

project planning and management series

PNAAK-479

IAN-37131

ACKNOWLEDGEMENT

The Project Planning and Management Series consists of a set of manuals and associated modules presenting practical approaches, tools and techniques for project planning and management. (See list on back cover). A product of the Government of Jamaica/USAID National Planning Project (1976-1980), the series was developed by the Project Development Resource Team (PDRT) of PAMCO for use in "action-training" workshops and reflects extensive experience in training and project development. All present PDRT members are contributing authors and have worked together in writing, revising and publishing the series. Special credits are due to Dr. Merlyn Kettering for design and development of the series; Dr. Bruce Brooks for writing final versions of many modules; Mrs. Marjorie Humphreys for assuming primary editing and production responsibility and for organizing draft papers into more useful materials; Mr. Lascelles Dixon, head of PDRT since 1979, for designing the cover and improving many of the illustrations; and Mrs. Christine Hinds and Miss Linette Johnson for typing the drafts and final manuscripts. Any comments on the series and its usefulness are welcome.

Marcel Knight
Managing Director
PAMCO
March, 1980

Contributing Authors:

Merlyn Kettering
Bruce Brooks
Conrad Smikle
Lascelles Dixon
Michael Farr
Marjorie Humphreys

Published by:

The Project Analysis & Monitoring Co. Ltd. (PAMCO)
Inter-Continental Hotel, 4th Floor
Kingston, Jamaica, W.I.

MODULE 39

FORMATS FOR PRE-FEASIBILITY AND FEASIBILITY STUDIES
Merlyn Kettering

A. PREREQUISITES:

A working knowledge of the topics is covered in Modules 1 & 33 and the Project Planning Manual.

SECTION 1: PRE-FEASIBILITY STUDY

B. DISCUSSION:

The pre-feasibility study is the planning stage in which alternative ways for developing the project may be explored. For any given set of goals or demands, there are generally a number of ways of satisfying or reaching these goals. Good planning requires that judgement on project formulation be deferred until the alternative solutions are investigated and analyzed and the optimal solution selected.

Analysis and preparation during the Pre-feasibility Study Stage should be based primarily on existing data which are readily assembled. All possible information sources should be explored such as records of related projects, pertinent literature, ministerial records and data, empirical studies of sectors and regions, national plans, etc. A review of similar projects may, for example, disclose applicable points and data for the proposed project, indicating what assumptions must be made and to what extent experience supports the validity of such assumptions or plans. In general, new surveys and tests are not encouraged, except in a superficial manner, if data of appropriate quality can be drawn from existing sources.

C. PURPOSE:

The primary purpose of the Pre-feasibility Study Stage is to screen alternatives for the project to determine the optimum alternative(s) which will be recommended for the Feasibility Study. There are no clear rules for choosing among alternatives. It is a difficult process requiring the weighing of the merits of one proposal against another. The process invariably involves making choices related to product quality and quantity, production processes, technology, scale, location, costs and returns, times of completion, etc.

The Pre-feasibility Study is intended to:

- a. analyze the range of alternative solutions for narrowing consideration of the project characteristics down to the most favourable or optimal solution;
- b. determine whether the optimal project solution warrants or requires further detailed study to test its worthiness or soundness. Such a study would be a feasibility study; and
- c. spell out the future action concerning the project, i.e., terms of reference for a feasibility study if one is necessary.

D. USE:

Pre-feasibility studies rank project alternatives to help select the one which, on balance, is likely to prove favourable. (SEE MODULE 29 - PROJECT NEED ANALYSIS FOR MORE DETAILS OF THE PROCESS OF DEVELOPING ALTERNATIVE SOLUTIONS.)

The Pre-feasibility Study is normally expected to achieve a degree of precision which accurately estimates costs and benefits within 20 - 25 percent. Timeliness of the preparation and data processing is more critical than precise accuracy of estimates. Precision will be demanded during the Feasibility Study Stage.

E. STEPS IN THE PREPARATION OF A PRE-FEASIBILITY STUDY:

Because of the vast range of projects it is not possible to develop a comprehensive pre-feasibility study format applicable to all projects. The following preparation steps are provided only as a guide to the planner in the preparation of the pre-feasibility study. Additional areas may have to be included (or eliminated) as required by the specific project being worked on.

- Step 1. Analyse and state the problems and needs which have initiated the project. The project objectives and goals should be re-stated especially if these have been modified or adjusted by prior appraisals (the Project Brief) or by recent events.
- Step 2. Analyse and identify the physical, economic, social, political and institutional setting (area) in which the project will be placed or will operate, so that the results of this analysis can contribute to the selection of the best project alternative.

- Step 3. Identify the market for the project output, whether goods or services, and determine its characteristics. An assessment of past and present demand, as well as supply conditions and characteristics, with probably future behavior should be made. The demand-supply gap should be identified. The timing of the project alternatives should be evaluated here.
- Step 4. Analyse the alternative ways in which the project can be carried out. This will require an analysis of a range of technical and engineering "solutions", with an assessment of the scope, process, location, civil structures and physical resources characteristics of each alternative. Alternative project locations should be analyzed.
- Step 5. For each project alternative, carry out a financial analysis to determine its profitability and capacity to service its obligations. The financial analysis should look at the revenues, expenses, receipts, expenditures and income of each alternative. The financial analysis should identify which alternative has:
- a) the lowest unit costs;
 - b) the most desirable cash flows;
 - c) the lowest foreign exchange component;
 - d) the maximum financial returns.
- Step 6. For each project alternative, carry out an economic analysis to identify and measure the benefits to the economy or society as a whole. The analyses may be made with both market and shadow prices. The economic analysis should identify which alternative has:
- a) the greatest potential for quick returns;
 - b) the shortest capital recovery period;
 - c) the highest rate of return on capital;
 - d) the widest impact on the economy as a whole.
- Step 7. Look at alternative implementing schemes, dealing with agencies, project organizational structures management philosophies, legal requirements, personnel requirements, procurement and institutional requirements. The implementation analysis should determine which alternative:
- a) has the least cumbersome organizational structure;
 - b) corresponds to accepted management theories;

- c) demands the least skilled personnel;
 - d) will be accepted and supported by the organizations and institutions with which it must deal.
- Step 8. Review alternative operational schemes, noting the advantages and disadvantages of each.
- Step 9. For comparative purposes of each project alternative, select and quantify a number of important criteria. These criteria should then be "score boarded" and rated as to their relative contribution to meeting the national and sectoral objectives as well as the more specific project goals.
- Step 10. Based upon the assessment of alternatives, recommend the favoured project alternative. The characteristics of the favoured alternative should be described in detail with a summary of the justifications for its selection.
- Step 11. Develop a detailed work plan for the pursuing of the recommended project. If a feasibility study is required, identify responsibilities for the study, methodologies and terms of reference, required detail of the various study components, resource requirements, budget, manpower, and time.

The last item of the above list deserves special attention as it is often neglected in pre-feasibility analysis and consequently the costs of a Feasibility Study or the plan of action for the construction of the study are ambiguous, ending with both extreme waste and unnecessary confusion. There are trade-offs between study duration and precision and cost per unit of time. A basic working framework which identifies work methods, techniques, responsibilities and areas yielding the most meaningful and relevant information can eliminate both costs and time in the preparation of the later Feasibility Study. A format for documenting the findings of the Pre-feasibility Study is described in Appendix 39.1

SECTION 2: FEASIBILITY STUDY

B. DISCUSSION:

Whether or not a project idea is worth considering (i.e. whether its outcomes and outputs contribute to national and sectoral objectives) is a decision reached at the Project Profile planning stage. The analysis of project alternatives and the selection of the optimal project formulation is a decision reached at the Pre-feasibility planning stage.

DO NOT DUPLICATE WITHOUT PERMISSION

5

After alternatives for the project have been scrutinized and approval has been granted for the advanced preparation and analysis, the Project Feasibility Study planning stage begins. During this stage the project must be systematically examined in depth and with precision along all essential features.

The purpose of the Feasibility Study Stage is to present a precise and accurate picture of what is entailed in the actual undertaking of the project. The issues and problems must be carefully prepared and analyzed for all substantive aspects of the project.

This stage of the planning process is the most exhaustive of the planning stages. However, the energies required for an adequate and comprehensive feasibility study are not wasted. Efforts which have already been spent in the preparations and analyses of the Project Profile, Project Brief, Project Status Reports, Project Pre-feasibility Study and Analyses begin to pay off in terms of a more relevant focus in the Feasibility Study and a more speedy completion of the document. This makes more effective use of finances and manpower at this point in planning, and is an overall more effective use of resources. The tendency to become enmeshed in research areas that are peripheral to the main objectives of the Feasibility Study is avoided. Only the most relevant areas, as outlined in the approved Work Plan for Feasibility Study, receive detailed investigation and analysis to ascertain the technical, financial, economic and management soundness of a project. All relevant issues should be directly addressed in the study of feasibility, but the various dimensions should be given attention according to their importance to the study and the project, and not on the availability of data or accessibility of research for the area. Often excessive and non-relevant data is included which diverts attention from real project issues.

The operating Ministry is primarily responsible for the identification of teams, including persons who have been involved throughout the initial stages of planning and persons who may be involved in the implementation phase of the project, to prepare the feasibility study of the proposed project. The plans for the preparation of the Feasibility Study has already begun with the Work Plan which is incorporated into the Pre-feasibility Study. This work plan includes the identification of team members, the methods and procedures to be followed in the study, the outline of relevant fields to be investigated, the analytical procedures and criteria to be used, the budget for preparation of the study and the assignment of general areas of responsibility for undertaking the study.

For example of the outline for a Feasibility Study, see APPENDIX 39.2. Specific outlines will be dependent upon the scope and nature of each project.

C. *PURPOSE:*

The purposes of the Feasibility Study are:

1. To verify:
 - a. that the project solution reached at the Pre-feasibility Study Stage is technologically appropriate and technically sound;
 - b. that satisfactory financial and economic returns will accrue to the project and all relevant beneficiaries;
 - c. that project objectives and goals are realistic and that they cannot be met in some more effective or efficient manner;
 - d. that the project benefits are supportive of national and sectoral objectives and priorities.
2. To verify that the project will be successful within the environment (social, cultural, political, institutional, administrative, and ecological) in which the project will be carried out and expected to function;
3. To provide a detailed guide to all actions, such as organizational, managerial and legal, which are required to implement the project and to operate the project output system;
4. To provide all data and analysis required by potential financing agencies for appraisal of the project; and
5. To provide a complete project document for submission to Cabinet to authorize the allocation of resources for the implementation of that project.

D. *USE:*

The feasibility study and analysis provides the basis on which appropriate government authorities and financing agencies will make final decisions to approve, amend or reject the project.

SECTION 3: COMPARISON OF PROFILES, AND FEASIBILITY STUDIES

The preparation of the feasibility study parallels that of the pre-feasibility study in that the same project dimensions are analyzed. Also, as with the pre-feasibility study, there can be no model

feasibility study format, or preparation guide that will be applicable to all types of project. The preparation of the feasibility study will be even more flexible and less structured than the pre-feasibility study as only those dimensions of the project where the feasibility or soundness is in doubt may have to be studied.

Although the project dimensions analyzed in the feasibility study are (or may be) similar to those dimensions analyzed in the pre-feasibility study, the purpose and hence the content of the analysis is different. In the pre-feasibility study, the purpose was to compare alternative schemes; in the feasibility study the purpose is to test the soundness of the selected alternative. Consequently, the focus of the feasibility study is on the presentation of precise data on the conditions and the environment which the project will encounter. The differences in emphasis can be then transferred to the other dimensions of the project by the planner.

In Illustration 1, a single dimension of a project, the Market Study, will be looked at to show the differences in content and emphasis of the analyses between the Project Profile, Pre-feasibility, and Feasibility Planning stages.

Earlier PDRT working papers relevant to this topic include "Pre-Feasibility/Feasibility Documentation Formats", M. Kettering and J. Kristiansen. 1971 (24 pages).

DO NOT DUPLICATE WITHOUT PERMISSION

ILLUSTRATION 1: MARKET STUDY

INFORMATION REQUIRED BY: PROJECT PROFILE
PRE-FEASIBILITY AND FEASIBILITY STUDIESA. Project Profile Paper

- (1) Raw material market situation
 - (a) Existing resources (names, location, quantities)
 - (b) Past and present utilization (estimated quantities only)
 - (c) Approximate balance of available raw materials, vs present utilization
- (2) Market situation of specific products
 - (a) Past demand for specific items (past sales in quantities and prices)
 - (b) Past supply of specific items (approximate totals of past local manufacturing and imports)
 - (c) Past coverage of demand and assumed future trends (approximate quantities, qualities, prices)

B. Pre-feasibility Study

- (1) Raw material market situation
 - (a) Pre-selected resources (names, location, quantities and qualities, and other key data)
 - (b) Approximate utilization of resources (main consumers, local and abroad, yearly consumption, individual supply situation, general raw material policy, laws/regulations)
 - (c) Presumptive balance of available raw materials vs. present utilization (possible supply sources covering present + future demand)
- (2) Market situation of specific products
 - (a) Approximate demand for specific items (past/future total sales/demand, in quantity, values, specific prices for all local/foreign customers)
 - (b) Approximate supply of specific item by suppliers:
 - (i) Present total local manufacturing capacity
 - (ii) General quality of products
 - (iii) Past imports and their expected future trend, volumes, and prices
 - (c) Approximate coverage of demand (past/future quantities, qualities, and prices)

C. Feasibility Study

- (1) Raw material market situation
 - (a) Chosen resources
 - Detailed data on topographical distribution of raw materials
 - Itemized material analysis
 - (b) Detailed utilization of resources
 - Supply situation
 - Kind of specific enterprises
 - Specific customers, their past and estimated purchases
 - Prices at places of production
 - (c) Detailed balance of available raw materials
 - Adequacy of supply: quantities, qualities
 - Prices

- (2) Market situation of specific products
 - (a) Detailed demand for specific items
 - Past/future, local/foreign sales demand
 - Main consumers
 - Specific consumption per capita
 - Prices, fluctuation
 - Regional distribution
 - Quality requirements
 - Influence on market situation caused by laws and regulations
 - (b) Detailed supply of specific items by suppliers
 - Present manufacturing/importing companies
 - Manufacturing units, capacities, age, load factors
 - Product qualities
 - Location
 - Sales: past and expected future
 - Transport facilities
 - New units under construction/planning
 - Expected elimination (if any) of local plants and imports
 - Prices
 - (c) Detailed coverage of demand
 - Past/future quantities, qualities, prices
 - Regional distribution

DO NOT DUPLICATE WITHOUT PERMISSION

APPENDIX 39.1

GENERAL FORMAT FOR A PRE-FEASIBILITY STUDY

It is not possible to provide a detailed pre-feasibility study format applicable to all (or even most) projects. The best that can be provided is an outline and identification of major project components which can help the planner to structure his study. Specific pre-feasibility study formats must be developed by the planner for his specific project. A suggested "general" format is presented in the following outline.

A. *Summary and Conclusions*

1. Description of Best Alternative Project
2. Reasons for choosing alternatives
3. Resource requirements
4. Recommendation for further actions

B. *Introduction*

1. Reason or need for project
2. Objectives and goals of project
3. Project history and sponsorship
4. Project beneficiaries

C. *Project Area* (for each alternative project location as applicable).

1. Sector overview
2. Existing development, existing infrastructure
3. Topographical, physical, climatological, geological, hydrological aspects as required
4. Social, economic, political aspects as applicable.

D. *Demand Analysis*

1. Definition of market(s)
2. Total demand
3. Characteristics of past and future demand
4. Supply gap
5. Demand-supply consolidations

E. *Technical Analysis* (for each alternative)

1. Production processes or technical solutions
2. Project sizes
3. Project locations

4. Technical flexibility
 5. Civil works requirements
 6. Support infrastructure requirements
 7. Maintenance requirements
 8. Costs (works, materials, equipment, engineering, land, recurrent).
- F. *Ecological/Social Analysis* (each alternative)
1. Existing conditions: land use, water, natural resources, social, cultural, institutional.
 2. Analysis of impacts
 3. Acceptable impacts/not acceptable impacts
 4. Necessary adjustments required
 5. Costs of adjustments.
- G. *Financial Analysis* (for each alternative)
1. Capital requirements
 2. Operating costs
 3. Revenues, expenses: cash flows
 4. Receipts, expenditures: cash flows
 5. Profitability criteria.
- H. *Economic Analysis* (for each alternative)
1. Economic benefits to economy
 2. Benefits in monetary terms
 3. Conversion of financial costs to economic costs
 4. Economic criteria
 5. Sensitivity analysis
- I. *Implementation Analysis* (for each alternative)
1. Organizations and management
 2. Legal requirements
 3. Procurement requirements
 4. Personnel
 5. Institutional acceptability
- J. *Operational Analysis*
1. Organization and management
 2. Personnel
 3. Performance analysis of existing organizations
- K. *Alternative Scoreboard*
- Choose best alternative.

L. *Outstanding Issues*

1. Recommendation for future action
2. Additional data required
3. Other issues

M. *Plan for Feasibility Study* (as applicable)

1. Terms of reference
2. Methodology
3. Performing agency/participating agencies
4. Key personnel/Project Manager
5. Schedules
6. Budget.

APPENDIX 39.2

FEASIBILITY STUDY GUIDELINE FORMAT

The following outline presents a guideline format for the project feasibility study. Rather than being utilized as an outline to be strictly followed by project planners (different projects will require different analysis and different emphasis) the format should be used primarily as a guideline for use in the organization and presentation of materials. In effect, it will serve as a partial check list for planners. Modifications as to the degree of emphasis on the various project dimensions will have to be made as necessary to suit the particular character of the project under consideration and the circumstances of the feasibility study.

The format of the outline does not take into consideration feasibility study formats required by financial lending institutions. *If funding is being sought from such sources, the planner should obtain ahead of time, the particular format required by the lending institution.*

A. SUMMARY AND CONCLUSIONS

1. Project output: goods/services to be produced.
2. Major technical components: process, methods, equipment, civil works.
3. Size and location: capacity and service area.
4. Costs.
 - a) Capital costs of construction/installation.
 - b) Annual operating costs.
 - c) Domestic and foreign cost components.
5. Financing.
 - a) Proposed/actual sources of funds.
 - b) Financial arrangements.
6. Financial feasibility: criteria selected.
7. Economic feasibility:
 - a) Economic benefits.
 - b) Criteria.
8. Implementation feasibility
 - a) Organization and management arrangements.
 - b) Procurement arrangements.
 - c) Schedules.
9. Operational feasibility.
 - a) Organization and management arrangements

DO NOT DUPLICATE WITHOUT PERMISSION

b) Personnel.

B. INTRODUCTION

1. Reason/need for project
2. Sector overview
3. Project objectives and goals
4. Project history and sponsorship

C. PROJECT AREA (as applicable)

1. Subsector analysis (detailed)
2. Existing conditions (agricultural/social/civil projects).
 - a) Physical aspects: boundaries, topography, surface flows, hydrology, geology, climatology, soils, etc.
 - b) Human resources: population density, projections, employment, migration, etc.
 - c) Social conditions: landownership, water availability, income levels, salaries, nutrition, etc.
 - d) Project beneficiaries: direct, indirect.
 - e) Economic conditions
 - f) Infra-structure: roads, communications, electricity, potable water, sewerage.
 - g) Development.
3. Existing Operations (industrial projects)
 - a) Organization and management
 - b) Financial/accounting systems
 - c) Sales
 - d) Production
 - e) Raw materials
 - f) Labour

D. DEMAND ANALYSIS

1. Market Identification
 - a) Industries/sectors generating demand
 - b) Project influence area
 - c) External demand
2. Demand Characteristics
 - a) Uses and specifications of goods/services demanded
 - b) Volume of demand
 - c) Geographic distribution of demand and marketing methods
 - d) Determinants of demand

- e) Consumer types and attitudes
 - f) Demand projections with and without the project
3. Supply Characteristics
 - a) Current types and locations of supply facilities
 - b) Sizes, physical conditions, outputs and prices
 - c) Supply projections with and without the project
 4. Plan for meeting effective demand
 - a) Demand-supply gap
 - b) Plan to narrow the gap
 - c) Project contribution to narrowing of gap
 5. Data
 - a) Statistical series of production, consumption, population, income, etc.
 - b) Maps and charts.

E. TECHNICAL AND ENGINEERING ANALYSIS

1. Alternative technical schemes considered
2. Features of selected process
 - a) Process description
 - b) Production methods/technical solution
 - c) Equipment: type, capacity, flexibility, manner of operations, layout
 - d) Raw materials
 - e) Fuel, power, water requirements.
3. Location
 - a) Raw material availability
 - b) Utilities
 - c) Transportation facilities
 - d) Production cost factors
 - e) Manpower availability
 - f) Site selected: reasons
4. Description and justification of project size/
installed capacity
5. Site plan
6. Basic civil works
 - a) Design criteria and standards
 - b) Buildings
 - c) Civil works: roads, drainage, utilities, etc.
 - d) Auxiliary facilities

7. Input requirements/costs
 - a) Engineering and administration
 - b) Construction/installation
 - c) Production/operation
 - d) Land acquisition
 - e) Equipment and machinery
 - f) Availability and sources of inputs
 8. Construction/installation program
 - a) Stages of construction/installation
 - b) Operations turnover
 9. Schedules
 - a) Schedule of utilization of resources
 - b) Construction/installation schedule: major components.
 - c) Operations schedule: major components
 10. Further technical studies
 - a) Extent of surveys and investigations
 - b) Additional surveys, tests required
 - c) Plan for final engineering.
 11. Data and Annexes.
- F. ECOLOGICAL AND SOCIAL IMPACTS
1. Conclusions
 2. Existing conditions at project site
 - a) Water resources
 - b) Land use:
 - c) Natural resources
 - d) Social/cultural characteristics
 - e) Institutional characteristics.
 3. Analysis of impacts
 - a) Natural resources
 - b) Land use
 - c) Water
 - d) Social/cultural/institutional
 4. Actions taken
 - a) Project adjustments made
 - b) Adverse impacts acceptable
 - c) Costs of minimizing adverse impacts

G. FINANCIAL ASPECTS

1. Capital Cost

- a) Total investment requirements broken down into:
 - design and research
 - land and natural resources
 - site preparation
 - equipment
 - buildings and other civil works
 - auxiliary facilities
 - organization of firm
 - engineering and administration during construction
 - running-in
 - preparatory installation
 - contingencies
 - interests during construction and working capital
 - profit
- b) Breakdown of costs into kinds of physical resources:
 - labour
 - materials and supplies
 - energy and fuels
 - equipment
- c) Breakdown of costs into foreign exchange and local currency components, and into financial and economic costs.
- d) Investment schedule

2. Operating and Maintenance Cost

- a) Estimates of operating and maintenance expenditures broken down into:
 - labour
 - materials
 - energy and fuels
 - equipment
- b) Breakdown of costs into foreign exchange and local currency components, and into financial and economic costs
- c) Cost stream over project life

3. Income
 - a) Rates/prices of output
 - b) Revenues from different sources
 - c) Income stream over project life
4. Profitability
 - a) Profit-and-loss statement
 - b) Expenditure-and-income budget projections
 - c) Financial feasibility indicators
 - net present value
 - internal rate of return
 - payback period
 - accounting rate of return
 - others
 - d) Conclusions as to project's financial feasibility
5. Annexes
 - a) Details of cost computations
 - b) Feasibility calculations
 - c) Others

H. FINANCING ASPECTS

1. Sources of Financing
 - a) Sources and adequacy of funds for:
 - construction
 - operation and maintenance
 Arrangements for securing financing
2. Program and Budget
 - Schedule of fund utilization according to source
 - Budgetary provisions
3. Annexes
 - Details of financing schemes, funding program, etc.

I. ECONOMIC ASPECTS

1. Capital Cost
 - a) Estimates of economic investment cost with breakdowns into work items/physical resources as in Section D-1

- b) Breakdown of costs into foreign and local currency components
 - c) Investment timetable
 - 2. Operation and Maintenance Costs
 - a) Estimates of economic operating and maintenance cost, with breakdown into physical resources as in Section D-2
 - b) Breakdown of costs into foreign and local currency components
 - c) Cost stream over project lifetime
 - 3. Benefits
 - a) Savings in resource costs
 - b) Value added
 - c) Non-quantifiable benefits
 - d) Benefits stream over project lifetime
 - 4. Economic Feasibility Indicators
 - a) Net present value
 - b) Internal rate of return
 - c) Benefit-cost ratio
 - d) Net present value per unit of investment
 - e) First year return
 - f) Others
 - 5. Sensitivity Analysis
 - a) Changes in feasibility indicators with variations in major parameters
 - 6. Conclusions as to Project's Economic Soundness
 - 7. Annexes
 - a) Detailed calculations of benefits and costs
 - b) Feasibility computations
 - c) Others
- J. IMPLEMENTATION ANALYSIS
- 1. Implementation schedules
 - a) Master phasing
 - b) Project schedule: CPM or PERT
 - 2. Organization and Management
 - a) Description of implementing organization:

- b) name, organizational charts, past experiences, etc.
 - b) Management, philosophy: organizational model, authority/responsibility relationships
 - c) Project manager: qualifications, recruitment strategy
 - d) Project management: position, role, responsibility, authority, etc.
 - e) Project participants
3. Legal and administrative arrangements
 - a) Authority and administrative arrangements
 - b) Authority for procurement
 - c) Government authorizations: incentives, taxes, etc.
 4. Procurement
 - a) Professional services
 - b) Construction
 - c) Equipment, machinery and materials
 - d) Actions to be taken
 - e) Purchase schedules
 5. Manpower requirements
 - a) Manpower projections
 - b) Recruitment strategy
 - c) Personnel development and training
 6. Project control
 - a) Information required
 - b) Project management information system
 - c) Overall project control
 7. Project logistics
 8. Facility support
 9. Institutional arrangements
- K. OPERATIONAL ANALYSIS
1. Organization and management
 2. Legal and administrative arrangements
 3. Procurement
 4. Manpower requirements

- L. PROJECT DIVESTMENT
 - 1. Equipment/machinery/materials
 - 2. Labour
 - a) Skilled workers
 - b) Project personnel
- M. OUTSTANDING ISSUES AND CONDITIONS
- N. APPENDICES AND SUPPORTING DATA



Project Planning and Management Series.

MANUAL - I Planning for Project Implementation
MANUAL - P Project Planning
MANUAL - M Project Management
MANUAL - PF Pioneer Farm Implementation Planning

MODULES

1. Defining Project Objectives (Objective Trees)
2. The Logical Framework
3. Work Breakdown Structure
4. Activity Description Sheets
5. Project Organization
6. Linear Responsibility Charts
7. Project Scheduling - Bar Charts
8. Bar Charting for Project Control/Scheduling
9. Project Scheduling - Network Analysis
10. Milestones Description Charts
11. Resource Planning & Budgeting
12. The Role of PAMCO
13. Project Technology Analysis
14. Demand Analysis
15. Market Strategy Analysis
16. Project Area Analysis
17. Project Costs & Benefits
18. Project Profile
19. Financial Analysis
20. Cash Flow Analysis
21. Discounting
22. Net Present Worth Analysis
23. Cost-Benefit Analysis
24. Benefit-Cost Ratio Analysis
25. Internal Rate of Return
26. Social Analysis of a Project
27. Economic Analysis of Projects (including Border Pricing)
28. Financial Statements & Ratios
29. Project Selection & Ratios Analysis
30. Brainstorming
31. Decision-making System for Projects
32. Project Institutional Environmental Analysis
33. Ecological Analysis for Projects
34. Introduction to Contracts, Jamaican Contract Documents & Tendering Procedures
35. Selection & Use of Consultants
36. Project Documents for Planning & Implementation
37. Report Writing for Projects
38. Project Files
39. Formats for Pre-Feasibility & Feasibility Studies
40. Motivation of Employees and Personnel Evaluation
41. Design of a Project Management Control System
42. Evaluating & Forecasting Project Progress & Performance
43. Project Termination
44. Introduction to Lending Agencies
45. Organizing and Conducting Conference Meetings
46. Withdrawal of and Accounting for Loan Funds in the Financing of Projects

27