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**CONSULTANCY REPORT ON  
BUSINESS PLANNING SYSTEMS  
FOR THE  
COOPERATIVE DEVELOPMENT PROJECT WEST BANK / GAZA  
ANE-0159-G-SS-6020-00**

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July 1992

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## LIST OF ACRONYMS

ACDI	Agricultural Cooperative Development International
ANERA	American Near East Relief Agency
CDP	Cooperative Development Project
CIVAD	Civil Administration
GOI	Government of Israel
OCDC	Overseas Cooperative Development Council
USAID	United States Agency for International Development
WB/G	West Bank and Gaza

## EXECUTIVE SUMMARY

Agricultural Cooperative Development International (ACDI) determined that technical assistance in planning and evaluation would help the agency's Jerusalem-based Cooperative Development Project (CDP) improve its ability to monitor performance and measure progress more effectively. The consultant was appointed to observe current practices at CDP and recommend improvements.

### Highlights and Conclusions

To achieve the tasks detailed in the scope of work, the consultant met with ACDI and later with the director and management staff of CDP to agree on using a team-approach in processing information and solving operational problems. The key approach to effective implementation at CDP would be work teams, who would be responsible for cooperative development.

The management staff shared their perspectives on current planning and monitoring practices, and helped the consultant schedule field visits and workshop activities. The consultant observed a number of positive changes since the Internal Management Review in November 1991, but found that the planning and monitoring processes -- while adequate for a very limited range of routine activities -- did not provide indicators needed to measure progress toward long-term objectives.

This problem was addressed first in work sessions with the management staff, then in a four-day workshop involving all of CDP's personnel. These sessions refined the cooperative development strategy so that field staff could monitor cooperatives' progress through "stages of development." Staff adjusted the linkages between objectives in the annual work plans and the Project's hierarchy of objectives. Finally, staff worked on exercises in preparing monitoring reports and developing appropriate progress indicators.

### Recommendations

The consultant was encouraged by CDP's progress since his last visit and advises leadership to maintain the momentum.

1. The Project staff must continue to improve team-based efforts in solving operational problems. The problem-solving process must become a regular habit.
2. Planning techniques, monitoring tools, and indicators are only as good as the purposes they serve, they are not ends in themselves. Staff must strive continuously to improve the processes, methods, tools, and reporting forms they use.

## 1. SCOPE OF WORK.

ACDI engaged the consultant to provide assistance to the Cooperative Development Project (CDP) aimed at improving planning and monitoring of project activities. Under the scope of work prepared by the CDP staff in Jerusalem and ACDI, the consultant's charge was to facilitate CDP's progress in responding to recommendations made during an internal management review conducted in the fall of 1991. Especially, the consultant was asked to review annual work plans and help CDP develop and use an appropriate project monitoring system. (See Appendix A, "Scope of Work.")

## 2. METHODOLOGY.

### 2.1. Clarify the Role of the Consultant.

Prior to his departure for Jerusalem, the consultant met with CDP's project supervisors at ACDI in Washington to discuss management's expectations for this assignment. During that meeting it was mutually agreed that the consultant would act primarily as advisor and resource person to CDP management staff, who, in turn, would take the lead in presenting any proposed changes to their field personnel. ACDI discussed these points with CDP's director, who also stressed the importance of having the management staff contribute very visibly to the content and the conduct of the workshops and problem-solving sessions. This would add credibility

to their future team-building efforts with the other personnel.

## 2.2. Appraise Current Practices.

Since active leadership by the management staff constitutes a vital element in establishing an effective planning and monitoring system in CDP, the consultant met with the management staff to learn how they viewed problems arising from current planning and monitoring practices. They provided the consultant with the planning documents of various cooperatives, and discussed the problems confronting them and other field personnel in monitoring activities that were the joint responsibility of both cooperatives and CDP.

## 2.3. Schedule Intervention.

From these discussions a consultant's work schedule was prepared that included visits to several cooperatives, planning meetings with CDP's director and personnel, and a four-day workshop designed as problem-solving sessions to review and modify current practices. (See Appendix B, "Consultant's Work Schedule.")

## 3. FINDINGS.

### 3.1. CDP Progress Since the Internal Management Review.

Many positive changes have taken place since the management review team visited the Project in October-November 1991. Both ACDI and

CDP moved speedily to accomplish a number of the pressing items scheduled in the "Action Agenda." A personnel manual was developed with the help of Rex Schultz, ACIDI's Vice President for Management Systems, and was adopted by CDP at the start of 1992. While not the answer to all of CDP's human resources problems, this step offers a good starting point for improving human resources management. As in all other aspects of organizational improvement, regular attention to human resources development must become a habit at CDP.

Improved collaboration and planning with target cooperatives gave further evidence of progress over the past months. Through the assistance of CDP's field personnel, cooperatives are now able to develop annual work plans and project proposals that describe the cooperatives' major objectives for the year and how they expect to achieve them. Written agreements between the cooperatives and CDP specify mutual responsibilities as well as technical and financial assistance contributed by CDP.

The consultant noticed that personnel locator boards and charts for tracking activities were in use, something that was lacking previously. Several other beneficial changes in office practices were evident. To mention only a few, there was clearly less indiscriminate use of memos for communicating with staff, meeting agendas specified expected outcomes, and there was more economical use of supplies.

While these changes signal tangible progress at CDP since the internal review, a satisfactory process of assuring that work planning is linked to higher-level project objectives continues to prove elusive. Indeed, the internal review had emphatically stated that CDP's frustration at measuring the Project's impact on cooperative development in the West Bank and Gaza was directly attributable to weaknesses in planning and monitoring that went all the way back to the original project design. Management staff and the consultant agreed, therefore, that an effective way to begin the process of improving the monitoring system was to review the project design and subsequent implementation strategies.

### 3.2. Problem-Solving: Work Sessions on Project Planning and Evaluation.

Differences among the personnel over what was required of CDP as a development project were less evident than during the internal review, nevertheless, the inability to link daily work to progress indicators persisted. To address this problem thoroughly, the consultant and the management staff, working in close collaboration, prepared four work sessions on project planning and evaluation. The entire staff of CDP participated in the workshop.

(See Appendix C, "CDP Work Sessions on Project Planning and Evaluation," for the workshop agenda, and Attachment 1, "Project

Planning and Evaluation." The attachment contains the conceptual tools and other materials used in the workshop.)

### 3.2.1. Review of CDP's Mission and Cooperative Development Strategy.

#### CDP Mission Statement

The work sessions began by examining the mission statement and the strategy for developing WB/G cooperatives. The mission statement drafted several months ago had attempted to reconcile two conflicting views espoused by parties both inside and outside CDP (see Attachment 1, Part One, "CDP Mission Statement.")

One view insisted that CDP confine its activity to the domain of existing cooperatives which were duly registered with CIVAD. The challenging view rejected such a limitation by pointing out that the cooperative sector consisted largely of merely formal entities (i.e. on paper) or highly politicized bodies, both of which were unsuitable for the developmental assistance that CDP had to offer. Supporters of this latter view advocated working with other community-based groups who showed motivation for developing a capability for private enterprise using cooperative principles.

While the language in the mission statement left the door open for

CDP to explore opportunities offered by the second viewpoint, the language of the project proposal and its sponsors in USAID focused on the more limited view of the mission, raising the question, "Does the cooperative sector represent a viable mechanism for supporting economic development in the West Bank and Gaza?" Such doubt on the part of sponsors overshadows the Project's efforts since it questions CDP's very reason for existing.

To help CDP move beyond the mission statement controversy, the staff were asked to accept the mission statement as written and to keep their attention on delivering their services to the targeted cooperatives despite the misgivings expressed about the viability of the cooperative sector. Indeed, this controversy introduced unnecessary confusion hampering project operations, for a properly functioning monitoring system requires acceptance of the project as designed. On the other hand consideration of flaws in project design should be left to impact evaluations.

#### CDP Cooperative Development Strategy

Taking the mission statement as representing the larger vision motivating their efforts, CDP is concentrating on developing selected cooperatives, testing the notion that intensive collaboration between CDP and the cooperatives will result in measurable economic progress for the latter. How CDP helps cooperatives become more effective had never been precisely

articulated so the next step was to define the strategy for cooperative development.

In looking at the nature of their efforts and their relationship with the cooperatives, the staff determined that the clearest picture of the Project's development strategy was that of a helper working with a client in an intensive, ongoing process. That process was depicted graphically as shown in figure 1.

INPUT	DEVELOPMENT	RESULT
Cooperative - Board and membership - Resolve to collaborate for long-term growth	Cooperative - Application of tech. & mgmt practices	Cooperative - Mature, commercially viable enterprise
CDP - Trained advisors - Technical information - Credit	CDP - Motivation of cooperative - Conduct training, - Give guidance - Supply credit	CDP - Supporting requests for information and guidance as needed

Figure 1. CDP Cooperative Development Strategy.

As shown above, CDP's overall strategy for helping cooperatives develop the capacity to function like sound business enterprises is achieved by intense efforts on the part of both the cooperatives and CDP working together in close partnership.

The starting point for working with the cooperatives is the requirement that the cooperatives have a membership and at least a board of directors with whom CDP can communicate. They should also show the desire to work with CDP according to cooperative principles. For its part, CDP delivers training, technical advice and information, and supplies credit to encourage cooperatives to gain experience in new, profit-oriented ventures.

Stages of Cooperative Development

For the development strategy to prove useful for measuring the progress of cooperatives, however, another refinement was necessary. The collaborative process in figure 1 shows the respective roles of CDP and the cooperatives, but provides no guidance about an individual cooperative's level of development. To help depict the latter, development of the cooperatives has been conceptualized as passing through a series of stages of growth. Figure 2 shows these stages as a process of progressive growth from infancy to maturity.

STAGE ONE Infant Cooperative	STAGE TWO Maturing Cooperative	STAGE THREE Independent Cooperative
<b>HAVE:</b>	<b>HAVE:</b>	<b>HAVE:</b>
<ul style="list-style-type: none"> <li>- Registration</li> <li>- Access to Board</li> </ul>	<ul style="list-style-type: none"> <li>- Registration</li> <li>- Responsive Board</li> <li>- Accountability system</li> <li>- Mgmt/Tech. practices</li> </ul>	<ul style="list-style-type: none"> <li>- Registration</li> <li>- Active Board</li> <li>- Appropriate organization</li> <li>-Mgmtstaff/system</li> <li>- Technical skills</li> </ul>
<b>NEED:</b>	<b>NEED:</b>	<b>NEED:</b>

- Organization Development	- Upgrading of board and membership participation	- Quality mgmt (ongoing improvement)
- Mgmt systems	- Upgrading of mgmt and technical practices	
- Technical		
- Resources/funds		
CDP RESPONSE:	CDP RESPONSE:	CDP RESPONSE:
- Motivate, collaborate in growth	- Continue motivation, collaborat'n in growth	- Respond to requests to support improvement
- Provide: Training, Tech. Asst., Credit	- Continue training, TA, Credit	

Figure 2. Stages of Cooperative Development.

The cooperative starts out having minimal resources and great need for assistance. CDP begins by providing training and technical advice, credit where appropriate, and working intensively with the cooperative's manager and board. As the cooperative gains experience and learns to plan and manage its affairs better, it moves from the stage of infancy toward overall maturity. As a "maturing cooperative," it has gained more capability and needs less intense intervention from CDP.

In the last stage, the cooperative functions as an independent enterprise requiring assistance only to maintain or improve management systems. Ultimately, the independent cooperative should reach a point where it exhibits the characteristics of the "model cooperative." Those characteristics are listed in a handout contained in Attachment 1, Part One, "Model Co-op."

Reference to these stages of cooperative development should help CDP staff plan their interventions and monitor progress better since it give them a framework for appraising the cooperative appropriately according to its level of development.

### 3.2.2. Review of CDP's Logical Framework and Implementation Plan.

#### LogFrame Purpose and Outputs

As pointed out in the internal management report, outputs in the logical framework (logframe) should have been more carefully designed. Chief among the problems was the fact that of the six outputs, the first output resembles, in effect, a purpose-level indicator. This output states, "Targeted cooperatives and other enterprises are engaged in financially viable activities that respond to market determined opportunities." The remaining five outputs describe achievements at a lower operational level. Doing this analysis with the staff permitted them to clarify the Project's purpose and to fill in the gap left by the lack of an implementation plan.

Since a hierarchy of objectives had never been developed, it was easy to see why routine work plans might fail to be linked to higher-level objectives. An "objectives tree" exercise was used to link objectives from the original project purpose down to five and six levels -- the levels at which the work of the field normally proceeds (See Attachment 1, Part One.)

### 3.3.3. The Link Between Implementation and Evaluation.

Handouts on the Project Cycle, Levels of Evaluation, and Guide to Project Management were distributed and used to reinforce understanding of the phases of project management from the design phase, through implementation, to evaluation (See Attachment 1, Parts Two, Three, and Four.) The monitoring of ongoing activity was understood as a crucial and integral part of the implementation of projects, providing feedback to managers on the use of project resources and permitting them to make timely course corrections in the event of encountering obstacles. Techniques and formats for reporting on achievements or warning conditions (exception reports) were suggested and discussed.

### Developing Indicators

The importance of developing data at various operational levels was stressed and depicted graphically in the diagram headed, "Indicators of Project Impact." That exercise showed how the data gathered at operational levels, such as that obtained from monitoring a cooperative's annual work plan, fed indicators reports at higher levels, such as those needed by the Project's sponsors.

Finally, current work plans were reviewed to assure that objectives contained in them were linked appropriately to objectives developed in the objectives tree exercise. From there, the staff used a simple chart to begin developing indicators for monitoring progress at various levels of project activity. The exercise required them to determine the end user of the information gathered, the use to which the information would be put, what kind of indicator would satisfactorily meet the need, how often such data should be gathered, and finally, who was to be responsible for collecting this data.

The work sessions ended with suggestions for developing a computer-based management information system to permit flexible manipulation of data from field reports. The system should meet CDP's needs without causing any problems of compatibility with the large-scale reporting system now being explored by Atlantic Resources Corporation (ARC.) The consultant's preliminary discussions with a representative of ARC indicate that a small, internal database

such as that proposed for CDP should be no problem.

#### 4. CONCLUSIONS AND RECOMMENDATIONS.

The most important recommendations that the consultant would make at this stage are the following.

1. Follow up is vital to the success of any systems change.

The staff at CDP should continue the process of developing progress indicators and working with monitoring reports. These should be reviewed and reevaluated periodically to assure that they facilitate rather than inhibit action, that staff are using the system regularly and competently, and that the data gathered is meeting the information needs of management and other end users.

2. Team Problem-Solving is an ongoing process.

Problem-solving must become a routine habit at CDP. Team-building must be encouraged and strengthened, and team members must become responsible for doing problem-solving on a regular basis. The achievements of the recent work sessions was very encouraging, but they are only the beginning. CDP staff need to 'live' the process of solving problems together every day.

APPENDIX A

CONSULTANT'S SCOPE OF WORK

1. In consultation with ACDI/Washington project management staff, meet and review the objectives of this mission. This meeting and discussion should specifically relate to the AID letter to ACDI of June 24, 1992 regarding the extension of the CDP. In consultation with CDP staff, review internal CDP documents, reports and other relevant material, and prepare a preliminary schedule of activities for the assignment. This schedule must be completed in consultation with CDP staff and approved by the CDP Project Director.
2. Review management audits, workplans, memoranda of understanding and output manager progress reports for at least three cooperatives currently being worked with. These three cooperatives will form a core from which general observations may be made, lessons learned, strengths identified and improvements suggested. One of the cooperatives to form the core group will be the Sourief Women's Cooperative; the other two will be determined after arrival in Jerusalem. All three cooperatives to be reviewed will be among the nine the CDP will be working with intensively under the project extension.
3. Visit the staff and board of at least the Sourief Women's Cooperative along with the CDP output manager and other selected staff to answer questions and issues that have arisen during the review. Work with CDP staff and cooperative members to improve the work plan and implementation plan.
4. Evaluate, with an eye to improving, CDP's method of determining and developing cooperative assistance interventions. Evaluate the monitoring system currently in place for each of the cooperatives which you visit on your assignment. Make recommendations on improvements to the methodology and system. Specifically, the consultant should recommend changes in the method(s) of identifying interventions, ensure that the methodology meets CDP and cooperative objectives, and evaluate the monitoring system and recommended improvements in the development of workplans and reporting for CDP and the cooperatives. These activities are to provide direction for the future, and should delve more deeply than a PVO or sector evaluation would.

3. Travel, Per Diem & Miscellaneous Expenses: ACDI will provide you with a round trip air ticket to Tel Aviv from Fairfield, CT. You will be entitled to per diem in accordance with the prevailing USAID rate, which currently is \$246 per day in Jerusalem, based on the lodgings-plus foreign area per diem system. Under this system, reimbursements are limited to actual lodging expenses (up to a maximum dollar lodging amount) plus an amount for meals and incidental expenses (M&IE). Receipts shall be required to support all lodging costs for which an allowance is claimed under this per diem system. M&IE is payable without itemization of expenses or receipts. Authorized business travel to other locations will be at other prevailing USAID rates for those locations.
4. Insurance: ACDI/W will provide worker's compensation and travel accident for you during this assignment. All other insurance coverage will be your responsibility.
5. Reports: The following reports are required in order to fully pay you the fee stipulated in Item B-2 above:
  - a. Time and Attendance Forms: Copies are attached to this letter of assignment. You should complete these showing the days and number of hours worked. Timesheets must be received by the Finance department by the 8th and 22nd of each month in order to be paid on our scheduled paydays, which are on the 15th and the 30th. You should inform Jerry Lewis, Vice President, Asia, Near East & Pacific Region, whether you want to be paid twice a month, once a month or at the end of your assignment. All timesheets must be approved locally by Thomas LaQuey. Once approved in country, submit timesheets to Jerry Lewis.
  - b. Technical Report: As indicated in the scope of work.
  - c. Travel Expense Reports: Copies of the ACDI travel expense report (TER) forms and instructions are attached. Please follow the

instructions carefully and don't forget to attach your air line ticket stubs and any unused air travel coupons. Failure to complete these forms correctly will delay your final payment. Please contact the Regional V.P. referred to above or the ACDI Team Leader in your country of assignment if you have questions.

6. Medical Certificate: Prior to departure from your home of record, you must submit a medical certificate to ACDI certifying that, in the doctor's opinion, you are physically qualified to engage in international consulting activities in Jerusalem. ACDI will reimburse you up to \$100.00 toward the cost of obtaining this medical certificate upon presentation of a doctor's receipt. The amount actually spent up to \$100 should be itemized on a TER.
7. Corporate Conduct: You must execute your duties under this assignment in conformance with ACDI's Corporate Conduct Policy a copy of which is attached hereto.
8. Early Termination: The U.S. Agency for International Development (USAID) has reserved the right to request your removal from the project at any time for their convenience or because of nonperformance of duty or serious misconduct. ACDI also reserves the right to cancel this assignment on grounds of unsatisfactory performance as judged by ACDI.

Should you leave your work voluntarily, other than for reasons which ACDI agrees are compelling and beyond your control, should ACDI or USAID request your removal because of misconduct or unsatisfactory performance of duty, your right to compensation will end on the last day you actually work on the project and you will be responsible for your own travel and transportation costs to your home of record, proportional to the period of time not served under this assignment.

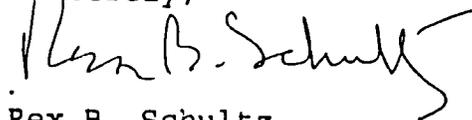
Should USAID request your early termination for reasons other than misconduct or nonperformance of duty, or should the contract be terminated prior to the end of your term of employment. ACDI will

Richard Marrash  
Letter of Assignment  
July 2, 1992  
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finance your return travel to your home of record. If, however, you elect not to return to your home of record within ten days of being terminated, ACDI's repatriation obligations cease.

Please sign and return to ACDI the original and one copy of this letter indicating acceptance of this assignment on the above terms.

Sincerely,



Rex B. Schultz  
Vice President

Accepted by:

**Richard Marrash**

Date:

Social Security No.:

Project Number: 33

Name, mailing address, phone # and bank account number to which you want the final payment of your fee to be sent: (Note: If the address to which ACDI's accounting department should send check stubs, copies of deposit records, etc. is different than the address at the beginning of this letter of assignment, please provide the alternate address below.)

**Attachments:**

Time & Attendance forms  
Travel Expense Reports  
Corporate Conduct Policy  
Doctor's Certificate of Examination  
Medical evacuation package  
Sample format for Final Report

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When writing a report on your consultancy, please adhere as closely as possible to the following guidelines which contain the minimum information needed by ACDI to satisfy contract requirements. On the reverse side of this sheet is a sample of a title page. Please follow this style and include all the information when constructing yours.

- \* Title Page
- \* Table of Contents
- \* List of Acronyms
- \* Executive Summary - 1 to 1½ pages of principal findings
- \* Scope of Work
- \* Methodology Used
- \* Findings
- \* Conclusions and Recommendations
- \* Attachments/Appendices if appropriate

APPENDIX B

CONSULTANT'S WORK SCHEDULE

Schedule for Planning Consultant  
Week One

Wednesday  
8 July 1992

16:00 Arrival Pick-up by Tom and Joseph

Thursday  
9 July 1992

8:00 Joseph will pick-up Richard from Hotel

8:30 Meet COP

10:00 Meet Management Staff

13:00 Lunch Break

14:00 Meet CDP staff and explain Mission of Consultancy

Friday  
10 July 1992

Kick-off program with staff

Saturday and Sunday

Will be used to formulate ideas for consultancy after consultant had the chance to feel CDPs points of view

Monday  
13 July 1992

8:00 Departure to Jenin Marketing Co-op from Hotel  
(Abed, Daoud, Joseph, Arafat ...)

Tuesday  
14 July 1992

Evaluation of the Jenin situation with technical and management staff

Wednesday  
15 July 1992

8:00 Departure to Khan Yunis from Hotel  
(Abed, Daoud, Joseph ...)  
This is a new CDP targeted co-op

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Thursday  
16 July 1992

8:00          Departure to Tulkarem Livestock Co-op  
                 (Mansour)

Friday  
17 July 1992

Evaluation of the Khan Yunis and the Tulkarem situation and  
comments/recommendation on the CDP development model

AA/JN    July 7, 1992

DATE	TIME	ACTIVITY	PARTICIPANTS
Mon 20		Visit Tulkarem	Daoud, Joseph, Mansour, Abed.
Tue 21	9-12 14-16	Tulkarem Evaluation Planning Session	Daoud, Joseph, Mansour, Abed, Tom Management staff+Tech. staff, Nabil + Nadia
Wed 22	8-12 14-16	Hebron, Rular Electri- fication. Implementation session	Abed, Zaki, Haydar Daoud, Joseph, Arafat.
Thu 23	9-12 18-16	Indicators session Monitoring session	Daoud, Joseph, Arafat, Maha, Ali, Tayseer, Nabil, Abed. Daoud, Joseph, Tom.
Fri 24	9-12 14-16	Reporting session Individual workplan session	Daoud, Joseph, Tom, Abed All staff + Gaza + Hebron
25 - 26		Week End	
Mon 27		Individual meeting ?	
Tue 28	8-12 14-16	Department workplan CDF workplan	Management staff + Tom Management staff + Tom
Wed 29	8-12 14-16	Technical staff meeting Team concept	Technical staff+ Jos. Daoud All staff
Thurs 30	9-12	Evaluation meetings Evaluation	Management staff + Tom
Fri 31		Conclusion session Recommendation	Management staff + Tom

APPENDIX C

CDP WORK SESSIONS ON  
PROJECT PLANNING AND EVALUATION

## CDP WORK SESSIONS ON

### PROJECT PLANNING AND EVALUATION

PARTICIPANTS: CDP staff

Session one: Thursday, 23 July 1992

- Review and revision of CDP Mission Statement, Log Frame, and Project Design.

Session Two: Friday, 24 July 1992

- Analysis and revision of project purpose and outputs.
- Evaluation of CDP cooperative development strategy and breakdown of project objectives.

Session Three: Tuesday, 28 1992

- Linking project activities to overall project objectives.
- Review of current work plans.

Session Four: Thursday, 30 July 1992

- Identifying indicators, developing monitoring tools, and computer-based MIS.
- Integrating the project reporting system.

ATTACHMENT 1

PROJECT PLANNING  
& EVALUATION

WORKSHOP MATERIALS

Course given to CDP Staff  
on 23 July 1992 - 30 July 1992

By:

Richard Marrash

Uk

**PROJECT PLANNING  
&  
EVALUATION**

**Course given to CDP Staff on 23 July 1992 - 30 July 1992**

*By:*

*Richard Marrash*

*Jerusalem*

*July 1992*

CDP WORK SESSIONS ON  
PROJECT PLANNING AND EVALUATION

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Session Four: Thursday, 30 July 1992

- Identifying indicators, developing monitoring tools, and computer-based MIS.
- Integrating the project reporting system.

Part One

CDP COOPERATIVE

DEVELOPMENT STRATEGY

Jerusalem 11/11/91..

AGRICULTURAL COOPERATIVE DEVELOPMENT  
PROJECT

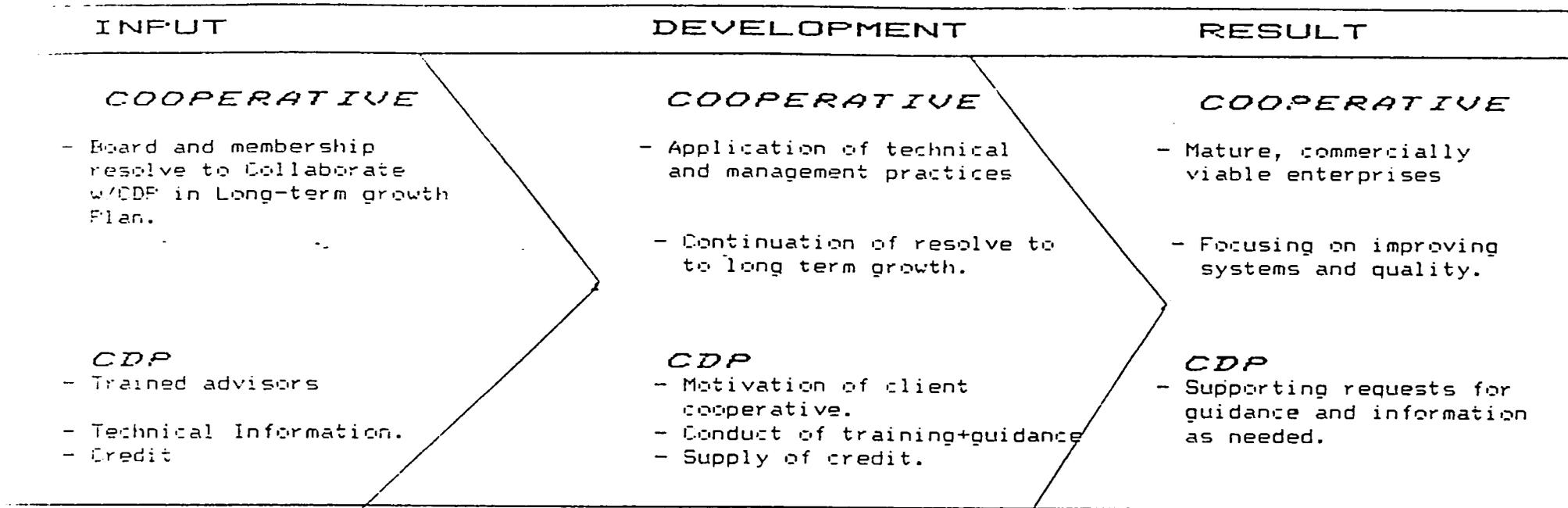
COOPERATIVE DEVELOPMENT PROJECT

MISSION STATEMENT

CDP is a responsive development organization whose mission is to empower community-based Palestinian private sector institutions which show promise of operating with sound business practices. Guided by principles of cooperation, CDP focuses on the delivery of quality management and technical skills training and comprehensive human resource development.

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## CDF COOPERATIVE DEVELOPMENT STRATEGY



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**STAGES OF COOPERATIVE DEVELOPMENT**

STAGE ONE	STAGE TWO	STAGE THREE
<b>INFANT COOPERATIVE</b>	<b>MATURING COOPERATIVE</b>	<b>INDEPENDENT COOPERATIVE</b>
<p><b>HAVE:</b></p> <ul style="list-style-type: none"> <li>o Registration</li> <li>o Access to Board of Director</li> </ul> <p><b>NEED:</b></p> <ul style="list-style-type: none"> <li>o Organization Development:               <ul style="list-style-type: none"> <li>- Mgmt systems</li> <li>- Technical capabilities</li> </ul> </li> <li>o Resources:               <ul style="list-style-type: none"> <li>- Financing</li> <li>- Materials/supplies</li> </ul> </li> </ul>	<p><b>HAVE:</b></p> <ul style="list-style-type: none"> <li>o Registration</li> <li>o Responsive Board of Director</li> <li>o Accountability system</li> <li>o Mgmt/Technical practise (±)</li> </ul> <p><b>NEED:</b></p> <ul style="list-style-type: none"> <li>o Upgrading of board &amp; membership participation.</li> <li>o Upgrading of management and Technical practices</li> </ul>	<p><b>HAVE:</b></p> <ul style="list-style-type: none"> <li>o Registration</li> <li>o Active Board of Director</li> <li>o Appropriate Organiz'n Structure</li> <li>o Mgmt systems + staff</li> <li>o Technical Skills</li> </ul> <p><b>NEED:</b></p> <ul style="list-style-type: none"> <li>o Quality management (ongoing improvement program)</li> </ul>
<p><b>CDP RESPONSE:</b></p> <ul style="list-style-type: none"> <li>o Provide motivation and collaboration in L - T development.</li> <li>o Provide: Training, Technical Assistance, Credit.</li> </ul>	<p><b>CDP RESPONSE:</b></p> <ul style="list-style-type: none"> <li>o Continue motivation and assist L-T development.</li> <li>o Continue: Training, Technical Assistance, Credit.</li> </ul>	<p><b>CDP RESPONSE:</b></p> <ul style="list-style-type: none"> <li>o Respond to requests for services and information supporting continued improvement of cooperation</li> </ul>

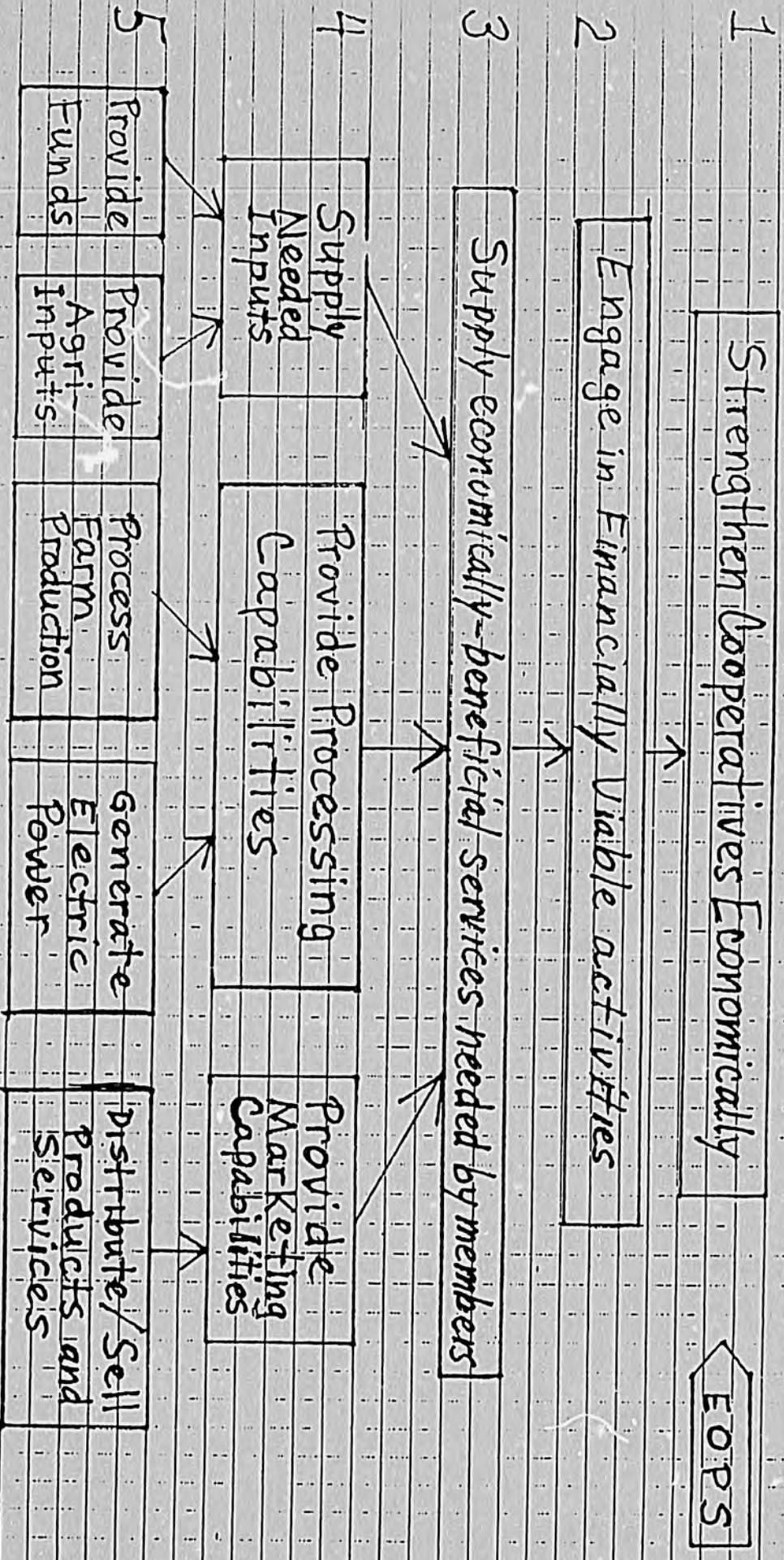
## MODEL CO-OP

It is a business organization formed by a group of people to better provide themselves with those goods and services at a competitive price whereby their incomes will be increased and the quality of life in their community will be enhanced. It's a co-op that holds annual assemblies, where the members of the board of directors are elected through a democratic process with each member having one vote. It offers the members the opportunity to vote on policies, approve financial statements, and approve plans designed by the board of directors.

1. Has a board of directors who are capable of:-
  - a. carrying out the policies approved by the co-op membership.
  - b. developing policies for the manager and staff to follow.
  - c. developing financial statements.
  - d. developing annual budgets for the co-op.
  - e. developing Annual Workplans for the co-op.
  - f. making regular activities reports to its members.
  - g. meeting on a regular basis to review the co-op activities.
  - h. hiring a manager and staff capable of carrying out the daily activities of the co-op.
2. Has the potential of making a profit.
3. Pays patronage refunds to its members.
4. It is an organization capable of carrying out its own business activities with a minimum of outside intervention.

# GDP PROJECT OBJECTIVES TREE

LEVEL

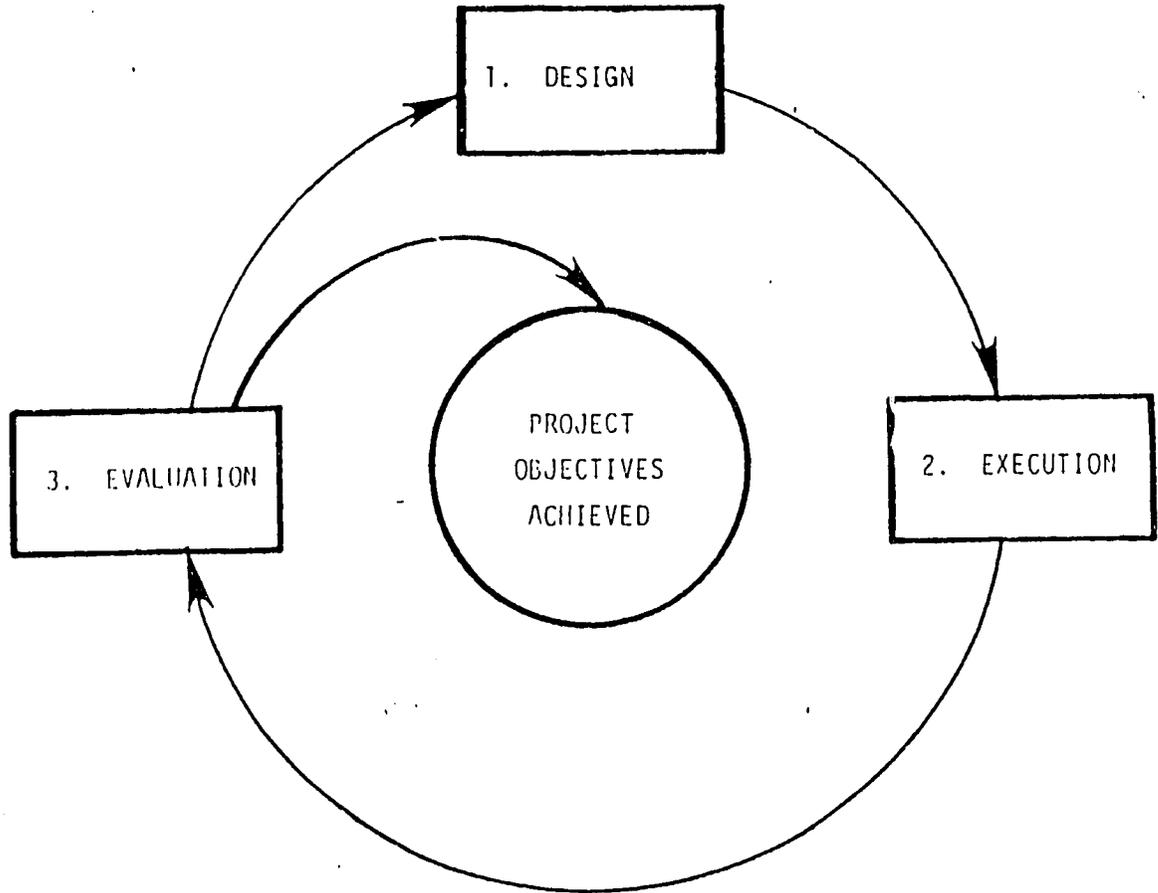


Part Two

PROJECT MANAGEMENT

SYSTEM

Figure I-1:  
THE PROJECT CYCLE

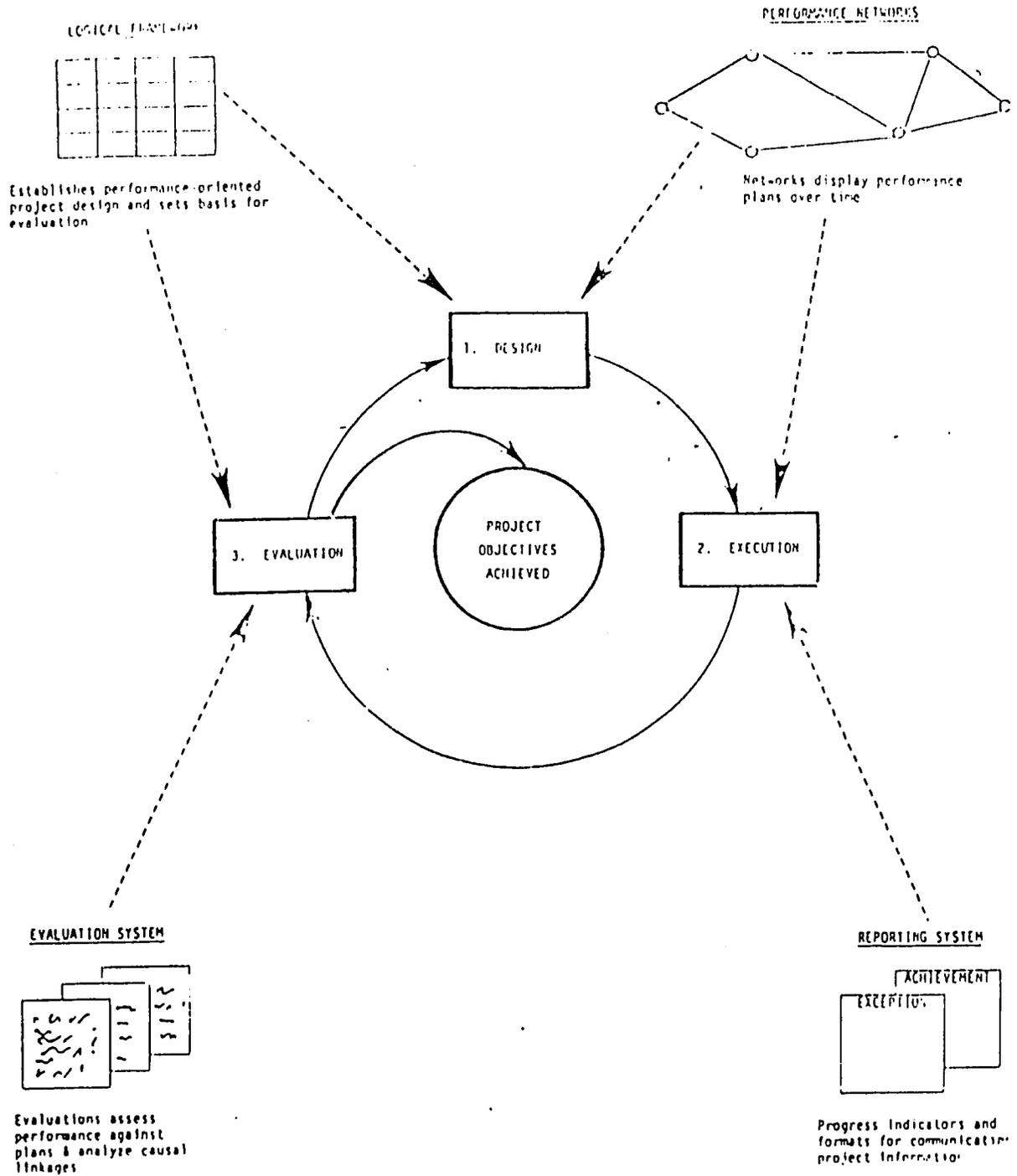


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Figure 1-2:

PMS PROVIDES MANAGEMENT TOOLS  
TO SUPPORT ALL STAGES OF THE PROJECT CYCLE



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Figure II-1:  
CHARACTERISTICS OF OPERATION & PROJECTS

Charac- teristics	Operations	Project Management
Orientation or Style	Steady or cruising rates of pro- duction	Research, development, experimen- tation, one-time activities, major construction, new technology ap- plications
Design	Optimization of efficiency by simplified repetitive actions (bar charts)	Logically dependent steps, action and times organized for specific limited purpose (networks)
Reporting	Periodic reports; time, mater- ials, labor, funds as used, in- ventories, production	Episodic: Achievement or comple- tion of steps, exceptions, warn- ings, changes in assumed condi- tions, periodic recapitulations and reviews
Budgeting	By organizational unit, sub- unit	By logical steps, milestones, specific activities
Accounting	Cash flows, capital invest- ment, credit ratios, cost allocation	Cost centers, periodic resource use
Success Criteria	Profit or loss, sales, units of work accomplished	Achievement of overall purpose based on independent measures

Figure II-2:  
MANAGEMENT PROCESSES APPLIED TO OPERATIONS & PROJECTS

Processes	Operations	Projects
Approval	Granted annually for continued operation with possible modifications. Different approval bodies for different aspects	Granted once on the basis of total design of logically inter-linked steps toward achievement of purpose, single approval body
Control & Review	Periodic examination and appraisal of performance	Predetermined by project design as indicators of major events
Funds	Regular flow established on basis of level of operations	Scheduled in project design at time of approval
Reporting	Periodic, timed to reflect regular use of resources and performance	Scheduled in project design, showing achievement of milestones or exceptions any time performance is threatened
Evaluation	Normally follows yearly summary for approval renewal	Evaluation for feasibility prior to approval and then scheduled by design for critical events to ensure responsiveness to problems
Resource Management	General accounting procedures and reports	Activity paced resource allocation based on designed performance steps

Figure IV-1:

HIGHER MANAGEMENT NETWORKS SUMMARIZE MORE DETAILED INFORMATION AT LOWER LEVELS

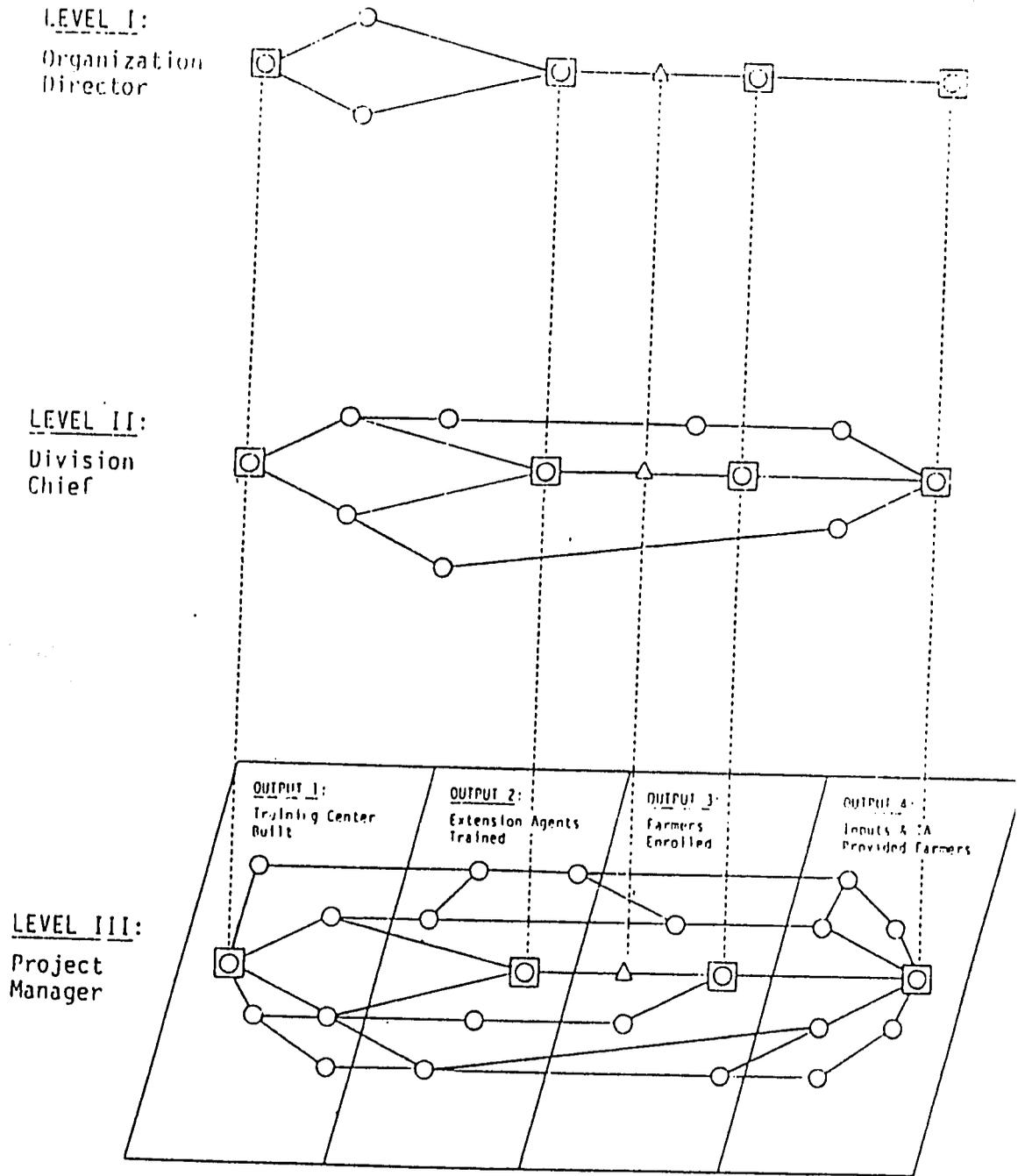


Figure IV-2:

PROJECT REPORTING CONDITIONS

Project Condition		
EVENT MISSED	EVENT IN DANGER	EVENT COMPLETED
EXCEPTION (RED FLAG)	EXCEPTION (YELLOW FLAG)	EXCEPTION (GREEN FLAG)

REPORT TYPE

Figure IV-3:

EXCEPTION REPORT SAMPLE FORMAT

TO:

FROM:

DATE:

PROJECT:

CONDITION:

- Identifies event in danger or missed by name and number

PROBLEM:

- Discusses nature and source of problem being reported

PROJECT  
ASSESSMENT:

- Discusses impact on project
- Presents alternatives, and advantages and disadvantages of each
- Recommends best alternative

ACTION:

- Specifies actions already undertaken
- Specifies action requested and date by which actions are needed

JK

Figure IV-4:SAMPLE EXCEPTION REPORT (RED FLAG)

TO: Mission Director  
FROM: PMS Manager  
DATE: May 30, 1977  
PROJECT: Tehristan Millet Production

CONDITION: Event #32--"Baseline Data Gathered"--MISSED

PROBLEM: Questionnaires submitted by extension agents are incomplete. Agents report two hours required to gather all data called for from farmers. To assure that all farmers were provided inputs before May 15 planting date, extension agents concentrated on input distribution and completed questionnaires only if time permitted.

PROJECT ASSESSMENT: Failure to collect baseline data from at least 80 farmers will not permit comprehensive evaluation at end of growing season. A possible alternative is to have agents collect data on subsequent visits after planting, but their visit schedule is extremely tight and there may be no time to complete questionnaire. Another option is to shorten questionnaire, but not all evaluation issues could be addressed. Recommended alternative is to request Ministry of Agriculture to supply five trainees for two week period in June.

ACTION: Reviewing questionnaire to simplify coding of responses. Request Mission Director to contact Agriculture Deputy in Ministry concerning possible use of trainees. Ministry response required by June 10.

Figure IV-5:

ACHIEVEMENT REPORT SAMPLE FORMAT

TO:	
FROM:	
DATE:	
PROJECT:	
CONDITION:	<ul style="list-style-type: none"><li>• Identifies event achieved by name and number</li></ul>
ACHIEVEMENT:	<ul style="list-style-type: none"><li>• Discusses level of achievement (quantity and quality)</li><li>• Measures achievement against preestablished performance expectation</li><li>• May include explanation or interpretation of achievement</li></ul>
PROJECT ASSESSMENT:	<ul style="list-style-type: none"><li>• Assesses current status of project in general</li><li>• Alerts management to key issues upcoming</li><li>• Validates schedule of future events and resource adequacy</li></ul>
ACTION:	<ul style="list-style-type: none"><li>• Specifies actions presently being taken</li><li>• May request actions to be taken by others, and date required</li></ul>
NEXT REPORTING EVENT:	<ul style="list-style-type: none"><li>• Identifies name and date of next scheduled achievement report</li></ul>

Figure IV-6:ACHIEVEMENT REPORT SAMPLE

TO: PMS Manager  
 FROM: Project Officer  
 DATE: November 15, 1976  
 PROJECT: Tehristan Millet Production

CONDITIGN: Event #7 completed, Training of Extension Agents

ACHIEVEMENT: 16 agents successfully completed three weeks training in cultivation, planting and harvesting techniques. 19 trainees originally enrolled in training session; one dropped out during the second week, two did not demonstrate proficiency and ability to effectively teach farmers. Trainees demonstrated strong interest and enthusiasm and provided useful insights into farmer motivation which will be used to modify farmer campaign.

PROJECT ASSESSMENT: Project on schedule with no change in timing of future events or estimated resource requirements. Assumption regarding favorable government coop purchase policies may be key to insuring adequate level (350) of first-year farmer participation.

ACTION: Presently preparing farmer campaign promotional materials. Holding discussions with Agriculture Ministry regarding purchase policies; announcement expected within two weeks.  
  
 No actions requested at this time.

NEXT REPORTING EVENT: Data collection and analysis techniques developed, December 15.

## 1. DISPLAY BOARDS FOR MONITORING PROJECT STATUS

Managers responsible for monitoring the status of several individual projects often find it convenient to identify the "key events" from each project together on a single display chart. The key events and dates of each are shown for all projects on the Project Summary Status Board. This display allows the manager to quickly look at upcoming key events for projects over the future time period of interest--often 18 months.

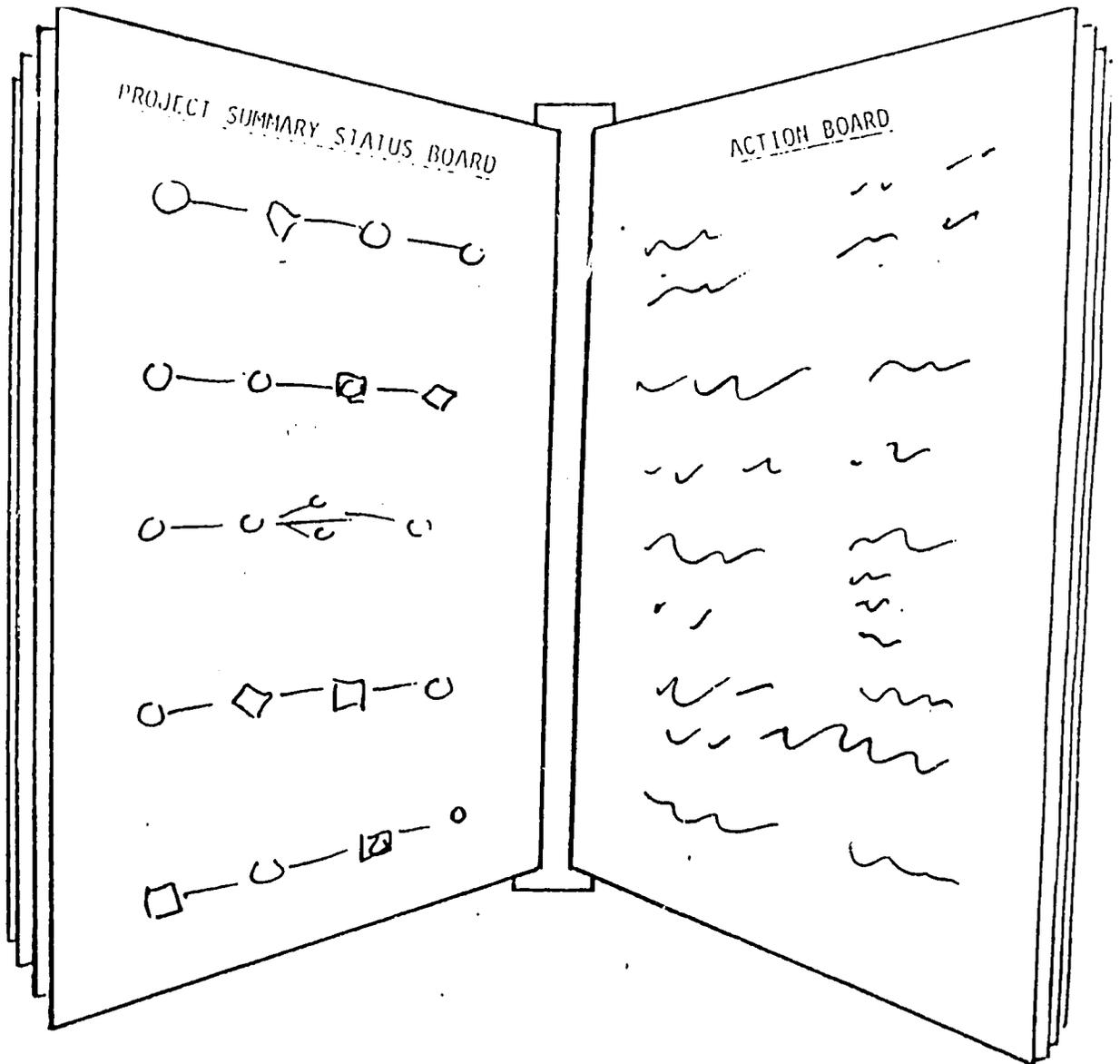
A companion management tool is the Action Board. Design of the Action Board is flexible, but generally includes the following entries for each project:

- status of the project (red, yellow, or green)
- description of the problem (if any) and the key event affected
- corrective actions to be taken
- who is responsible for the actions
- date by which action is required
- other entries as appropriate

The Action Board is designed to ensure that when red or yellow flag items occur, the actions decided on are entered for completion by a specific date so that the problem resolution can be tracked in the same manner as the project itself.

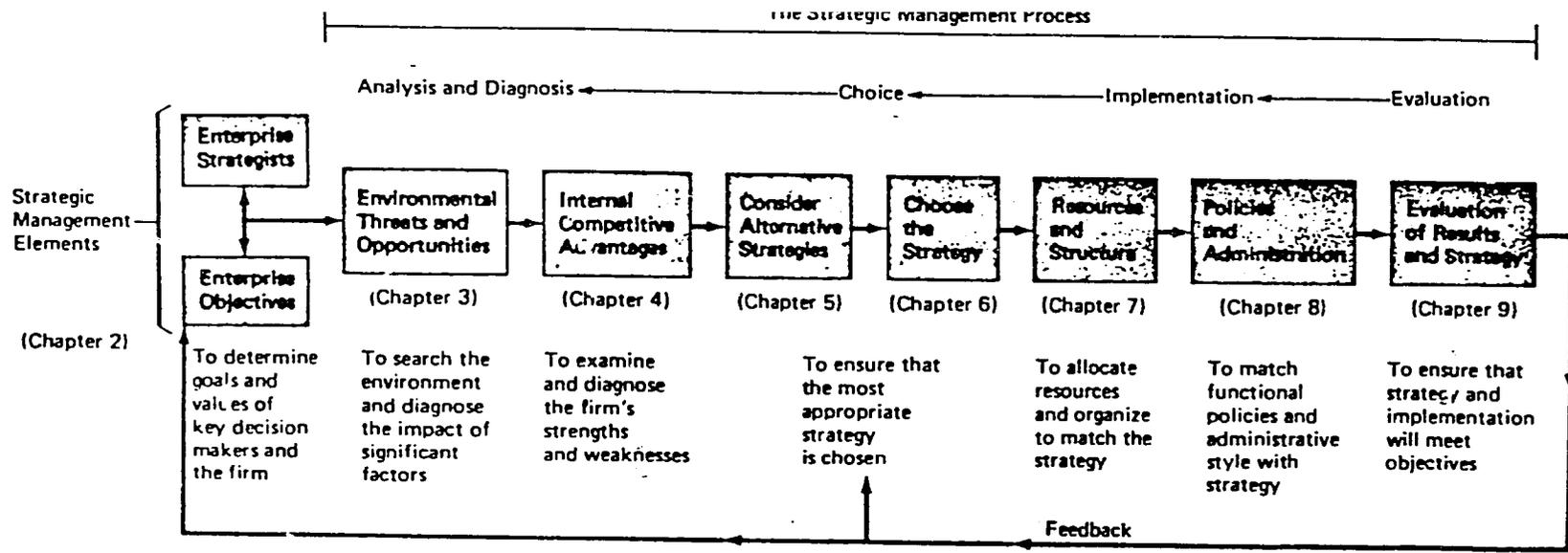
In addition to providing management with a project status summary, the display boards (see Figure IV-7) have a psychological value in motivating managers to "keep their projects in green status."

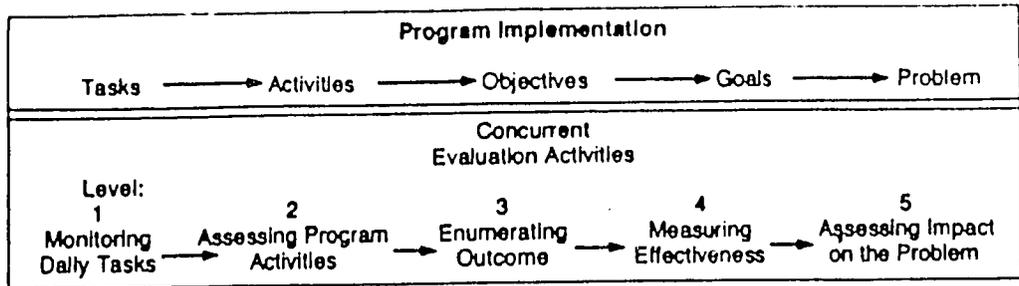
Figure IV-7:  
DISPLAY BOARDS FOR MONITORING PROJECT STATUS



*Part Three*

LEVELS OF EVALUATION





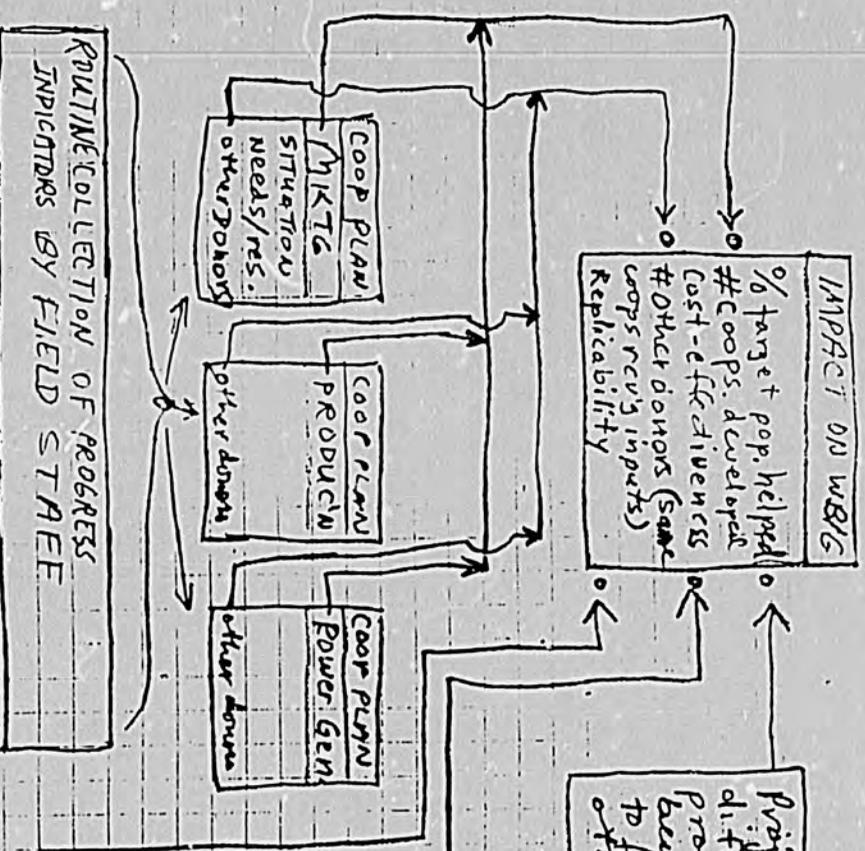
**Figure 1. Sequence of Program Implementation and Evaluation Activities**

<i>Process/Formative Evaluation</i>		<i>Outcome/Summative Evaluation</i>		
<b>Level 1</b> <i>Monitoring Daily tasks</i>	<b>Level 2</b> <i>Assessing Program Activities</i>	<b>Level 3</b> <i>Enumerating Outcomes</i>	<b>Level 4</b> <i>Measuring Effectiveness</i>	<b>Level 5</b> <i>Assessing Impact on the Problem</i>
Are contractual or service obligations being met?  Is activity taking place where and when it should?  Are staff members working where and when they should?  Is the program administratively sound?  Are daily tasks carried out efficiently?  Are staff adequately trained for their jobs?	What is done to whom? What activities are taking place?  Who is the target of activity (numbers and types of people with what problems/needs, from what areas, etc.)?  How well is the activity implemented?  How could it be done more efficiently?  Were clients satisfied?  Does the program have a favorable image?	What is the result of the activities described in level 2?  Should different activities be substituted?  Have program objectives been achieved?  What happened to the target population? How is it different from before?  Have unanticipated outcomes also occurred and are they desirable?  What activities might be repeated to ensure their future occurrence?	What would have happened to participants in the absence of the program?  What are all the factors that may have contributed to the changes documented at level 3?  How cost effective is the program, compared to others with the same goals?	What changes are evident in the problem?  Has the problem been reduced as a result of the program?  What new knowledge has been generated for society about the problem or ways to solve the problem?

**Figure 2. Evaluation Levels**

Indicator & Timing	Data Sources	Responsibility	Major Uses & Users
<p>I. Monthly:</p> <p>II. Quarterly:</p> <p>III. Annually:</p> <p>IV. Other:</p> <p>Special Studies (specify where appropriate; others as needed)</p> <p>Evaluations (as needed)</p>			

# INDICATORS OF PROJECT IMPACT



**IMPACT ON WBG**

- % target pop. helped
- # coops. developed
- Cost-eff. dev. (same coops recy inputs)
- # other donors (same coops recy inputs)
- Replicability

**ROUTINE COLLECTION OF PROGRESS INDICATORS BY FIELD STAFF**

## INDICATORS OF:

- Progress in development of marketing capability
- Progress in mgmt of the coop
- Nrs. of participants
- Nrs. of indirect beneficiaries
- Progress in devt of processing farm production
- Progress in devt of power gen. in

Projections of diffusion of project benefits beyond coop members to families, communities, other coops, etc

Determine cost/person by reaching # of target pop. helped. Use project budget and compare against alternative approaches

Measure effectiveness of cooperative development strategy by evaluating achievement of goals + objectives according to measurable criteria and perhaps against control group observations. Determine if methods and results can be successfully replicated

(N.B. User satisfaction)

*Part Four*

PROJECT MANAGEMENT GUIDE

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## WHAT IS PROJECT MANAGEMENT?

Project management focuses on a project. A project is an undertaking that has a beginning and an end and is carried out to meet established goals within cost, schedule, and quality objectives. Project management brings together and optimizes the resources necessary to successfully complete the project. These resources include the skills, talents, and cooperative effort of a team of people; facilities, tools, and equipment; information, systems, and techniques; and money.

### How Did Project Management Develop?

The concept of project management as a discipline was developed for use in managing the U.S. space program in the early 1960s. Its practice has expanded rapidly into government, the military, and industry. Today you will find these principles being used under the names of *program management*, *product management*, and *construction management*.

### How Does Project Management Differ from Other Management Principles?

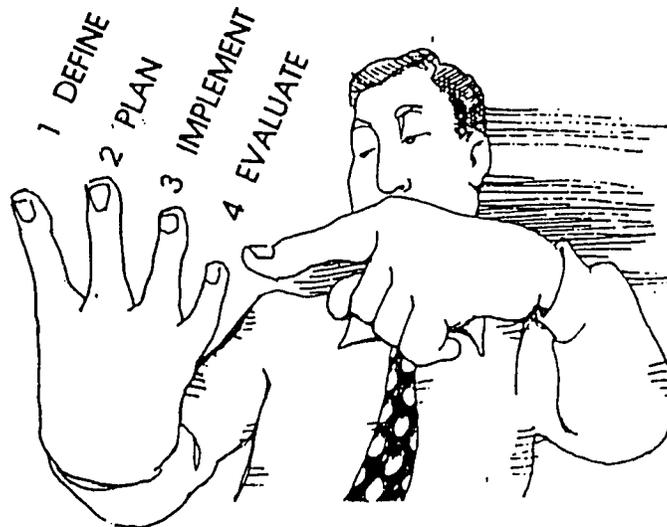
Project management differs in two significant ways. First, it focuses on a project with a finite life span, whereas departments or other organizational units expect to exist indefinitely. Second, projects frequently need resources on a part-time basis, whereas permanent organizations try to utilize resources full-time. The sharing of resources frequently leads to conflict and requires skillful negotiation to see that projects get the necessary resources to meet objectives throughout their project life.

# THE PROJECT LIFE CYCLE

Each project moves through a predictable life cycle of four phases with each phase calling for different skills from the project manager. The phases of a project's life cycle are:

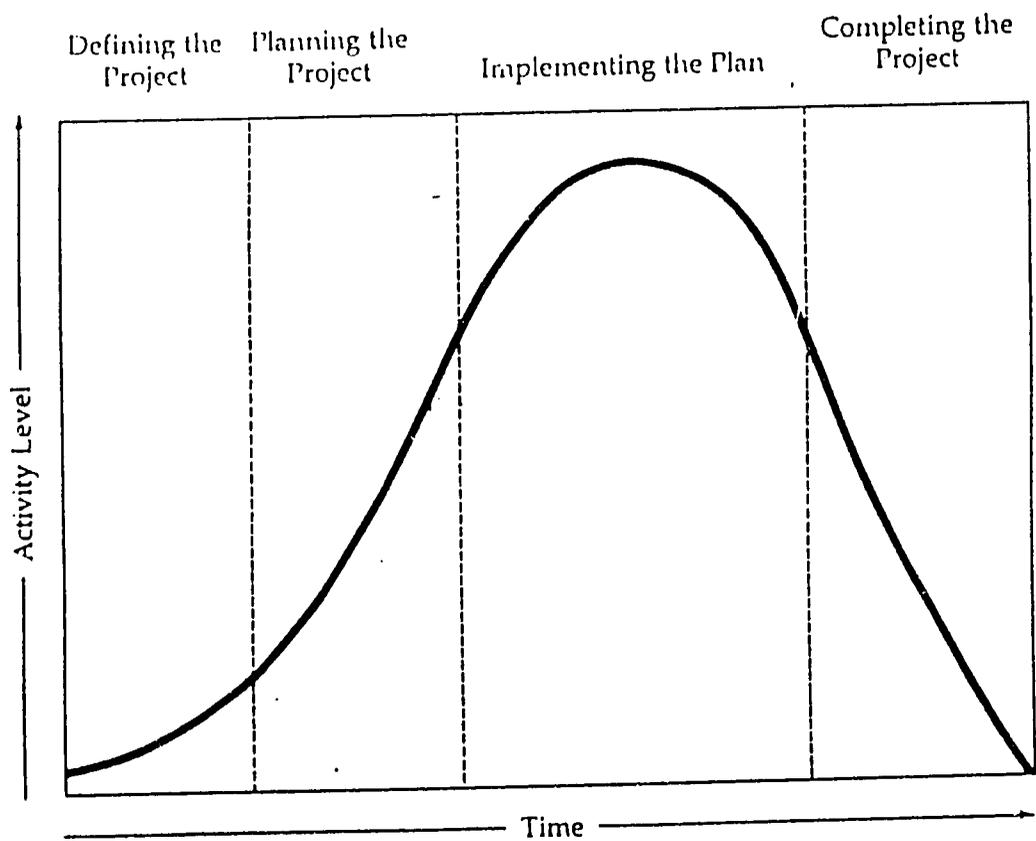
- Conceiving and defining the project
- Planning the project
- Implementing the plan
- Completing and evaluating the project

Each phase will be discussed in a chapter of its own later in this book.



*FOUR STEPS TO SUCCESS*

Typical Activity Levels During the Phases of a Project's Life



To fully understand the phases of a project, do the exercise on the next page.

**Exercise**

Think of a project you have completed within the last two or three months. It may have been a weekend project at home or something at work. Now, respond to the following questions:

1. When did you first get the idea for the project? How much time elapsed and what steps were involved between the first idea and a clear understanding of what you were going to do?

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2. How did you go about planning the project? Did you determine what tools, equipment, and supplies you would need and where to obtain them? Did you plan for extra help if you could not handle the project alone?

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- 3. Once you got under way, did everything go according to plan? Did you stay within budget? Did you finish on time? Did you meet your quality standards? Did any unanticipated problems occur? If so, how did you deal with them?

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- 4. When the project was completed, were there people to be released and reassigned, tools and equipment to be returned, and surplus material to be disposed of?

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- 5. After the project was completed, did you spend any time reflecting on the experience to see where improvements could be made in the management of the project? If not, take a few minutes now and write down some ideas for improvement.

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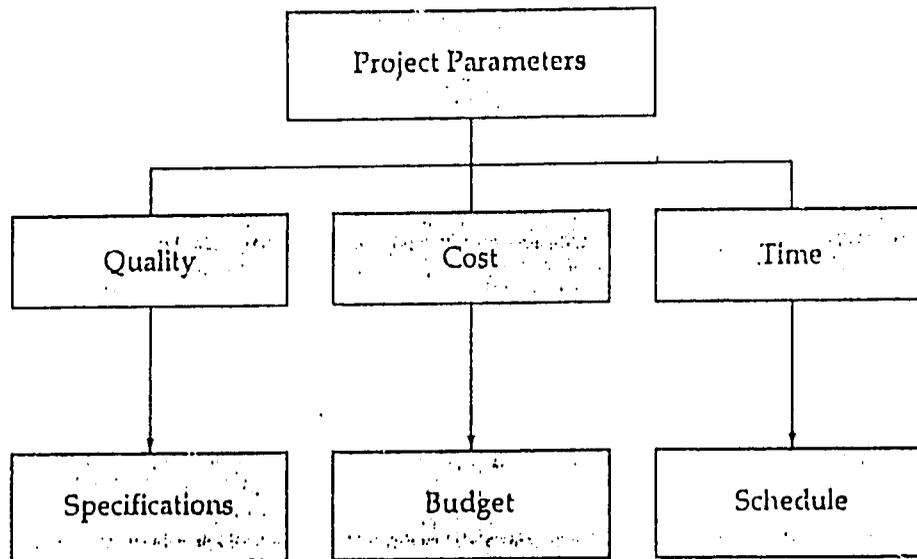
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# PROJECT PARAMETERS

During a project's life, management focuses on three basic parameters: quality, cost, and time. A successfully managed project is one that is completed at the specified level of quality, on or before the deadline, and within budget.

Each of these parameters is specified in detail during the planning phase of the project. These specifications then form the basis for control during the implementation phase.



## NEGOTIATING SPECIFICATIONS WITH THE CLIENT

If there is a client involved who must accept the project upon completion, the specifications that define a successful outcome must be negotiated and agreed to by the client, and included as part of the contract.

A client may be either internal or external. Also, there may be more than one "client," especially when the project is internal to the company. For example, the case study in this book is a construction project for more space within a company. The clients in this case may be the department that will use the space, and management, who must agree to the budget and scheduling specifications.

In the course of a project, specifications may change. The project manager has responsibility to make sure the client—external or internal—agrees to the revised specifications. If there is a written contract, it needs to be revised and signed off by all involved parties, so that when the final inspection is done, the project team and the client agree on what acceptable parameters are.

## Rate Yourself As a Project Manager

Rate yourself on each of the following skills required to be a successful project manager. Place a check mark (✓) in front of each skill you feel you can handle. When you're finished, the ones not checked represent opportunities for development.

### My project management skills:

- Organizing a project from beginning to end.
- Structuring a plan that will stand up under pressure.
- Getting people to accept my plans and support them.
- Setting measurable project objectives.
- Motivating team members.
- Helping team members solve problems.
- Utilizing available resources.
- Eliminating waste of time and money.
- Measuring project performance.
- Using information systems that respond to project needs.



## GETTING UNDER WAY

When the nucleus of the project team is assembled, its first order of business is to clarify the project and arrive at agreement among team members about the project's definition and scope, as well as the basic strategy for carrying it out. There is an orderly process that can guide you through these steps. The following sequence of activities will get your project smoothly under way:

1. Study, discuss, and analyze.
2. Write the project definition.
3. Set an end-results objective.
4. List imperatives and desirables.
5. Generate alternative strategies.
6. Evaluate alternatives.
7. Choose a course of action.

1. It is critical for the team to spend adequate time at the beginning to *study, discuss, and analyze* the project. This establishes a clear understanding of what you are dealing with. It may be necessary to research how similar projects structured their approach, or what other patterns of past experience can contribute to project planning. The purpose of this activity is to be sure you are addressing the *right* problem or pursuing the *real* opportunity.
2. When you are confident that you have a firm grasp of the situation, work up a *preliminary project definition*. This preliminary definition will be subject to revision as additional information and experience are acquired.

3. Now, using this project definition, state the *end-results objective* of the project.
4. Then, list both the *imperatives and desirables* to be present in the end results. That is, list the outcomes that must be present for the project to be considered successful, and list the outcomes that are not essential but that would add to the project's success.
5. Now you are ready to *generate alternative strategies* that might lead you to your objective. To generate these alternatives, try brainstorming with your project team (see technique on the next page).
6. Next, *evaluate the alternative strategies* you have generated. Be sure that your criteria for evaluation are realistic and reflect the end-results objective.
7. Evaluation allows you to *choose a course of action* that will meet both your project definition and end-results objective.

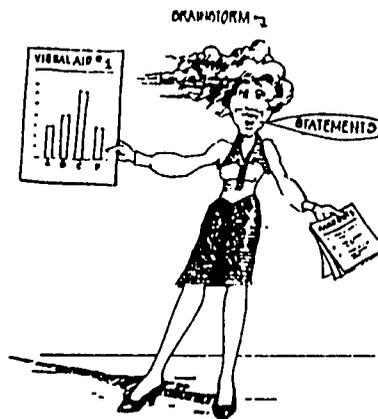


## Brainstorming

Brainstorming is a free-form process that taps into the creative potential of a group through association of ideas. Association works as a two-way current: when a group member voices an idea, this stimulates ideas from others, which in turn leads to more ideas from the one who initiated the idea.

### Brainstorming Procedures

- List all ideas offered by group members.
- Do not evaluate or judge ideas at this time.
- Do not discuss ideas at this time except to clarify understanding.
- Welcome "blue sky" ideas. It's easier to eliminate ideas later.
- Repetition is okay. Don't waste time sorting out duplication.
- Encourage quantity. The more ideas you generate, the greater your chance of finding a useful one.
- Don't be too anxious to close the process. When a plateau is reached, let things rest and then start again.



## TESTING YOUR PRELIMINARY STRATEGY

Before moving to a full-scale project, a feasibility study must be carried out to test your preliminary strategy and answer the basic question: "Will it work?" Depending on the nature of the project, one or more of three alternatives will help answer this question. The choices are to do a *market study*, *pilot test*, or *computer simulation*.

The amount of money and other resources that are invested in feasibility studies must be in proportion to the amount of money that the project will put at risk. For example, a company that is going to invest \$450 million to retool a factory to manufacture a new appliance will probably consider a \$250,000 market study an excellent investment if it clarifies the design of the appliance before the major investment is made. On the other hand, a franchised cookie company that is planning to add a new kind of cookie to its line could simply mix up a batch at one store, sell them for a week, and look at sales results—all for a modest investment in local advertising and special ingredients.

### Market Study

If your project is to bring a new product to market, you must determine its market potential. Market research asks customers whether your product satisfies their current or potential perceived needs. You can also examine similar products to determine how your product is differentiated from those that are currently available.

### Pilot Test

A pilot test is a small-scale tryout of your project. It could be a limited-area market test of a product or a working model of a construction project. Sometimes referred to as "field testing," a pilot test gives you the opportunity to observe your project's performance under actual conditions.

### Computer Simulation

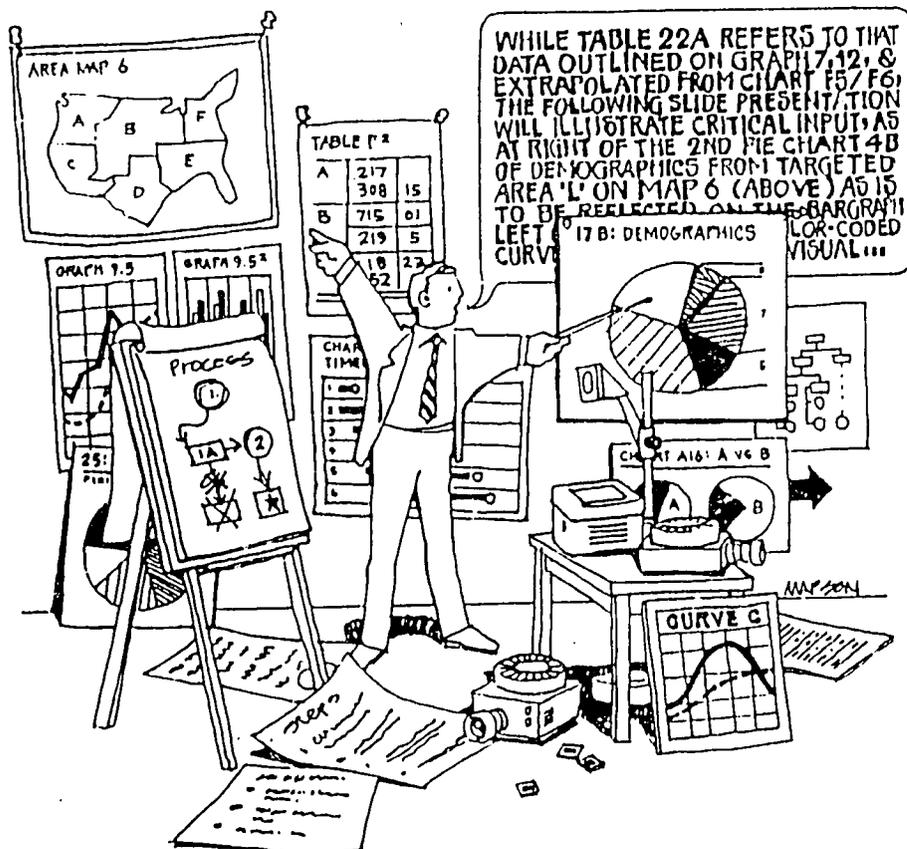
Current technology permits many different types of projects to be modeled on computers. For example, the market potential of a product can be predicted by analyzing demographic data of the target users along with certain assumptions about current and potential needs. The load-bearing potential of buildings, bridges, vessels, etc. are analyzed through mathematical calculations.

## TESTING YOUR PRELIMINARY STRATEGY (Continued)

Computer simulation is used in such diverse fields as aerodynamics, thermodynamics, optical design, and mechanical design. In some cases, the computer is used to assist with the actual design of the project. The major purpose of simulation is to identify potential problems before the project is built.

### Using the Study Results

If the results of a well-conceived and executed feasibility study indicate that the project should proceed, you can move confidently into detailed planning and implementation of your project. If the results are discouraging, the data are used to do a product redesign, followed by another feasibility study, and so on until a successful product concept is identified.



**FEASIBILITY STUDIES SHOULD BE WELL-CONCEIVED**

## PLANNING THE THREE PROJECT PARAMETERS

Planning is crucial in project management. Planning means listing in detail what is required to successfully complete the project along the three critical dimensions of quality, time, and cost. Each of these dimensions will be considered in the following pages, along with a variety of tools and techniques.

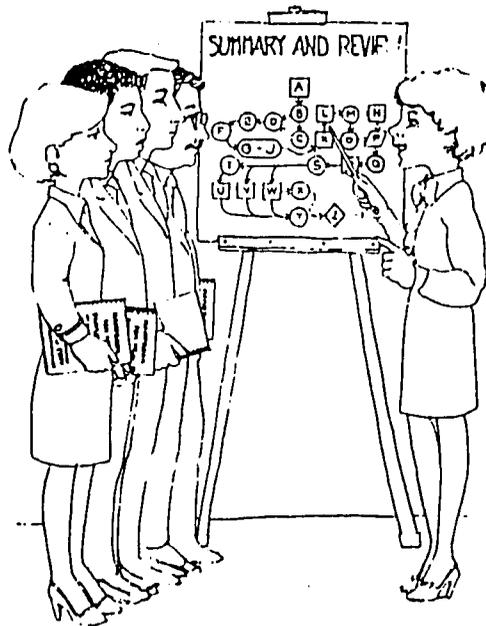
### Planning Steps

- Establish the project objective.
- Choose a basic strategy for achieving the objective.
- Break the project down into subunits or steps.
- Determine the performance standards for each subunit.
- Determine how much time is required to complete each subunit.
- Determine the proper sequence for completing the subunits and aggregate this information into a schedule for the total project.
- Design the cost of each subunit and aggregate costs into the project budget.
- Design the necessary staff organization, including the number and kind of positions, and the duties and responsibilities of each.
- Determine what training, if any, is required for project team members.
- Develop the necessary policies and procedures.

## PLANNING THE QUALITY DIMENSION

Planning for quality\* requires attention to detail. The goal of quality planning is to assure that the output of the project will perform—that it will do what it is supposed to do. The quality plan also establishes the criteria of performance by which the project output will be measured when it is completed.

In planning the quality dimension, include specifications for the quality and types of materials to be used, the performance standards to be met, and the means of verifying quality such as testing and inspection. Two techniques facilitate planning for quality: a *work breakdown structure* and *project specifications*. Both are described on the next few pages.



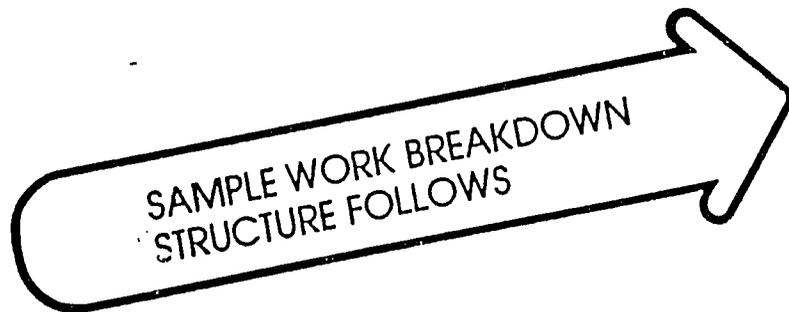
**PROJECT QUALITY IS DEFINED BY  
DETAILED PROJECT SPECIFICATIONS**

\*For an excellent book on this topic, order *Quality at Work* using the form in the back of this book.

## Creating a Work Breakdown Structure

A work breakdown structure is the starting place for planning all three parameters of a project: quality, cost, and time. It's a technique based on dividing a project into subunits or work packages. Because all elements required to complete the project are identified, you reduce the chances of neglecting or overlooking an essential step.

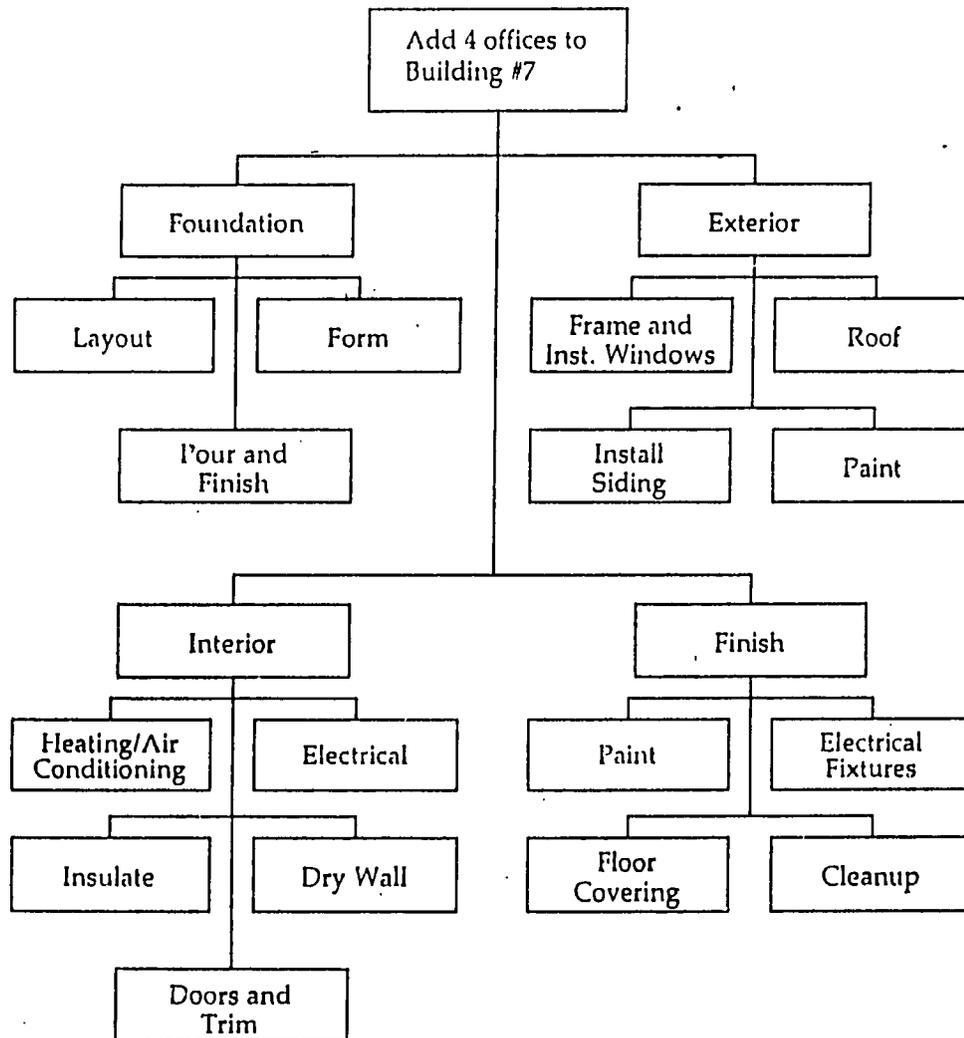
A work breakdown structure is typically constructed with two or three levels of detail, although more levels may be required for very complex projects. Start by identifying logical subdivisions of the project, then break each of these down further. As you construct a work breakdown structure, keep in mind that the goal is to identify a unit of work that is discrete and that advances the project toward its completion.



## CASE STUDY: REMODELING PROJECT

### Sample Work Breakdown Structure

Project Definition: Remodel Building #7 to provide four additional offices by the end of the third quarter at a cost not to exceed \$17,500.



## Practice Making a Work Breakdown Structure

Select a project you have completed or plan to complete and break it down into subunits (components or steps). Draw a work breakdown structure showing the relationship among the subunits.

**Work Breakdown Structure**

## Project Specifications

From the work breakdown structure, specifications can be written for each subunit of the project. Specifications include all relevant requirements to meet the project's quality dimension—materials to be used, standards to be met, tests to be performed, etc. Use extreme care in writing specifications, because they become the controlling factor in meeting project performance standards, and directly affect both budget and schedule.

### Example of Project Specifications

#### *Foundation*

- Pour 4-inch concrete slab over 6 inches of compacted sand fill. Reinforce with 6-inch by 6-inch #6 wire mesh. Install 6 mil polyethylene membrane water-proofing barrier between sand and concrete.
- Use 1-foot wide by 1-foot 6-inch deep beams around perimeter of foundation and under loadbearing walls, per blueprints. Beams to include #5 reinforcing steel bars in each corner positioned with #3 stirrups on 2-foot 6-inch centers.
- Concrete to withstand 2500 psi test after 28 days.

## PLANNING THE TIME DIMENSION

The objective when planning the time dimension is to determine the shortest time necessary to complete the project. Begin with the work breakdown structure and determine the time required to complete each subunit. Next, determine in what sequence subunits must be completed, and which ones may be under way at the same time. From this analysis, you will have determined the three most significant time elements:

- The duration of each step
- The earliest time at which a step may be started
- The latest time at which a step must be started

Planning the time dimension can only be done by people who have experience with the same or similar activities. If you personally do not know how long it takes to do something, you will need to rely on someone else who does have the requisite experience.

Many project managers find it realistic to estimate time intervals as a range rather than as a precise amount. Another way to deal with the lack of precision in estimating time is to use a commonly accepted formula for that task. Or, if you are working with a mathematical model, you can determine the probability of the work being completed within the estimated time by calculating a standard deviation of the time estimate.

## Using a Mathematical Model to Estimate Time

### *Estimating Time*

$T_m$ —The most probable time

$T_o$  —The optimistic (shortest) time within which only 1% of similar projects are completed

$T_p$  —The pessimistic (longest) time within which 99% of similar projects are completed

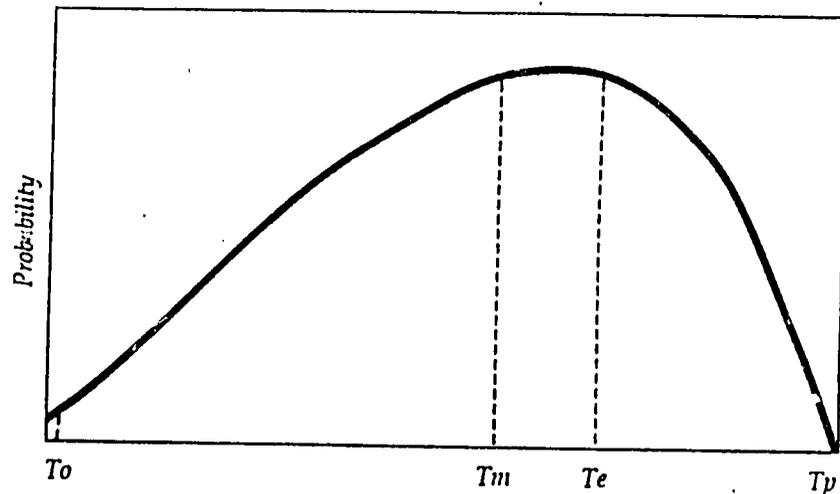
$T_e$  —The calculated time estimate

$$T_e = \frac{T_o + 4T_m + T_p}{6}$$

$\sigma$  = Standard deviation

$$\sigma = \frac{T_p - T_o}{6}$$

- 68.26% of the time the work will be completed within the range of  $T_e \pm 1$  standard deviation.
- 95.44% of the time the work will be completed within the range of  $T_e \pm 2$  standard deviations.
- 99.73% of the time the work will be completed within the range of  $T_e \pm 3$  standard deviations.



With a time duration determined for each subunit of the project, the next step is to determine the earliest and latest starting times for each subunit. There are two commonly used methods for charting the project: Gantt charts and PERT diagrams. The details of these two methods are discussed on the following pages.



## Gantt Charts

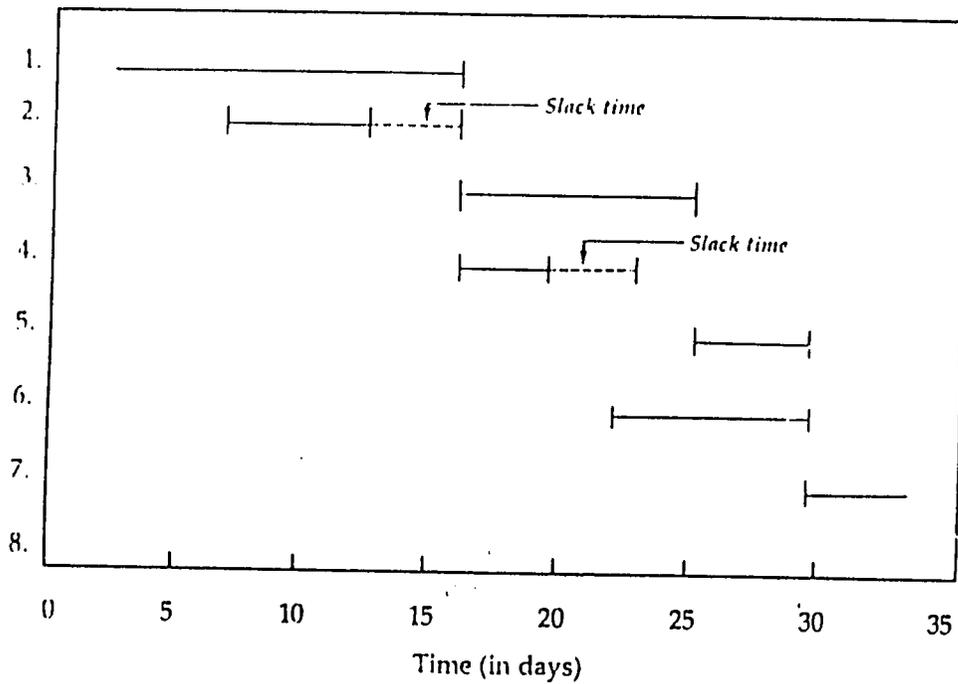
A Gantt chart is a horizontal bar chart that graphically displays the time relationship of the steps in a project. It is named after Henry Gantt, the industrial engineer who introduced the procedure in the early 1900s. Each step of a project is represented by a line placed on the chart in the time period when it is to be undertaken. When completed, the Gantt chart shows the flow of activities in sequence as well as those that can be under way at the same time.

To create a Gantt chart, list the steps required to complete a project and estimate the time required for each step. Then list the steps down the left side of the chart and time intervals along the bottom. Draw a line across the chart for each step, starting at the planned beginning date and ending on the completion date of that step.

Some parallel steps can be carried out at the same time with one taking longer than the other; this allows some flexibility about when to start the shorter step, as long as the plan has it finished in time to flow into subsequent steps. This situation can be shown with a dotted line continuing on to the time when the step must be completed.

When your Gantt chart is finished, you will be able to see the minimum total time for the project, the proper sequence of steps, and which steps can be under way at the same time.

Example of a Gantt Chart



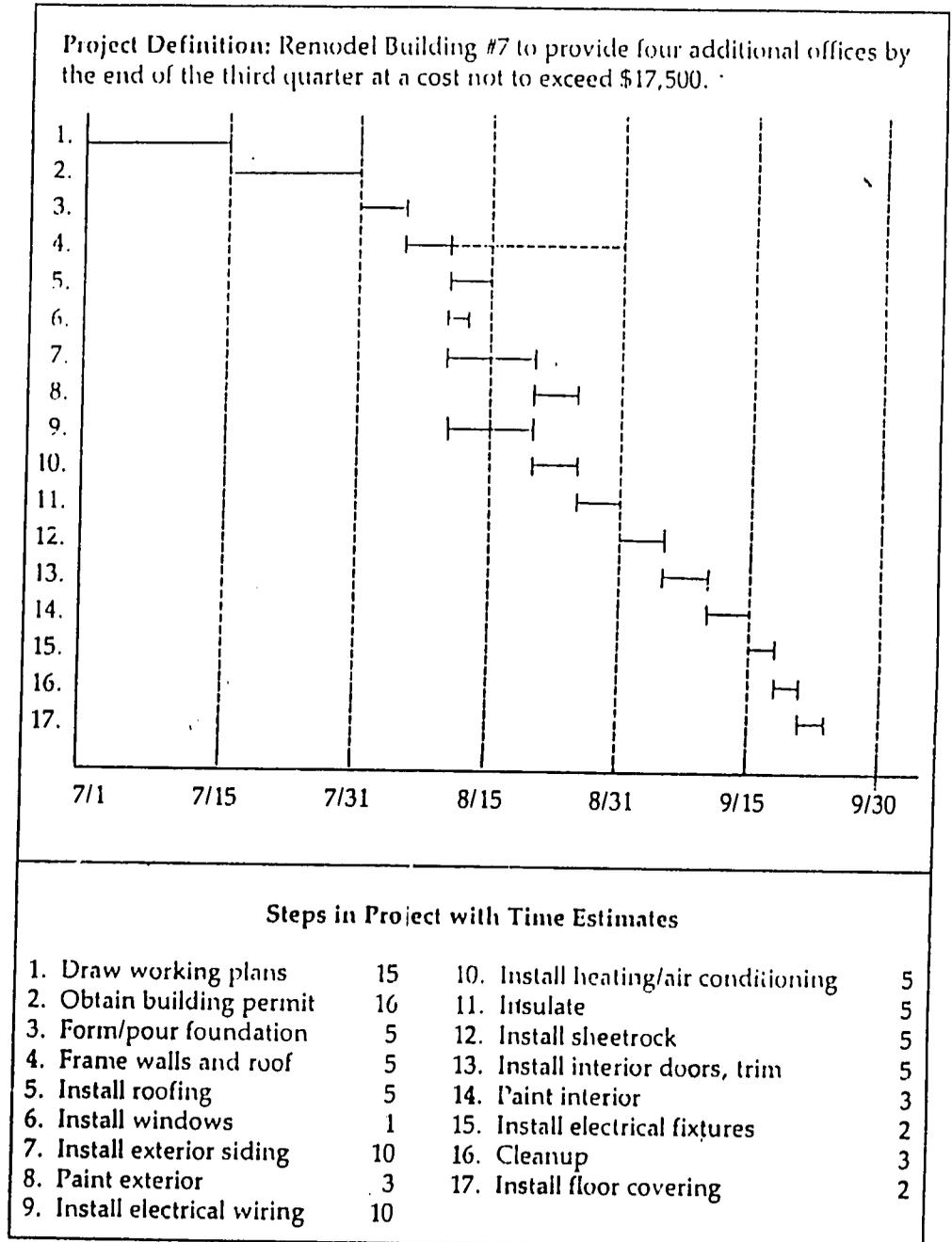
You can add to the usefulness of a Gantt chart by also charting actual progress. This is usually done by drawing a line in a different color below the original line to show the actual beginning and ending dates of each step. This allows you to quickly assess whether or not the project is on schedule.

Gantt charts are limited in their ability to show the interdependencies of activities. In projects where the steps flow in a simple sequence of events, they can portray adequate information for project management. However, when several steps are under way at the same time and a high level of interdependency exists among the various steps, PERT diagrams are a better choice.

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# CASE STUDY: REMODELING PROJECT

Example of a Gantt Chart



**Practice Drawing a Gantt Chart**

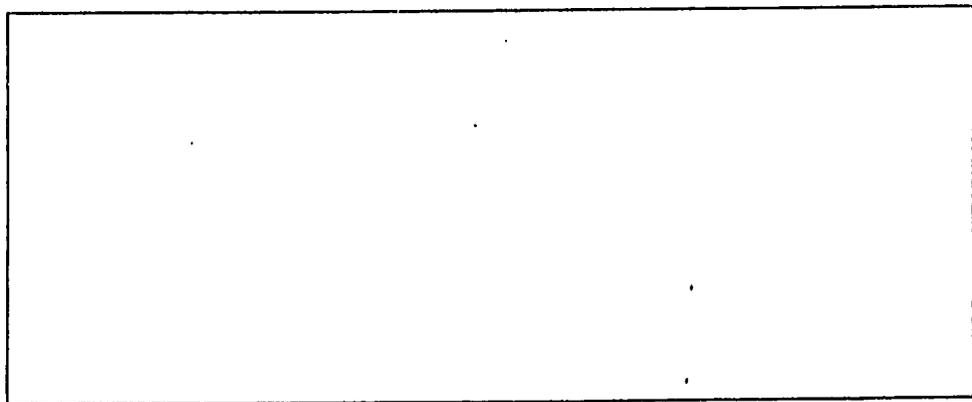
Using the project you prepared a work breakdown structure for earlier, estimate the time required for each step. Then draw a Gantt chart for the project.

Project: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Project Steps with Time Estimates**  
(in \_\_\_\_\_)

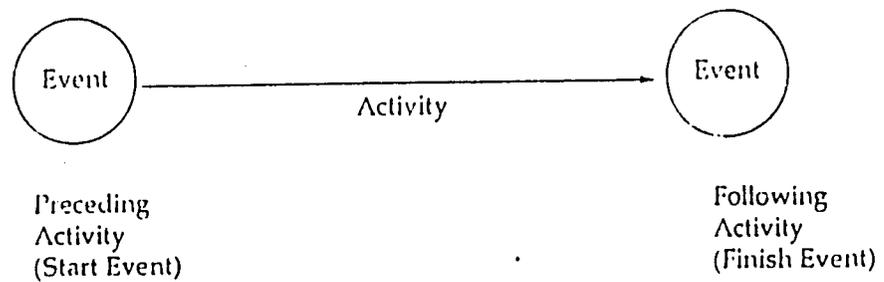
STEP	TIME	STEP	TIME
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____
_____	_____	_____	_____

**Gantt Chart**



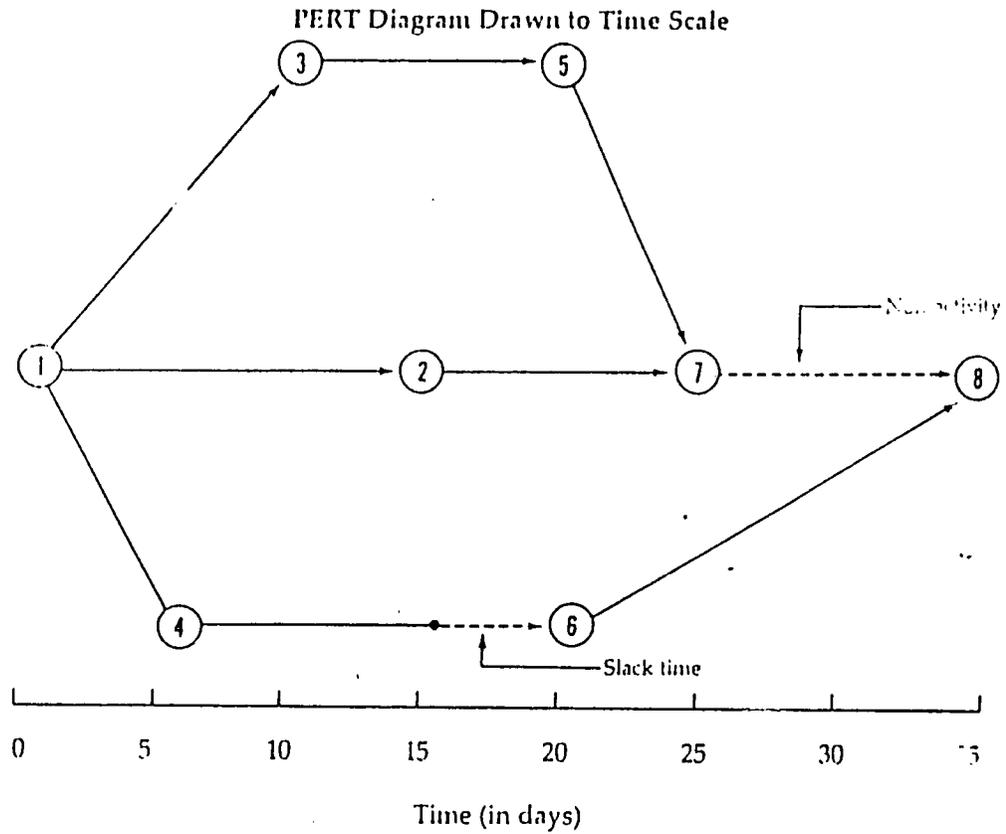
## PERT Diagrams

PERT stands for Program Evaluation and Review Technique. It is a more sophisticated form of planning than Gantt charts, and is appropriate for projects with many interactive steps. There are three components of a PERT diagram: *Events* are represented by circles or other convenient, closed figures; *activities* are represented by arrows connecting the circles; and *non-activities* connecting two events are shown as dotted-line arrows. (A non-activity represents a dependency between two events for which no work is required.)



PERT diagrams are most useful if they show the time scheduled for completing an activity on the activity line. Time is recorded in a unit appropriate for the project, with days being most common, and hours, weeks, or even months occasionally used. Some diagrams show two numbers for time estimates—a high estimate and a low estimate.

The most sophisticated PERT diagrams are drawn on a time scale, with the horizontal projection of connecting arrows drawn to represent the amount of time required for their activity. In the process of diagramming to scale, some connecting arrows will be longer than completion of that task requires. This represents slack time in the project and is depicted by a heavy dot at the end of the appropriate time period, followed by a dotted-line arrow connecting with the following event.



To draw a PERT diagram, list the steps required to finish a project and estimate the time required to complete each step. Then draw a network of relationships among the steps, keeping in mind the importance of proper sequencing. The number of the step from your list is written in the appropriate event circle to identify that step. The time to complete the following step is shown on the arrow. Steps that can be under way at the same time are shown on different paths. Be sure to include all the elements shown on your work breakdown structure.

A PERT diagram not only shows the relationship among various steps in a project, but also serves as an easy way to calculate the *critical path*. The critical path is the longest path through the network and as such identifies essential steps that must be completed on time to avoid delay in completing the project. The critical path is shown as a heavy line in the following example.

The usefulness of a PERT diagram can be increased by coloring each step as it is completed. Actual time can be written over the estimated time to maintain a running tally of actual versus planned time along the critical path.

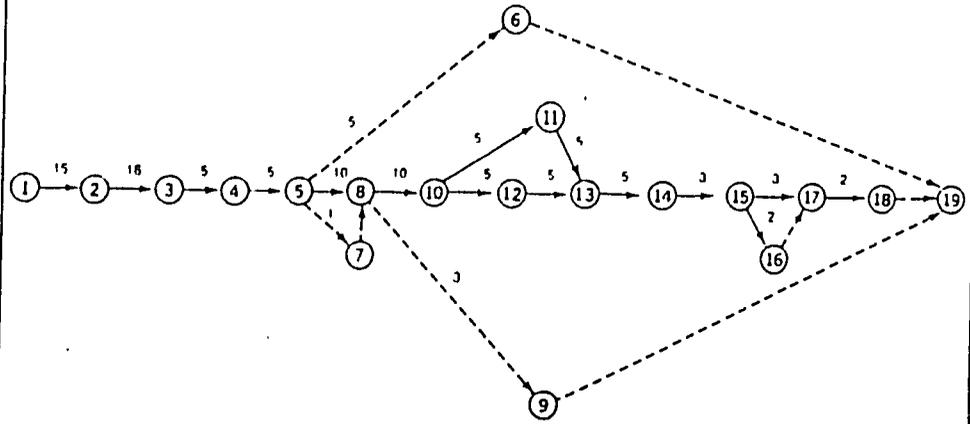
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# CASE STUDY: REMODELING PROJECT

## PERT Diagram

**Project Definition:** Remodel Building #7 to provide four additional offices by the end of the third quarter at a cost not to exceed \$17,500.

*Note:* Numbers in the circles correspond to the steps listed below. Numbers on the lines show the days required to complete the following step.



### Steps in Project with Time Estimates (in days)

1. Project started	—	11. Heating/air conditioning in	5
2. Working plans completed	15	12. Insulation	5
3. Building permit obtained	16	13. Sheetrock hung	5
4. Foundation poured	5	14. Interior doors/trim installed	5
5. Walls/roof framed	5	15. Interior painted	3
6. Roofing completed	5	16. Electrical fixtures installed	2
7. Windows installed	1	17. Cleanup completed	3
8. Exterior siding installed	10	18. Floor covering installed	2
9. Exterior painted	3	19. Project completed	—
10. Electrical wiring in	10		

**Practice Drawing a PERT Diagram**

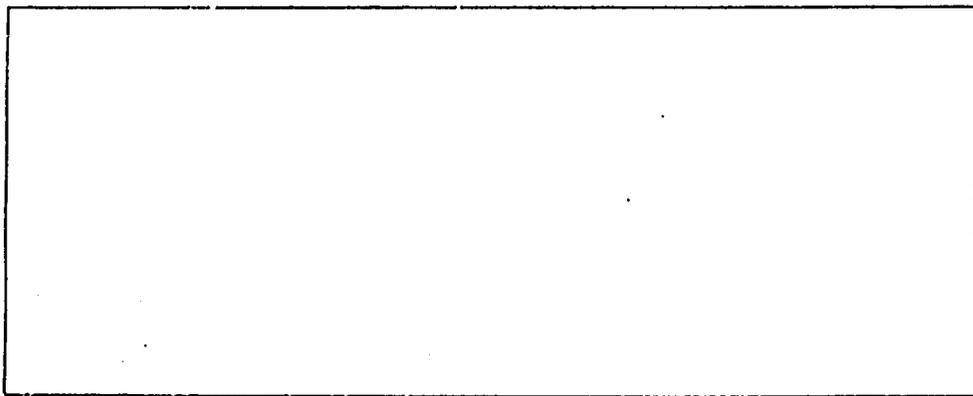
Select a project, break it down into steps, estimate the time required to complete each step, and draw a PERT diagram for the project.

Project: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Project Steps with Time Estimates**

STEP	TIME	STEP	TIME
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**PERT Diagram**



# PLANNING THE COST DIMENSION

There are many reasons to do careful planning for project costs. To begin with, if you overestimate costs you may lose the job before you begin because you are not competitive. A good plan includes the identification of sources of supplies and materials, and this careful research assures that the costs are realistic. The main function of a good budget is to monitor the costs of a project while it is in progress, and to avoid cost overruns.

Some inaccuracies in the budget are inevitable, but they should not be the consequence of insufficient work on the original plan. The goal is to be as realistic as possible.

You cannot estimate the cost of your project until you know how long it will take, since the time of labor is typically the most significant cost item. Therefore, use your work breakdown structure and project schedule as the starting point for developing your project budget.

## Typical Costs Components

- Labor
- Overhead
- Materials
- Supplies
- Equipment rental
- General and administrative
- Profit (if applicable)



## Cost Components Defined

- *Labor*: The wages paid to all staff directly working on the project for the time spent on it.
- *Overhead*: The cost of payroll taxes and fringe benefits for everyone directly working on the project for the time spent on it. Usually calculated as a percentage of direct labor cost.
- *Materials*: The cost of items purchased for use in the project. Includes such things as lumber, cement, steel, nails, screws, rivets, bolts, and paint.
- *Supplies*: The cost of tools, equipment, office supplies, etc., needed for the project. If something has a useful life beyond the project, its cost should be prorated.
- *Equipment rental*: The cost of renting equipment such as scaffolding, compressors, cranes, bulldozers, trucks, etc., for use on the project.
- *General and Administrative*: The cost of management and support services such as purchasing, accounting, secretarial, etc., for time dedicated to the project. Usually calculated as a percentage of project cost.
- *Profit*: In a for-profit project, the reward to the firm for successfully completing the project. Usually calculated as a percentage of project cost.

With the cost components identified and the project broken down into subunits, create a worksheet to tally the costs for the total project.

Note that costing a subunit is sometimes simplified if it is to be subcontracted. Costing then includes bidding the subunit, selecting a contractor, and then using the contract price as your cost.

# CASE STUDY: CONSTRUCTION PROJECT

## Project Costing Worksheet (Prepared by General Contractor)

SUBUNIT (COMPONENT OR STEP)	LABOR	OVER- HEAD	MATERIALS	SUPPLIES	EQUIPMENT RENTAL	GEN & ADMIN.	PROFIT	TOTAL
1. Complete working plans	300	75		50		25	50	500
2. Obtain building permit						50		50
3. Pour foundation	500	125	1,300	100	100	125	250	2,500
4. Frame/install windows	500	125	1,500	75	300	150	300	2,950
5. Install roofing	400	100	500		75	50	125	1,250
6. Install exterior siding	700	175	1,800	100	500	150	375	3,800
7. Paint exterior	160	40	25		50		25	300
8. Heating/air conditioning	300	75	1,175			75	175	1,800
9. Electrical wiring	300	75	175			25	75	650
10. Insulation	300	75	300				75	750
11. Hang dry wall	400	100	300			25	75	900
12. Install doors, trim,	200	50	350			25	75	700
13. Paint interior	200	50	25		50		25	350
14. Install electrical fixtures	50		100					150
15. Install floor covering	100	25	200			25	50	400
16. Cleanup	100	25		25				150
<b>Total</b>	<b>4,510</b>	<b>1,115</b>	<b>7,750</b>	<b>350</b>	<b>1,075</b>	<b>725</b>	<b>1,675</b>	<b>17,200</b>

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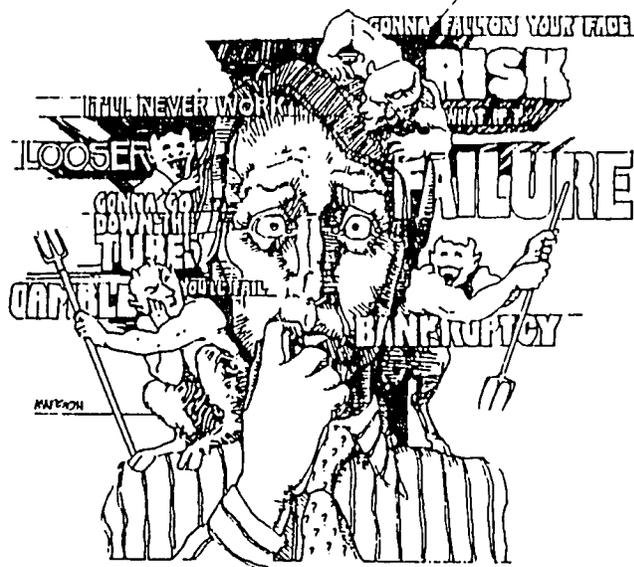


# ASSIGNING RESPONSIBILITY

Determining who will have responsibility for completing each subunit or step of a project should be done as early as possible, so that they can participate in the planning of both schedules and budgets. This participation leads to a greater commitment to achieve the project within time and cost limitations.

The number of people involved in a project varies with its size and scope. Not every project has a different person responsible for each subunit.

To make the best use of your resources when deciding who is responsible for a portion of your project, broaden your point of view to include subcontractors and service departments as well as members of the project team.



**DON'T BE AFRAID OF RESPONSIBILITY**



# WHAT HAPPENS IN THE IMPLEMENTATION STAGE

During the implementation phase, the project manager coordinates all the elements of a project. This involves a number of responsibilities: controlling work in progress to see that it is carried out according to plan; providing feedback to those working on the project; negotiating for materials, supplies, and services; and resolving differences among those involved with the project. These responsibilities require a variety of skills. This section presents tools and techniques to help project managers during the implementation stage.

## Key Duties During Implementation

- Controlling work in progress
- Providing feedback
- Negotiating for materials, supplies, and services
- Resolving differences



## CONTROLLING WORK IN PROGRESS

Controlling is the central activity during implementation. The most important tool in this process is the plan that was developed to define the three parameters of the project—specifications, schedule, and budget. These are the standards against which performance is measured. Controlling involves three steps:

1. Establishing standards
2. Monitoring performance
3. Taking corrective action

### 1. Establishing Standards

Standards for the project were set in the detailed project specifications created in the planning stage. The project manager must constantly refer to these specifications and make sure the project team is also referencing them. If the project deviates from the original specifications, there is no guarantee that the success predicted by the feasibility studies will actually happen—the product or project outcome might fail to meet performance standards.

There are a number of tools available to help project managers control the project and make sure that the parameters defined in the specifications for quality, time, and budget are actually being met. A Gantt chart or PERT diagram designed at the planning stage is a great device for tracking how the time dimension of the project is proceeding in relationship to plan.

In the following pages we will describe four additional charts that are useful for project control:

- Control point identification charts
- Project control charts
- Milestone charts
- Budget control charts

## Control Point Identification Charts

A helpful technique for controlling a project is to invest some time to think through what is likely to go wrong in each of the three project parameters. Then identify when and how you will know that something is amiss and what you will do to correct the problem if it occurs. This will help minimize the times you will be caught by surprise as well as save time in responding to the problem. A control point identification chart is an easy way to summarize this information:

Example Control Point Identification Chart

CONTROL ELEMENT	WHAT IS LIKELY TO GO WRONG?	HOW AND WHEN WILL I KNOW?	WHAT WILL I DO ABOUT IT?
Quality	<i>Workmanship of craftsman might be less than desired.</i>	<i>Upon personal inspection of each stage of project.</i>	<i>Have sub-standards and work redone.</i>
Cost	<i>Cost of any subunit of Project may exceed budget.</i>	<i>When purchase agreements are made.</i>	<i>First, seek alternative suppliers, then, consider alternative materials.</i>
Timeliness	<i>Time to complete any subunit of project may exceed schedule</i>	<i>By closely monitoring actual progress against schedule along critical path.</i>	<i>Look for ways to improve efficiency, attempt to capture time from later steps, authorize overtime if budget permits.</i>

## Practicing Making a Control Point Identification Chart

Select a project and think through each of the questions relating to the three project parameters.

Project: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CONTROL ELEMENT	WHAT IS LIKELY TO GO WRONG?	HOW AND WHEN WILL I KNOW?	WHAT WILL I DO ABOUT IT?
Quality			
Cost			
Timeliness			

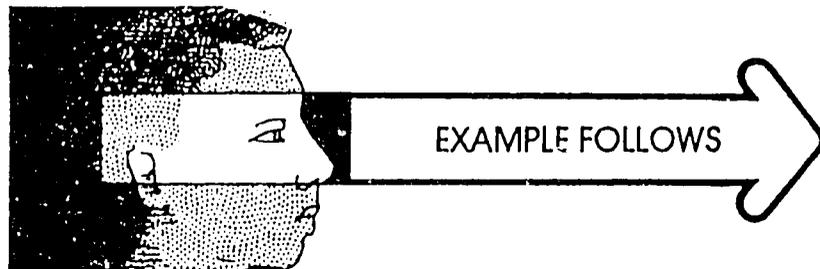
## Project Control Charts

Another helpful tool is a project control chart, which uses budget and schedule plans in a quick status report of the project. It compares actual to planned, calculates a variance on each subunit completed, and tallies a cumulative variance for the project.

To prepare a project control chart, refer to the work breakdown structure and list all of the subunits of the project. Then, use the schedule to list the time planned to complete each subunit, and use the budget to list the expected cost of each subunit.

As each project subunit is completed, record the actual time and actual cost. Calculate variances and carry the cumulative total forward.

This technique can easily be put into a spreadsheet format on your personal computer. Some large projects may be able to create this format for a report that uses cost and schedule data that is routinely captured by the company's computerized accounting system.



### Project Costing Chart

Project: Remodel Building #7 to provide four additional offices by the end of the 3rd quarter at a cost not to exceed \$17,500.

PROJECT STEPS	COST				SCHEDULE			
	BUDGET	ACTUAL	VARIANCE	TOTAL	PLANNED	ACTUAL	VARIANCE	TOTAL
1. Draw working plans	500	450	(50)	(50)	15	15	—	0
2. Obtain building permit	50	50	—	(50)	16	15	(1)	(1)
3. Form/pour foundation	2,500	2,750	250	200	5	3	(2)	(3)
4. Frame walls/roof	2,200	2,100	(100)	100	5	5	—	(3)
5. Install roofing	1,250	1,500	250	350	5*	6	1	(3)
6. Install windows	750	750	—	350	1*	1	—	(3)
7. Install exterior siding	3,900	3,350	(450)	(100)	10	9	(1)	(4)
8. Paint exterior	300				3			
9. Install electrical wiring	650				10*			
10. Install heating & A/C	1,800				5			
11. Insulate	750				5			
12. Install sheetrock	900				5			
13. Install doors/trim	700				5			
14. Paint interior	350				3			
15. Install electrical fixtures	150				2			
16. Cleanup	150				3			
17. Install floor covering	400				2			
18. Project completion (Total)	17,400				84			

\*Not on critical path—excluded from total.

CASE STUDY: CONSTRUCTION PROJECT

The project control chart on the following page may be reproduced for your own use.



## Milestone Charts

A milestone chart presents a broad-brush picture of a project's schedule and control dates. It lists those key events that are clearly verifiable by others or that require approval before the project can proceed. If this is done correctly, a project will not have many milestones. Because of this lack of detail, a milestone chart is not very helpful during the planning phase when more information is required. However, it is particularly useful in the implementation phase because it provides a concise summary of the progress of the project.

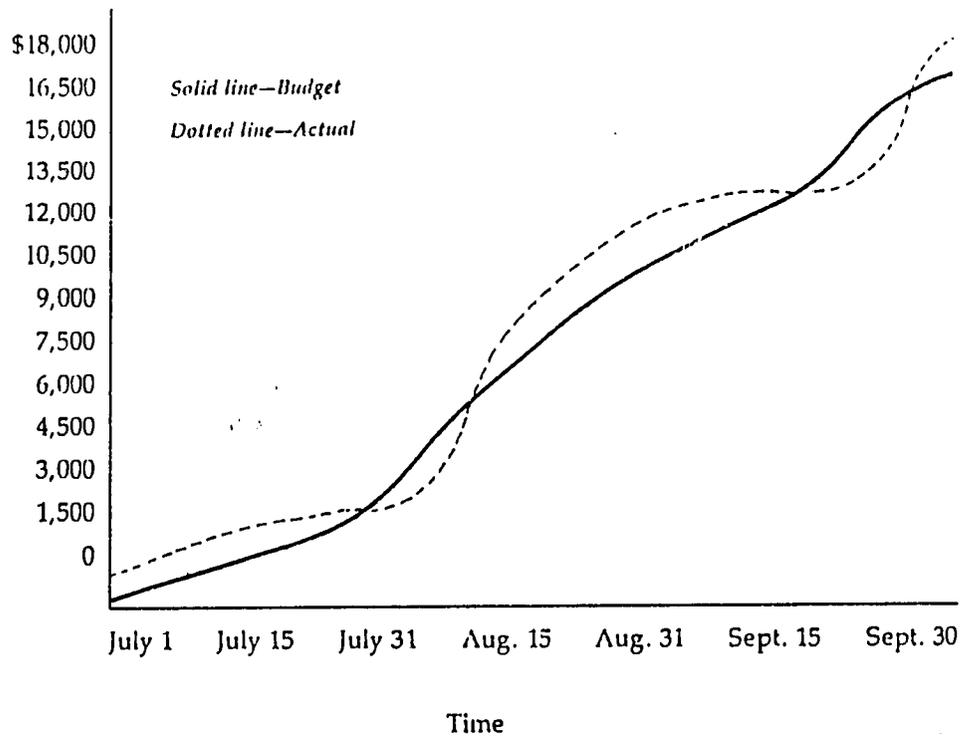
Example of Milestone Chart

MILESTONE	SCHEDULED COMPLETION	ACTUAL COMPLETION
1. Foundation completed	August 5	August 2
2. Framing completed	August 10	August 7
3. Exterior finished	August 25	
4. Electrical wiring completed	August 20	
5. Heating and air conditioning installed	August 25	
6. Interior finished	September 22	

## Budget Control Charts

Budget control charts are generally of two varieties. One is a listing of the subunits of a project with actual costs compared to budget. They are similar to project control charts, discussed earlier, and can be either hand- or computer-generated. The other kind is a graph of budgeted costs compared to actual. Either bar or line graphs may be used. Bar graphs usually relate budgeted and actual costs by project subunits, while line graphs usually relate planned cumulative project costs to actual costs over time.

Example of a Budget Control Chart



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## 2. Monitoring Performance

The heart of the control process is monitoring work in progress. It is your way of knowing what is going on—how actual compares to plan. With effective monitoring, you will know if and when corrective action is required. Common ways to keep abreast of project progress are:

- Inspection
- Interim progress reviews
- Testing
- Auditing

**Inspection** is probably the most common way to monitor project performance. It is handled by trained inspectors as well as by the project manager. Get out into the area where the work is performed and observe what is going on. Inspection is an effective way to see whether project specifications are being met, as well as whether there is unnecessary waste or unsafe work practices. Inspections should be unannounced and on a random schedule. However, they should also be open and direct. Ask questions and listen to explanations.

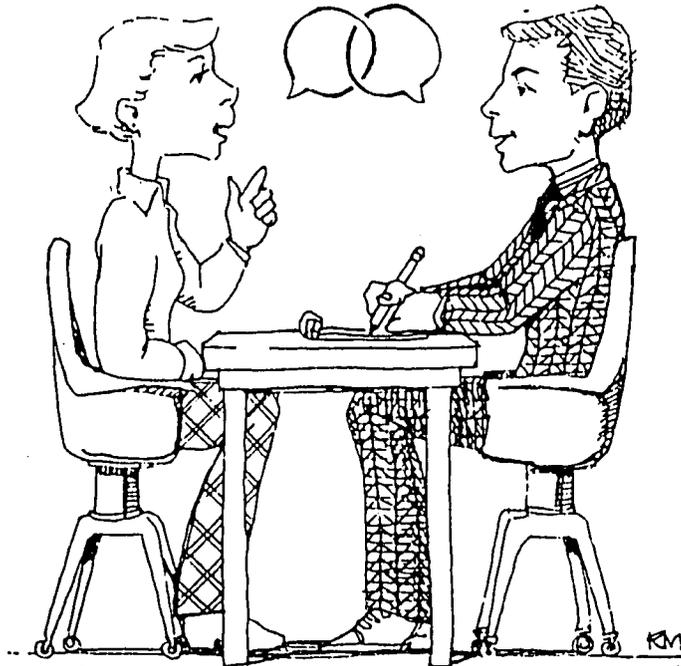
**Interim progress reviews** are communications between the project manager and those responsible for the various subunits of a project. Progress reviews can be in a group or on an individual basis, and either face-to-face or by telephone. Alternatively, progress reports can be submitted in writing. Progress reviews typically occur on a fixed time schedule—daily or weekly, or keyed to the completion of project subunits. These scheduled reviews are typically augmented by reviews called by either the project manager or the one responsible for the work. (Guidelines for conducting progress reviews follow.)

## Monitoring Performance (Continued)

Testing is another way to verify project quality. Certain tests are usually written into the specifications to confirm that the desired quality is being achieved. Typical tests include pressure or stress tests on mechanical components.

Auditing can be done during the course of a project as well as at its conclusion. Common areas for audit are financial recordkeeping, purchasing practices, safety practices, security practices, maintenance procedures, and authority for disbursement. Auditors should be experts in the area of the project under review, and are typically not members of the project team. After carefully examining the area under review, a report is written describing in detail what was found and pointing out practices that deviate from established policy, authorized procedures, or sound business practices.

Effective monitoring includes more than one source of information. In addition to data from either hand- or computer-generated records, a combination of inspections, progress reviews, testing, and auditing will round out your information and keep you up-to-date on the status of your project.



*AUDITS CAN BE EFFECTIVE*

## Conducting Interim Progress Reviews

Interim progress reviews typically occur on a fixed time schedule, such as daily or weekly. They may also occur when some problem in performance is observed or at the completion of a significant step toward the accomplishment of the project. Three topics are usually on the agenda:

- Review of progress against plan
- Review of problems encountered and how they were handled
- Review of anticipated problems with proposed plans for handling them

Your role during an interim progress review is to achieve your objectives of knowing the status of operations and influence the course of future events as necessary. During the discussion, you may have any of the following roles:

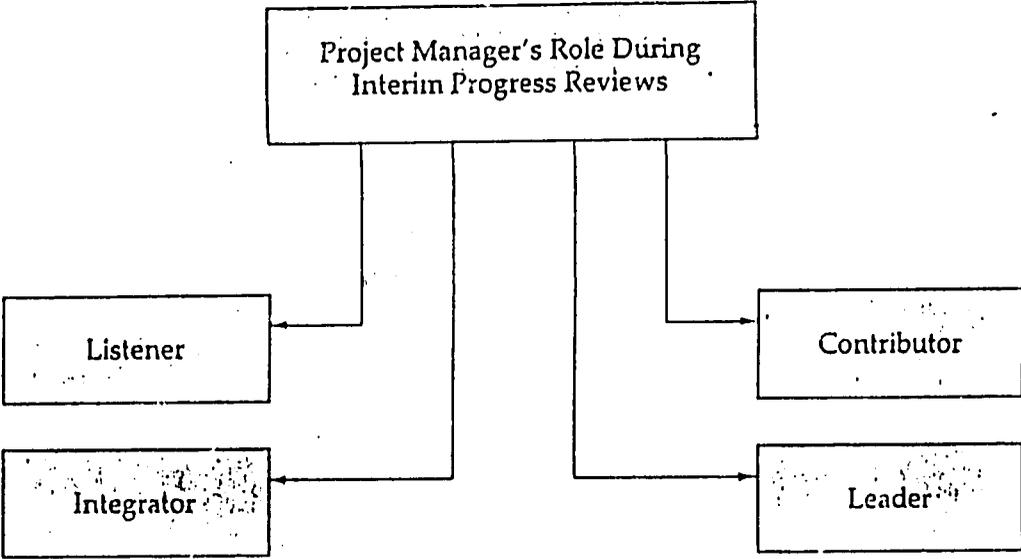
**Listener:** Listen as the individual updates you on progress, deviation from plan, problems encountered, and solutions proposed. Listen not only to what is said, but also to *how* things are said. Is the person excited, frustrated, discouraged? Help clarify what is being said by asking questions, and verify what you think is being said by restating your understanding of both facts and feelings.

# Conducting Interim Progress Reviews (Continued)

**Contributor:** In many interim reviews, progress is in line with plans. However, you will occasionally have problems to deal with. When this occurs, you can contribute to their solution by directing the other person toward possible courses of action. Use your knowledge and experience as necessary to move the project forward.

**Integrator:** An important role of project managers is to integrate the individual parts of a project into a compatible whole. Is something being neglected? Is there duplication of effort? How can the people available be best deployed?

**Leader:** Perhaps the most important role for the project manager is that of leader. Through a variety of techniques, you must keep the team's effort directed toward the common goal of completing the project according to specifications, on time, and within budget. You must confirm and recognize good performance, correct poor performance, and keep interest and enthusiasm high.



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### 3. Taking Corrective Action

As a project progresses and you monitor performance, there will be times when actual does not measure up to plan. This calls for corrective action. However, don't be too quick to take action. Some deficiencies turn out to be self-correcting. It is unrealistic to expect steady and consistent progress day after day. Sometimes you'll fall behind and sometimes you'll be ahead, but in a well-planned project, you will probably finish on schedule and within budget.

When quality is not according to specification, the customary action is to do it over according to plan. However, this needs to be more closely examined in some instances. For example, if the work or material exceeds specifications, you may choose to accept it. If it falls short, you need to consider how much it deviates from specifications and whether the deficiency will cause the project to fail its performance evaluation. The final decision may be to have the work redone, but that is not an automatic outcome.

When the project begins to fall behind in schedule, there are three alternatives that may correct the problem. The first is to examine the work remaining to be done and decide whether the lost time can be recovered in the next steps. If this is not feasible, consider offering an incentive for on-time completion of the project. The incentive could be justified if you compare this expenditure to potential losses due to late completion. Finally, consider deploying more resources. This too will cost more, but may offset further losses from delayed completion.

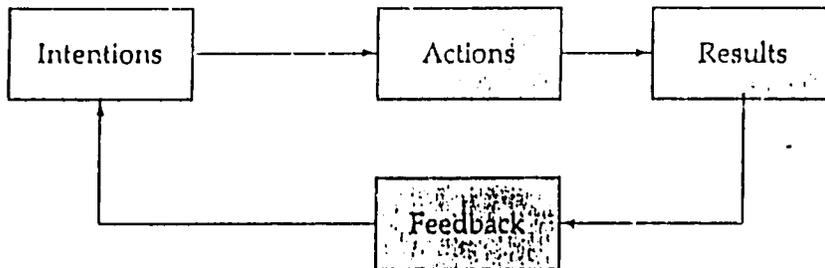
When the project begins to exceed budget, consider the work remaining and whether or not cost overruns can be recouped on work yet to be completed. If this isn't practical, consider narrowing the project scope or obtaining more funding from your client.

## What to Do When You Start Falling Behind

ACTION	COST	SCHEDULE
1. <b>Renegotiate:</b> Discuss with your client the prospect of increasing the budget for the project or extending the deadline for completion.	X	X
2. <b>Recover During Later Steps:</b> If you begin to fall behind in early steps of a project, reexamine budgets and schedules for later steps. Perhaps you can save on later steps so the overall budget and/or schedule is met.	X	X
3. <b>Narrow Project Scope:</b> Perhaps nonessential elements of the project can be eliminated, thereby reducing costs and/or saving time.	X	X
4. <b>Deploy More Resources:</b> You may need to put more people or machines on the project to meet a critical schedule. Increased costs must be weighed against the importance of the deadline.		X
5. <b>Accept Substitution:</b> When something is not available or is more expensive than budgeted, substituting a comparable item may solve your problem.	X	X
6. <b>Seek Alternative Sources:</b> When a supplier can't deliver within budget or schedule, look for others who can. (You may choose to accept a substitute rather than seek other sources.)	X	X
7. <b>Accept Partial Delivery:</b> Sometimes a supplier can deliver a partial order to keep your project on schedule and complete the delivery later.		X
8. <b>Offer Incentives:</b> Go beyond the scope of the original contract and offer a bonus or other incentive for on-time delivery.		X
9. <b>Demand Compliance:</b> Sometimes demanding that people do what they agreed to do gets the desired results. You may have to appeal to higher management for backing and support.	X	X

## PROVIDING FEEDBACK

Project managers find many opportunities to provide feedback to those who have a hand in completing the project. Through feedback, individuals learn about the effect their behavior has on others and on the project's success. It serves to maintain good performance and correct poor performance. To be effective, however, feedback must be handled properly. This illustration shows the continuous loop that exists when there is good feedback:



The most important guideline when providing feedback is to deal only with what you can observe. This limits your conversation to actions and results, because you cannot observe someone's intentions.

When offering positive feedback, describe the actions and results in a straightforward way and include an appropriate statement of your reaction. For example, you might tell someone, "By staying late last night and finishing the work you were doing, the project was able to move forward on schedule. I appreciate your putting out the extra effort."

Negative feedback can be handled in the same manner, but an important element is missing: how the team member should deal with similar situations in the future. The following sequence should prove more effective:

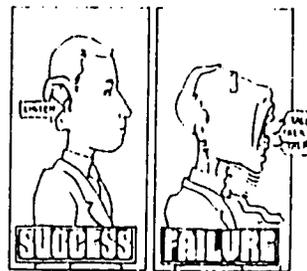
### Handling Negative Feedback

1. Describe the observed actions and results.
2. Ask the individual if those were his or her intended results.
3. With a typical "No" response, ask what different actions would likely produce the desired results.
4. Discuss different alternative courses of action.
5. Agree upon a way to handle similar situations if they should occur in the future.

## Check Your Feedback Style

Rate yourself by placing a check mark (✓) in front of each action that is typical of how you handle giving feedback. The ones you don't check represent opportunities for development.

- Describe rather than evaluate.* By describing observed action and results, the individual is free to use or not use the information. By avoiding evaluation, you reduce the likelihood of a defensive reaction.
  
- Be specific rather than general.* Avoid using "always" and "never." Rather, discuss specific times and events. Avoid generalized conclusions such as "you're too dominating." Rather, be specific by saying, "When you don't listen to others, you may miss a valuable idea."
  
- Deal with behavior that can be changed.* Frustration is increased when you remind someone of a shortcoming over which he or she has no control.
  
- Be timely.* Generally, feedback is most useful at the earliest opportunity after the behavior.
  
- Communicate clearly.* This is particularly important when handling negative feedback. One way to ensure clear communication is to have the receiver rephrase the feedback to see if it corresponds to what you had in mind.



**OBTAINING QUALITY FEEDBACK**

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## NEGOTIATING FOR MATERIALS, SUPPLIES, AND SERVICES

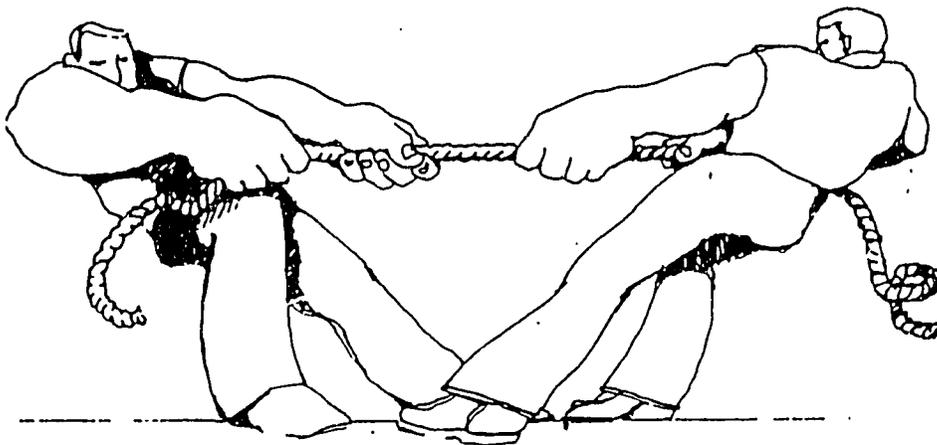
Negotiating\* is an important process that takes up as much as 20% of a manager's time. Negotiating is one way to resolve differences, and it can contribute significantly to the success of your project.

The ideas presented here will prepare you to negotiate effectively.

### Definition

Negotiation is a discussion between two parties with a goal of reaching agreement on issues that separate them when neither party has the power (or the desire to use its power) to force an outcome.

THEY NEED TO LEARN HOW TO NEGOTIATE



\*For an excellent book on this topic, order *Successful Negotiation* using the form in the back of this book.

## Ten Guidelines for Effective Negotiation

1. **Prepare:** Do your homework. Know what outcome you want and why. Find out what outcome the other party wants. Avoid negotiating when you are not prepared—ask for the time you need. As part of your preparation, figure out what you will do if you are unable to come to an agreement. Your power in negotiation develops from attractive alternatives—the greater your ability to walk away, the stronger your bargaining position.
2. **Minimize perceptual differences:** The way you see something can be quite different from how the other party sees it. Don't assume you know the other person's view: ask questions to gain understanding, and restate your understanding so it can be confirmed or corrected by the other party.
3. **Listen:** Active, attentive listening is mandatory to effective negotiation. Let the other side have an equal share of the air time. (If you're talking more than 50% of the time, you are not listening enough.) In the process, respect silence. Occasionally people need to collect their thoughts before moving ahead. Don't try to fill this time with talking.
4. **Take notes:** You need to know where you are—what has been agreed to; what remains to be resolved. Don't rely on memory. Take notes and then summarize your agreement in a memorandum.
5. **Be creative:** Early closure and criticism stifle creative thinking. Be willing to set some time aside to explore different and unusual ways to solve your problem. During this time, do not permit criticism of ideas offered. All negotiations can benefit from nonjudgmental creative thinking.

## Ten Guidelines for Effective Negotiation

6. **Help the other party:** Good negotiators recognize that the other party's problem is their problem as well. Put yourself in the other's position and work to find a solution that meets everyone's needs. After all, no agreement will hold up unless both parties support it.
7. **Make trade-offs:** Avoid giving something for nothing. At least get some goodwill or an obligation for future payback. The basic principle to follow is to trade what is cheap to you but valuable to the other party for what is valuable to you but cheap to the other party.
8. **Be quick to apologize:** An apology is the quickest, surest way to de-escalate negative feelings. It need not be a personal apology. An apology for the situation you're in can be just as effective. Also, don't contribute to hostility by making hostile remarks. Hostility takes the discussion away from the issues and shifts it to a defense of self where the goal is to destroy the opponent.
9. **Avoid ultimatums:** An ultimatum requires the other party to either surrender or fight it out. Neither outcome will contribute to future cooperation. Also, avoid boxing someone in. This happens when you offer only two alternatives, neither of which is desirable to the other person.
10. **Set realistic deadlines:** Many negotiations continue too long because no deadline exists. A deadline requires both sides to be economical in their use of time. It permits you to question the value of certain discussion and encourages both sides to consider concessions and trade-offs in order to meet deadline.

# RESOLVING DIFFERENCES

What is best for one department or group won't necessarily be best for others. Out of these differences can come creative solutions when the situation is handled properly. Skill in resolving differences is an important quality of successful project managers.

Consider the model on the following page. Differences can be resolved either *my way*, *your way*, or *our way*. As a result, four strategies emerge.

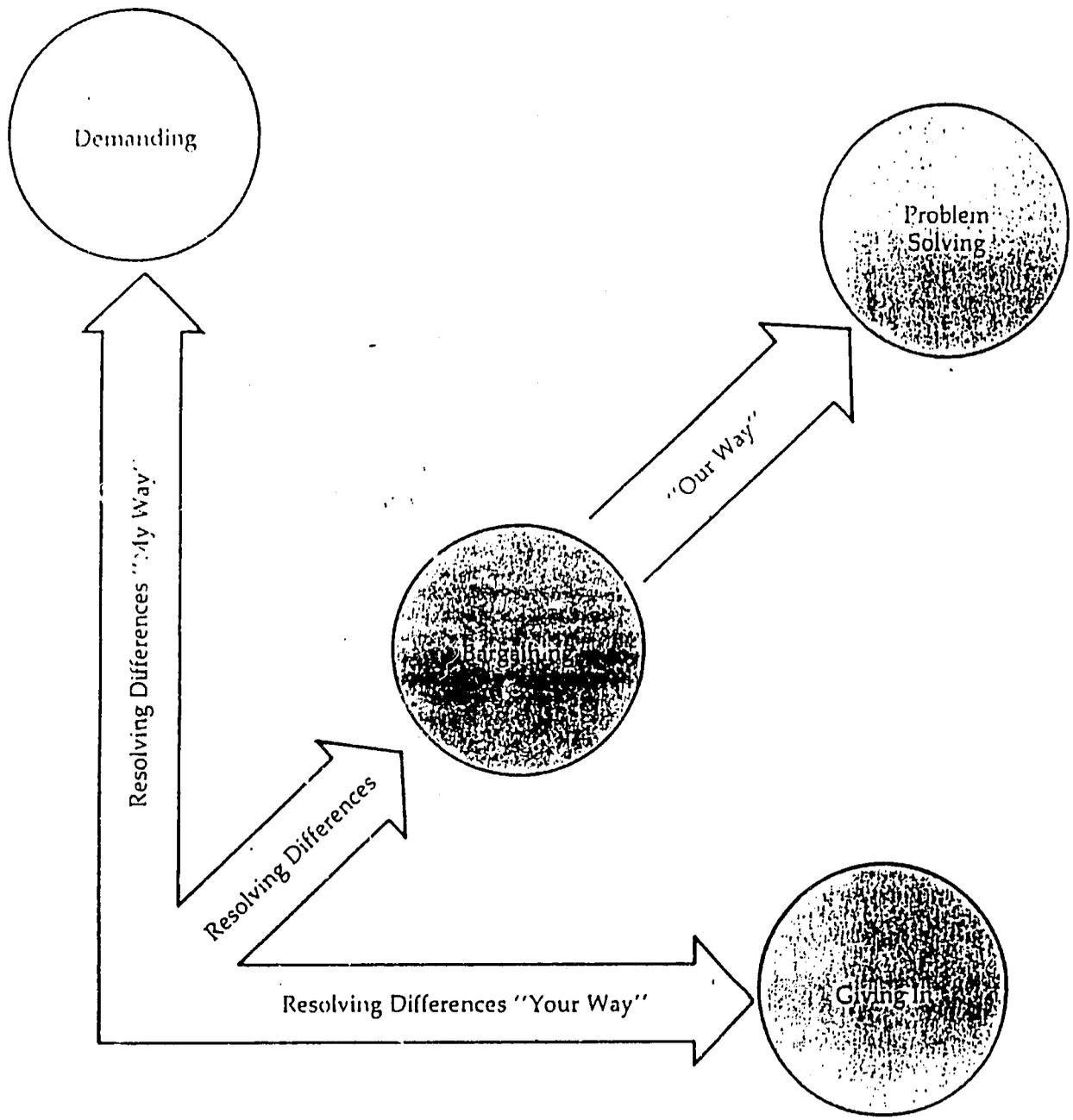
## Strategies for Resolving Differences

- Demanding
- Problem solving
- Bargaining
- Giving in



(NOT RECOMMENDED)

# Model for Resolving Differences



## RESOLVING DIFFERENCES (Continued)

The strategy one chooses to resolve differences tends to result from an interplay of assertiveness and cooperation. This process can be clouded by emotion at times, and when this happens, it is difficult to achieve a satisfactory outcome. Therefore, when you sense that either you or the other person's thinking is clouded by emotion, ask to delay discussion a while. The following issues influence assertiveness and cooperation:

### Assertiveness

- People tend to be more assertive when an issue is important to them.
- People tend to be more assertive when they are confident of their knowledge.
- People tend to be more assertive when things are going against them.
- People tend to be less assertive when they feel they are at a power disadvantage.

### Cooperation

- People tend to be more cooperative when they respect the other person.
- People tend to be more cooperative when they value the relationship.
- People tend to be more cooperative when they are dependent on the other person to help carry out the decision.

## RESOLVING DIFFERENCES (Continued)

Given the interplay of assertiveness and cooperation, the following strategies are common for resolving differences:

**Demanding:** Demanding is high in assertiveness and low in cooperation. It suggests confidence and that the issue is important, coupled with a lack of concern for the relationship and no dependency on the other person.

**Problem solving:** Problem solving is high in assertiveness, coupled with high cooperation. It suggests that the issue is important, and that there is the need for an ongoing relationship with the other person.

**Bargaining:** Bargaining is moderate in both assertiveness and cooperation. It suggests that an important issue is being addressed by equally powerful parties. Each must be willing to give a little to reach agreement. Bargaining is also an appropriate backup strategy when joint problem solving seems unattainable.

**Giving in:** Giving in is low in assertiveness and high in cooperation. The issue may be unimportant to you, you may lack knowledge, or you simply want to go along with the other person's proposal in order to build up the relationship between you.

Each strategy has its place. However, too few people recognize the conditions that support each strategy. Many people adopt one approach for resolving differences and use it in all situations. Obviously, it will be ineffective in many cases. Learn to distinguish among the various types of situations and adopt an approach that has the greatest chance of success in the long run. Don't overlook the importance of maintaining cooperative relationships.

# BRINGING THE PROJECT TO A SUCCESSFUL CONCLUSION

The goal of project management is to obtain client acceptance of the project result. This means that the client agrees that the quality specifications of the project parameters have been met. In order to have this go smoothly, the client and project manager must have well-documented criteria of performance in place from the beginning of the project. This is not to say that nothing can change, but when changes are made the contract must be amended to list the changes in specifications along with any resulting changes in schedule and budget.

Objective, measurable criteria are always best, while subjective criteria are risky and subject to interpretation. There should be no room for doubt or ambiguity, although this is often difficult to achieve. It is also important to be clear about what the project output is expected to accomplish. For instance, these three outcomes may produce entirely different results; the project product performs the specified functions; it was built according to approved design; or it solves the client's problem.

The project may or may not be complete when results are delivered to the client. Often there are documentation requirements such as operation manuals, complete drawings, and a final report which usually follow delivery. There may also be people to be trained to operate the new facility or product, and a final audit is common.

Finally, project team members need to be reassigned; surplus equipment, materials, and supplies disposed of; and facilities released.

The final step of any project should be an evaluation review. This is a look back over the project to see what was learned that will contribute to the success of future projects. This review is best done by the core project team and typically in a group discussion.



## Project Completion Checklist

- 1. Test project output to see that it works.
- 2. Write operations manual.
- 3. Complete final drawings.
- 4. Deliver project output to client.
- 5. Train client's personnel to operate project output.
- 6. Reassign project personnel.
- 7. Dispose of surplus equipment, materials, and supplies.
- 8. Release facilities.
- 9. Summarize major problems encountered and their solution.
- 10. Document technological advances made.
- 11. Summarize recommendations for future research and development.
- 12. Summarize lessons learned in dealing with interfaces.
- 13. Write performance evaluation reports on all project staff.
- 14. Provide feedback on performance to all project staff.
- 15. Complete final audit.
- 16. Write final report.
- 17. Conduct project review with upper management.
- 18. Declare the project complete.

**Project Evaluation Form**

1. How close to scheduled completion was the project actually completed? \_\_\_\_\_  
\_\_\_\_\_
  
2. What did we learn about scheduling that will help us on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
3. How close to budget was final project cost? \_\_\_\_\_
  
4. What did we learn about budgeting that will help us on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
5. Upon completion, did the project output meet client specifications without additional work? \_\_\_\_\_
  
6. If additional work was required, please describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
7. What did we learn about writing specifications that will help us on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
8. What did we learn about staffing that will help us on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. What did we learn about monitoring performance that will help us on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. What did we learn about taking corrective action that will help us on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
11. What technological advances were made on this project? \_\_\_\_\_
12. What tools and techniques were developed that will be useful on our next project? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
13. What recommendations do we have for future research and development? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
14. What lessons did we learn from our dealings with service organizations and outside vendors? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
15. If we had the opportunity to do the project over, what would we do differently? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# A MODEL FOR SUCCESSFUL PROJECT MANAGEMENT

Projects are temporary undertakings that have a definite beginning and end. This quality distinguishes them from the ongoing work of an organization. There are four phases in any successful project: defining, planning, implementing, and completing. The diagram shown on page 84 summarizes these phases.

It is imperative to the success of a project that it be clearly defined before it is undertaken. Any definition should include the criteria for determining successful completion of the project. It is reasonable to expect changes to occur once the project is under way, but these changes should be documented along with any resulting impact on schedule and budget.

A successful project produces an outcome that performs as expected, by deadline, and within cost limits. Thus, the three parameters by which a project is planned and controlled are established. Quality is defined by specifications, time is defined by schedule, and costs are defined by a budget.

To carry out the work of the project, a temporary team is usually assembled. This necessitates developing an organization, assigning duties and responsibilities and training people in their duties. Frequently, policies and procedures are required to clarify how the team is to function during the project.

When work on the project begins, the project manager has many responsibilities. The work of different individuals and groups must be coordinated so that things run smoothly, and the progress of the project must be monitored and measured against plans. When deviations occur, corrective action must be taken. Also, project managers are expected to provide feedback to team members; negotiate for materials, supplies, and services; and help resolve differences that occur.

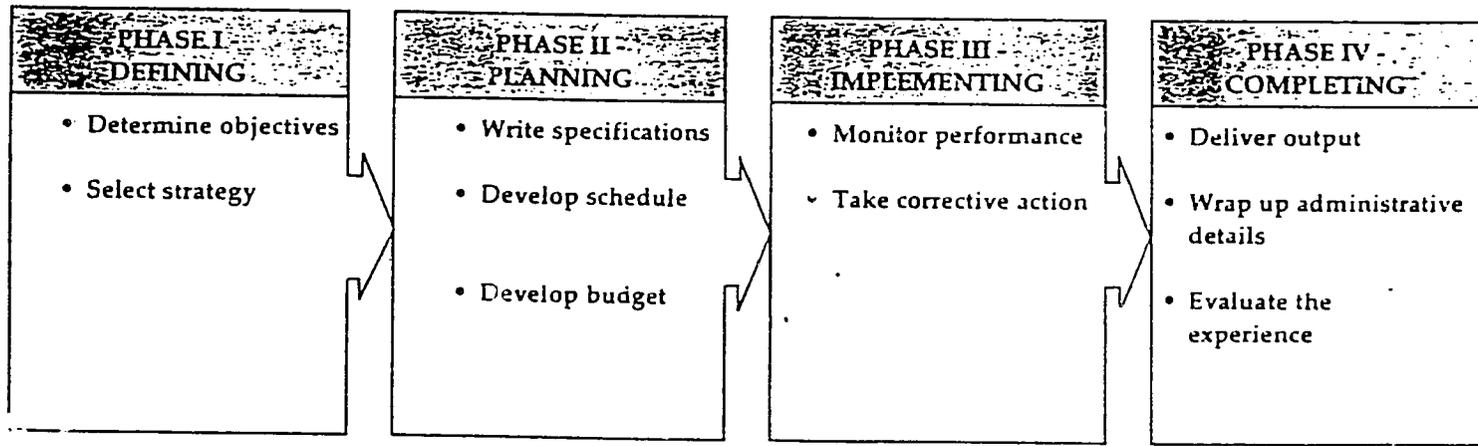
The goal of the project is to deliver an outcome to the client. When that day finally arrives, there are still things to be done before the project is complete. This includes writing operations manuals; training client personnel on the use of the project output; reassigning project personnel; disposing of surplus equipment materials, and supplies; evaluating the experience; completing a final audit; writing a project report; and conducting a project review with upper management.

Not every project requires the same attention to each of these activities. It will depend upon the type of project you are undertaking, its size and scope, and the type of organization you are affiliated with. Use your own judgment in selecting the steps important to the success of your project.

Best of luck in the projects you undertake. Success can be yours if you use the concepts presented here.



### Four Phases of Project Management



## Project Manager's Checklist

- 1. Define the project.
- 2. Select a strategy.
- 3. Develop specifications.
- 4. Develop a schedule.
- 5. Develop a budget.
- 6. Organize the project team.
- 7. Assign duties and responsibilities.
- 8. Train new team members.
- 9. Monitor progress.
- 10. Take corrective action.
- 11. Provide feedback.
- 12. Test final outcome.
- 13. Deliver outcome to client.
- 14. Write operations manual.
- 15. Train client personnel.
- 16. Reassign project staff.
- 17. Dispose of surplus equipment, materials, and supplies.
- 18. Release facilities.
- 19. Evaluate project performance.
- 20. Complete final audit.
- 21. Complete project report.
- 22. Review project with management.