PCM

Project Cycle Management

Handbook

August 2015

PCM Tokyo

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Preface

This handbook gives an introduction to Project Cycle Management (PCM) method to the people who are involved in planning and management of social development projects. The main function of PCM method is to undertake participatory, objectives-oriented project management that spans the life of a project, i.e. planning, implementation, monitoring and evaluation, with a series of workshops so as to encourage the commitment and to improve the capacity of stakeholders.

This handbook is designed to be brief but concise providing minimum but sufficient information about PCM method. It is expected that the handbook would be read and used by the readers and extend some help to their work thus to contribute to the improvement of people's life and welfare in their countries.

Basic concept of project management and PCM method along with some specific descriptions in this handbook owe the following referential materials. These references are also very much recommendable to ones who are interested in project management and PCM method for further reading.

- *PCM: Management Tool for Development Assistance*, Foundation for Advanced Studies on International Development (FASID)
- *PCM: Monitoring and Evaluation Based on the PCM Method*, FASID, 2009
- *The Project Cycle Management Resource Guide*, Team Technologies Inc., 2000
- *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) 5th Edition*, Project Management Institute (PMI), 2013

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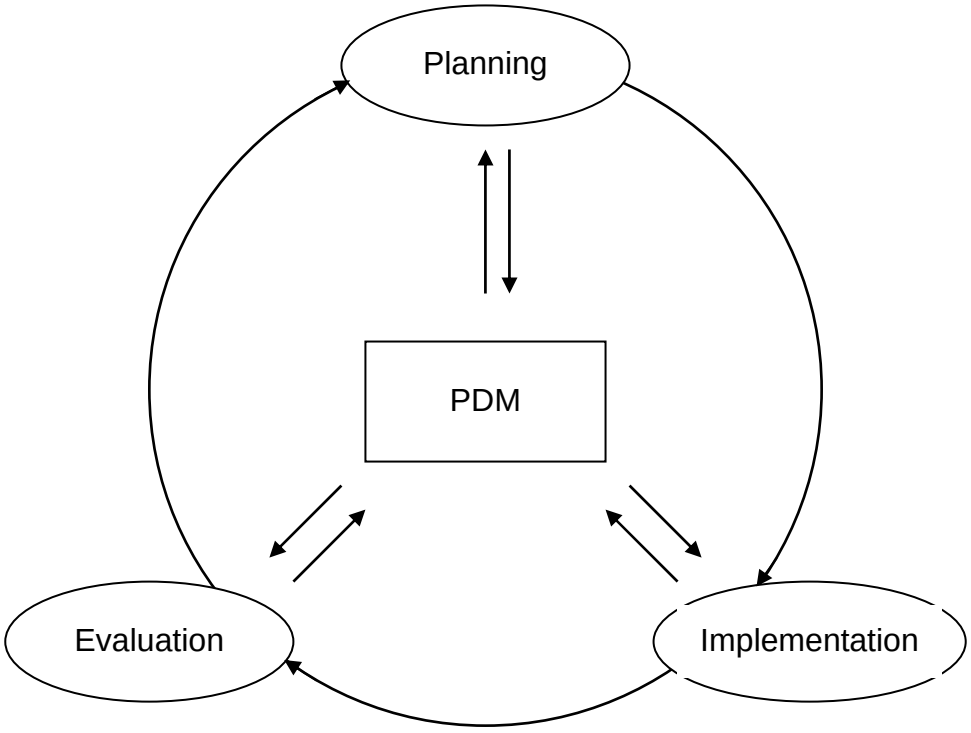
Oseko Masahiro

Table of Contents

1. What is PCM Method ?

The Project Cycle Management (PCM) method is a tool for managing the project life cycle, which is comprised of three phases of planning, implementation, and evaluation phase, by means of a project format termed PDM (Project Design Matrix). PDM is also known by a variety of names such as Logical Framework (Logframe), Project Planning Matrix (PPM), a concept paper of a project, or a one page summary of a project.

A project is defined --- "A project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end. … Every project creates a unique product, service, or result. The outcome of the project may be tangible or intangible Although repetitive elements may be present in some project deliverables and activities, this repetition does not change the fundamental, unique characteristics of the project work." [1]



[1] Source: *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) 5th Edition*, PMI, 2013

2. Characteristics of PCM Method

• *Consistency*

Since the entire life cycle of a project is managed with a single matrix, namely PDM (Project Design Matrix), *consistent* project management would be achievable. More specifically, a project is conceptualized and described in a form of PDM at the planning stage, executed with detailed operation plans which are developed from the PDM at the implementation stage, and assessed the achievement of anticipated outputs and outcomes described in the PDM at the evaluation stage. PDM thus ensures the *consistency* of a project by performing the central function of project life cycle management.

• *Participatory Approach*

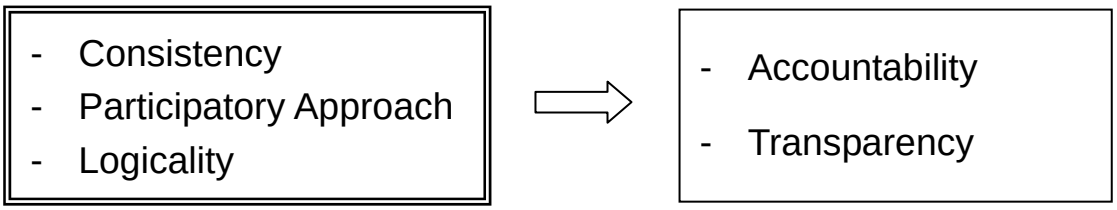
PCM's project management exercises are conducted usually in a series of workshops encouraging *participation* of wide variety of people and organizations concerned (stakeholders) so as to incorporate different view points as widely as possible and minimize the conflicts and negative effects caused by the project.

• *Logicality*

Analytical process of the method, particularly the Problem Analysis and the Objective Analysis, employs causal relationships of "cause & effect" and "means & ends." PDM is also constructed on the vertical logic that illustrates development hypothesis of a project. *Logicality* is, hence, an underlying principle of PCM method.

• *Accountability* and *Transparency*

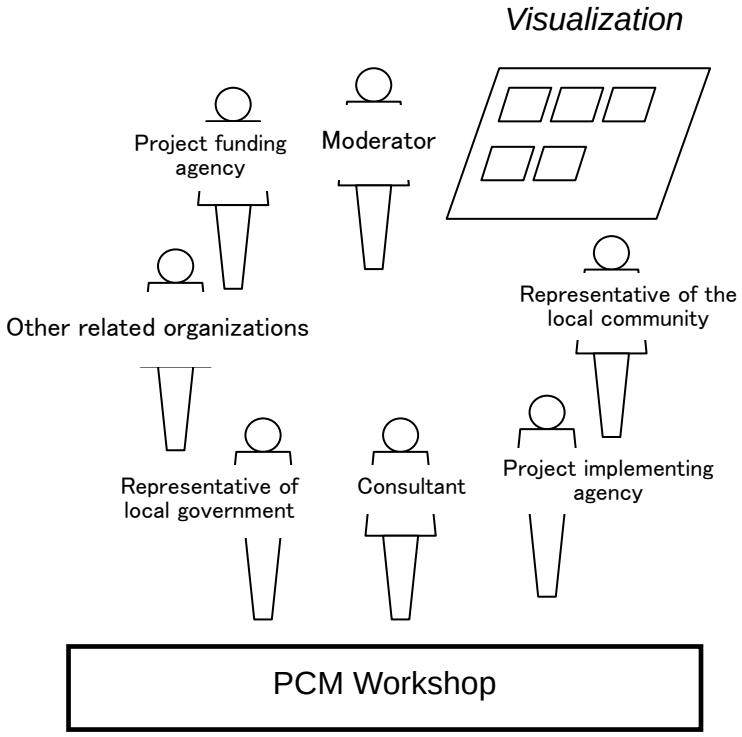
The combination of the above stated three characteristics would satisfy the *accountability* and *transparency* requirements of sponsors and beneficiaries of the project.



3. PCM Workshop

In order to maximize the effects of participatory approach, individuals who represent different perspectives on the project are encouraged to participate in PCM workshop. They would be planners and implementers of the project, decision makers, intended target or beneficiary groups, appropriate representatives of the communities affected by the project, etc.

It must be noted that each decision in the workshop should be based on a *consensus* of the participants not on a simple majority.



Rules for PCM Workshop

1. Write cards before discussions.
2. Write your own statement on a card.
3. Write only one idea on a card.
4. Write your statement specific.
5. Write your statement in a full sentence.
6. Stick to the facts and avoid abstractions and generalizations.
7. Do not remove a card from the board before a consensus is obtained.
8. Do not ask who wrote a particular card.

4. Moderator/ Facilitator

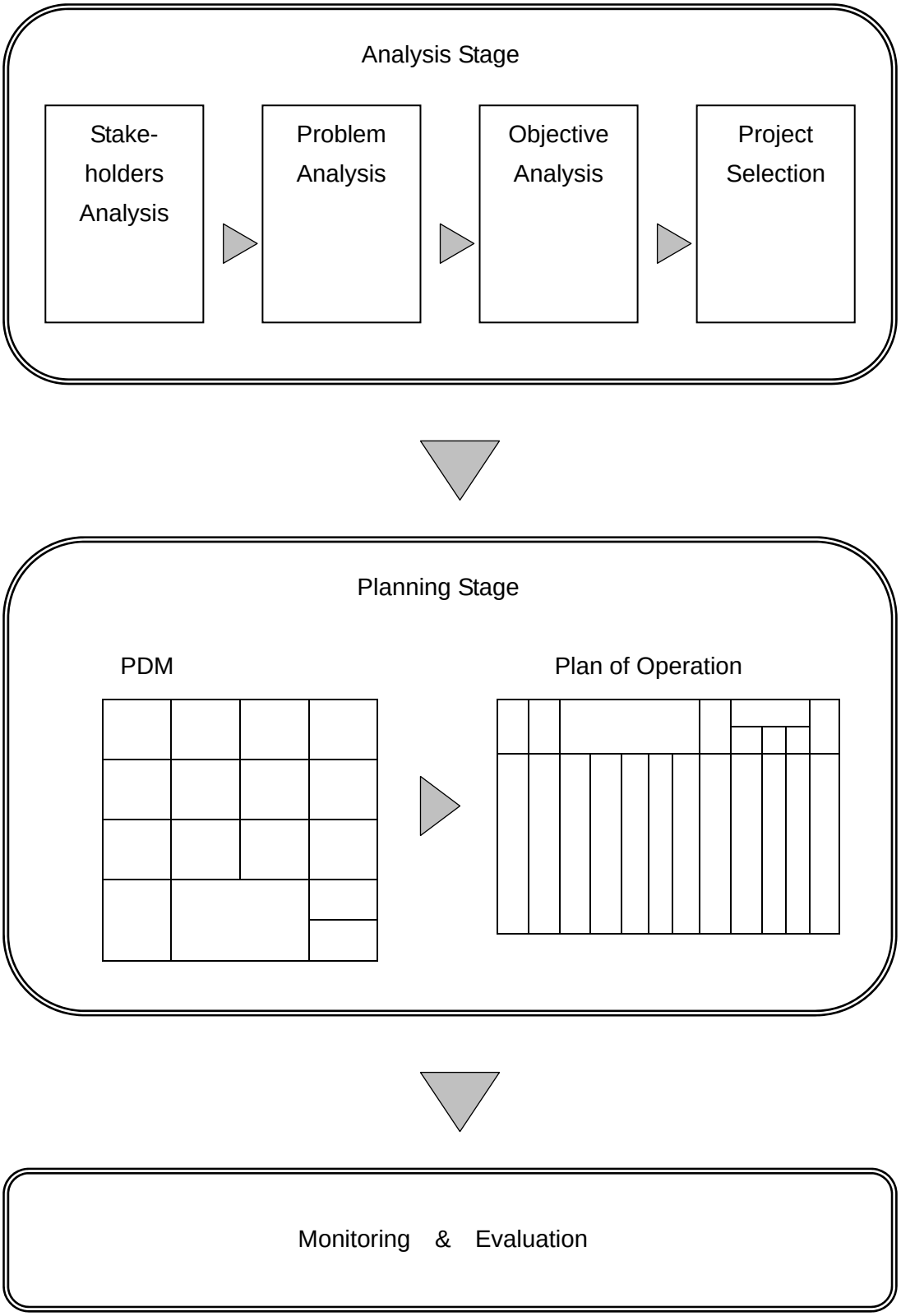
In order to let the workshop participants fully contribute to the discussions and challenging tasks of project management, it is preferable for a PCM workshop to be facilitated by an experienced moderator.

A moderator should not be a leader of the discussion but a catalyst in learning and decision-making processes. In doing so, he/she should:[2]

(1) Provide rules for group works or let the group work out the rules by itself;
(2) Make it possible for the group to steer itself;
(3) Direct and structure the work to be accomplished by assigning specific tasks;
(4) Recognize any difficulties participant may have with PCM method and eliminate them by specific instructions;
(5) Not compete with the participants over competence with regard to the subject under discussion;
(6) Mobilize the group's creative energies;
(7) Create a comfortable atmosphere;
(8) Observe moods and encourage reflection;
(9) Praise participants often and encourage them to contribute constructive feedback;
(10) Provoke the uncovering of latent conflicts;
(11) Integrate outsiders by carefully acting as a go-between; and
(12) Maintain a neutral position in the discussion.

[2] Source: *Moderation Course: Objective Oriented Project Planning (ZOPP)*, 1990, GTZ

5. Overview of the Process



Step 1: Stakeholders Analysis

Who and how are involved in the project?

Stakeholders Analysis is a process to provide a comprehensive picture of all interest groups, individuals, institutions, and organizations (stakeholders) involved in the project. This includes all groups that are likely to be affected by a possible project, positively or negatively, directly or indirectly.

Step 2: Problem Analysis

What are the problems?

Problem Analysis is a method for graphically displaying the problem environment to which a set of project objectives is responding. The analysis lays the problems out in a cause and effect tree with roots and branches showing relationships between problems.

Step 3: Objective Analysis

What is the desirable situation?

Objective Analysis illustrates the future situation that would be achieved by solving the problems. The analysis lays the project objectives out in a means and ends tree with roots and branches showing relationships between objectives.

Step 4: Project Selection

What is the optimal alternative?

Project Selection is a process to identify possible alternative options, assess the feasibility of these, and agree upon project strategies.

Step 5: PDM (Project Design Matrix)

Conceptual framework of the project.

PDM is a one-page summary of a project design. PDM is a four-by-four matrix and each box contains specific information about the project. The matrix is formulated on the logic of development hypothesis, i.e. vertical logic of PDM.

Step 6: Plan of Operation

Detailed implementation plan.

Plan of Operation is a detailed implementation plan structured with time schedule, budget, inputs, person in charge, and etc.

Step 7: Monitoring

Measure the progress to find a better way.

Monitoring is a routine work of tracking the progress of a project. Monitoring activities will help to find a better way to improve the efficiency and effectiveness of the project.

Step 8: Evaluation

Assess the achievement and impact of the project

Evaluation is conducted to assess the achievement and impact of the project for providing recommendations for the project and lessons learned for future projects.

6. Stakeholders Analysis

Stakeholders Analysis is the initial analysis module conducted in order to provide a comprehensive picture of all interest groups, individuals, institutions and organizations (stakeholders) involved in a project. A stakeholder is any person, group or institution that has interest in the project's success, or is likely to be affected by the project, or is able to affect the project.

The analysis includes listing their Interests, Resources, Mandates, and Problems. "Interests" are stakeholders' concerns what they expect to gain or lose by resolution of the problems, "Resources" are physical and human resources what stakeholders can bring to the table, and "Mandates" are legal authorities that stakeholders have to discharge a function or provide services for solving the problems. "Problems" are perceived problems that stakeholders view with regard to the subject.

How to conduct Stakeholder Analysis

1. Write down all individuals, groups, institutions and organizations involved in or affected by the project.
2. Categorize them (e.g. beneficiaries, negatively affected groups, decision-makers, etc).
3. Analyze the characteristics of each group (e.g. interests, resources and mandates, problems, etc).
4. Identify consequences for the project (e.g. implications for project planning).
5. Select one *Target Group**.

* *Target Group* is the principle group for which a positive change is intended by implementing a project.

Structure of Stakeholder Analysis Matrix

Stakeholder Group	Interests	Resources and Mandates	Problems
Farmers	- Higher crop production - Goat production - Sheep production - Cattle production	-Basic knowledge and skills of farming (R)	- They don't own lands. - More women than men. - Shortage of labors. - Shortage of capital funds. - Not organized.
Agricultural Cooperative	- Higher crop production. - Stable market price of agricultural products. - Commitment of farmers. - Introduction of small-scale farmers business.	- Influence on farmers (R) - Link to local politicians (R) - Provide farmers with access to financial facilities. (M)	- Shortage of capital funds. - Old post harvest facilities.
Extension workers	- Higher crop production. - Introduction of new verities of crop. - Introduction of new farming technologies.	- Knowledge and skills of farming (R) - Access to new farming technologies. (R) - Give specific technical advice to farmers. (M)	- Shortage of staff. - Lack of manpower.

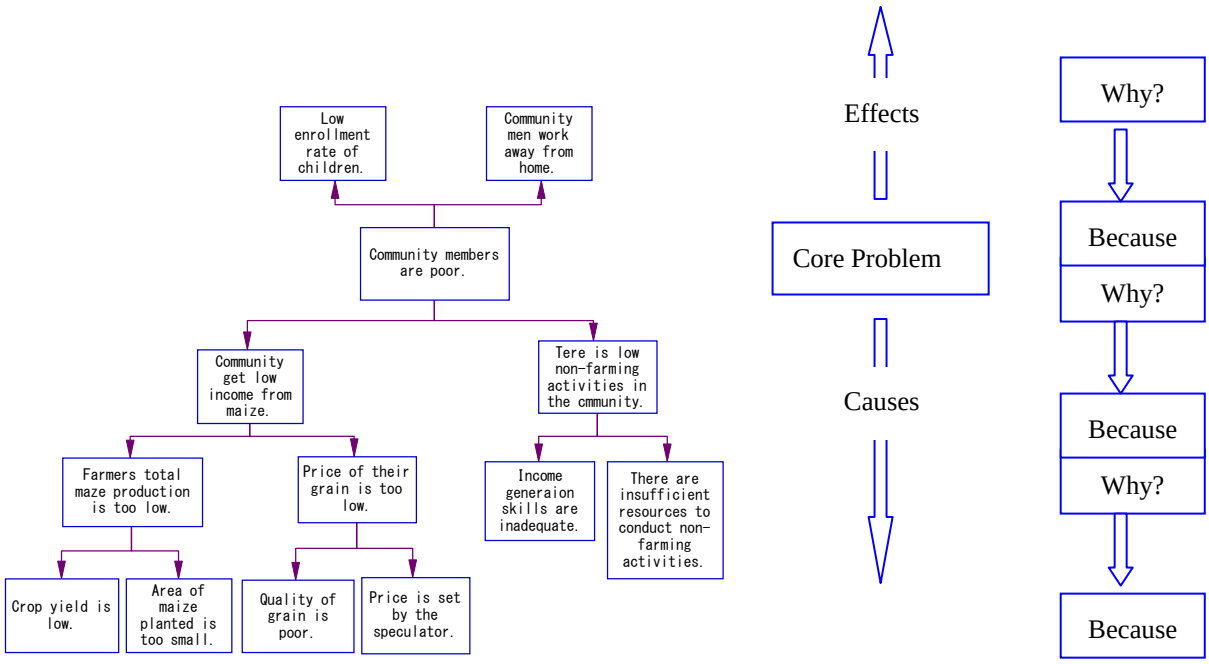
7. Problem Analysis

Problem Analysis is a method for graphically displaying the problematic environment pertaining to the matter of issue. The analysis lays problems out in a cause and effect tree with roots and branches showing relationships between problems. Roots represent causative factors and branches represent consequent effects. One problem in a tree is one of the causes of the problem located above as well as the effect of the problems located beneath.

How to conduct Problem Analysis

1. Identify major problems existing within the stated problem situation.
2. Agree upon a core problem or focal problem.
3. Analyze the causes of the core problem.
4. Analyze the effects of the core problem.
5. Form a diagram showing the cause & effect relationships in the form of a problem tree.

Structure of Problem Tree



8. Objective Analysis

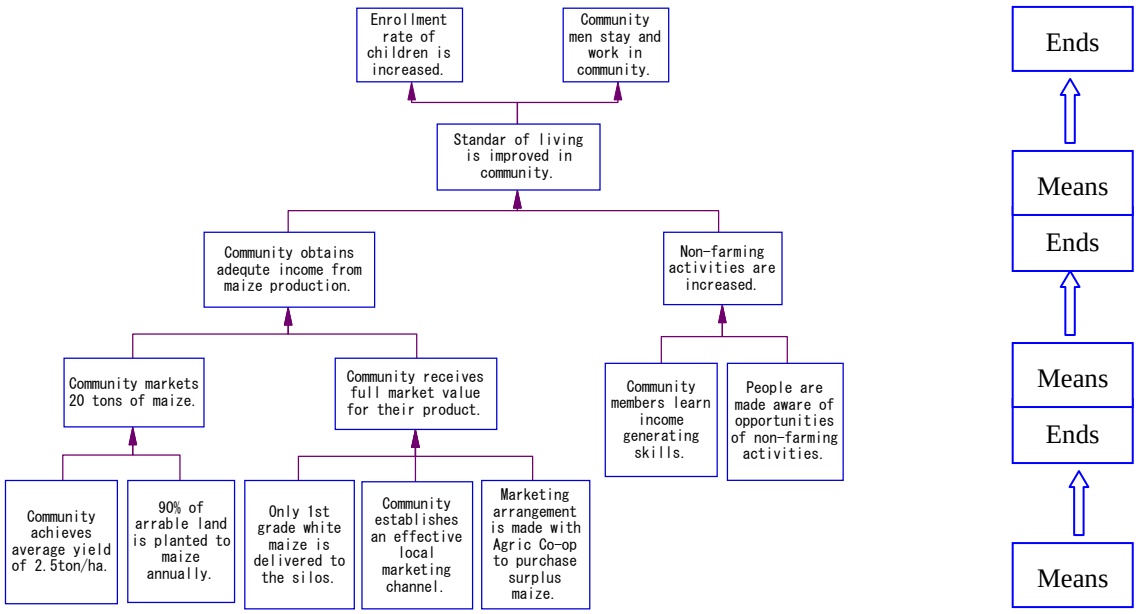
Converting negative current situation described in a problem tree into positive future situation by rewording problems into their solutions, Objective Analysis illustrates a desirable future situation that would be attained once problems have been solved.

The analysis lays the objectives out in a means and ends tree with roots and branches showing relationships between objectives. One objective in a tree is one of the means of the objective located above as well as the end of the objectives located beneath.

How to conduct Objective Analysis

1. Restate all negative statements of the problem tree into positive statements that are desirable and realistically achievable.
2. Examine the means and ends relationships thus derived to assure validity and completeness of the diagram.
3. If necessary, revise statements, add new objectives, and delete objectives

Structure of Objective Tree



9. Project Selection

Project Selection is a process to identify project components, possible alternative options, and to assess the comparative and competitive advantages of these and agree upon specific project strategies. Since an Objective Tree is created using means & ends relationships thus establishing a hierarchy of objectives, several branches form groups showing project prototypes. Project Selection starts by identifying these components and encircling them.

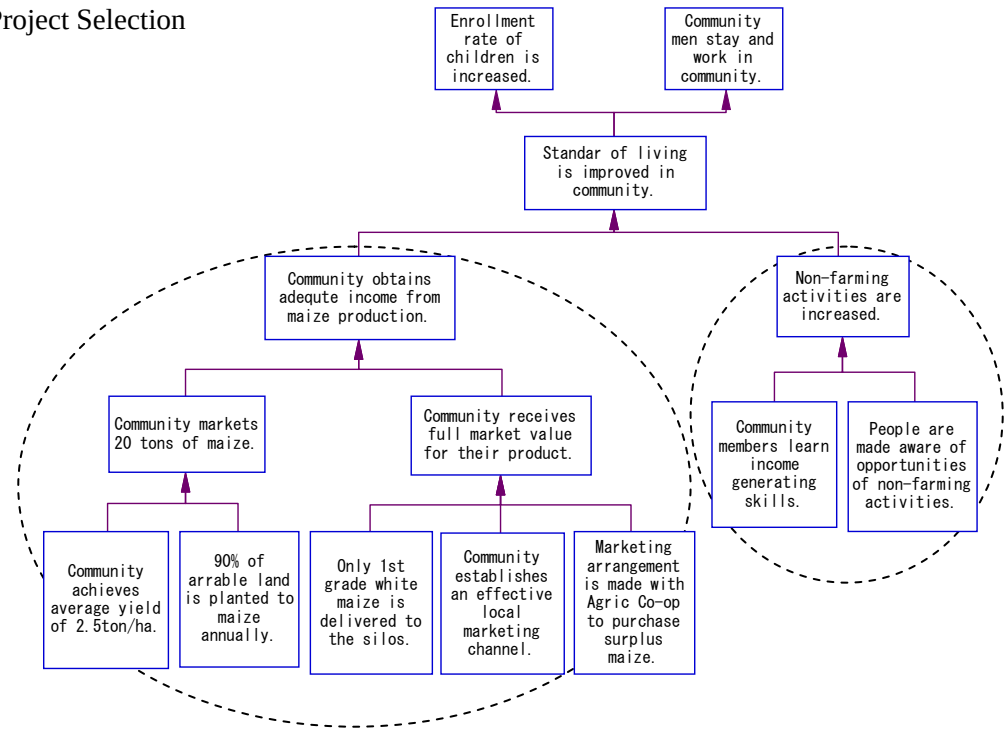
How to conduct Project Selection

1. Identify several project components in the Objective Tree and circle them.
2. Clarify the overall objective and strategies of each circled alternative option.
3. Exclude unachievable and/or unrealistic options from consideration.
4. Agree upon *selection criteria** for comparing alternatives.
5. Compare alternatives using the selection criteria.
6. Agree upon one alternative to be developed into a project.

* Some suggested *selection criteria* are:

- resources available
- probability of achieving objectives
- cost-benefit ratio
- social risks
- political priority
- environmental impact
- time horizon
- sustainability
- others

Project Selection

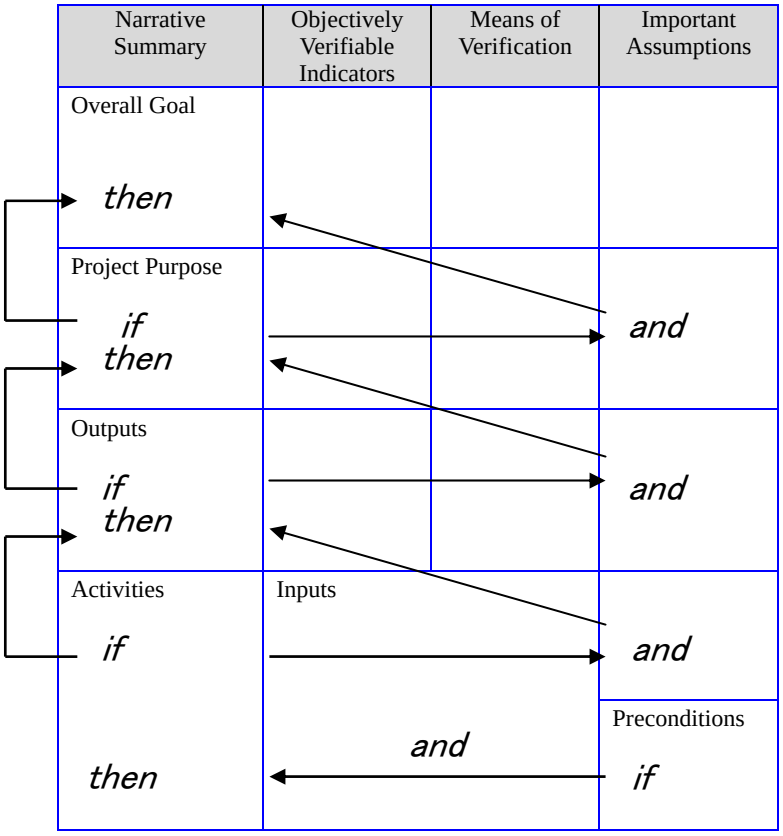


10. PDM (Project Design Matrix)

PDM (Project Design Matrix) is a four-by-four matrix to lay out a project design. Each box contains specific information about the project.

- *Narrative Summary* describes hierarchy of the project's objectives and makes the distinction between program strategy (Overall Goal), project impact (Project Purpose), project deliverables (Outputs) and the key activities (Activities).
- *Objectively Verifiable Indicators* identifies the performance indicators which define quantity, quality and time for each of the objectives in the first column.
- *Means of Verification* refers to the data sources for Objectively Verifiable Indicators.
- *Important Assumptions* describes the other conditions, in addition to the project, on which the project depends for its success. These assumptions are at different levels and each has varying degrees of risk.
- *Preconditions* indicate prerequisites for starting the project or implementing the activities.
- *Inputs* required for implementation of the activities are listed in the bottom box in the second column.

Vertical Logic of PDM



Structure of PDM

<table>
<tr><th>Narrative Summary</th><th>Objectively Verifiable Indicators</th><th>Means of Verification</th><th>Important Assumptions</th></tr>
<tr><td>Overall Goal

The impact of a project. Higher and longer-term objective to which the Project Purpose will contribute.</td><td>Indicators to measure the Overall Goal achievement.</td><td>Data sources of the Indicators for the Overall Goal.</td><td></td></tr>
<tr><td>Project Purpose

The immediate project objective which is expected to be achieved by the end of the project period.
The change in beneficiary behavior, system or institutional performance because of the combined output strategy and key assumptions.</td><td>Indicators to measure the accomplishment of the Project Purpose.</td><td>Data sources of the Indicators for the Project Purpose.</td><td>Project Purpose to Overall Goal

External conditions required for achieving the Overall Goal.
Risks regarding the Overall Goal level impact.</td></tr>
<tr><td>Outputs

The specific project intervention and/or actual deliverables to be realized in order to achieve the Project Purpose.</td><td>Indicators to measure the achievement of the Outputs.</td><td>Data sources of the Indicators for the Outputs.</td><td>Outputs to Project Purpose

External conditions required for achieving the Project Purpose.
Risks regarding effectiveness.</td></tr>
<tr><td rowspan="2">Activities

The main activity clusters that must be undertaken in order to accomplish the Outputs.</td><td colspan="2">Inputs

Budget by activity, monetary, physical and human resources required to carry out the Activities.</td><td>Activities to Outputs

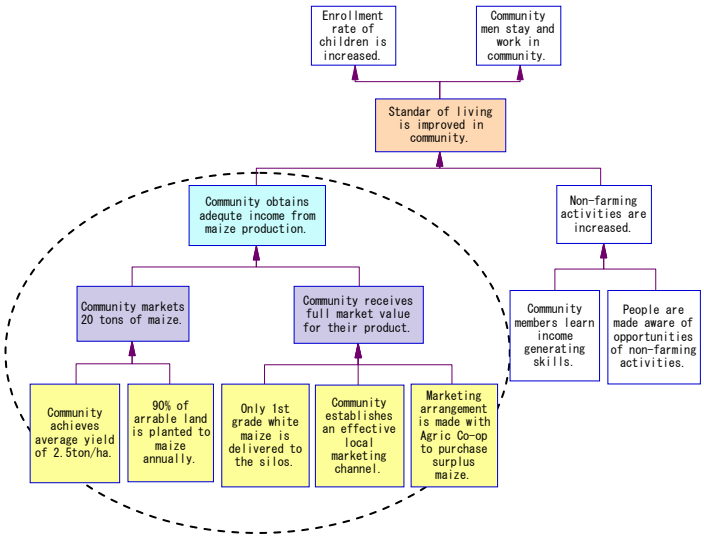
External conditions required for achieving the Outputs.
Risks regarding efficiency.</td></tr>
<tr><td>Pre-conditions

Prerequisites for starting the project and/or implementing the activities.
Risks regarding implementation of the activities.</td></tr>
</table>

• **Narrative Summary**

Transfer the causal logic, i.e. means – ends, of the Objective Tree to the Narrative Summary in PDM.

Objective Tree



PDM

Narrative Summary			
Overall Goal			
Project Purpose			
Outputs			
Activities			

• **Objectively Verifiable Indicators**

Objectively Verifiable Indicators are targets as well as definitions of objectives, which are used for measuring their achievements. Each indicator must be specific and objectively verifiable, which defines a set of performance standard comprises the elements as follows.

Type of Data:	*What?*
Group:	*For whom?*
Quantity:	*How much?*
Quality:	*How well?*
Time	*By when?*
Location:	*Where?*

⇒

The maize yield of 400 farmers in Gasela village increases from 0.8 ton/ha to 2.5 ton/ha by the year of 2020 maintaining AAW level of quality.

Proxy Indicators

Proxy indicators are indirect indicators used when the variable of objectives is difficult to measure directly. For example, measuring improved rural incomes may be difficult. Instead, proxy indicators such as the increase in community bicycle, televisions, or tin-roofed houses could be used to indirectly measure the increase in incomes.

• **Means of Verification**

Means of Verification are data sources such as statistical data, documents, records and reports drawn up within or outside the project. When data is not readily available, the project must collect and process data. In this case, information collection and process must be included as one of the activities since it takes time and costs.

• **Important Assumptions**

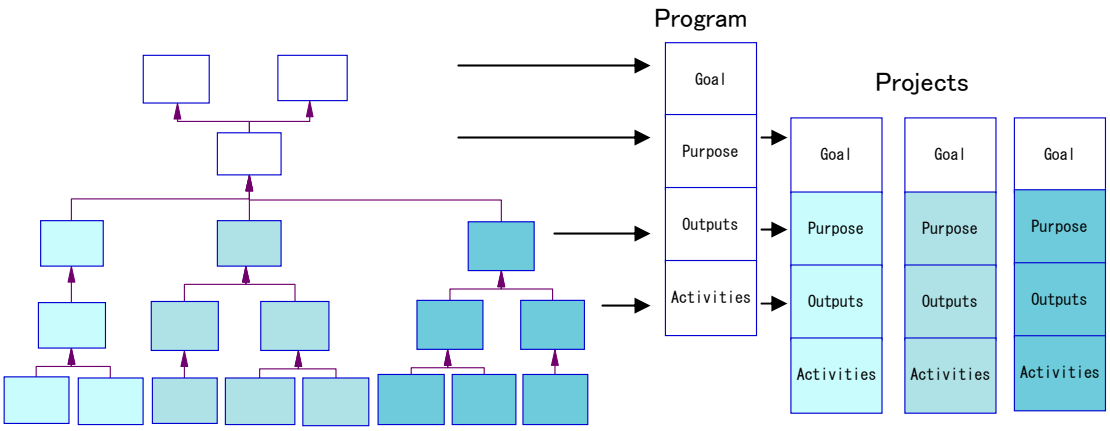
Important Assumptions are conditions 1) required for the success of the project, but 2) lie outside the project control, and 3) it is not assured whether they are fulfilled or not. They are risks since they threaten the success of the project when they are not fulfilled. Therefore, they should be monitoring items.

• **Program and Project Structure**

"A program is defined as a group of related projects, subprograms and program activities managed in a coordinated way to obtain benefits not available from managing them individually."[3]

It is, therefore, recommended to adopt Program and Project Structure to further develop the hierarchy of objectives and to better organize the multiple alternatives for realizing higher level development effects.

As stated above, a group of projects are organized under a program sharing the common higher objectives. Hence, the Purpose at the project level may be one of the Outputs at the program level, and Overall Goals of multiple projects are all the same as the Purpose of the program level.



[3] Source: *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) 2000 Edition*, PMI

11. Plan of Operation

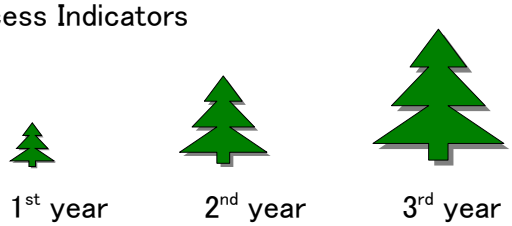
Plan of Operation is a detailed project implementation plan containing various project management factors including scope, quality, time, human resource, procurement, cost, etc. Activities listed in PDM must be broken down into increasingly more manageable packages of work, which is called Work Breakdown Structure (WBS). These detailed activities or WBS is the basis for the rest of implementation management system.

- *Activities* are the list of detailed activities or WBS.
- *Expected Results* are performance indicators (Objectively Verifiable Indicators) or process indicators* of the activities.
- *Time Schedule* is a calendar bar chart or a Gantt Chart, which provides time estimates, sequence of activities over time and the precedence relationships.
- *Person in Charge* is a responsible person with supervisory authority over a set of activities.
- *Implementers* are human resources or team assignments for implementing the activities.
- *Materials & Equipment* are resources input to implement activities and their procurement schedule.
- *Budget & Expenditure* defines the allocation and disbursement of budget for a set of activities as well as the actual expenditure for cost tracking purpose.

Structure of Plan of Operation

Activities (WBS)	Expected Results	Time Schedule '16 4 7 10 '17 1 4	Person in Charge	Implementers	Materials & Equipment	Budget & Expenditure	Remarks
1-1 Extension officers train farmers in effective land use.	1-1 At least 50% of the households cultivate 90% of their own land.		Soil Specialist Mr. X	Extension Officers	Hand hoes Spades (procured by 04.03)	Hoes @R25,00 Spades @R26,00	
1-2 Thorough closing of dangas and potential of soil be considered.	1-2 Gulley erosion is controlled.		Soil Specialist Ms. Y	Extension Officers	Hand hoes Spades (procured by 04.03)	Tractor rental @130,00	
1-3	1-3						

* Process Indicators



Process indicators signal that a process is in place that is moving toward the goal.

12. Monitoring

Monitoring is a continuous process of data collection and information gathering throughout the life of a project. The information collected is used for adjusting day-to-day implementation along with the plan if necessary. Monitoring tracks not only the performance indicators but also the leading indicators or milestones* to see the future trends of the objectives achievements. Assumptions and risks are also monitored in order to minimize the negative impact of them upon the project.

Monitoring System such as the one shown below can be a helpful tool for proper monitoring. The system should be developed from the PDM specifying the information collected, aggregated, forwarded to the decision maker, and fed back to the job site in a timely and regular manner.

* Milestone is a significant event in the project such as completion of a major deliverable.

Structure of Monitoring System

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Data collection			Aggregation			Decision making		Communication of decisions	
			Collector	Timing	Method	Aggre-gator	Timing	Method	Decision maker	Timing	Timing	Method
Project Purpose Income of Gasela village farmers increases.	Income of Gasela village farmers in 2021 increases 40% compared the income in 2016	Farmer income survey done by the agricultural cooperative	Project coordinator Extension workers	Every six months	Confirm the Farmers Income Survey Report made by the agricultural cooperative	Project coordinator	Every six months	Fill in the aggregation form and submit it to the committee	Project routine meeting	Every six months	Steering committee every six months	Verbal briefing at the next project routine meeting or steering committee meeting
Output 1 Production of maize is increased..	1. The maize yield of 400 farmers in Gasela village increases from 0.8 ton/ha to 2.5 ton/ha by the year of 2020 maintaining AAW level of quality..	1. Maze yield survey done by the agricultural cooperative	Project coordinator Extension workers	Every six months	Confirm the Maize Yield Survey Report made by the agricultural cooperative	Project coordinator	Every six months	Fill in the aggregation form and submit it to the committee	Project routine meeting	Every six months	Steering committee every six months	Verbal briefing at the next project routine meeting or steering committee meeting

13. Evaluation

Evaluation is a learning and management event conducted to assess the achievement and impact of the project. Changes brought about by the project is measured, analyzed and interpreted in order to provide recommendations for the betterment of the project and lessons learned for future projects.

Evaluation in PCM method employs "five evaluation criteria" recommended by the OECD/DAC[4]. Five evaluation criteria, i.e. *Relevance, Effectiveness, Efficiency, Impact* and *Sustainability*, are correlated with the structure of PDM as shown below.

<table>
<tr><th></th><th>Relevance</th><th>Effectiveness</th><th>Efficiency</th><th>Impact</th><th>Sustainability</th></tr>
<tr><td>Overall Goal</td><td rowspan="2">The degree to which the project can be justified in relation to local and national development priorities.</td><td></td><td rowspan="2"></td><td rowspan="2">The changes and effects positive and negative, planned and unforeseen of the project, seen in relation to the target group and others who are affected.</td><td rowspan="4">The extent to which the positive effects of the project will continue after external assistance has been concluded.</td></tr>
<tr><td>Project Purpose</td><td rowspan="2">The extent to which the purpose has been achieved; whether this can be expected to happen on the basis of the outputs of the project.</td></tr>
<tr><td>Outputs</td><td rowspan="2"></td><td rowspan="2">How economically inputs are converted into outputs.
Whether the same results could have been achieved in another better way.</td><td rowspan="2"></td></tr>
<tr><td>Inputs</td><td></td></tr>
</table>

[4] OECD: Organization for Economic Cooperation and Development
DAC: Development Assistance Committee

Index

こんなことはありませんか？

・ 2、3時間でとりあえず PCM 手法の概要を知りたい。
・ 経営改善に、職場の問題解決に、PCM 手法を使ってみたい。
・ PCM 手法やロジカル・シンキングの社内研修を実施したい。
・ PCM 手法と PMBOK®をくみあわせて使ってみたい。

どうぞ、NPO 法人 PCM Tokyo にご連絡ください。
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NPO 法人 PCM Tokyo は、PCM 手法を中心とした様々なツールを通して、地域や組織の人々の参画と協働をうながし、人々の思いを形にすることを目指して設立された、特定非営利活動法人（NPO 法人）です。

2015 年 8 月

PCM Tokyo

みんなの「思い」をひとつの「形」に