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# **PRITECH**

Technologies for Primary Health Care

Management Sciences for Health  
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PN-AT 160

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BKKBN  
MANPOWER PLANNING WORKSHOP

A Report Prepared By PRITECH Consultant:  
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During The Period:  
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BKKBN  
MANPOWER PLANNING WORKSHOP

4-8 January 1985

- Purpose:
- a. To create in a core of BKKBN staff from the centre and provinces an understanding of the methods and techniques of manpower planning and how to apply them.
  - b. To establish a process for the development of manpower planning into a routine function in BKKBN.
  - c. To strengthen the links between developments in training planning and management, personnel administration and management, service planning and management and manpower planning.

Desired

Outcome: At the conclusion of the workshop, participants should be able to:

1. Describe the nature of the inter-relationship between service planning, personnel administration/management, training planning and management and manpower planning.
2. Specify what activities, functions and processes are involved in manpower planning.
3. Link these activities, functions and processes with those of service and fiscal planning.
4. Define what information is required and how to use it to make requirement/supply calculations.
5. Describe the essential methods of job and task analysis and how to apply them.
6. Understand how job and task descriptions can be used for the purposes of staff requirement, career and training planning.
7. Identify the elements of a development programme in manpower planning linked to developments in training and personnel administration.

PROPOSED WORKSHOP PROGRAMME

- FRIDAY: Morning - Session 1: Manpower/Personnel Problems & Issues  
 Afternoon - Session 2: Determining Manpower Requirements from Service Plans  
 Evening - Session 3: Describing Jobs
- SATURDAY: Morning - Session 4: Measuring Utilisation  
 Afternoon - Session 5: Projecting Supply  
 Evening - Session 6: Relating Training to Jobs and Careers
- SUNDAY: Morning - Session 7: Manpower Management Relationships in Plan Formulation and Monitoring
- MONDAY: Morning - Session 8: Determining Information Needs for Manpower Planning, Training and Personnel Management at Centre, Province and Kabupaten  
 Afternoon - Session 9: Developing an Integrated Annual Planning Cycle  
 Evening - Session 10: Preparing a Development Plan for Manpower Planning
- TUESDAY: Session 11: Preparing a Budget Plan to Cover Master  
 12 Plan Proposals for Activities in Planning, Personnel and Training

SESSION 1

Title: MANPOWER/PERSONNEL PROBLEMS AND ISSUES

Purpose: This session is concerned with establishing a basis for what is to come during the rest of the workshop. The participants are asked to identify what problems and issues are impeding the most effective use of manpower and also where they think solutions to the problems may be. The rest of the workshop takes up these issues and looks to see what developments, in particular in the field of manpower planning, can help to resolve these problems.

Details:

|   |                     |
|---|---------------------|
| A. Opening Address                                      | - 20 minutes        |
| B. Administrative matters                               | - 10 minutes        |
| C. Team formation - 3 teams                             |                     |
| D. Introductory comments -<br>Effectiveness, Efficiency | - 15 minutes        |
| E. Team discussion                                      | - 60 minutes        |
| F. Plenary report                                       | - <u>45 minutes</u> |
|   | 2 hours, 30 minutes |

Team Topics:

- A. To identify manpower problems affecting BKKBN performance
- B. To identify how these problems show up
- C. To propose possible practical solutions to the problems and
- D. Team 1 - to identify which of these problems can be resolved through better training management;
  - Team 2 - to identify which of these problems can be resolved through better personnel administration and management; and
  - Team 3 - to identify which of these problems can be resolved through better manpower planning.

Resource

Material: Working notes, P. Hornby

Output: Listing of problems/issues

Suggested directions for solutions

SESSION 2

Title: DETERMINING FUTURE MANPOWER REQUIREMENTS

Purpose: This session is concerned with exposing participants to alternate ways of determining manpower requirements, testing out these alternatives to see where they are most appropriate and applying one or more methods to make sample calculations.

- Details:
- A. Conceptual paper on alternatives - 20 minutes
  - B. Paper on practical application to nutrition staff - 30 minutes
  - C. Plenary questions on papers - 15 minutes
  - D. Team discussion - 90 minutes
  - E. Plenary report - 60 minutes
- 3 hours, 35 minutes

Team Topics:

- A. Exercises on using calculation methods
- B. Calculation of requirements for sample set of BKKBN staff

Resource

Material: Concept paper, P. Hornby  
 Application paper, Dr. R. Thomasoa  
 Exercises, P. Hornby  
 Calculation sheet, P. Hornby/R. Thomasoa

Output: Sample calculations for three types of BKKBN staff

SESSION 3Title: DESCRIBING TASKS AND JOBSPurpose: The previous session will have demonstrated that in order to determine the number of staff required in the future, it is essential that the nature of the tasks to be performed by these staff is known. This session examines alternate ways of determining this, presents a practical case study, and sets participants the task of doing some sample exercises for BKKBN staff.

Details:

|   |                     |
|---|---------------------|
| A. Paper on alternatives in task analysis                     | - 20 minutes        |
| B. Paper on application of methods to provincial health staff | - 45 minutes        |
| C. Plenary questions on papers                                | - 15 minutes        |
| D. Team discussions   | - 90 minutes        |
| E. Plenary report   | - <u>60 minutes</u> |
|   | 3 hours, 35 minutes |

Team Topics:

A. Exercises on producing job descriptions by different methods

Resource

Material: Concept paper on alternatives - P. Hornby  
Application paper - Staff, Java Tengah  
Job description format

Output: Three sample job descriptions

SESSION 4Title: MEASURING UTILISATION

Purpose: A key element in determining staff requirements is the utilisation of staff, both in terms of the amount of productive work they do as well as the nature of the tasks they perform. For any organisation, the establishment of norms or standards of staff utilisation is essential. This session explores the ways of doing this, presents a practical case study and provides participants with the task of planning such an exercise.

Details:

|   |                     |
|---|---------------------|
| A. Concept paper on measuring utilisation | - 20 minutes        |
| B. Case study on practical application    | - 30 minutes        |
| C. Plenary questions on paper             | - 15 minutes        |
| D. Team discussion                        | - 90 minutes        |
| E. Plenary report                         | - <u>60 minutes</u> |
|   | 3 hours, 45 minutes |

Team Topics:

- A. Assessing likely factors affecting utilisation of different named types of BKKBN staff and examining alternatives to changing that utilisation and its likely impact on other staff.
- B. Planning and scheduling a study of utilisation for one type of BKKBN staff.

Resource

Material: Concept paper - P. Hornby  
 Case study - Dr. Soemartono, P4K, Depkes, Surabaya  
 Exercise format - P. Hornby

Output: Alternate implementation plans for undertaking utilisation studies

SESSION 5Title: PROJECTING FUTURE STAFF SUPPLY

Purpose: For a plan to exist for BKKBN which provides a meaningful challenge and guidance to BKKBN managers, it is essential that the resources required are matched by those available. Knowing what staff resources will be available in the future needs careful attention if not only the right numbers of staff but also the right skills are to be available. This session examines analytic techniques for projecting supply, looks at practical case study and invites participants to consider what factors will affect future staff supply.

Details:

|  |                     |
|--|---------------------|
| A. Concept paper on supply projection        | - 20 minutes        |
| B. Case study - DepKes long-term projections | - 30 minutes        |
| C. Plenary questions on papers               | - 15 minutes        |
| D. Team discussions                          | - 90 minutes        |
| E. Plenary report                            | - <u>60 minutes</u> |
|  | 3 hours, 35 minutes |

Team Topics:

- A. Analysing factors influencing staff and identifying which of these factors can be manipulated to affect supply
- B. Using mathematical models to predict supply of different grades of staff

Resource

Material: Concept paper - supply projections - P.Hornby  
Case study - DepKes long-term projections - Mr. Iskander, Pusdiklat, Depkes  
Model outline - P. Hornby

Output: Factor analysis on staff supply

SESSION 6

Title: RELATING TRAINING TO JOBS AND CAREERS

Purpose: Staff training, both prior to service and during service, is recognised as an essential feature in maintaining an efficient and competent work force. However, the linking of this training directly to job function and to future job function is often not addressed seriously, and leads to falls in performance as staff are moved to positions for which they are not adequately qualified. The purpose of this session is to examine how the skills of an individual can be described, how job training in BKKBN is currently determined and managed and how the training can be better matched to needs.

Details:

|  |                     |
|--|---------------------|
| A. Concept paper on job/skill descriptions and assessment    | - 30 minutes        |
| B. Report on job training programmes and management at BKKBN | - 30 minutes        |
| C. Plenary questions on papers                               | - 15 minutes        |
| D. Team discussion   | - 60 minutes        |
| E. Plenary report  | - <u>30 minutes</u> |
|  | 2 hours, 45 minutes |

Team Topics:

- A. Use of job description to improve recruitment, job performance and preparation for promotion
- B. Use of job description in appraisal for job change, training and promotion decisions
- C. Use of job enrichment technique to improve performance and morale of staff

Resource

Material: Concept paper - P. Hornby  
 Job training report - BKKBN Diklat  
 Work sheets for team discussion - P. Hornby

Output: Guidelines for improving links between jobs/skills and training

SESSION 7

Title: MANPOWER MANAGEMENT RELATIONSHIPS IN PLAN FORMULATION AND MONITORING

Purpose: The purpose of this session is to identify the inter-relationships between different management groups in drawing together a plan, monitoring its implementation and acting together to evaluate and re-plan. Participants will be invited to layout the elements of a manpower plan in order to clarify in their own minds that a working inter-relationship must exist in practice if manpower management is to be strengthened.

Details:

|   |                     |
|---|---------------------|
| A. Concept paper on management inter-relationships and manpower plan requirements | - 30 minutes        |
| B. Plenary questions on paper   | - 15 minutes        |
| C. Team discussion  | - 90 minutes        |
| D. Plenary report   | - <u>60 minutes</u> |
|   | 3 hours, 15 minutes |

Team Topics:

- A. Examining the cost implications for manpower of meeting a given service objective and adjusting manpower and service objectives to meet cost constraint.
- B. Exploring the uncertainties (assumptions) surrounding a plan formulation and determining what can be done to reduce these uncertainties.
- C. Developing the framework of components which will make up a detailed manpower plan.

Resource

Material: Concept paper on management and manpower planning - P. Hornby  
Work sheet for exercises - P. Hornby

Output: Identification of uncertainties for manpower planning in BKKBN.  
Manpower plan framework.

SESSION 8Title: DETERMINING INFORMATION NEEDSPurpose: BKKBN is in the process of up-grading its management information system. In particular, it is computerising personnel and training data. The purpose of this session is to examine how this information will be used by managers at different levels and identify what other information will be needed for preparing and monitoring manpower plans.

Details:

|  |                     |
|--|---------------------|
| A. Presentation on personnel data collection at the centre | - 30 minutes        |
| B. Presentation on training data collection at the centre  | - 30 minutes        |
| C. Plenary questions on papers                             | - 15 minutes        |
| D. Team discussions  | - 90 minutes        |
| E. Plenary report  | - <u>60 minutes</u> |
|  | 3 hours, 45 minutes |

Team Topics:

- A. Identify uses for personnel data at centre, province and kabupaten for management purposes and also what additional data is required and why.
- B. Identify uses of training data at centre, province and kabupaten for planning and management purposes and also what additional data is required and why.
- C. Identify uses for personnel data statistics in preparing and monitoring manpower plans at centre, province and kabupaten and also what additional data is required and why.

ResourceMaterial: Paper on computerised personnel data - Personnel Section  
Paper on computerised training data - DikletOutput: Specification of manpower planning and management data at different management levels of BKKBN.

SESSION 9

Title: DEVELOPING AN INTEGRATED ANNUAL PLANNING CYCLE

Purpose: The purpose of this session is to link the plans and planning process for training and manpower with that of the annual and pelita service planning process.

- Details:
- A. Paper on designing in Depkes a matching process for manpower planning with the annual plan process - 30 minutes
  - B. Paper on description of annual service planning process - 15 minutes
  - C. Paper on description of annual training planning process - 15 minutes
  - D. Paper on framework for annual manpower planning process - 15 minutes
  - E. Plenary questions on papers - 15 minutes
  - F. Team discussion - 60 minutes
  - G. Plenary report - 30 minutes
  - H. Team discussion - 45 minutes
  - I. Plenary report - 30 minutes
- 4 hours, 15 minutes

Team Topics:

- A. For first team discussions, 2 teams:
  - 1. Team 1 develops annual training plan process matched to service planning process
  - 2. Team 2 develops annual manpower planning process matched to service planning process
- B. For second team discussion:
  - 3. Both teams take the results of the other team's work and try to produce an integrated planning process

Resource

Material: Description of Depkes planning process - Planning Bureau, Depkes  
Description of BKKBN service planning process - Planning Bureau, BKKBN

Resource

Material

(cont.); Description of BKKBN training planning process - Diklat, BKKBN  
Description of manpower planning process - Personnel, BKKBN

Output: Proposed schedule for integrated annual planning

## SESSION 10

Title: PREPARING A DEVELOPMENT PLAN FOR MANPOWER PLANNING

Purpose: The previous sessions of the workshop have identified the types of functions and processes involved in manpower planning. In addition to this, BKKBN has also already identified a number of development actions it wishes to have implemented. The purpose of this session is to bring all these together and roughly identify a sequence of development stages in BKKBN for developing manpower planning skills and for developing the planning and monitoring process.

Details:

|   |                     |
|---|---------------------|
| A. Review of course                                   | - 20 minutes        |
| B. Review of manpower planning element of master plan | - 20 minutes        |
| C. Team discussion                                    | - 80 minutes        |
| D. Plenary report                                     | - <u>60 minutes</u> |
|   | 3 hours             |

### Team Topics:

- A. Developing a routine process for task/job analysis.
- B. Developing a "bottom up" manpower planning process.
- C. Organising plan implementation monitoring and evaluation.
- D. Forming a manpower planning network.
- E. Training staff at BKKBN in analytic skills.
- F. Reviewing action plan for manpower in master plan.

### Resource

Material: Course review notes - P. Hornby  
Manpower development activities - BKKBN Master Plan

Output: Recommendations for manpower planning development activities.

SESSIONS 11 and 12

Title: PREPARING A BUDGET PLAN TO COVER MASTER PLAN PROPOSALS FOR  
ACTIVITIES IN PLANNING, PERSONNEL AND TRAINING

Details: Sessions 11 and 12 on Tuesday are to be organised by staff of  
the Personnel Bureau in BKKBN.

PROPOSED WORKSHOP PRESENTERS

1. Staff from Personnel - BKKBN
2. Staff from Training - BKKBN
3. Staff from Planning - BKKBN
4. Dr. Dariono - Biro Perencanaan - Depkes
5. Dr. Mrs. Ronnie Thomasoa - Binkesmes - Depkes
6. Dr. Soematono - P4K, Surabaya - Depkes
7. Mr. Iskander - Pusdiklat - Depkes
8. Staff from province: (Depkes, Java Barat)

Each presenter will be expected to:

- a. give a 30-minute talk,
- b. provide written material on the talk for participants, and
- c. assist as a resource person during his or her stay at the Workshop.

It is proposed that Dr. Dariono will stay for the whole length of the workshop, while Dr. Thomasoa, Mr. Iskander and provincial staff will stay for Friday, Saturday and Sunday sessions and Dr. Soematono for the Friday and Saturday sessions.

SESSION 1  
BKKBN MANPOWER PLANNING WORKSHOP  
4-8 January 1985

Working Notes - Manpower Problems and Issues

In most organisations and particularly in organisations such as BKKBN which are heavily "labour intensive", the EFFECTIVENESS AND EFFICIENCY of its staff is a crucial issue for the success of the organisation.

The problem posed to managers of the organisation is how to maintain a high level of effectiveness and efficiency in a constantly changing environment, an environment in which there are changes in:

- technology
- the pool of potential recruits
- staff attitudes and behaviour
- career opportunities outside the organisation
- organisational goals
- organisational size and structure.

For the organisation as a whole, the managers of the organisation (BKKBN) are required to ensure that the organisation is:

- undertaking the RIGHT activities
- with the RIGHT people and skills
- in the RIGHT numbers
- in the RIGHT place
- with the RIGHT motivation.

To do this requires coordination between many different elements of an organisation as shown in Diagram 1.

It needs to be remembered that these requirements for maintaining effectiveness and efficiency are not just to be done once but are rather things which need to be done again and again. It is also true that effective management, like effective technology, is not something that occurs instantaneously but in general requires continuous application and a continuous search for better ways.

Just as in technology the search for a better technology starts from the problems and limitations of the current technology, so in manpower management the search for better ways starts with identification of current manpower problems and issues including those concerned with the problems of managing. It is to this identification of current problems and their causes that the working groups are asked to direct their attention in this session (see analysis framework, Diagram 2).

MANAGEMENT FUNCTIONS AND MANPOWER MANAGEMENT

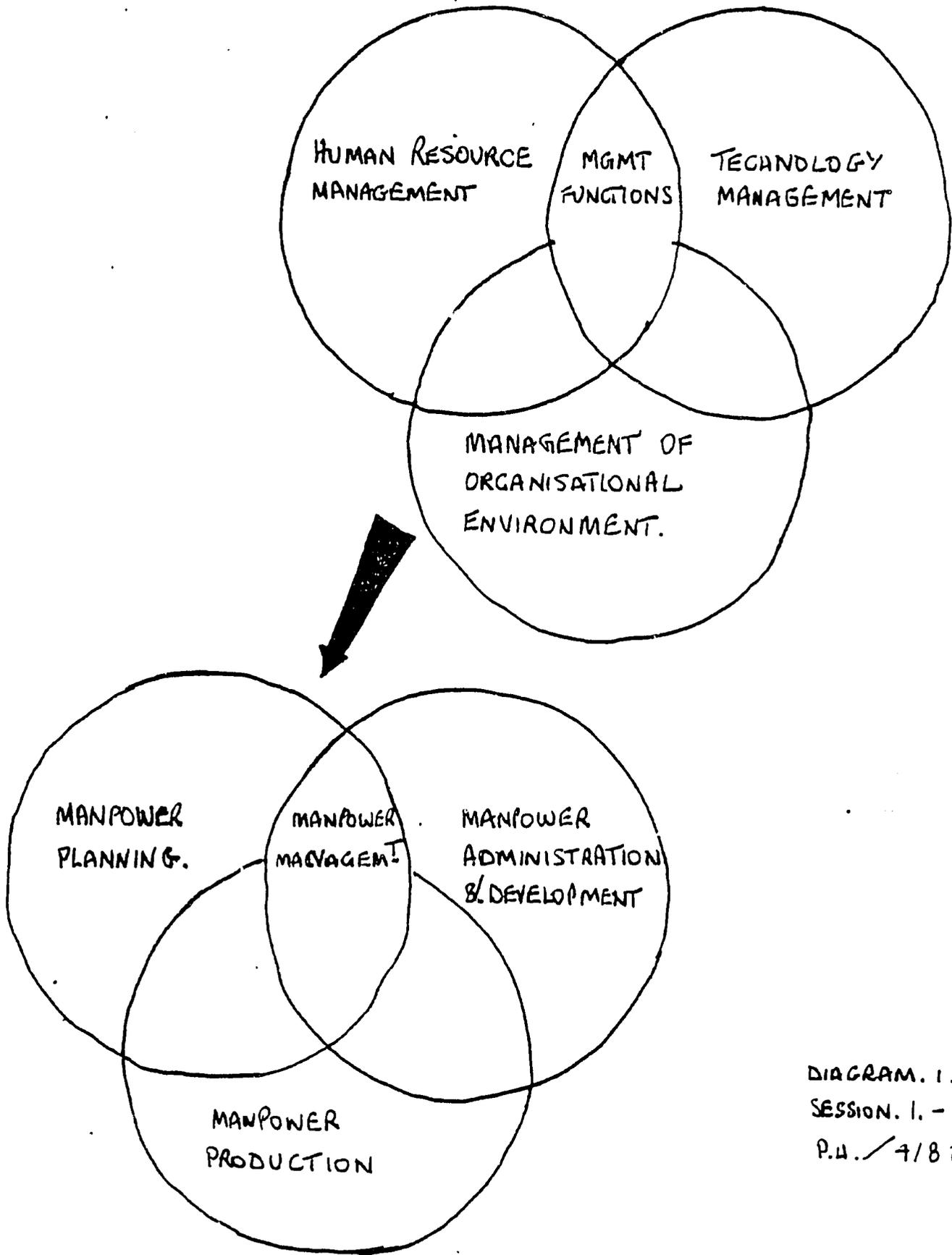


DIAGRAM. 1.  
SESSION. 1. - AKKEN.  
P.4. / 7/8 JAN. 1985

SOME GUIDELINES FOR EXAMINING MANPOWER PROBLEMS/ISSUES

Each of the key words in the table suggests a different line of inquiry and allows the manpower planner to proceed in a systematic fashion through all the possibilities relevant to his country's situation.

| PROBLEMS            | AREA OF INVESTIGATION FOR PROBLEM SOURCE AND/OR SOLUTION |                            |  |
|---------------------|--|----------------------------|--|
| 1. Numbers employed | 1. Joiners   | 1. Experienced recruits    | Number from :<br>1. Private sector<br>2. Other sectors<br>3. Other countries<br>4. Within health sector              |
|                     |  | 2. Training output         | 1. Enough schools<br>2. Enrollment size<br>3. Training losses  |
|                     |  | 3. International training  | Number of :<br>1. Available qualified students<br>2. Graduates returning<br>3. Students sent                         |
|                     |  | 4. Recruitment losses      | 1. Graduation/recruitment coordination<br>2. Competition from other agencies   |
|                     | 2. Leavers   | 1. Job changes             | Number going to :<br>1. Private sector<br>2. Other sectors<br>3. Other countries<br>4. Other posts in health service |
|                     |  | 2. Discontinued employment | Number leaving for :<br>1. Marriage<br>2. Illness<br>3. Retirement   |

| PROBLEM                      | AREA OF INVESTIGATION FOR PROBLEM SOURCE AND/OR SOLUTION |   |  |
|------------------------------|--|---|--|
| 2. Distribution of staff     | 1. Location of staff                                     | 1. Specific localized distribution<br><br>2. Countrywide distribution | 1. Temporary assignments<br>2. Permanent staffing<br>3. Incentive sufficiency<br>4. Administrative capability<br>5. Career/skill benefits<br>6. Available facilities<br>7. Organization of staff movement<br>8. Inequality of service conditions |
|                              | 2. Location of work                                      | 1. Institutional locations<br><br>2. Population distribution          | 1. Population mobility<br>2. Quality of services<br>3. Relevance of services<br>4. Local staff mobility<br>5. Institutional hours of operation   |
| 3. Skills/knowledge of staff | 1. Sufficiency   | 1. Skill/knowledge shortage   | 1. Pre-recruitment training curricula<br>2. Adequacy of in-service training<br>3. Capacity of in-service training<br>4. Extent of refresher courses<br>5. Staff status and career prospects  |
|                              |  | 2. Excess skills  | 1. Coordination between training institute and service<br>2. Other resources availability<br>3. Accuracy of job descriptions   |
|                              | 2. Appropriateness                                       | 1. Wrong skills   | 1. Lack of forward planning<br>2. Staff redundancy<br>3. In-service training availability<br>4. Capacity of in-service training  |

| PROBLEM                            | AREA OF INVESTIGATION FOR PROBLEM SOURCE AND/OR SOLUTION |   |  |
|------------------------------------|--|---|--|
| 4. Work organization/ productivity | 1. Output per unit of productive time                    | 1. Equipment facilities   | 1. Speed of present equipment<br>2. Range of functions of present equipment  |
|                                    |  | 2. Preparatory time   | 1. Pre-packed kits<br>2. Work plan<br>3. Operational procedures  |
|                                    |  | 3. Service demand or working time   | 1. Working hours<br>2. Quality and relevance of services<br>3. Appointments system   |
|                                    | 2. Percentage of productive time                         | 1. Support activities   | 1. Support staff availability<br>2. Support activity organization<br>3. Extent of administrative requirements<br>4. Distribution of administrative functions |
|                                    | 3. Total working hours                                   | 1. Length of working day<br>2. Length of working week<br>3. Holidays, leave and absenteeism |  |
|                                    | 5. Problem duration                                      | 1. Short-term   | 1. Temporary problem only<br>2. Part of a long-term problem  |
| 2. Long-term                       |  | 1. No immediate difficulties<br>2. Contains some short-term issues                          |  |

SESSION 2

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Calculating Manpower Requirements

For any organisation, the first step for determining manpower requirements is the establishment of external objectives of the organisation. For BKKBN, this is concerned with reducing population growth, etc. and it involves providing service to the population.

Thus, for an organisation like BKKBN, there are essentially four routes that can be followed to determine future manpower requirements. These routes or methods are known as:

1. Population ratio method
2. Facility, target method
3. Population needs method
4. Population demand method

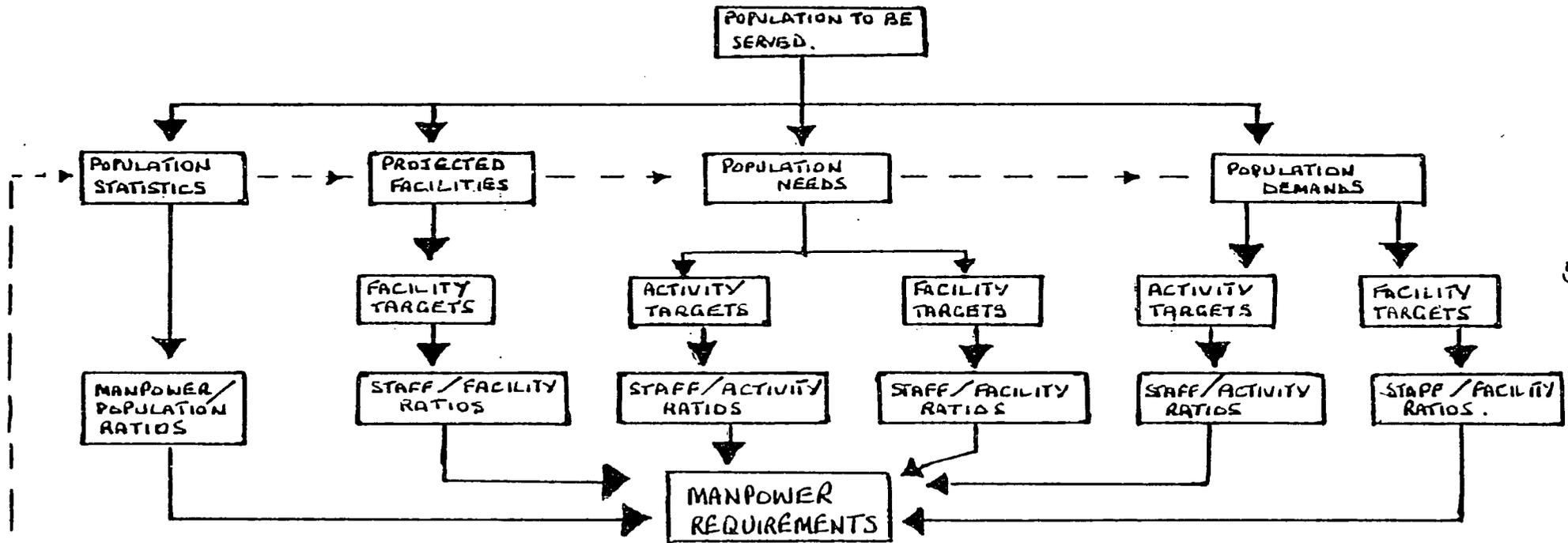
The steps involved in each of these methods are shown in Diagram 1. While these methods may appear to apply only to direct service staff, variations on the methods actually apply just as appropriately to non-direct service staff. Thus, for instance, instead of using a manpower/population ratio method for non-direct service staff, one could use a manpower/supervisor ratio.

1. Population Ratio Method

The manpower requirements under this method are estimated by the size of the population alone. The desirable ratios are established on the basis of:

- current situations,
- international comparisons,
- recommended standards,
- ratios observed in a favoured area of the country, and
- extrapolation of past trends.

# METHODS OF ESTIMATING MANPOWER REQUIREMENTS



AT THIS STEP ASSUMPTIONS ARE MADE TO IDENTIFY ORGANISATIONAL OBJECTIVES

DIAGRAM 2.  
SESSION 2 - AARON.  
PH. 4/8 JAN. 1985.

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The ratios are then applied to future estimates of population size to derive future manpower requirements. This method usually is the simplest to apply and requires the least information of all the methods. It does, however, have to include very broad assumptions about the major needs for family planning services and about what activities will be carried out by the staff. Nor are these assumptions explicit.

## 2. Facility Target Method

The manpower requirements under this method are estimated by converting the total planned numbers of different sorts of family planning facilities into manpower. This conversion is undertaken through the use of empirical or normative staffing and productivity standards. "Family planning facilities" can be taken to mean a health centre, an office, a service unit within a hospital, equipment, or a village, etc. Choice of the type of facility to be used as a measure for manpower requirements will depend on the staff category concerned and the availability of the necessary information on the existing and planned facilities. Like the population ratio method, manpower/facility ratios involve major implicit assumptions about the workload and types of activities which will be carried out by the staff. For example, a ratio of "2 family planning workers per village" leaves unspecified the number of clients that may be presenting themselves at any one time, the types of client problems and the types of service activities required. This method also assumes that facilities have been planned in response to perceived family needs. Again, like the population ratio method, the manpower/facility ratio method is relatively simple to use.

## 3. Population Needs Method

In using this method, the planners try to estimate what use will be made of facilities based on the projected needs of the population. For example, if there are an estimated 37 million women of child-bearing age with a crude birthrate of 3% in the population, the need for family planning motivators to provide family planning information and contraceptive services can be estimated, as well as the number of facilities

needed. Similar estimates can be made about the need for nurses, midwives, etc. This method requires assumptions to be made on how many of the target population actually will use the facilities and services available.

This method can be further divided into two, based on the type of ratio used:

Manpower/facility ratio: The number of facilities needed may be estimated based on the perceived needs in the population. For example, it may be decided that there should be one family planning post in every village. In that case, the number of projected family planning posts is based simply on the number of villages. The manpower needs for these facilities may then be based on the use of population statistics, previous manpower/facility ratios, etc.

Manpower/activity ratio: The manpower requirements are estimated by calculating the type and frequency of activities required to provide a service to an individual, to a community, etc., deriving estimates of the staff time required to carry out each activity and then converting the total estimated work time into manpower numbers, taking into account staff productivity.

This method is quite sensitive to the factors which create a demand for manpower, and the assumptions on which the manpower requirements are based are made explicit in the calculations. Thus it is a method which is easily made sensitive to changes in types or levels of service activities which will affect the manpower required. However, this method requires a great deal more work and information than the population or facility methods; in many cases neither the time nor the necessary information will be available.

#### 4. Population Demand Method

This method (also known as economic demand) estimates staff requirements from expected changes in population structure, income and attitudes of the population. It asks how much and what kinds of services people actually use and the costs of obtaining these services. Current utilisation rates of services by different age, sex and income groups provide a measure of the met or effective demand. These rates are then projected on future changes in the structure of the population. The planner can also take into account the unmet demand for

services.

The population demand method can vary from being relatively simple and applicable in many developing countries to being quite complex and requiring far more data than are available in most countries, developed or developing. The decision on whether this method is appropriate or not will depend in large part on the size of the private sector and on how the public sector views its responsibility for the provision of services.

However the requirements are determined, they will be dependent on a number of factors which are implicitly or explicitly considered in making the calculations. Changes in these factors will automatically lead to changes in manpower requirements. The factors are shown in Diagram 3.

#### CALCULATING MANPOWER DEMANDS

An Example of How the Different Methods May Be Used

**PROBLEM:** How many midwives will be needed in rural areas five years from now?

The main assumption is that the population in rural areas will be 150,000,000 five years from now.

Method 1. Population statistics:

The current ratio is 1 midwife per 60,000 people. For various reasons the government would like a ratio of 1 midwife per 10,000 people.

Using this method, the required number of midwives would be:  
15,000.

Method 2. Projected facilities:

To provide a 24-hour "on call" service, it has been estimated that each health centre must have 3 midwives for a staff/facility

FACTORS INFLUENCING MANPOWER  
REQUIREMENTS

1. NATIONAL F.P. POLICIES
- 2.
2. CHANGES IN METHODS OF SERVICE
3. CHANGING STAFF ROLES
4. CHANGING TECHNOLOGY.
5. EMPLOYMENT LEGISLATION
6. CONDITIONS OF EMPLOYMENT
7. EDUCATION & TRAINING POLICIES
8. ROLES OF DIFFERENT PUBLIC SERVICES
9. OPERATIONAL POLICIES
10. EXTENT OF PRIVATE SERVICES
11. EXTENT OF NATIONAL & INTERNATIONAL SUPPORT.

DIAGRAM 3  
SESSION 2: BKK8N  
P.H. 4/8.JAN. 1985.

ratio of 3/health centre.

Five years from now, it is projected that there will be 6,000 health centres.

Using this method, the required number of midwives would be: 18,000.

Method 3. Projected pregnant mother needs:

A. Manpower/activity ratio:

To calculate this it was necessary to develop a "patient visit unit" which was estimated based on types of pregnant mothers presenting themselves at the health centre, likely numbers in the health centre catchment area and time per patient examination, etc. That resulted in the following estimates:

Each midwife will need on the average to make 3 patient visits.

Each midwife can accept 1,000 patient visits per year.

Expected number of pregnancies is 5 million.

Staff/activity ratio is 1/1,000.

Using this method, the required number of midwives is: 15,000.

B. Manpower/facility ratio:

Another method is to assume that each community over 20,000 people would need a health centre to serve the community and surrounding area. There are 7,000 such communities.

Each health centre would require 3 midwives (see 2 above).

Using this method, the required number of midwives is: 21,000.

Note: That would allow slightly more than 4 patient visits per pregnancy per year (1.2).

Method 4. Health demand targets:

A. Manpower/activity ratio:

To estimate health demand if easy access to midwife care were available, the figures on usage from the capital city were used. They gave an estimate of the demand as 3 patient visits, as patient visits are defined in (3) above.

Staff/activity ratio as in (3) above is 1/1,000.

Using this method, the required number of midwives is: 15,000.

B. Manpower/facility ratio:

To estimate demand per facility, it was found that the demand at a good health centre is now 2,500 visits per year which includes visits which are handled by assistant nurses or referred, but which could be attended by a midwife at the health centre if sufficient numbers of midwives were available. That would indicate that the best staff/facility ratio would be 2/1.

For 7,000 health centres (see 3 above), 14,000 midwives would be required.

Note: 14,000 midwives would allow slightly under 4 patient visits per pregnancy.

Summary

Using each of the four methods for estimating demand, the following estimates result:

|                                     |                 |
|-------------------------------------|-----------------|
| 1. Population statistics:           | 15,000 midwives |
| 2. Projected facilities:            | 18,000 midwives |
| 3. Projected pregnant mother needs: |                 |
| A. Manpower/activity ratio:         | 15,000 midwives |
| B. Manpower/facility ratio:         | 21,000 midwives |

## 4. Health demand targets:

- A. Manpower/activity ratio: 15,000 midwives
- B. Manpower/facility ratio: 14,000 midwives

Estimating Manpower Demand

- 1a. You have discussed different methods which may be used for estimating manpower demand or requirements. Sometimes you may use different methods to estimate the demand for the same staff category.

On the worksheet on the next page, identify which method(s) you would use to estimate the requirement -- population, facility, health needs or health demands. In some cases, only one or two methods will apply.

For each method you have identified, write down which factor you would use as a measure against which to estimate the manpower requirement.

The first one has been done for you.

- 1b. To develop staff activity ratios means that you have to make certain assumptions. For instance, if you have assumed that a person can do a certain number of temporary female sterilisations per hour, and through a new method the number can be doubled, you will need fewer staff to do the same number of sterilisations.

Assume for the examples on the worksheet that you have actually estimated the manpower requirement using the method you thought might work best.

List the factors which might cause you to revise these estimates in the future.

It might help you to make a list for each method.

Estimating Manpower Requirements

| Input Information                                     | Projected Statistics<br>Manpower/<br>Population | Projected Facilities<br>Manpower/<br>Facility | Estimated health needs                |                                   | Estimated health demand                      |                        |
|---|---|---|---------------------------------------|-----------------------------------|--|------------------------|
|   |   |   | Manpower/<br>Activity                 | Manpower/<br>Facility             | Manpower/<br>Activity                        | Manpower/<br>Facility  |
| Doctors for rural health centers                      | population in rural areas                       | number of health ctrs.                        | # of people a doctor can treat per yr | # of health ctrs.to meet the need | number of people a doctor can treat per year | number of hlth centers |
| Family planning field-worker supervisor               |   |   |                                       |                                   |  |                        |
| Vaccinators for a new immunisation programme          |   |   |                                       |                                   |  |                        |
| Market survey specialists                             |   |   |                                       |                                   |  |                        |
| Trainers for in-service training                      |   |   |                                       |                                   |  |                        |
| Voluntary field workers for a new nutrition programme |   |   |                                       |                                   |  |                        |
| Cleaners/sweepers for the provincial office           |   |   |                                       |                                   |  |                        |
| Statistical clerks for a regional HQ                  |   |   |                                       |                                   |  |                        |
| Computer operator at headquarters                     |   |   |                                       |                                   |  |                        |

## EXERCISE 2

## SESSION 2

Estimating Manpower Requirements

For each manpower planning situation indicate the method(s) you would select to determine requirements.

| <u>Planning Situations</u>   | <u>Preferred Method(s)</u><br>Population ratio = R<br>Facility/target = T<br>Population needs = N<br>Population demand = D |
|--|--|
| 1. Past experience suggests a reasonably satisfactory balance between manpower supply and demand   |  |
| 2. A primary consideration is that the manpower projection is economically feasible  |  |
| 3. Detailed information is available about manpower productivity, morbidity and the probable effectiveness of family planning services                               |  |
| 4. The problem under consideration is of relatively high priority but of low social priority for individual people   |  |
| 5. Experience in other countries with similar development programmes has been reasonably satisfactory for the manpower category being planned                        |  |
| 6. A major objective is to provide communities with the number and "mix" of manpower that will provide them with at least an acceptable minimum level of health care |  |
| 7. As a baseline projection, it is intended to ensure that the demands of defined populations will be satisfied to at least the same degree as they are now          |  |
| 8. The primary concern is about manpower categories that provide direct services to patients   |  |

## EXERCISE 2

## SESSION 2

|   |  |
|---|--|
| 9. The primary concern is with manpower categories that support other categories and/or provide indirect services to patients (e.g. laboratory technicians) |  |
| 10. Manpower is to be provided to deal with health problems for which there are well-established technologies   |  |
| 11. A variety of services has to be provided, many of which might not be considered of high social or public concern but which satisfy individual needs     |  |
| 12. The primary objective is to maintain the present position with minor improvements, of a specific manpower category                                      |  |
| 13. Most of the services being planned are in the private sector  |  |
| 14. Public control over the ways of using manpower is limited   |  |
| 15. The government has an active manpower policy and has undertaken to extend and improve the family planning system  |  |

## EXERCISE 3

## SESSION 2

This exercise is to make an estimate of the number of staff needed of a particular type or category. You may not know all the activities such an individual does or precisely the time involved in an activity or the time such an individual actually devotes to these activities during the working day. You should make assumptions about these because the purpose of this exercise is to gain experience of the method rather than arrive at an exact result. The attached table should be used to make the estimate.

The working group should make its own selection of what type of staff to be used in this exercise.

UNIT FUNCTION/PROGRAMME / ACTIVITY CHART

EXERCISE 3.  
SESSION. 2.

| UNIT:<br>STAFF TYPE<br>AVAILABLE SERVICE TIME/YEAR (S):<br>TOTAL POPULATION: |   | PROGRAMMES (UNIT FUNCTIONS)                             |   |   |   |   |
|--|---|---|---|---|---|---|
|  |   |   |   |   |   |   |
| ACTIVITY.  |   | POPULATION AT RISK:<br>POPULATION TO BE COVERED:<br>(P) |   |   |   |   |
|  | NO. OF INCIDENTS OR EVENTS PER IND. (I)<br>NO OF SERVICE ACTIVITIES PER INCIDENT (N)<br>TIME REQUIRED / SERVICE ACTIVITY. (T)<br>TOTAL TIME REQUIRED (IN HOURS) (R) |   |   |   |   |   |
|  | H<br>N<br>T<br>R  | —   | — | — | — | — |
|  | H<br>N<br>T<br>R  | —   | — | — | — | — |
|  | H<br>N<br>T<br>R  |   |   |   |   |   |
|  | H<br>N<br>T<br>R  |   |   |   |   |   |
|  | H<br>N<br>T<br>R  |   |   |   |   |   |
|  | H<br>N<br>T<br>R  |   |   |   |   |   |
|  | H<br>N<br>T<br>R  |   |   |   |   |   |

$$\text{STAFF REQUIREMENT} = \frac{P \times I \times N \times T}{S} = \frac{R}{S}$$

$$R = P \times I \times N \times T.$$

SESSION 3

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Describing Tasks and Jobs

Many people do not know what their job is because

- no one has actually determined what is required in the job or
- no one has told the person concerned or
- the job description is so out-of-date that it bears little resemblance to what is actually required.

Job descriptions have many functions but most importantly they can be used to

1. ensure that individuals know what is expected of them and allow them to focus their energies on doing a specified set of tasks;
2. make a clear division of labour in the organisation which also clarifies supervisory relationships;
3. identify skills needed by individuals in the organisation;
4. provide the basis for designing job-centred training and career planning; and
5. provide the basis for determining manpower requirements.

The nature of jobs varies widely from those that are largely mechanical in nature (e.g. the work of a filing clerk) to those that are largely thinking in nature (e.g. the work of a manager). Analysing the tasks involved in the widely differing roles in an organisation calls for a range of different methods. These are:

1. Look and see approach (time and motion study)
2. Structure of knowledge approach
3. Critical incident
4. Process/decision flow chart
5. Consumer research
6. Functional job analysis

7. Competency job analysis
8. Task listing
9. Discrepancy model

Some details on these alternatives are attached as an annex to these notes.

Jobs are an assembly of tasks which combine together to define the activities of an individual. If the total volume of these activities exceeds the time available to one individual, then some of these tasks are assigned to other individuals or more than one individual is trained to do the same job. An example of a job and task analysis is shown for a training coordinator.

Undertaking task analysis and developing job descriptions by themselves are only the first steps in improving staff productivity and effectiveness. At later stages this work is used to provide the basis for examining how jobs can be "enriched" and staff more strongly motivated.

## JOB DESCRIPTIONS USED

1. TO ENSURE INDIVIDUALS KNOW WHAT TO DO.
2. TO DIVIDE WORK AROUND ORGANISATION AND IMPROVE SUPERVISION
3. IDENTIFY SKILLS NEEDED.
4. PROVIDE BASIS FOR ON-THE-JOB TRAINING AND RECRUITMENT
5. PROVIDE BASIS FOR DETERMINING MANPOWER REQUIREMENTS

DIAGRAM 4.  
SESSION 3 . BKKGN  
P.H. 4/8 JAN. 1985

ALTERNATIVE METHODS  
IN. JOB ANALYSIS

1. LOOK AND SEE APPROACH (TIME & MOTION STUDY.)
2. STRUCTURE OF KNOWLEDGE APPROACH.
3. CRITICAL INCIDENT
4. PROCESS/ DECISION FLOW CHART
5. CONSUMER RESEARCH.
6. FUNCTIONAL JOB ANALYSIS
7. COMPETANCY JOB ANALYSIS
8. TASK LISTING.
9. DISCREPANCY MODEL.

DIAGRAM 5  
SESSION 3. BKKB3M  
P.H. 4/8 JAN. 1985.

An Example of Task Analysis

PERSON: Training Coordinator

JOB FUNCTION  
(TASKS):

1. To make a plan for the annual training programme.
2. To coordinate training
3. To monitor and control training programme
4. Provide consultation
5. Supervise training activities
6. Evaluate training programme
7. Liaise with the higher echelon

(Activities for Task 6 are attached)

| WHAT  | WHY   | HOW   | HOW WELL   |
|---|---|---|--|
| <ol style="list-style-type: none"> <li>1. Collects the objectives of the training.</li> <li>2. Decides or develops criteria for eval.</li> <li>3. Prepare eval. tool</li> <li>4. Collects the pre-training knowledge and behaviour of the trainee.</li> <li>5. Collects process information during the training program.</li> <li>6. Collect the post training data on the criteria including stability of change.</li> <li>7. Analysis the data.</li> <li>8. Prepare feed back report for various concern groups with the recommendation.</li> </ol> | <ol style="list-style-type: none"> <li>1. To know the objectives of the training.</li> <li>2. To make evaluation more accurate.</li> <li>3. To make evaluation simpler to be done.</li> <li>4. To compare the change or achievement after training.</li> <li>5. To provide continues feed-back for better training program.</li> <li>6. To compare the change/ achievement after training.</li> <li>7. In order to make conclusions</li> <li>8. To inform various concern groups and increase the effectiveness of the training.</li> </ol> | <p><u>WITH WHOM</u></p> <ol style="list-style-type: none"> <li>1. Trainers</li> <li>2. Program Director Tor.</li> <li>3. Trainee</li> <li>4. Others in trainee's organization.</li> <li>5. Expert.</li> </ol> <p style="text-align: center;">↓</p> <p><u>IN WHAT SITUATION</u></p> <ol style="list-style-type: none"> <li>1. Class room</li> <li>2. Field</li> <li>3. Institution</li> <li>4. Actual work</li> <li>5. Special meeting</li> </ol> <p style="text-align: center;">↓</p> <p><u>TOOL EQUIPMENT</u></p> <ol style="list-style-type: none"> <li>1. Budget</li> <li>2. Form</li> <li>3. Transportation.</li> </ol> | <p><u>PROCESS</u></p> <ul style="list-style-type: none"> <li>- Comparison of data within the training goes through the time schedule.</li> <li>- Extent of participation.</li> <li>- Quality of tools used for evaluation whether it is reliable, valid and simple or not.</li> </ul> <p><u>OUTCOME</u></p> <ul style="list-style-type: none"> <li>- Improvement of the design and implementation.</li> <li>- Changing behaviour of the trainees.</li> </ul> |

## EXERCISE 1

## SESSION 3

In this exercise you are invited to prepare a sample task analysis. To do this, one member of your working group is asked to volunteer to have his job analysed and the remainder of the group will act as a job review group. The group should approach its work in 4 stages as follows:

1. Classify the job into a set of broad tasks (see example on next page).
2. Break the task down into a series of activities using the attached worksheets.
3. Estimate for the broad tasks the percentage of total available working time used for each task (the sum of the percentages should add up to 100%).
4. Specify what factors affecting these broad tasks would cause significant increases or decreases in workload.

What is a Task?

The Concept

- A description (usually written) of a unit of work that is a necessary step in the performance of a job.

What does it look like?

- One or several sentences that defines what is done.
- The key parts of the sentence are the verb and the object (e.g., the trainer writes and reproduces handouts).

What are its characteristics?

- The unit of work has no standard dimensions.
- Therefore, they lack standard titles.
- Each task should be of the same order as other tasks in the job.
- Each task should be time rateable, that is, average completion time for the task could be estimated.
- The words used to define the task should mean the same thing to all persons performing the job.

Checklist: Task Analysis

1. \_\_\_\_\_ Task Statement contains an action verb(s) plus object.  
(What)
2. \_\_\_\_\_ Task Statement contains a result phrase ("...in order to...").  
(Why)
3. \_\_\_\_\_ Task Statement contains a specification of tools, job aids,  
and equipment. (How)
4. \_\_\_\_\_ Task Statement is rated in terms of orientation and level  
on Worker Function Scale:  
  
Data  
People  
Things
5. \_\_\_\_\_ Task Statement contains a standard of acceptable performance.



Job Analysis: The Basics

A definition of Job Analysis: Systematically writing down information about a job. Usually this means, at minimum, defining the major tasks of a job.

Questions about Job Analysis

I. What are the possible purposes?

1. Define official job descriptions and/or other selection criteria.
2. To be the basis for designing job-centered training.
3. To make a clear division of labour in the organization. This will also clarify the supervisory relationships.

II. What types of information could be collected?

- |  |   |
|--|---|
| 1. Description of the job's tasks.   | 8. Definition of formal or informal job qualifications. |
| 2. Description of jobs performance standards.  | 9. Type of learning required to perform each task/duty. |
| 3. Description of job conditions for each task.  | 10. Type of performance required to complete each task. |
| 4. Definition of why each task is part of the job.   | 11. Sequence of tasks or duties/sub-tasks.              |
| 5. Performance appraisal.  | 12. Learning difficulty.                                |
| 6. Definition of possible ways of achieving minimum proficiency abilities.                             | 13. What signals people to take various job actions.    |
| 7. Requirements for organizational change/improvement to change job conditions to improve performance. | 14. Critical factors of performance.                    |
|  | 15. Public/client opinion of job functions.             |

III. Who could possibly be involved in the activity?

1. The people already doing the job.
2. The immediate supervisors.
3. The immediate subordinates.
4. One or several job analyst(s).
5. Planners mid and/or top management.

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B. Use for Job Types/Job Analysis Needs

1. Could be applied to most any job, but more difficult to apply to more complex jobs like basic researchers, artists, managers. In these cases measures are difficult (but not impossible) to establish; therefore, discrepancy difficult to determine.
2. Systematic way to define what are training needs and what are not.
3. As it is, the method is designed to analyse people on-the-job, that is, not pre-service people (there couldn't be a performance discrepancy if staff aren't working yet).

IV. What are the basic steps in doing a job analysis?

1. Discuss and clear with top management.
2. Conduct group conference with people (from III.) that know most about the job.
3. Conduct "field" validation by interviewing, or giving questionnaires and/or observation. Should be done with those doing the job minimum, supervisors and subordinates are optional.
4. Revise.
5. Clear with top management and decide on other jobs to be analyzed.
6. Implement or use results according to purpose(s) in I.

V. What are the possible Job Analysis methods?

1. Look and See Approach (Time and Motion Study)
2. Structure of Knowledge Approach
3. Critical Incident
4. Process/Decision Flowchart
5. Consumer Research
6. Functional Job Analysis
7. Competency Job Analysis
8. Task Listing
9. Discrepancy Model

VI. What are the decision factors in choosing a job analysis method?

1. The purpose (objective) of the Job Analysis. As part of this, what specific types of information is needed.
2. Has any job analysis ever been done before?
3. Basic type of job.
4. The characteristics of types of job.
5. Do you need to analyze only part of the job?

6. What other analysis has been done already (e.g., performance analysis, organizational analysis)?

VII. What are the possible data collection techniques?

1. Interview
2. Questionnaire
3. Observation
4. Group conference

VIII. Problems with doing Job Analysis.

1. It is a relatively new activity ( $\pm$  30 years) so most people in the world are not used to doing this.
2. This activity makes people's jobs explicit to everyone in the organization. This can be threatening to many managers (unconfident) who think they need managerial "freedom".
3. This usually cannot be done for only one job in an organization and achieve its full intended purpose.
4. There is usually confusion over what people do and what gets done. The analysis has to focus on what people do.
5. The activity requires a lot of hard thinking, analysis, and revision which most people don't like to do. It may be interesting to some, but it's usually not exciting.
6. The cost/benefit of this activity is unclear to managers.
7. There are a variety of methods for doing job analysis and there is no "standard" method.
8. It takes time to complete, therefore, because also of the nature of the work, the enthusiasm to finish it can die easily. The range of time for one job is roughly 1 week to one year, with 1-2 months being average.
9. Complex jobs (e.g., top management) are very difficult, but not impossible to analyze.

IX. How could a manager decide whether to do job analysis or not?

1. Does the manager really understand enough about job analysis and related organizational activities to make an informed decision?
2. Is the manager prepared to accept the results of the analysis? The analysis may document some managerial shortcomings.
3. Is there money and staff time/capability available to do the analysis?
4. Can the information really be acted on? If the purpose was to design training, does the organization allow training and/or have adequate resources for the required training?
5. After considering "3" and "4" above, is this activity cost effective? This is definitely an activity that could be easily costed, but return on investment could only be roughly estimated. Job Analysis may not be worth it unless there are major problems in staff training (especially complaints from staff that training is irrelevant for their jobs), major confusion in the organization about who is to do what, and/or an official requirement of revised job descriptions.

Characteristics of  
Major Tasks of a Job or the Job in General

1. Is the task or job observable? Almost any task of any job is observable to some degree. The issue here is degree. Is the task one which you could tell what was being done and how it was being done purely by watching someone do it?
2. Frequency of doing the task. Number of times done as against some unit of time; minute, hour, day, week, month, year.
3. Importance of task in relation to whole job, or importance of the job in relation to the functioning of the whole organisation.
4. The type of performance required by the task (or job). Is it a task/job that mainly deals with data or information (doing work with your head), or deals with things (doing work with your hands), or deals with people, or a combination of all three.  
[data (head); people (heart); things (hand)]  
Types of performance are also classified by some job analysts like the following:  
  - Discrimination - Knowing when to do it, knowing when it is done.
  - Problem-Solving- How to decide what to do.
  - Recall - Knowing what to do, knowing why to do it.
  - Manipulation - How to do it.
  - Speech - How to say it.
5. Difficulty of performance. In most jobs there is a difference in difficulty among the various tasks. Definitely there are wide ranging difficulty differences among jobs. This means that the required knowledge/skill for more difficult tasks (or jobs) usually has to be carefully broken down so that people can learn to perform these difficult tasks. Most (but not all) difficult tasks are combinations of many simpler tasks, or an analyst can define a spectrum of easy to difficult components or sub-tasks for a major task.

6. Sequence of performance of tasks in a job. Is the sequence of tasks always the same for a job? (Therefore, important that the sequence always be the same.) Are the tasks occasionally done in sequence and other times randomly? Always randomly? Some tasks always in sequence, others always randomly? (This also relates to number 2 above, frequency.)

Aid for Deciding  
What Job Analysis Method to Use

**LOOK-AND-SEE APPROACH**

Requirements for Use:

The job must have:

1. Mostly physical, observable actions.
2. Frequently repeated actions.
3. Best if repeated actions in clear, fixed sequence.

This method requires:

1. Low to medium experienced job analyst.
2. Someone that can do the job according to the job standards and can be observed doing it.
3. Little time (relative to other methods).
4. Analyzing the whole job.
5. No special funding (other than staff time) or equipment.
6. Observation with some interviewing techniques.

Possible purposes for this method:

1. Design training.

Type of job

Best:

- High-level Technical
- Mid-level/Low-level Technical
- Unskilled Labour

Possible:

- Human Relations/Technical

#### Type of Information

- Description of the job's tasks
- Description of job conditions for each task
- Type of performance required to complete each task
- Sequence of tasks or duties/sub-tasks
- What signals people to take various job actions

## II. STRUCTURE OF KNOWLEDGE

### Requirements for Use:

The job must have:

1. Various levels of knowledge and skills.
2. Clearly definable links between simpler knowledge or skill and more complex ones.
3. An emphasis on data related work.

This method requires:

1. Very experienced job analyst (preferably with this method).
2. Several people that do the job and supervisor(s); usually they do not have to be observed doing the job.
3. A lot of time (relative to other methods).
4. Usually analyzing the whole job.
5. No special funding or equipment.
6. Interview, questionnaire, and/or group conference, possible techniques.

Possible purposes for this method:

1. Design training.

Type of job

Best:

- Academic/Theoretical
- Large body of theory or knowledge complex application, computer repair researchers.

## Possible:

- Decision Making
- Complex human relations
- Creative
- Human relations/technical
- High-level Technical
- Mid-level/Low-level Technical
- Unskilled labour

## Type of information

- Description of the job's tasks
- Description of jobs performance standards
- Type of learning required to perform each task/duty

## III. CRITICAL INCIDENT

Requirements for Use:

The job must have:

1. A focus on problem solving/judgement elements.
2. Repetative similar judgements.
3. Significant pay-off for correct judgements.
4. No clear-cut sequence of decisions or finite alternatives.

This method requires:

1. Medium to very experienced job analyst.
2. Several people that are the top performers on this job; supervisors may/may not be involved; lots of discussions about the job.
3. Medium amount of time.
4. Usually does not analyze whole job only the most important (critical) tasks.
5. No special funding, but tape recorder possibly useful.
6. Interview technique.

Possible purposes for this method:

1. Design training.

Type of job

Basic:

- Decision Making
- Complex human relations
- Human relations/technical
- High-level Technical

Possible:

- Large body of Theory or knowledge complex application
- Creative
- Academic/theoretical
- Mid-level/Low-level Technical
- Unskilled Labour

Type of information

- Description of the job's tasks (de-facto)
- Description of job conditions for each task (to some degree)
- Critical factors of performance

#### IV. PROCESS/DECISION FLOW CHART

Requirements for Use:

The job must have:

1. Focuses on analysis/diagnosis element of jobs.
2. Repetative similar diagnosis performed.
3. A clear-cut decisions, sequence to decisions, and alternatives to decisions.

This method requires:

1. Low to medium experienced job analyst.
2. Several top performers, supervisors not required.

3. Medium amount of time.
4. Done only for diagnostic/decision making tasks; not done for whole job.
5. No special funding; tape recorder almost essential, computer may be useful, but not essential.
6. Interview technique during observation of actual performance.

Possible purposes for this method:

1. Design training.

Type of job

Best:

- Decision making
- Complex human relations
- Human relations/technical
- High-level Technical
- Mid-level/Low-level Technical
- Unskilled Labour

Possible:

- Large body of theory or knowledge complex application

Type of information

- Description of the job's tasks.
- Description of job conditions for each task (to some extent).
- Definition of why each task is part of the job (de-facto)
- Type of performance required to complete each task.
- Sequence of tasks or duties/sub-tasks.
- What signals people to take various job actions.
- Critical factors of performance (possible).

## CONSUMER RESEARCH

### Requirements for Use:

The job must have:

1. Success depending on serving clients/public's needs.
2. Organization needs to be very open to change the job and organizational objectives based on results.

This method requires:

1. Medium experienced job analyst and market research specialist.
2. Some people doing job possible, but more important are managers and supervisors.
3. A lot of time.
4. Analyzes whole job except possibly administrative tasks related to the organizations operations.
5. Probably requires special funding and may require computer analysis.
6. Interviewing or questionnaire technique.

Possible purposes for this method:

1. Design training.
2. Organizational division of labour.

Type of job

Best:

- Complex human relations
- High-level Technical

Type of information

- Description of the job's tasks (indirectly).
- Description of job conditions for each task (possibly).
- Definition of why each task is part of the job.
- Requirements for organizational change/improvement to change job conditions to improve performance.
- Critical factors of performance (possible).
- Public/client opinion of job functions.

## VI. FUNCTIONAL JOB ANALYSIS

### Requirements for Use:

The job must have:

1. Not been analyzed before.
2. Disagreement in the organization about the job, this is the best approach, as it outlines the basics. Other approaches may get people to focus too much on detail.

This method requires:

1. Low to medium experienced job analyst.
2. Sample of people doing the job and/or supervisors.
3. Medium amount of time.
4. Analyzes whole job.
5. No special funding or equipment.
6. Interviewing, questionnaire, group conference, and/or observation techniques all possible.

Possible purposes for this method:

1. Official job descriptions.
2. Design training.
3. Organizational division of labour.

Type of job

Best:

- Can be used for any type, especially good beginning effort.

Type of information

- Description of the job's tasks.
- Description of jobs performance standards.
- Description of job conditions for each task.
- Definition of why each task is part of the job.
- Requirements for organizational change/improvement to change job conditions to improve performance (indirectly comes out when defining job conditions).

## VII. COMPETENCY JOB ANALYSIS

Requirements for Use:

The job must have:

1. A need for an "official" job analysis for such things as civil service classification.

This method requires:

1. Low to medium experienced job analyst.
2. A sample of some of the staff doing the job and/or supervisors.
3. Medium amount of time.
4. Analyzing the whole job.
5. No special funding or equipment.
6. Observation, interview, questionnaire, and/or group conference all possible techniques.

Possible purposes for this method:

1. Official job description.
2. Design training.

Type of job

Best:

- Can be used for any type.

Type of information

- Description of the job's tasks.
- Description of job performance standards.
- Definition of possible ways of achieving minimum proficiency abilities.
- Definition of formal or informal job qualifications.
- Sequence of tasks or duties/sub-tasks (possible)
- Learning difficulty.

### VIII. TASK LISTING

#### Requirements for Use:

The job must have:

1. Most tasks are on the same relative order of importance.
2. A lot of physical action.
3. Highly repetitive tasks where task sequence is very important.

This method requires:

1. Low experienced job analyst.
2. Several good performers and possibly supervisors.
3. Medium amount of time.
4. Analyzing the whole job.
5. No special funding or equipment.
6. Observation and/or interview possible techniques.

Possible purposes for this method:

1. Design training.

Type of job

Best:

- Mid-level/Low-level Technical
- Unskilled Labour

Possible:

- Human relations/technical
- High-level Technical

Type of information

- Description of the job's tasks.
- Type of performance required to complete each task.
- Sequence of tasks or duties/sub-tasks.
- Learning difficulty.

## IX. DISCREPANCY MODEL

Requirements for Use:

The job must have:

1. The organization wants to combine the job analysis and performance analysis.
2. A few people doing the same job (small organization).

This method requires:

1. Medium experienced job analyst.
2. All staff performing job or representative sample and supervisors.
3. Medium to long time.
4. Analyzing whole job.
5. No special funding or equipment.
6. Interview, group conference, or observation all possible techniques.

Possible purposes for this method:

1. Official job description.
2. Design training.
3. Organizational division of labour.

Type of job

Best:

- Human relations/technical
- High-level Technical
- Mid-level/Low-level Technical
- Unskilled Labour

Possible:

- Decision Making
- Complex human relations
- Academic/theoretical
- Large body of theory or knowledge complex application
- Creative

## Type of information

- Description of the job's tasks.
- Description of jobs performance standards.
- Description of job conditions for each task.
- Performance appraisal.
- Requirements for organizational change/improvement to change job conditions to improve performance.
- Sequence of tasks or duties/sub-tasks (possible).

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## SESSION 4

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Measuring Utilisation

The previous session was concerned with how to analyse tasks and construct job descriptions. In other words, it laid out what people should be doing. If things were perfect, this would match up exactly with what they are doing. This is very frequently not the case and the job description becomes meaningless. This is because people are not doing the tasks planned for them which means they either do not get done or someone else has to do them, often in an environment of crisis.

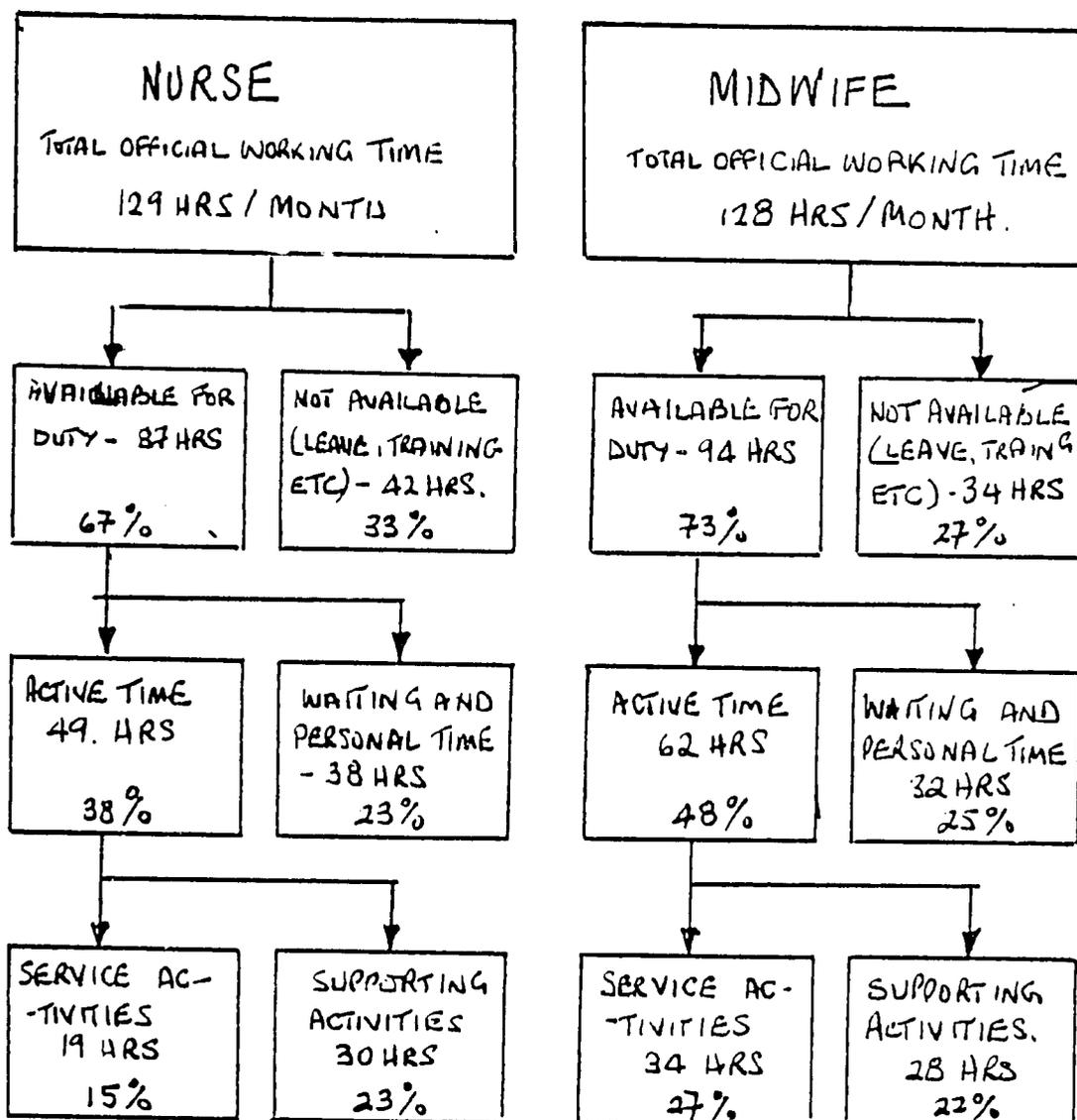
The two major problems are:

1. The amount of time spent by staff in non-productive work or in work not directly related to their job description is often very different from that anticipated.
2. The time required to perform the tasks assigned to staff is often very different to that expected.

An example of this, taken from a study of nurses and midwives done ten years ago in Indonesia, is shown in Diagram 1. For many people, the surprising thing was how little time was spent actually doing the principal function of the nurse/midwife -- that of delivering care to patients. That this is still the case will be discussed in the second paper of this session which reports on a detailed study undertaken by P4K of some Puskesmas.

Studies such as these are very important for two reasons as follows:

1. They allow manpower planners to make realistic estimates of the number of staff needed to perform a set of tasks.
2. They provide the basis for examining how staff time can be utilised better, by minimising lost or wasted time and by



USE OF WORKING TIME.

DIAGRAM 1  
SESSION 4 - BKKBW  
P. 4/8 JAN. 1985.

reassigning tasks between staff to ensure a better match between actual staff skills and the skills required in the tasks to be performed.

There are a variety of methods of undertaking staff utilisation measurements. At one extreme, there is the detailed time and motion study using trained staff. Somewhere in between there is a self-administered time utilisation survey and at the other extreme a consensus method in which staff doing similar jobs are brought together to reach a consensus on the way they use their time. Each method has advantages and disadvantages but it is likely that the significance to the organisation of the jobs or the people involved will determine how much effort (time + money) will be applied to determining staff utilisation.

It also needs to be noted that changing utilisation can not necessarily be done simply by writing a new set of work instructions. The way staff work is influenced by many factors:

- the availability of other necessary resources
- the quality of supervision
- the extent of staff motivation and satisfaction with work
- organisational culture in regard to standards of work performance.

Changing utilisation can often therefore be a slow-moving process as the relevant influencing factors are steadily changed to permit improved staff utilisation.

## EXERCISE 1

## SESSION 4

This exercise looks something like previous exercises in Sessions 2 and 3 except that in this exercise we want to explore how staff productivity and utilisation can be improved. The working group should do the following:

1. Select one particular type of staff of which they have some knowledge, either from the centre or the province.
2. Identify functions/activities he or she will have to perform.
3. Draw a picture to show who he or she interacts with during the course of his or her work.
4. Estimate how much time is actually used in the functions identified in (2) above and identify what is done with the rest of the time.
5. Make suggestions as to what you could do to use that person's time better.
6. Assume that these suggestions are actually implemented and identify who and in what way other people with whom this person interacts will be affected.
7. Identify what new problems may be created by making the changes in(5) above.

## EXERCISE 2

## SESSION 4

During this session you have had a presentation of a utilisation study. Assume you wish to study the utilisation of a family planning coordinator at a kabupaten and you have to plan a utilisation study. To do so, you will have to design a questionnaire, train staff to administer the questionnaire, decide how many people to administer it to, administer it, process and analyse the results, and publish the results.

1. Decide how many staff this should be administered to and how you would select them if less than 100%.
2. Draw up a schedule to show realistically how long it would take to do this.
3. Decide how many people and what kind of people would be needed in each phase.
4. Determine how much it would cost.

## EXERCISE 3

## SESSION 4

This exercise is concerned with determining the number of village family planning supervisors required who are to be based at the kabupaten office and also to determine how many other staff would be required to provide support to them.

Some general characteristics of these supervisors are as follows:

Non-service activities

- |  |           |
|--|-----------|
| 1. Leave                                       | - 18 days |
| 2. Public holidays                             | - 12 days |
| 3. Sickness/absenteeism<br>(from past records) | - 12 days |
| 4. In-service training<br>(on average)         | - 15 days |

All staff have a working week of six days x seven hours with half an hour allowed for lunch.

Supporting activities

- |   |                |
|---|----------------|
| 1. Administration and reporting                       | - 6 hours/week |
| 2. Preparing and assisting in other<br>staff training | - 12 days/year |
| 3. Travel time to and from villages<br>(on average)   | - 1 hour/visit |

Direct service

- |   |                         |
|---|-------------------------|
| Supervising and advising staff<br>and clients in villages | - 2 hours/village visit |
|---|-------------------------|

There are 3,000 village visits to be made each year and the supervisors are driven in vehicles to these villages and there must file a report on the village activities, including new acceptors for each visit.

1. How many supervisors will be required in this kabupaten?
2. What other supporting staff will be needed in the kabupaten to support these staff?

3. Using your own estimates of support activities, estimate how many of these staff will be required.
4. What could you do to reduce the number of supervisors required?

## SESSION 5

## BKICBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Projecting Manpower Supply

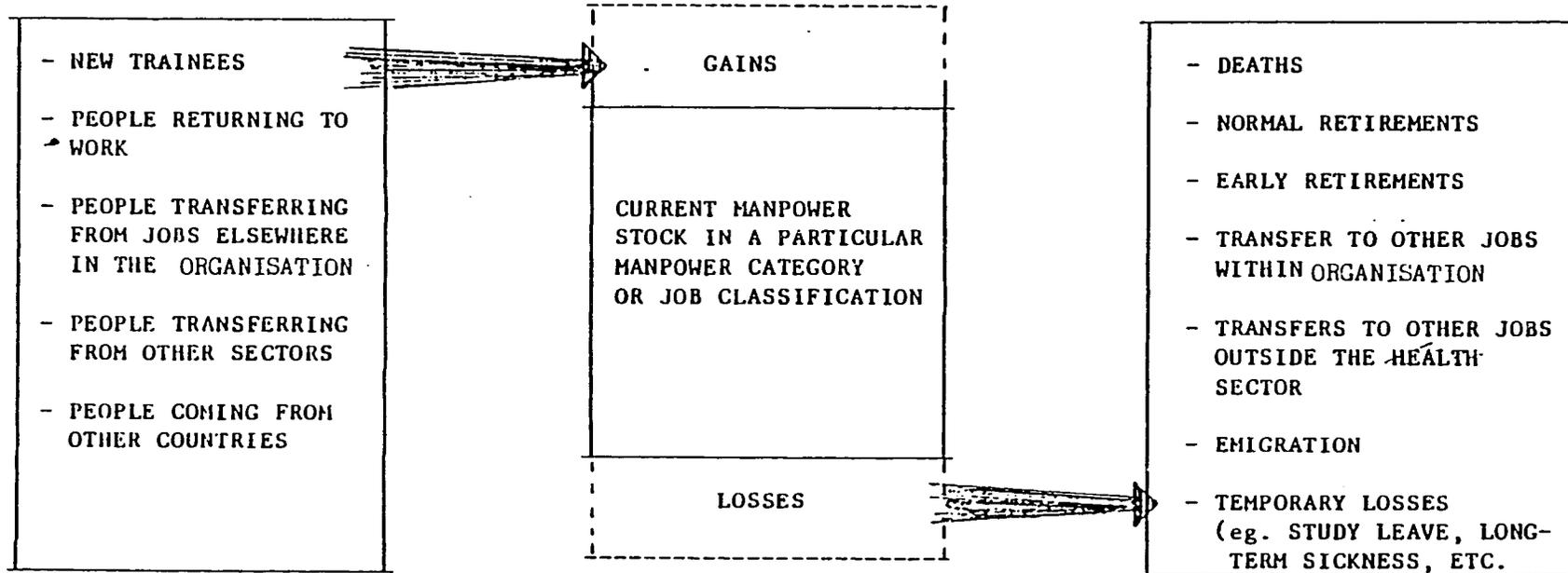
Future supply of manpower is simply the sum of existing staff plus expected new joiners minus expected leavers. This is shown in Diagram 1. The problem for manpower planners is how to estimate future leavers and joiners. For leavers, two methods are used (census and cohort, see Diagram 2). For joiners, the problem is often more complex because the factors influencing people to present themselves for employment are more complex, less under the control of the organisation and less clearly understood by the organisation.

Nevertheless, for successful projections of future supply, it is essential that planners can use historical data to project what the future supply will look like. To do this requires that the planners know what factors have led to the patterns of joining and leaving in the past and what effect changes in these factors will have on future patterns.

The rates at which staff flow into and out of the supply pool are affected by the following four main groups of factors:

1. Professional/technical characteristics of staff and their training, e.g. general educational qualifications, professional qualifications, prior experience. Entrance to some professions often demands specific prior experience or qualifications.
2. Personal characteristics of staff, e.g. sex, age, full- or part-time, length of service, marital status. Many studies have shown that leaving rates depend very much on the first three characteristics and to some extent on the other two.
3. Job characteristics, e.g. functions, tasks, pressure of work, location, salary, professional status, promotion opportunities. These characteristics determine how attractive a post is to incumbents

MANPOWER SUPPLY MODEL



## MEASURING LEAVING RATES

1. Census Method

$$\text{Annual leaving rate \%} = \frac{\text{number of leavers in a year} \times 100}{\text{average number in post during the year}}$$

$$\text{or} = \frac{\text{number of leavers in a year} \times 100}{\text{number in post at end of year plus leavers during year}}$$

2. Cohort Method

The number of staff in a category remaining from a group who joined at about the same time is given as a percentage of the size of the original group.

Thus after one year 70% of the original group may remain in service, after two years 50%, and so on.

and prospective recruits.

4. Social, economic and political factors affecting the country or region, eg. the annual real growth in per capita income, economic prospects, unemployment rates and trends, indications of political and social stability or instability. These and many more similar factors affect the labour market.

These four groups of factors (see Diagram 3) can be classified according to whether they are:

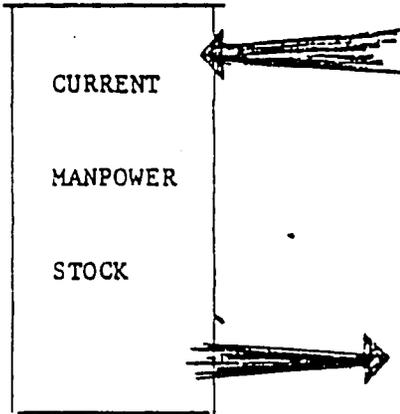
- a) Wholly or mainly outside the control of decision makers in the organisation. For example, economic factors are only marginally affected by BKKBN decisions alone as are general education levels. These are examples of uncontrollable factors.
- b) Wholly or mainly under the control of decision makers in the organisation. For example, most characteristics of organisational posts can be changed (within limits set by Civil Service boards, professional bodies or staff associations) and some personal characteristics of staff (proportion of women or young staff, etc.) can be changed by selection procedures. These are controllable factors.

Factors under (a) above require forecasts to estimate the likely extent of their effects, while factors under (b) require policy decisions taken within the organisation to achieve planned supply or staffing targets in the light of the forecast uncontrollable factors.

To assess whether the future levels of manpower will be adequate to achieve future objectives, some projections (estimates) of the future supply of manpower are essential. Several types of projections are used.

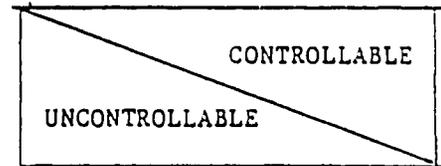
The baseline projection is an estimate of the likely supply of manpower at some future time, assuming no changes are made in the manpower system. A baseline projection is usually the first comparison with a projection of likely manpower needs and indicates whether manpower production and

FACTORS AFFECTING SUPPLY FLOWS



RATES AT WHICH  
 STAFF FLOW IN  
 & OUT OF THE  
 SUPPLY POOL ARE  
 AFFECTED BY:

1. PROFESSIONAL/TECHNICAL CHARACTERISTICS
2. PERSONAL CHARACTERISTICS
3. JOB CHARACTERISTICS
4. SOCIAL, ECONOMIC AND POLITICAL FACTORS



supply policies will need to be modified.

Alternative projections estimate the likely supply of manpower on the basis of making certain changes in present policies and other factors that could affect manpower gains and losses. These alternative projections are used to test the impact of various changes in policies on the future supply of manpower and on the feasibility of bringing supply and demand projections into balance.

Supply projections are usually made for one year or more, the length of time depending on factors such as the length of the planning period, how long it takes policy changes to have a noticeable effect on supply, the degree of precision sought and the period for which one must estimate needs. When major changes in the rate of training are planned, supply projections may have to be extended well beyond the target year to avoid a subsequent surplus or deficit.

## BASELINE SUPPLY PROJECTION: AN EXAMPLE

|                            | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> |
|----------------------------|---------------|---------------|---------------|
| Supply at Start of Year    | 50            | 57            | 63            |
| <hr/>                      |               |               |               |
| <u>Projected Losses</u>    |               |               |               |
| - Retirements              | -1            | -2            | -2            |
| - Resignations (15%)       | -8            | -9            | -9            |
| <hr/>                      |               |               |               |
| Total Losses               | -9            | -11           | -11           |
| <hr/>                      |               |               |               |
| <u>Projected Gains</u>     |               |               |               |
| + Graduates                | +15           | +15           | +15           |
| + People returning to work | + 1           | + 1           | + 1           |
| <hr/>                      |               |               |               |
| Total Gains                | +16           | +17           | +17           |
| <hr/>                      |               |               |               |
| Supply at end of year      | 57            | 63            | 69            |
| <hr/>                      |               |               |               |

## PROJECTING MANPOWER SUPPLY

In support of the principles of "health for all" the government has agreed to construct 50 low-cost village health worker training centres across the country over the next 5 years. It is now January 1984 and construction is planned to start in January 1985 with all 50 centres in operation by the end of December 1989.

It has been established by the nursing division of the Ministry of Health that each centre will need to be staffed by a minimum of 4 medical assistants who will provide initial training in the centres, will supervise and support newly-trained VHWs in the field during their first 3 months back in their villages, and will provide regular refresher courses.

There has been little increase in the numbers of medical assistants employed by the Ministry of Health over the last few years and the nursing division have pointed out that to provide the additional staff required for the new VHW centres medical-assistant training capacity in the country will have to be increased. Their recommendation to the minister is to extend the existing medical-assistant school so that from 1985 an additional 50 students per year could be accepted. As medical-assistant training lasts one year, the first batch of additional medical assistants should be ready for service in June 1986 and by December 1989, the 200 additional staff needed for the VHW centres should all be available.

The minister has asked you, the manpower planning unit, to investigate the situation with the director of the medical assistant training school to ensure that the proposed increase in training capacity is both sufficient and feasible. Your investigation so far has revealed a number of facts which are given in the attached table.

Using this information, draw up a medical-assistant supply projection for the country and, from the results you obtain outline the report you would make to your minister.

MEDICAL ASSISTANT SUPPLY DATA

1. Number currently employed (January 1984) is 550.
2. There is one medical-assistant training school in the country which has a current intake of 65 students each year. On average, 9 students drop out from each intake during the course (i.e., 14%).
3. Deaths and normal retirements from the medical assistant cadre have been running at an average of 18 p.a. However, due to the age structure of the work force you have estimated that the number of retirements will increase by 2 each year from 1986 so that by 1988 a total of 24 medical assistants will be leaving employment for reasons of death or retirement. You expect this higher figure to remain constant for a number of years from 1988.
4. An average of 6 immigrants, who have been trained outside the country, have been appointed by the Ministry of Health as medical assistants. However, new licensing rules to be implemented this year will mean that this source of recruits will cease from January 1985.
5. The national armed forces in the country also employ medical assistants. Preferring to recruit those who have already had working experience, and offering better rates of pay than the Ministry of Health, the armed forces are currently attracting an average of 14 medical assistants each year away from the M.O.H. This position is not likely to change in the foreseeable future.
6. The Ministry of Health has been able to attract back to work an average of 5 qualified medical assistants per year who were previously trained in the country but left employment for family reasons. Again, this number is expected to remain constant in the future.
7. Loss rates, other than for reasons of death, retirement or transfer to the armed forces, have been running at an average of 6% p.a.

## EXERCISE 2

## SESSION 5

For the purpose of this exercise only, the following assumptions are made:

1. BKKBN has one field worker covering 3 villages.
  2. BKKBN wishes to change this ratio to one field worker covering 2 villages.
  3. There are 30,000 villages.
  4. This increase in field worker staff is to be accomplished over five years with increases of
    - 500 in year 1,
    - 1,000 in year 2,
    - 1,000 in year 3,
    - 1,000 in year 4, and
    - 1,500 in year 5.
  5. Field worker supervisors will be drawn from the ranks of field workers. Currently there are 1,000 supervisors (one to every 10 field workers).
  6. Assuming this ratio will be maintained, additional field workers will need to be promoted to provide the necessary supervision.
  7. Assume also that during any year 2% of the supervisors present at the beginning of the year will leave and 3% will retire.
  8. Assume also that every 4% of new field worker recruits will leave after one year of service, but after that no more will leave.
  9. Assume 2% of the field workers in post at the beginning of the five-year period leave each year.
- 
1. How many new field worker recruits are needed during the five years?
  2. If this target cannot be met, what other actions could you take to close the gap between requirements and supply?

## EXERCISE 3

## SESSION 5

This exercise is concerned with the factors which influence staff to join BKKBN and to stay with the organisation. For the purpose of this exercise only, we will assume we are considering what to do about a particular group of staff who are University graduates in statistics.

There is a good deal of demand for staff of this type, both in other government departments and in the private sector.

For the purpose of this exercise, we will assume the following:

- a. Currently there are 10 statisticians in the organisation:
- |                               |                               |
|-------------------------------|-------------------------------|
| 1 Chief Statistician          |                               |
| 2 Senior Statisticians        | at the centre                 |
| 2 Junior Statisticians        |                               |
| 3 Senior Statisticians        | in the 3 large Java provinces |
| <u>2</u> Junior Statisticians | in other Java provinces       |
| 10 Total                      |                               |
- b. All other provinces are served by non-graduate statistical assistants.
- c. It is expected that the Chief Statistician + Senior Statistician at the centre and one Senior Statistician from the provinces will retire in the next ten years.
- d. It is also expected at the end of ten years that there will be a big increase in statistician posts as follows:

At the centre - 2 Chief Statisticians  
                   3 Senior Statisticians  
                   4 Junior Statisticians

In the provinces -

2 Chief Statisticians at the 2 largest  
                   provinces in Java  
                   5 Senior Statisticians at other large  
                   provinces in Java and Bali  
                   20 Junior Statisticians covering the other  
                          provinces  
                   36 Total

So in ten years' time, the total number of posts increases from 10 to 36.

1. Given what you know about the employment situation in Indonesia, what factors would influence statisticians to join BKKBN?
2. What factors would cause them to stay or leave?
3. What actions on employment, working conditions and careers could you realistically introduce to attract these staff into the organisation and hold them (i.e. how could you strengthen the factors that cause staff to come and stay in BKKBN and weaken factors that stop them coming and make them leave)?

SESSION 6

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Relating Training to Jobs and Careers

A career is:

THE MOVEMENT OF INDIVIDUALS DURING THEIR WORKING LIVES FROM ONE JOB TO ANOTHER JOB WHICH HAS DIFFERENT (USUALLY HIGHER) LEVELS OF AUTHORITY, INCOME AND/OR SKILL (see Diagram 1).

The purpose of a career is seen differently by an individual and by the organisation. From the individual's point of view, it is a furthering of his/her own interests; for the organisation it is the planned preparation and placing of individuals to ensure the continued effectiveness of the organisation now and in the future.

The problem for the organisation is a complex one because previous studies have shown that after a certain time in a job, individual performance begins to fall off (see Diagram 2, S-Shaped Learning Curve). In these circumstances, there are three alternatives open to the organisation:

1. accept the loss in productivity and performance;
2. move people to new jobs, not necessarily on promotion, within a reasonable time to ensure maintained interest and productivity; or
3. attempt to control the intake into the organisation more systematically so that the opportunity for movement through the organisation more nearly matches the desire and capability for personal development in the staff.

Generally a mixture of all three circumstances exists and the proportion of each circumstance existing depends on how much effort has gone into career planning.

The issue of careers is crucial to the effectiveness of an organisation because it is concerned with:

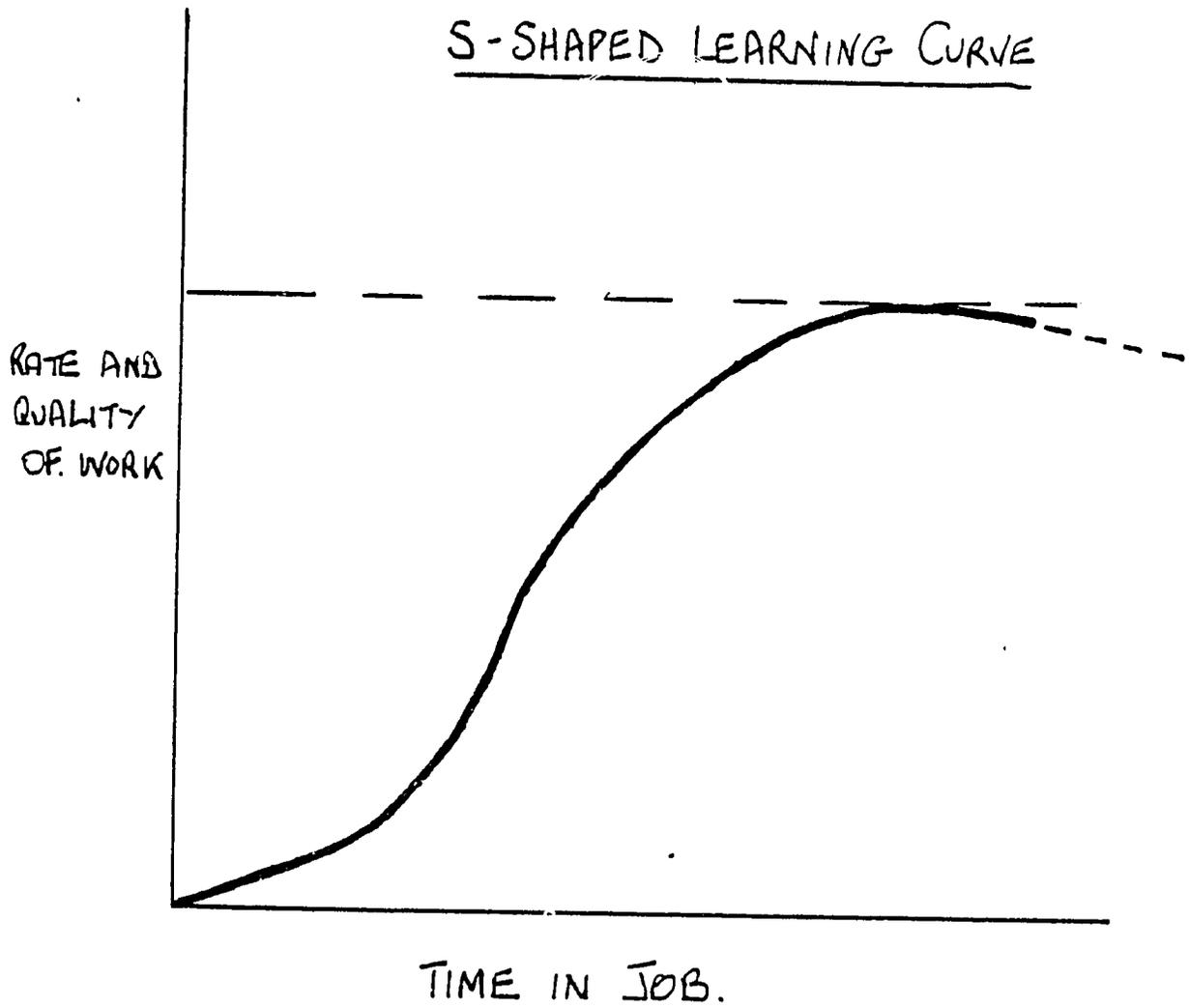
## A CAREER IS :

THE MOVEMENT OF INDIVIDUALS DURING  
THEIR WORKING LIVES FROM ONE JOB  
TO ANOTHER JOB WHICH HAS DIFFERENT  
(USUALLY HIGHER) LEVELS OF SKILL,  
AUTHORITY AND INCOME.

SESSION 6

DIAGRAM 1.

P.#. 4/8 JAN 1985.



SESSION 6. DIAGRAM 2  
B.K.K.B.N/P.H. 4/95 SAN 1985

- (a) matching skills to jobs and
- (b) maintaining staff motivation.

Where problems exist, they can be generally characterised as of one of four types (see Diagram 3), the causes of which can be of many different kinds (see Diagram 4). The problem for the planner is to identify in the first place what problem is occurring and in the second what is causing the problem. Which approach is taken to identify the problem and its cause depends very much on the amount and detail of information available to the planner. The different methods or approaches are as follows:

1. Grade Ratio. The easiest method to apply. It consists of calculating the ratio between the number of posts (or staff) at each level and the total number of posts (or staff) in all higher levels of the career ladder.
2. Total Age Distribution. This consists of presenting (usually in diagrammatic form) the number of staff on a career ladder within certain age bands (generally 1-year, 5-year or 10-year, depending on the detail required).
3. Age Distribution by Grade. This is a simple extension of the total age distribution method in which a separate age distribution is produced for each grade or level of staff in a career ladder.
4. Normalised Age Distribution by Grade. This is derived directly from the age distribution by grade and shows the percentage of staff in each age band who are in a particular grade or who have moved to the next grade, etc.

These analyses provide us with overall pictures about the way people are moving through an organisation but we need to go further and look at how the skills of one grade are linked to another. Ideally, the links between one grade and another should be as shown in Diagram 5 so that as individuals reach close to the maximum level of attainment in one grade, they possess the necessary minimum skills to take up an

TYPES OF CAREER MANAGEMENT PROBLEM AND THEIR SYMPTOMS

|                                     | TOO HIGH   | TOO LOW   |
|-------------------------------------|--|---|
| NUMBER OF CANDIDATES FOR PROMOTION  | TOO MANY CANDIDATES FOR PROMOTION. USUALLY THE BEST STAFF PROMOTED BUT PROMOTION TOO SLOW AND PROSPECTS POOR, LEADING TO COMPLAINTS, LOSS OF MORALE AND INCREASED ATTRITION. | NOT ENOUGH CANDIDATES FOR VACANCIES. PROMOTION FAST AND PROSPECTS GOOD, BUT POSTS LEFT VACANT FOR A LONG TIME, LOSS OF ORGANISATIONAL EFFICIENCY. |
| QUALITY OF CANDIDATES FOR PROMOTION | STAFF OVER-QUALIFIED FOR THE JOBS THEY DO, LEADING TO BOREDOM, LOSS OF MORALE, INCREASED ATTRITION.  | STAFF OVER-PROMOTED, UNABLE TO DO THEIR JOBS WELL, LEADING TO LOSS OF ORGANISATIONAL EFFICIENCY.  |

Diagram 3  
 Session 6  
 BKKBN/PH  
 4-8 Jan. 85

## CAUSES OF MANPOWER PROBLEMS.

### NUMBER OF CANDIDATES

#### Too High

- CONTRACTION OF ACTIVITY
- SLOWING EXPANSION RATE
- UNBALANCED CAREER STRUCTURE
- OUTSIDE RECRUITMENT INTO PROMOTION GRADE
- LOW LEAVING RATE
- INCREASED QUALIFICATION REQUIREMENT

### STAFF QUALITY TOO

#### HIGH.

- POST BASIC OR IN-SERVICE TRAINING MORE THAN NEEDED
- SELECTION STANDARD TOO HIGH.
- STAFF TOO LONG IN JOB.

### NUMBER OF CANDIDATES

#### Too Low

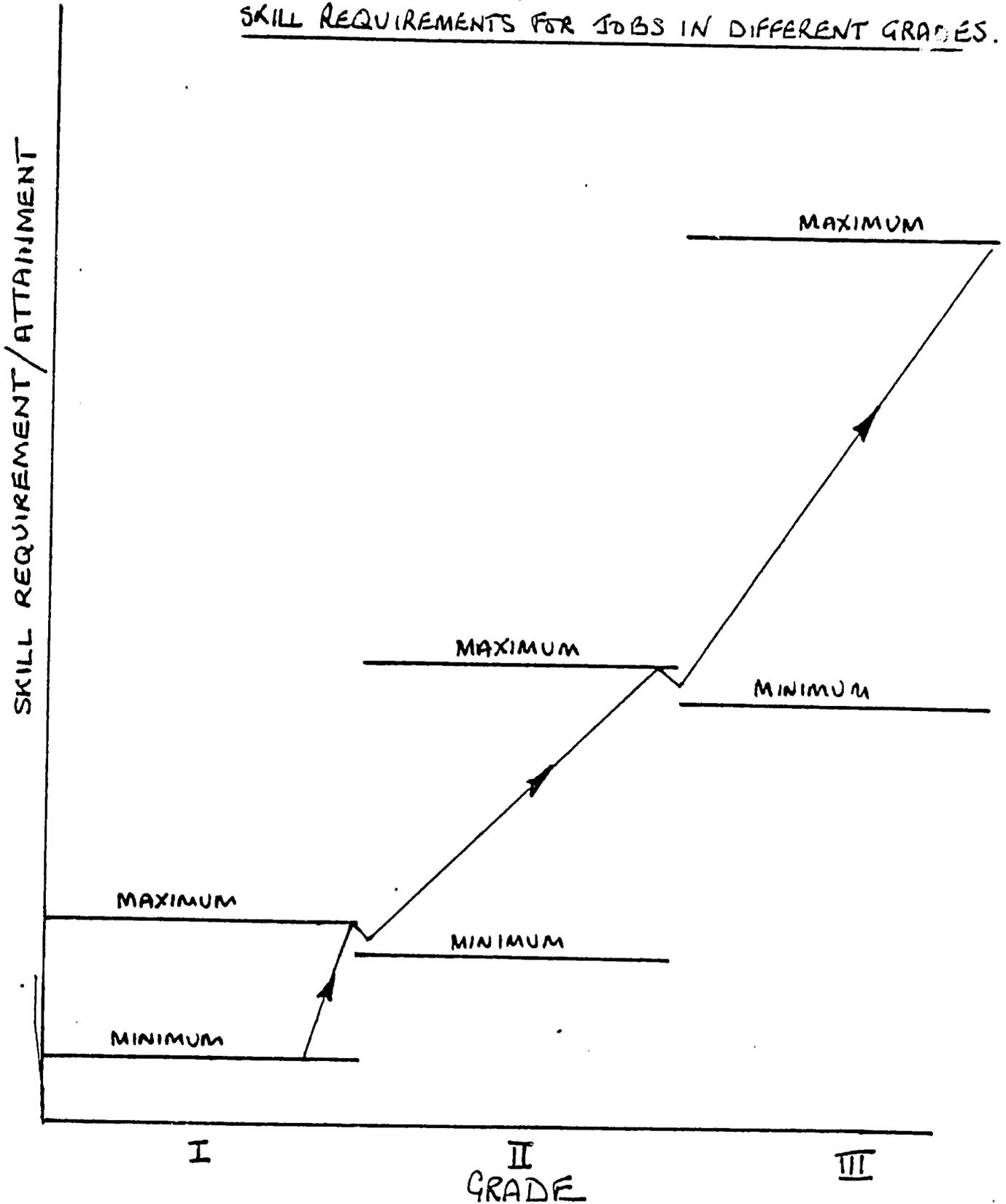
- EXPANSION OF ACTIVITY
- GRADE RATIO TOO LOW
- HIGH LEAVING RATE
- REDUCTION IN EXTERNAL RECRUITMENT
- LOW RATE OF PROMOTION QUALIFICATION.

### STAFF QUALITY TOO

#### LOW

- TRAINING COURSES WRONG FOR JOB REQUIREMENTS
- TIMING OF TRAINING WRONG.
- SELECTION PROCESSES INEFFICIENT.

PATTERN OF INTERLINKING BETWEEN  
SKILL REQUIREMENTS FOR JOBS IN DIFFERENT GRADES.



GRADE III MOST SENIOR.

appointment in the next higher grade.

Clearly, identifying what these skills are starts from the job description which we discussed in Session 3. Once this job description has been determined, the planner can move on to establishing what skills are needed to adequately perform the tasks in the job and also go on to identify the minimum level of skill required and the maximum that it would be possible to attain with that type of job. Skills can be divided into any number of categories but perhaps the most common major categories are:

1. technical,
2. administrative,
3. managerial and
4. interpersonal.

Within these categories further subdivisions can be made and ultimately it is possible to put some scaling on the level of skill involved. The exercises for this session are designed to allow you to try and define skill levels in different jobs in your organisation.

## EXERCISE 1

## SESSION 6

1. Using the attached worksheet, identify a job that you are familiar with and identify the minimum skills necessary to fulfill the job.
2. Attempt to put a value on these skills by scoring each minimum skill requirement on a scale from 1 to 10.
3. Repeat the exercise on the same worksheet to show your view of what maximum skill could be attained by a very good worker filling that position.
4. Repeat this exercise (steps 1 and 2 only) once more but this time draw a chart to show what would be the minimum skill requirement for the job of the person who supervises the person identified in step 1.

An example might be:

- A. A computer operator and
- B. The person who is in charge of the computer unit.

## EXERCISE 2

## SESSION 6

1. Using the attached worksheet, identify a job that you are familiar with and identify the minimum skills necessary to fulfill the job.
2. Attempt to put a value on these skills by scoring each minimum skill requirement on a scale from 1 to 10.
3. Repeat this exercise once more for someone who supervises the staff identified in step 1 and who is of a higher golongan or eselon.
4. Identify which of the skills possessed by the senior staff can be learned by the junior staff through work experience alone and which will require further training. Explain your reasons why.



## EXERCISE 3

## SESSION 6

Motivation/<sup>SATISFACTION</sup> of staff depends on many factors which differ from culture to culture, organisation to organisation and staff type to staff type. The following list proposes a number of these factors.

1. Review the factors and add to the list any significant factors in determining your motivation/<sup>SATISFACTION</sup>.
2. As a group, use your own opinions to put the factors in an order of priority and divide them into four areas of importance:
  - Very important
  - Important
  - Quite important
  - Not important
3. Where there are significant differences of view within the working group, identify which factors have a different order of importance to members of the group.

FACTORS THAT MAKE JOBS SATISFYINGSample List

- A. Impartial treatment of employees
- B. Independence in making decisions work
- C. Working relationship with other workers
- D. Quality of supervision
- E. Opportunity to give opinions
- F. Amount of salary
- G. Communication between staff including supervisors
- H. Opportunities to change jobs
- I. Sufficient staff to do work
- J. Employment and retirement benefits
- K. Arrangement of working hours
- L. Adequate equipment
- M. Evaluation of work
- N. Opportunities to learn more
- O. Pride in organisation
- P. Amount of holiday
- Q. The physical work environment
- R. Proper training and preparation for work

## SESSION 7

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Manpower Management Relationships in Plan Formulation and Monitoring

In the previous sessions of the workshop we have been exploring various aspects to do with people and jobs that manpower planners need to be involved with in order to construct manpower plans. In this session, we bring all these different aspects together into a manpower planning process.

Conceptually, such a process looks like that shown in Diagram 1. It has two principal features. These are:

1. The manpower plan is totally linked to the organisation objectives and service target forecasts.
2. There is a monitoring process built in to assess the implementation of the plan to provide additional information in the formulation of the next plan.

What is also obvious from the diagram is that the manpower plan necessarily involves operational planners as well as those responsible for the personnel function and training. In other words, all arms of management have some role to plan in the formulation of the manpower plan.

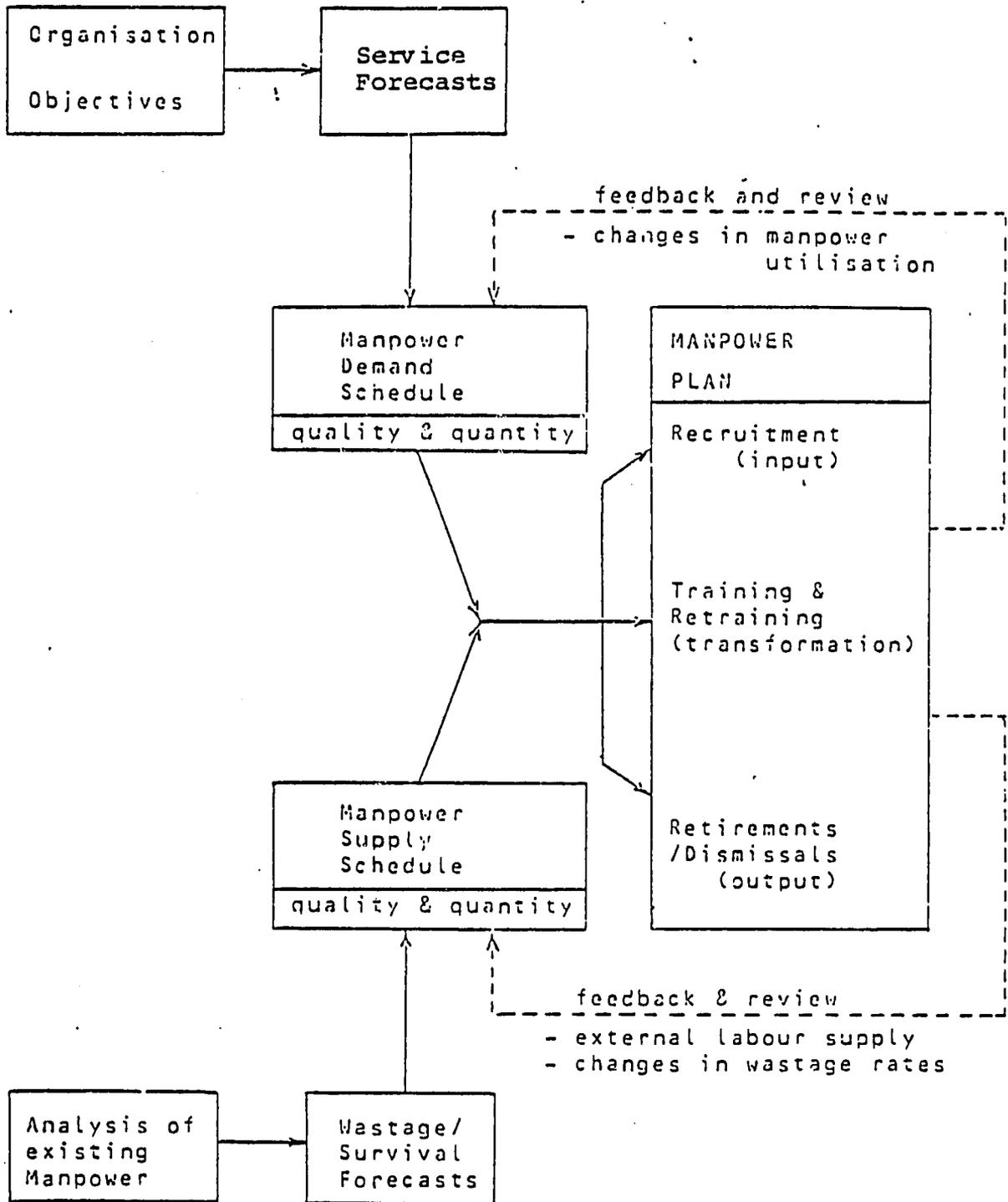
What we are trying to do in arriving at a manpower plan is to make the demand or requirement for manpower equal to the supply. In other words, supply the manpower resources required by the objectives and targets of the organisation. Diagram 2 highlights this process and shows how the strategic manpower plan is formulated, building as it does on current services and moving off from there. But how

exactly is the supply of staff brought into line with the requirement for staff? Essentially, through the manipulation and implementation of policies in the areas of:

- staff utilisation,
- recruitment and promotion,
- training and
- personnel (see Diagram 3).

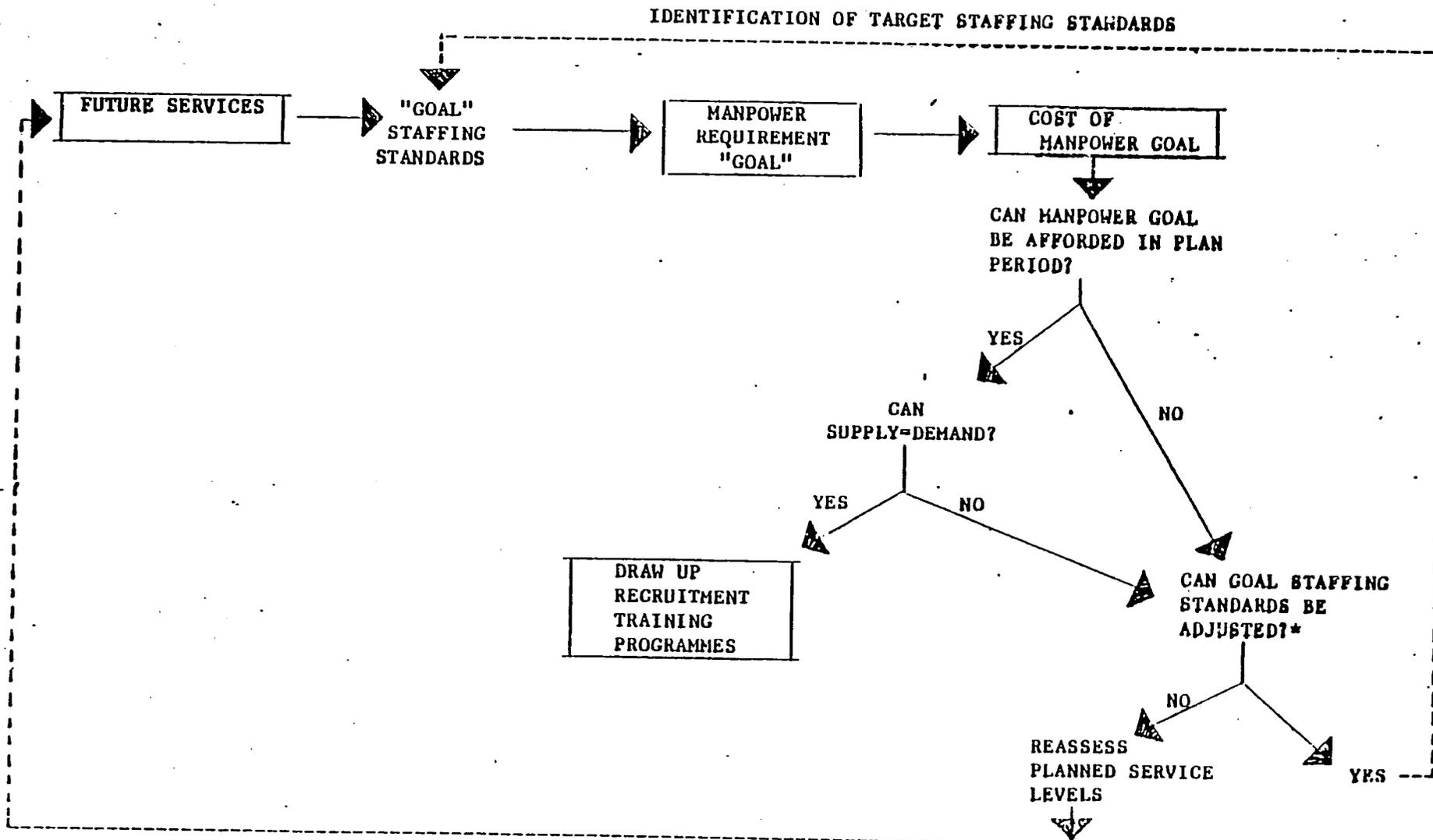
But even with this manipulation, there are many occasions when staff supply and requirement cannot be brought into balance. In such circumstances, the manpower planner is obliged to return to the services planner and modify service targets so that there are in fact sufficient resources to meet the organisation's service targets (see Diagram 4).

Despite this careful building up to a plan, it is highly likely that the plan will go wrong in some respect or another. It will go wrong because the planner in all circumstances has used a set of assumptions in constructing the plan. He or she is therefore operating with a number of uncertainties which he or she will seek to resolve as well as possible. The nature of the uncertainties is shown in Diagram 5. There are methods available to minimise the effect of these uncertainties and these can be explored at some later date in the development of the manpower planning function at BKKBN. But undoubtedly some of this uncertainty can be resolved by better information which is the subject of the next session of this workshop.



DIAGRAMATIC REPRESENTATION OF THE CONSTRUCTION OF A MANPOWER PLAN

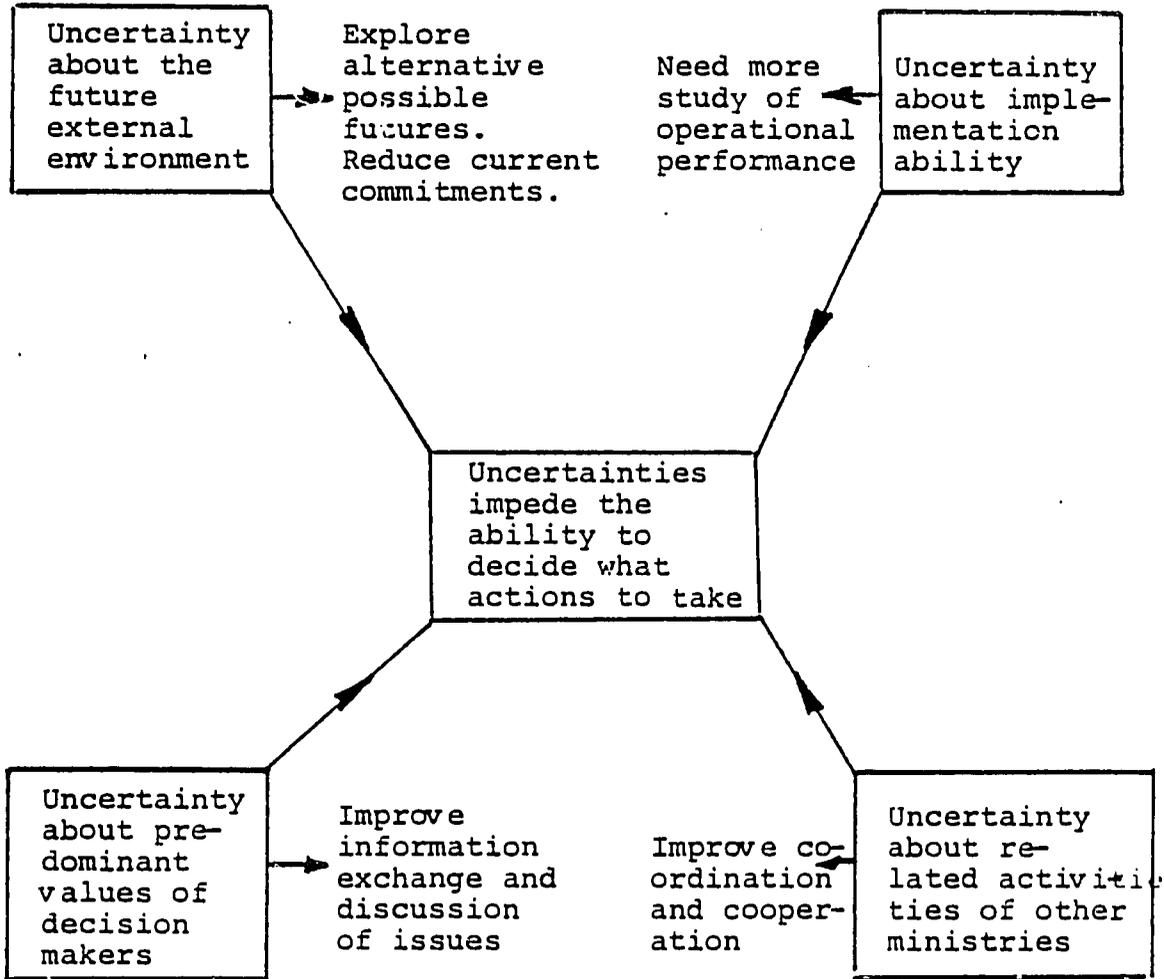
MANPOWER GOALS VERSUS AFFORDABLE (CONSTRAINED) TARGETS



\* eg. by changing { utilization patterns  
productivity rates  
reducing levels of coverage, etc.

DIAGRAM 5

SESSION 7



UNCERTAINTIES IN PLANNING.

## EXERCISE 1

## SESSION 7

Assume you have drawn up a manpower plan in line with population growth goals and BKKBN service targets for new acceptors and increased continuation in contraceptive use.

This new plan calls for new and more field activities and increases in the number of field staff of different types.

Having planned all this, you are suddenly informed that the budget necessary to fund these increases has been cut by 25%. Nevertheless you are instructed by your managers to still try and meet the targets despite the 25% cut in funds. This means you will have to look at every aspect of manpower management and use including training and recruitment to see how you can bring costs down 25% and still maintain proposed service targets.

1. Identify what things you might try and do across the whole field of manpower activities to make these budget cuts and yet maintain service targets.
2. Identify what units in BKKBN would be involved in implementation if these actions were actually taken.
3. Specify which of these adjustments you have made would lead to a long-term effect or change in BKKBN management and operations.

## EXERCISE 2

## SESSION 7

Assume you are formulating a manpower plan for the next year. As an introduction to this plan, you are asked to identify all the uncertainties around which you have had to make some assumptions.

1. Given what you know about BKKBN and the environment in which it operates, and using the general framework of uncertainties presented earlier in this session, identify as well as you can specific uncertainties or assumptions you would have to make at this time in preparing a manpower plan.
2. Specify, again as well as you can, which of these uncertainties or assumptions are particularly critical or sensitive so that if you had made a mistake in your assumption, the plan is likely to be widely different from what will happen in practice.

## EXERCISE 3

## SESSION 7

Assume you have been asked to draw up a manpower plan for the next five years covering all aspects of BKKBN operations which relate to manpower.

1. Write out in as much detail as you can a series of section headings identifying what topics or items must be included in the manpower plan to ensure a coordinated implementation of the plan and a systematic process of monitoring and re-planning.
2. Identify what units within BKKBN should, in your view, be involved in the manpower planning process and which of these should actually produce the plan.

SESSION 8

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Determining Information Needs

Various amounts of personnel and manpower data are collected in every organisation. How much is collected and how it is used depends very much on the state of management development in an organisation and its commitment to managing its staff.

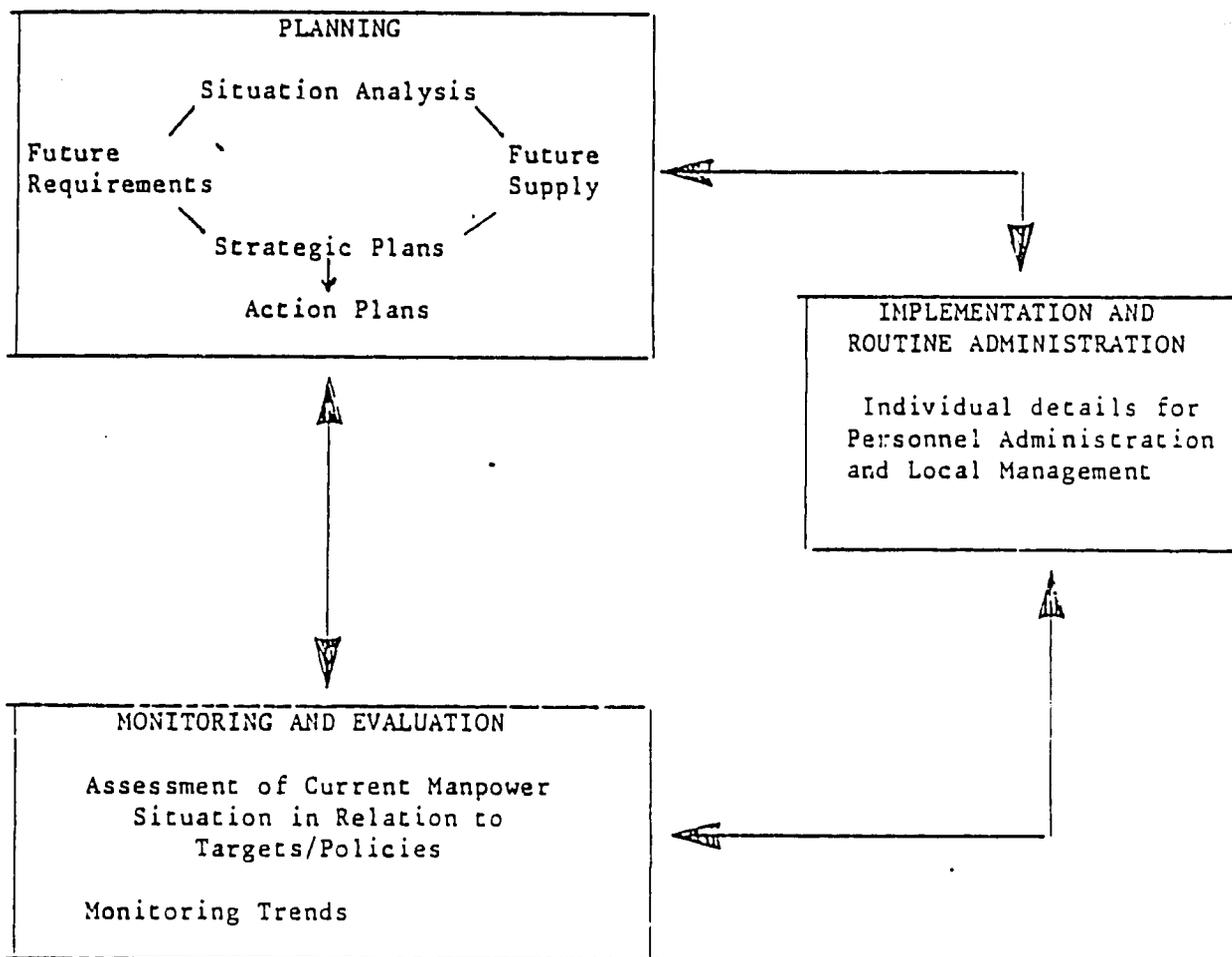
Most often the principal problems associated with manpower information come under one or other of the following groupings:

1. The data is not analysed and converted into useful information.
2. The data collected is unrelated to the needs of managers and planners.
3. There is limited feedback from the users of information to the collectors of data, often leading to careless and incorrect data collection.

In any information system development it is vital that the purposes for which the data is collected are understood and agreed to be important for the purposes of management in the organisation. Diagram 1 shows the purposes for which manpower information is generally required. The manpower information to meet these requirements is as shown on the following pages (Information and Manpower Management).

The particular information thought to be important for BKKBN manpower and personnel is presented in the other two papers in this session. So far the focus for the information has been more on the needs of central management than for the field units of BKKBN and this will have to change as the information system becomes more and more established.

Manpower Information Needs For:



## INFORMATION AND MANPOWER MANAGEMENT

## A. INFORMATION FOR PLANNING

(i) A Health Manpower Situation Report (HMSR)

The scope and level of detail presented in an HMSR will depend upon the structure and level of details required by the overall health plan, the availability of data and particular problems or issues which need to be tackled in the manpower plan itself. The following are broad guidelines only:

- (a) Information on the current staffing levels - the numbers of staff employed by category, function, grade, etc., related to the health facilities, services or population served.
- (b) Details of the characteristics of the staff employed - such as the numbers in different age groups, sex, full-time/part-time, length of service, etc.
- (c) Details of staff productivity - such as indicators of staff: workload, proportions of time spent on service activities/support activities/other, etc.
- (d) Details of rates of movement - leaving rates for any of the categories listed under (b), by reasons or destinations on leaving; recruitment rates for any of the categories listed in (b), by source of recruitment.
- (e) Details of training - types of training available and where, numbers of applications for admission, annual enrollment capacities, annual intakes, annual drop-out rates, destinations of graduates (i.e., how many newly qualified graduates enter the government health service).

(ii) Estimating Future Manpower Requirements

The information required for estimating future requirements is current staffing levels, characteristics and productivity (see a, b, and c under HMSR) together with assumptions about the future, e.g., assumptions about future health worker roles, assumptions about future health activities, assumptions about future productivity levels.

(iii) Increasing Future Manpower Supply

All the information listed under a, b, d, and e for the HSMR are required here. The supply projections then ask the "what if" questions to test the effects of any changes in rates of movements or training activities on future manpower supply.

(iv) Action Planning

Any or all of the information required for an HSMR may also be needed for the preparation of detailed manpower action plans.

B. INFORMATION FOR IMPLEMENTATION AND STAFF ADMINISTRATION

All of the information required to produce an HSMR is also required for routine staff administration - except that, in many cases, the information is required by individual as well as in aggregated, numerical forms. In other words, the statistical information required for planning will often have as its source details on each staff member collected for personnel and other administrative purposes.

C. INFORMATION FOR MANPOWER MONITORING

Information for monitoring is required to:

- (i) assess progress towards plan targets and objective;
- (ii) identify discrepancies and then probable causes
- (iii) provide a continuing basis for assessing the validity of established objectives, targets and the means of attaining them.

Clearly, the manpower information required will depend upon the individual plan targets. However, it is likely that the items listed under the HSMR information requirements will cover the majority of information needs for monitoring.

## EXERCISE 1

## SESSION 8

During the session you have been told what information is to be collected in the computer personnel information system.

1. Draw up a list of these items, specify how they might be applied for personnel administration and management, in other words what do you use the information for.
2. Identify which of this information will be useful to managers at provincial level and at kabupaten level.
3. In your opinion, what additional information for personnel management and administration which is not on the computer will be needed by managers at
  - (a) centre,
  - (b) province, and
  - (c) kabupaten ?

## EXERCISE 2

## SESSION 8

During the session you have been told what information is to be collected in the computer training information system.

1. Draw up a list of these items, specify how they might be applied for training management, in other words what do you use the information for.
2. Identify which of this information will be useful to managers at provincial level and kabupaten level.
3. In your opinion, what additional information for training management which is not on the computer will be needed by managers at
  - (a) centre,
  - (b) province, and
  - (c) kabupaten ?

## EXERCISE 3

## SESSION 8

The personnel and training information systems will provide a critical input to the manpower planning process, although this information will be in the form of statistics rather than information on individual people.

1. Specify which of the personnel and training information will be needed for manpower planning and what additional information not in the computer will also be required.
2. Assuming that provincial staff and kabupaten staff are involved in the planning process, identify what information of the list you have already prepared will be needed by (a) province and (b) kabupaten for them to be able to plan appropriately.

SESSION 9

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

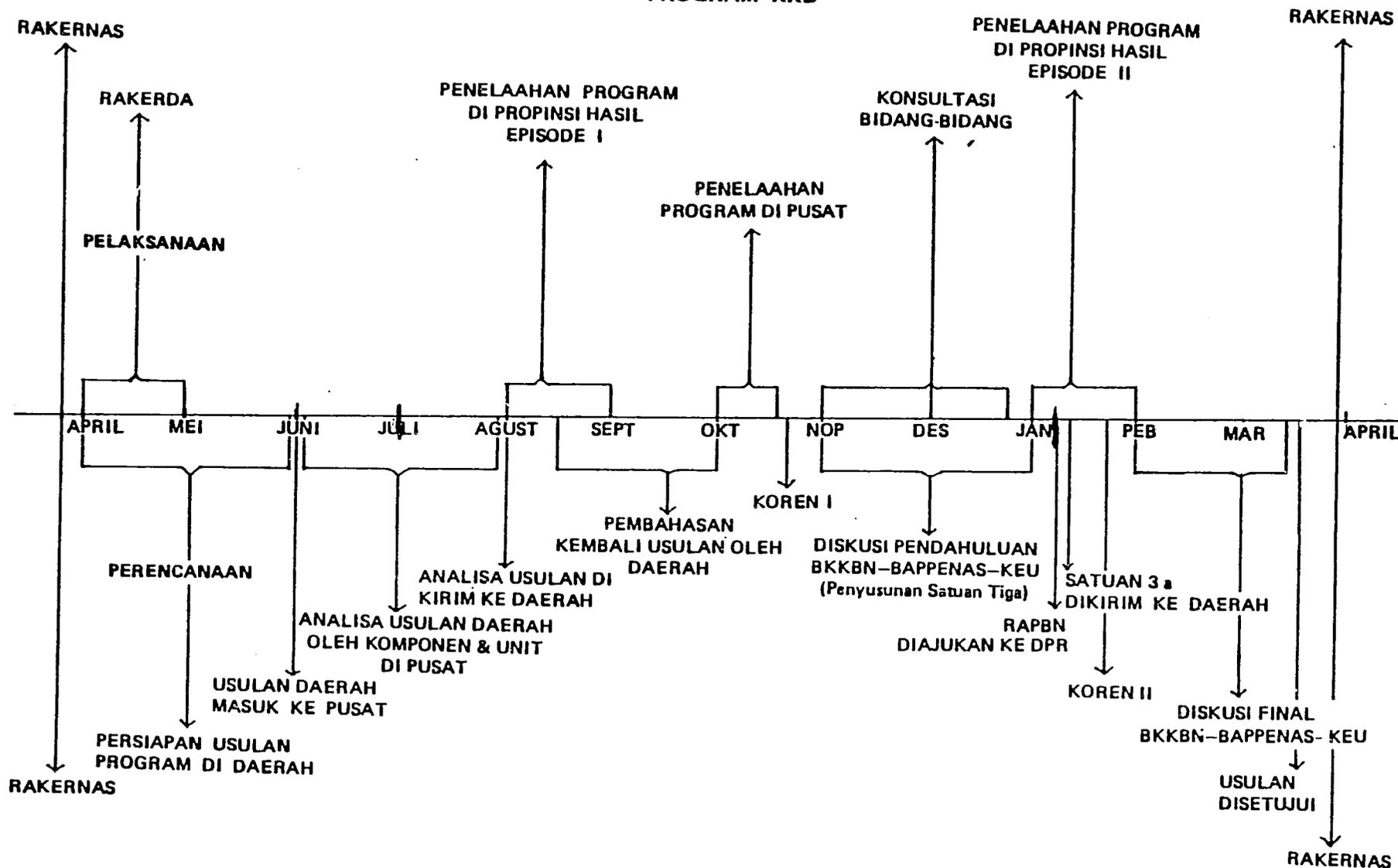
Working Notes - Developing an Integrated Annual Planning Cycle

In all organisations there is some form of an annual planning process. Quite often the focus of this plan is to establish patterns of expenditure for the coming year and little attention is paid to the results and problems of implementation associated with the current or previous year's activities.

It is also most uncommon for several different plans to be prepared more or less at the same time covering supplies and equipment and training or recruitment which are neither linked between themselves nor connected to the principal annual plan describing service targets and budget.

BKKBN has a well-established annual planning cycle (see Diagram 1). It is the purpose of this session to try and fit the training process and the manpower planning process into the annual plan cycle. Timing is clearly a crucial element in joining these planning cycles together. The training and manpower cycles should follow slightly behind the annual planning but link back into it toward the end of the year in order to ensure that any adjustments can be made to the service targets in line with the projected availability of resources.

TABEL KEGIATAN POKOK PERENCANAAN DAN PELAKSANAAN PROGRAM KKB



## EXERCISES

## SESSION 9

To do these exercises, the workshop members should divide into two groups. Each group will do the first element of its exercise which will then be discussed in plenary session. Following this, each group will do the second part of the exercise assigned to it.

EXERCISE 1, Part 1

Using the information provided in the paper on the annual training plan cycle and the diagram of the annual planning cycle, produce a chart or a flow diagram which correctly matches the training cycle to the time requirements of the annual planning cycle.

EXERCISE 1, Part 2

A. Using the results of the work of Team 2 integrate the manpower planning cycle into the planning cycle you previously prepared in Part 1.

B. Identify in the cycle of events those points where there may be difficulties in timing events properly.

EXERCISE 2, Part 1

Using the information provided in the paper on the annual manpower planning cycle and the diagram of the annual planning cycle, produce a chart or a flow diagram which correctly matches the annual manpower planning cycle to the time requirements of the annual planning cycle.

EXERCISE 2, Part 2

A. Using the results of the work of Team 1 integrate the training cycle into the planning cycle you previously prepared in Part 1.

B. Identify in the cycle of events those points where there may be difficulties in timing events properly.

SESSION 10

## BKKBN MANPOWER PLANNING WORKSHOP

4-8 January 1985

Working Notes - Development Plan for Manpower Planning

During the previous nine sessions we have been exploring firstly manpower problems and issues and secondly what part manpower planning may play in resolving these issues and thirdly what is involved in doing it.

Clearly, we have moved so fast through the various elements of manpower planning that it has not been possible to show you in detail what is involved and what can be done in manpower planning to aid the manpower management function in BKKBN. The aim of this workshop is to provide you with an understanding of the elements of manpower planning and how they fit with other elements of planning and management in the organisation.

In summary, we need to remember that planning is the choice of a suitable strategy to achieve some agreed objective. Any plan implies action and objectives; if there is no statement of social, economic or organisational objectives to which the manpower data can relate, there can be no meaningful manpower plan.

Obviously, if the objectives cannot be agreed upon, then it is not possible to plan. Similarly, planning will be nothing more than a waste of resources if the "suitable strategies" are not acceptable or are impracticable.

Manpower planning can be defined as follows:

1. Manpower planning is a strategy for ensuring that the future manpower needs of an organisation are met.
2. Manpower planning is concerned with the supply of people of the correct quality in the correct quantities to

enable an organisation to achieve its objectives over a given time period. It aims to make optimum use of the organisation's manpower resources.

Thus, at an organisational level, it means balancing the supply of manpower against the demand for manpower during the forecast period; whilst at the level of the individual, it involves making sure the right man is in the right job at the right time.

The major purpose of manpower planning is to enable an enterprise to discover, in sufficient time, the critical areas in its labour force where shortages or excesses are likely to occur.

Specific reasons for planning the manpower resources are:

1. To examine the feasibility of future service programmes
2. To determine recruitment levels
3. To determine optimum training and re-training levels
4. To anticipate redundancies and avoid unnecessary dismissals
5. To provide a basis for management development programmes
6. To enable the recruitment and training functions to plan and allocate their resources.

The investigations involved in constructing a manpower plan can ~~often~~<sup>SOMETIMES</sup> be of more value than the plan itself and typical "spin off" benefits include:

- revealing problems in labour turnover and the manpower utilisation
- showing up the real costs of employing, recruiting and training

- quantifying the effectiveness of the organisation's employment practices.

Without some planned approach to the manpower requirements of an organisation, its recruitment and training will be based on "ad hoc" decisions. Under- or over-manning will be frequent occurrences with the corresponding loss in efficiency and effectiveness.

The main stages involved in constructing a manpower plan are:

1. Identification of manpower needs

From forecasts of expected services, a schedule of manpower demand can be constructed for each department for the forecast period. These schedules will detail the number and types of people required and the time at which they will be needed.

2. Examination of existing manpower resources

An inventory, or audit, must be taken of the labour force showing the distribution of skills, the age structure and the length of service. This enables the resources to be defined in terms of its quality and its quantity.

3. Forecasting wastage rates

All manpower resources are eroded by time. By grouping the labour force and examining its previous behaviour, it is possible to forecast the rate of decay of specific groups over the forecast period. By superimposing the forecasted wastage rates on to the information derived from the manpower inventory, a schedule of the internal manpower resources can be compiled showing the resources available at various points during the forecast period.

#### 4. Planning the action

A plan of action can now be drawn up in order to ensure the demands for manpower are met. Such action may involve:

- recruitment from the external labour market
- training new employees
- re-training present employees
- movement and re-deployment of staff
- sub-contracting work, etc.

Since a dynamic situation is involved, it must be kept under constant review. It may be necessary to adjust the plan in the light of any changes in manpower utilisation or availability. The plan should also be subjected to an annual review when the forecast period can be extended by one year and the various schedules updated.

In order to achieve the basic objectives of the manpower plan, the information needed can be related to three areas:

- internal supply of manpower
- external supply
- demand for manpower

The manpower planner needs to know the answer to two basic questions: "What are the present manpower resources of the organisation?" and "How are these altering over time?" He requires a thorough understanding of the organisation's employment policies and must have the support of a comprehensive manpower information system.

The manpower inventory gives a static picture of the organisation and the personnel are usually analysed by:

- temporary/permanent
- department
- occupation/skill

- grade
- education/qualifications
- length of service
- age
- hours worked
- earnings
- sex

A dynamic picture of the organisation is obtained by analysing the recruitment/leavings and transfers along the following dimensions:

- department
- occupation/skill
- date of movement
- grades involved
- education/qualifications
- length of service/seniority
- age
- earnings
- sex

The manpower planner is not limited to simply considering large groups of service or office employees. He should also be concerned with maximising the potential of individual employees and ensuring the organisation derives maximum benefit from all its employees. Management development, career development and succession planning techniques should be used.

The objectives are to ensure that as specific jobs fall vacant somebody is able to take over with the minimum disruption to the organisation. Such plans must take into account the ability, experience and training requirements of each of the possible replacements.

Any shortage of manpower which remains after the internal supply has been taken into account and which cannot be absorbed by overtime working, etc. must be met by resources from the external labour market.

A manpower planner must be aware of the quality and quantity of the available labour. Not only should investigations concern the current "pool" of manpower, but should also determine the dynamic forces at work in the area.

"Static" information would give the numbers of employable people in the locality by

- age
- sex
- occupation/skill
- education/qualifications.

as well as the number of unfilled vacancies and the number of "rival" employers.

"Dynamic" information would describe the numbers of people entering the manpower pool from school or from other districts by:

- age
- sex
- education/qualifications
- career interest/occupation/skill.

and the main reasons for people leaving the district or changing jobs within the district.

Information is often weakest with regard to potential employees since such data collection is beyond the control of the organisation and may well conflict with rival interests.

Finally, if manpower planning is to be successfully introduced into BKKBN, there needs to be staff or units at the centre and in the provinces who are specifically identified as having a responsibility for the production of manpower plans and the means (money and staff) need to be made available in order to allow a manpower planning and monitoring process to go forward.

## EXERCISE 1

SESSION 10

A. During this session you have been presented with the key elements of manpower planning. These are:

1. Manpower situation analysis
2. Requirement projections
3. Supply projections
4. Career planning
5. Manpower plan preparations
6. Monitoring plan implementation
7. Coordination between different planning units concerned with manpower and service delivery

B. You have also been shown a proposed action plan for manpower in the five-year master plan.

C. It is not possible to develop in all these different areas at once and so we need to work in a phased development of manpower planning as well as training people.

D. The objective for BKKBN is to be able to engage routinely in an annual MANPOWER PLANNING PROCESS.

1. You are asked to review these manpower planning needs and the five-year plan proposals.
2. Draw a matrix to show which steps in the five-year plan fit to requirements of key elements of manpower planning and show which requirements are not met by existing implementation steps in the five-year plan.
3. Propose an order of priority for developing the different elements of manpower planning and explain why you have arranged them in this order (more urgent, more significant impact, more feasible, etc.).

## EXERCISE 2

## SESSION 10

We have been saying for the last few days that the purpose of manpower planning is to ensure:

The right number of people  
 in  
 The right place  
 with  
 The right skills  
 doing  
 The right things  
 with  
 The right attitudes and motivation.

In order to do this, the annual manpower plan will have to:

- a. project requirements for staff linked to local and national objectives;
  - b. project the supply of staff during the year;
  - c. project new posts to be created;
  - d. determine training required for staff;
  - e. determine what transfers should be made;
- etc. (see also answers to Exercise 3, Session 7).

You wish to monitor the plan in order to make adjustments to the next plan.

1. What data would you collect? (See answers to exercises in Session 8.)
2. How would you analyse the data to provide useful information for planning?
3. Who would do the analysis?

## EXERCISE 3

## SESSION 10

From your experience in BKKBN, you know that some manpower planning occurs and that some coordination occurs between different groups, units and organisations concerned with setting service targets and manpower planning.

1. You are asked to identify in which areas of manpower planning you think the major weaknesses exist at the moment. Are there problems in:
  1. knowing the existing situation and characteristics of staff?
  2. determining requirements?
  3. projecting supply?
  4. identifying and creating new posts?
  5. training the right people and the right number?
  6. career planning?
  7. making a manpower plan?
  8. monitoring plan implementation?
  9. coordination between different planning staff?
2. Where is the problem -- centre, province and/or kabupaten?
3. Which problems are the most important to start work to improve?  
Please write a list of priorities.

127  
129  
READING LIST

The following is a brief list of publications for additional reading.

1. Aspen Systems Corp., ed. Health manpower planning process. Washington, D.C., U.S.A., Department of Health, Education and Welfare, 1976 (DHEW Publication No. (HRA) 76-14013).
2. Aspen System Corp., ed. Methodological approaches for determining health manpower supply and requirements. Vol. I: Analytical perspectives (DHEW Publication No. (HRA) 76-14511); Vol. II: Practical planning manual (DHEW Publication No. (HRA) 76-14512). Washington, D.C., U.S.A., Department of Health Education and Welfare, 1976.
3. Baker, T.D. Health manpower planning. In: Reinke, W.A., ed. Health planning: qualitative aspects and quantitative techniques. Baltimore, Maryland, U.S.A., Johns Hopkins Press, 1972 (pp. 179-198).
4. Butter, I, et al. Effects of manpower utilisation on cost and productivity of a neighbourhood health centre. Milbank Memorial Fund Quarterly, 59(4):421-452 (1972). (Now Health and Society, 156 Fifth Avenue, New York, NY, 10010, U.S.A.)
5. Hall, T.L. and Mejia, A., ed. Health manpower planning: principles, methods, issues. Geneva, World Health Organization, 1978. (311 pp.)
6. Kramer, L.M., ed. Conference on a health manpower simulation model; proceedings and report. Vol. 1: Conceptualization of a health manpower simulation model. Vol. 2: Methods for building a health manpower simulation model. Washington, D.C., U.S.A., Department of Health, Education and Welfare, Division of Manpower Intelligence, 1970.
7. Stephen, W.J. An analysis of primary medical care: an international study. New York, Cambridge University Press, 1979. (401 pp.)
8. Vector Research, Inc. A health manpower model evaluation study. Vol. 1: An analysis of health manpower models. Vol. 2: An inventory of health manpower models. Washington, D.C., U.S.A., Department of Health, Education and Welfare, 1974 (DHEW Publication No. (HRA) 75-19, 210 pp. and 347 pp.)
9. World Health Organization. Training and utilization of auxiliary personnel for rural health teams in developing countries: report of a WHO Expert Committee. Geneva, 1979 (WHO Technical Report Series No. 633, 35 pp.)
10. Hornby, P. et al. Guidelines for health manpower planning: a course book. Geneva, World Health Organization, 1980.