role of the moderators is to stimulate the discussions in working groups and in plenary sessions. They are also responsible for keeping strictly to the carefully programmed workshop schedule and for making sure that the objectives of each session and the broad objectives of the workshop are achieved. The moderators are concerned with applying analytical methods to problem formulation and solution, and they should not be expected to express opinions or pass judgement on technical solutions proposed by participants. They are, however, at the disposal of the participants for private consultations outside the structured workshop sessions.

In an effort to ensure that the workshop is in fact achieving its purpose, it is proposed to seek regular feedback from participants so that, if necessary, adjustments can be made in specific objectives, methods, content and scheduling. It is probable that there will be a satisfactory informal exchange of views. However, until it is demonstrated to be unnecessary, at the end of the day each participant should fill in the evaluation form. Then participants (one representing each working group) should meet daily with the course manager, who should follow through any implications for change with the moderators. There should be a plenary evaluation session at the end of the workshop when participants will be asked to complete a final evaluation questionnaire which may be used in structuring similar workshops in the future.

SESSION EVALUATION SHEET

Session No. and Title: _____

Please evaluate the session as it appeared to you in relation to the eight points listed below. Place an X on the scale over the point between the two evaluations so that it indicates where your opinion lies. A + indicates the optimum point on the scale.

1. OBJECTIVE EXPLAINED:

Poorly |-----|⁺ Clearly

2. OBJECTIVE ACHIEVED:

No |-----|⁺ Fully

3. SELECTION OF METHOD OF INSTRUCTION:

Poor |-----|⁺ Fully appropriate

4. CONTENT:

Over-simplified, not enough foundation |-----|⁺ Too sophisticated

5. PARTICIPANTS' ACTIVE INVOLVEMENT:

Too little |-----|⁺ Too much

6. LEADERSHIP PROVIDED BY GROUP MODERATOR:

Weak |-----|⁺ Overdone

7. LEADERSHIP PROVIDED BY SUBGROUP MODERATOR:

Weak |-----|⁺ Overdone

8. TIME ALLOTTED:

Too little |-----|⁺ Too much

Suggestions for improvement not covered by the above.

ANNEX E.2

FINAL EVALUATION QUESTIONNAIRE

Introduction

The purpose of this questionnaire is to obtain from all participants their views, critique and constructive ideas on the workshop's

Objectives

Method

Participants

Organizers

Time

Content

in order to improve the conduct of future sessions of a similar nature.

Please read the questionnaire through before answering any questions. It should be completed and returned to the organizers before _____.

ANNEX E.2 (Continued)

I. OBJECTIVES

Please check one column for each question:

	Very poorly	Poorly	Fairly well	Very well
I am now able to:				
1. Identify the main steps in(the subject of the workshop)				
2. Write clear terms of reference for(the subject of the workshop)				
3. Identify the types of information to be produced during the analytical phase.				
4. Identify the major health problems in the context of the socio-economic development of the country				
5. Set quantified objectives				
6. Identify obstacles preventing achievement of objectives				
7. Design health strategies				
8. Identify the most important products of(the subject of the workshop)				
9. Select areas susceptible to(the subject of the workshop)				
10. Organize teams				

ANNEX E.2 (Continued)

II. Method

Please check one column for each question:

	Extremely Inefficient	Inefficient	Efficient	Very Efficient
How would you evaluate the following:				
1. Required readings from the Manual				
2. Required readings from other sources				
3. Explanation before each activity by the organizers				
4. Discussions in small working groups				
5. Presentations by the groups in plenary session				
6. Discussions in plenary sessions				

ANNEX E.2 (Continued)

III. PARTICIPANTS AND THEIR PARTICIPATION
ORGANIZERS
TIME

Please check one column for each question:

	Disagree strongly	Disagree	Agree	Strongly agree
1. From the beginning I understood that active participation was expected from me.				
2. I have the feeling I have learned something new and useful.				
3. Some of the organizers were authoritarian.				
4. The organizers provided too little support.				
5. There was too much reading material prior to workshop sessions.				
6. Practical exercises outside of class were too time-consuming.				
7. The workshop was too long.				

ANNEX E.2 (Continued)

IV. CONTENT

1. Identify the easiest session(s) covered in the workshop. Briefly explain why.

2. Identify the most difficult session(s) covered in the workshop. Briefly explain why.

3. Identify the most interesting session(s) covered in the workshop. Briefly explain why.

4. Suggest any topics not included at present which you would wish to have included in future workshops:
 - a.
 - b.
 - c.

5. Suggest any topics in the present workshop for which you think more or less time should be allowed:
 - a.
 - b.
 - c.

6. Should this workshop be longer or shorter? If so, how long should it be.

ANNEX E.2 (Continued)

V. SUMMARY AND RECOMMENDATIONS

What are your major recommendations for improving the workshop.

ANNEX F

BIBLIOGRAPHY

I. References on planning and management:

1. Bainbridge, J. and Sapirie, S., Health Project Management: A Manual of Procedures for Formulating and Implementing Health Projects, WHO Offset Publication No. 12, Geneva, 1974, 280 p.
2. Blum, Hendrik L., Planning for Health: Developmental Applications of Social Change Theory, Human Sciences Press, New York, 1974, 622 p.
3. Croon, P., Strategy and Strategy Creation, Rotterdam University Press, 1974.
4. Deboeck, G. and Piot, M.A., Health Programme Planning and Project Selection, (WHO Working Document) PSA/EC/75.6, Geneva, 1975, 133 p.
5. Hed, Sven R., Project Control Manual, Geneva, 1973, 238 p.
6. Koont, Z.H. and O'Donnell, C., Principles of Management, An Analysis of Managerial Functions, McGraw-Hill Book Company, New York, 1968, 822 p.
7. Little, I.M.D. and Mirrlees, J.A., Project Appraisal and Planning for Developing Countries, Basic Books, New York, 1974, 388 p.
8. Ozbukhan, H., Toward a General Theory of Planning, In: Jantsch Erich (ed.) Perspectives of Planning, OECD, Paris, 1969.
9. Schaefer, Morris, Administration of Environmental Health Programmes: A Systems View, Public Health Paper No. 59, WHO, Geneva, 1974, 242 p.
10. UNIDO: Guidelines for Project Evaluation, Project Formulation and Evaluation, In Series No. 2, U.N., New York, 1972.
11. Van der Tak, Herman G. and Lynn Squire, Economic Analysis of Projects, World Bank Working Paper No. 194, February 1975, 156 p. + annexes.

References on teaching methods

1. Hamblin, A.C., Evaluation of Training, Industrial Training International, November 70.
2. ILO: Teaching and Training Methods for Management Development, Management Development Manual No. 36, Geneva, 1974.
3. Odiorne, G. S., Training by Objectives: An Economic Approach to Management Training, The Macmillan Company, New York, 1970.
4. Revans, R.W., Developing Effective Managers, Longman Group Ltd., London, 1971.
5. WHO: Handbook for Teachers of Health Sciences, (WHO working document)HMD 75.1, Geneva, 1975.
6. WHO: Implications of Individual and Small Group Learning Systems in Medical Education, WHO Technical Report Series No. 489, Geneva, 1972.
7. WHO: Development of Educational Programmes for the Health Professions, WHO Public Health Paper No. 52, Geneva, 1973.
8. WHO: Educational Strategies for the Health Professions, WHO Public Health Paper No.61, Geneva, 1974.