

CHAPTER 2

PROJECT FRAMEWORK

CONTENTS

2.1	The Project Framework.....	25
2.1.1	Introduction.....	25
2.2	Purpose	25
2.3.	Concept of a Project Framework: Cause and Effect.....	26
2.4	Design of a Project Framework.....	27
2.5	Project Targets: <i>The Verifiable Indicators of Project Achievement</i>	29
2.6	Project Monitoring Mechanisms: <i>The Means of Verification or “How Do We Obtain the Evidence?”</i>	30
2.7	Risks and Assumptions	30
2.8	The Project Framework Matrix: <i>An Example</i>	31

Figures

Figure 2.1	The Project Cycle.....	26
Figure 2.2	Basic Relations Between PFW Elements.....	27

Boxes

Box 2.1	Logical Order of Cause and Effect.....	26
Box 2.2	Example of Project Goal.....	28
Box 2.3	Example of the Purpose of the Project.....	28
Box 2.4	Example of Project Outputs.....	28
Box 2.5	Example of Activities.....	28
Box 2.6	Example of Project Targets.....	29
Box 2.7	Example of Risks and Assumptions.....	30

Tables

Table 2.1	Project Design Summary.....	27
Table 2.2	Example of Inputs in Water Supply Projects.....	29
Table 2.3	Water Supply and Sanitation Project Framework.....	32

2.1 The Project Framework

2.1.1 Introduction

1. The Project Framework (PFW) is a conceptual tool for preparing the design of a project. It is a disciplined approach to sector and project analysis. This part of the Handbook is based on the ADB publication *Using the Logical Framework for Sector Analysis and Project Design: A User's Guide* (June 1998).

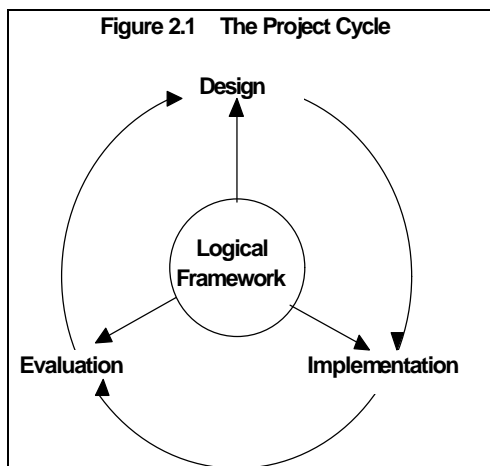
2. In February 1998, the ADB Post Evaluation Office has issued the first draft of a new Project Performance Management System (PPMS). With regard to project design, the PPMS incorporates the PFW but adds other techniques, like problem analyses, formulation of solutions, identification of baseline and target values and definition of accountabilities. Because the draft PPMS is yet to be finalized and approved, this Handbook will only refer to the PFW as the basic tool for project design. It is expected, however, that the PPMS will gradually be adopted as the methodology to be utilized.

2.2 Purpose

3. The first step in carrying out a feasibility study for a water supply project (WSP), and as such also the first step in the economic analysis of such projects, is to prepare a PFW. Its purposes are:

- (i) to establish clearly the objectives and outputs which the project will be accountable to deliver (these objectives and outputs must be quantifiable and measurable);
- (ii) to promote dialogue and participation by all stakeholders;
- (iii) to facilitate project implementation planning and monitoring;
- (iv) to establish a clear basis for project evaluation during the operational phase; this requires a systematic comparison of project objectives, outputs and with actual achievements.

4. The PFW establishes the linkages between project design, project implementation and project evaluation. This is illustrated in Figure 2.1.



5. The PFW is a tool for preparing the project design. It describes the goals, objectives, expected outputs, inputs and activities, key risks and assumptions and project costs. Preparing the PFW ensures that the project design is responsive to specific needs, constraints and opportunities, since it requires an analysis of problems and objectives to be achieved as a preparatory step leading to the design of a project.

6. The preparation of the PFW is a team effort in which, ideally, all stakeholders involved in project preparation, should participate. The PFW facilitates project design and preparation by focusing attention on key project issues and laying out a process for establishing the main features of a project. As such, the preparation of a PFW should be an integrated and mandatory part of the Terms of Reference of any feasibility study.

2.3 The Concept of the Project Framework:

Cause and Effect

7. The core concept underlying the PFW lies in creating a logical order of cause and effect. This is stated in Box 2.1.

Box 2.1 Logical Order of Cause and Effect

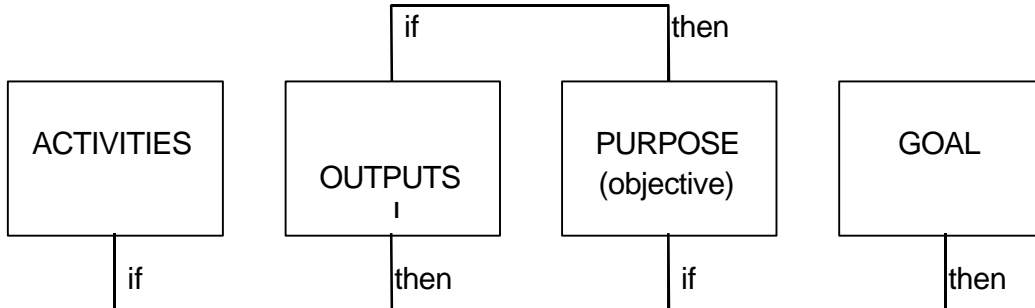
***if** certain inputs are provided and activities carried out,
then a set of project outputs will be realized and*

***if** these outputs materialize,
then the project will achieve certain project objectives, and*

***if** these objectives are achieved
then the project will contribute to achieve the overall goal of the sector.*

8. The above statement indicates a certain hierarchy between the different components of the PFW. The basic relations between inputs, activities, outputs and impacts, objectives and goal can be seen in Figure 2.2.

Figure 2.2 Basic Relations Between PFW Elements



2.4 The Design of a Project Framework

9. The basic building blocks of a PFW are five key project elements, each one linked to another in a cause-effect relationship. These five elements are described as the design summary. They are presented in Table 2.1 and can be described as follows:

Table 2.1 Project Design Summary			
DESIGN SUMMARY	PROJECT TARGETS	PROJECT MONITORING MECHANISMS	RISKS/ ASSUMPTIONS
1. Goal			
2. Purpose			
3. Project Components Project Outputs			
4. Activities	5. Inputs		

10. **The Goal:** the PFW begins with identifying the overall sector or area goal to be targeted by the project. It is the higher order or general objective to which the project contributes. Together with other projects, the proposed WSP will contribute to achieving such sector and area goals. An example is presented in Box 2.2.

Box 2.2 **Example of Project Goal**

In the case of water supply projects, a common goal is 'improved health and living conditions, reduced poverty and increased economic growth and productivity (goal)'. This goal has multiple dimensions as both human development and economic growth are targeted.

11. **The Purpose, Immediate or Project-Specific Objective (why the project is being done):** describes the immediate output or direct impact that we hope to achieve by carrying out the project. By achieving the immediate objective, the project will contribute to achieving the broader sector goal. An example is provided in Box 2.3.

Box 2.3 **Example of the Purpose of the Project**

If access to and use of clean water by the community is assured (purpose), **then** the project will contribute to improving community health and productivity (which is the broader sector goal).

12. **Project Outputs (what the project will deliver):** the tangible and measurable deliverables that the project is directly accountable for and for which it is given budgeted amounts of time and resources. Outputs are specific results, produced by managing well the project components. They should be presented as accomplishments rather than as activities. This is illustrated in Box 2.4.

Box 2.4 **Example of Project Outputs**

A typical project output could be phrased as: 'water supply systems rehabilitated and/or constructed' and 'O&M systems upgraded and operational'. Typical project components would include the procurement of materials and equipment, construction works, institutional strengthening and capacity building, community development and consultancy services.

13. **Activities (how the project is carried out):** each project output will be achieved through a series or cluster of activities. An example is shown in Box 2.5.

Box 2.5 **Example of Activities**

Typical examples of activities taking place in water supply projects include the acquisition of land, the procurement of materials and equipment, implementation of construction works, the preparation of an Operation & Maintenance Manual, training of staff, implementation of community education programs.

14. **Inputs:** the time and physical resources needed to produce outputs. These are usually comprised of the budgeted costs needed for the purchase and supply of materials, the costs of construction, the costs for consultancy services, etc. An example is shown in Table 2.2.

EXPENDITURE CATEGORIES	COSTS (US\$m)
1. Land	2
2. Material Supplies	32
3. Physical Works	16
4. Consultancy Services	6
Total Cost of Inputs	55

2.5 Project Targets: *The Verifiable Indicators of Project Achievement*

15. Practical and cost-effective project measures need to be established to verify accomplishment of goal, objective and outputs. These performance indicators are referred to as the project's operational targets. The project targets essentially quantify the results, benefits or impacts expected from the project and thus make them measurable or at least tangible. Performance measures at the 'objective level' measure End of Project Impact.

16. Project targets are measurable indicators which should be presented in terms of **quantity**, **quality** and **time**. This is illustrated in Box 2.6.

Box 2.6 Example of Project Targets

A **quantitative** target could be 'to provide adequate water supply to 15,000 households in district Adebe'. The **quality** characteristic can be added to this target: 'provide drinking water in accordance with WHO standards for 24 hours per day at a pressure of 10 mwc'. The **time** dimension can also be added: 'before 31 December 1999'.

2.6 Project Monitoring Mechanisms: *The Means of Verification or “How Do We Obtain the Evidence?”*¹

17. The project manager, the government and the Bank need a management information system (MIS) that provides feedback on project progress at all levels of the Design Summary. This includes progress in disbursements, completion of activities, achievement of outputs, purpose and goals. Both measurable or verifiable indicators and means/mechanisms of verification provide the basis for project monitoring and evaluation systems.

18. To establish an effective monitoring and evaluation system or project performance management system, it is necessary to establish as part of the project design, flexible, inexpensive and effective means of verifying the status of project progress, at goal, objective and output level. In WSPs, sources of information could be progress reports, reports of review missions, water utility reports, statistical data, survey data, etc.

2.7 Risks and Assumptions

19. Risks and assumptions are statements about external and uncertain factors which may affect each of the levels in the Design Summary, and which have to be taken into account in the project design through mitigating measures. They may include the assumption that other projects will achieve their objectives. If worded positively, these statements are assumptions; if worded negatively, they are indicative of risk areas. This is illustrated in Box 2.7.

Box 2.7 Example of Risks and Assumptions

In water supply projects, **assumptions** could include:

- the timely availability of land for construction of water intake;
- the timely disbursement of funds;
- a stable political situation;
- the timely completion of the dam; and
- regular adjustment of water tariffs.

In terms of **risks**, these assumptions would be formulated as follows:

- land not timely available for construction;
- funds not timely disbursed;
- political instability;
- dam not ready in time;
- water tariffs not regularly adjusted.

¹ The newly-developed ADB-Project Performance Management System (PPMS) provides additional information and techniques on how to establish means and measures of verification.

20. Assumptions are conditions that must be fulfilled if the project is to succeed, but which are not under the direct control of the project. It is important to identify the so-called “killer assumptions” which, if not fulfilled, could stop the project from achieving its objectives. The following actions can be taken to manage killer assumptions:

- (i) assess the consequences of doing nothing;
- (ii) change project design;
- (iii) add a new project;
- (iv) closely monitor the project; and
- (v) ensure sufficient flexibility in the project design.

21. Certain risks can be eliminated by putting them as a condition to be fulfilled before project implementation. For example, water tariffs must be increased to achieve a targeted level of cost recovery; or the water enterprise should receive autonomous status before the loan can become effective. In rural WSPs, another example would be to set certain criteria which must be met by sub-projects before they are approved.

22. Risks and assumptions made should be carefully taken into account in the risk and sensitivity analysis to be conducted as part of the economic and financial analysis.

2.8 The Project Framework Matrix: *An example*

23. Project Framework Matrices have been prepared for many projects. An example of such a matrix for a typical WSP is presented in Table 2.3.

Table 2.3 **Water Supply Project Framework**

Design Summary	Project Targets	Proj. Monitoring Mechanisms	Risks/Assumptions
<p>1.Sector/Area Goals 1.1 Improved Health Situation 1.2 Improved Living Conditions 1.3 Sustained Socio-Economic Dev.</p>	<p>-Prevalence of water-related diseases among target population reduced by 15% by 1999. -50% of people below poverty line have access to water supply facilities by 1999. -Increased industrial development. -10% reduction of absenteeism by 1999 due to improved socio-economic/ living conditions. -70% of women of target population have improved living conditions (more time, convenience, etc.) by 1999.</p>	<p>- Yearly epidemiological reports of the Ministry of Health - Water Enterprisereports - Country report - End of project reports - Health Surveys</p>	<p>- no political instability - no natural disasters - sound macro-economic policies</p>
<p>2. Project Objective/Purpose 2.1 Provide improved and sustained water supply to the population of a specified area.</p>	<p>-Increase access to safe water supply to 70% of the target population by December 1999.</p>	<p>- Water Enterprise reports - Progress reports</p>	<p>-no unexpected population growth in target areas. -current ground water tables will decrease dramatically because of drought (risk). -loan effectiveness by first of January 1996.</p>
<p>3. Components/ Outputs 3.1. - Existing infrastructure rehabilitated; -Physical infrastructure constructed;</p>	<p>- four intakes, two treatment plants, 20,000 house connections by 1997; - 33.5 km transmission and distribution pipes completed/replaced by 1997; - 24 hours service level operational; - reduction of unaccounted for water from 40% to 30% by 1999.</p>	<p>- Progress reports - Water Enterprise reports</p>	<p>- no delays in contracting (building) contractors and delivery of materials</p>

Table 2.3 **Water Supply Project Framework**

Design Summary	Project Targets	Proj. Monitoring Mechanisms	Risks/Assumptions
3.2 Mitigating measures for negative environmental effects in place.	<ul style="list-style-type: none"> -Water resources study completed by 1995; -water quality protection measures in place by 1996; -facilities to transport and treat wastewater in place by 1997; -target population educated about water related environmental hazards; -water reduction program operational by end of 1996. 	<ul style="list-style-type: none"> - Environmental profile (and three yearly updates); - Progress reports - Reports of Ministry of Water & Provincial Water Authorities - Reports of Environmental Protection Agency/Water Basin Authority 	<ul style="list-style-type: none"> - no environmental disasters - government ability to enforce environmental protection measures.
3.3 Sustainable Org. and Management established.	<ul style="list-style-type: none"> - 100% of required postings fulfilled with trained and motivated staff by 1999; - effective O&M systems in place; - management systems and procedures operational by 1997; - autonomous status water enterprise approved by 1997. 	<ul style="list-style-type: none"> - Progress reports - Water Enterprise reports - Management training reports and training needs assessments of staff; - Data from management info systems; - Organogram of water enterprise/staffing list indicating qualifications of staff. 	<ul style="list-style-type: none"> - sufficient qualified local staff available and willing to work in remote areas; - no halt on governmental vacancies; - autonomy to water enterprise granted.
3.4 Financial sustainability of water enterprise achieved	<ul style="list-style-type: none"> -water enterprise ability to recover full costs by 1998; -billing and collection system operational by January 1997; -financial management system effective; -achieve reduction in “unaccounted for water” from 40% to 30% by 1999. 	<ul style="list-style-type: none"> - monthly and yearly financial reports of water enterprise; - progress reports. 	<ul style="list-style-type: none"> - proposed tariff increases approved by government.

<p>3.5 User-oriented Activities</p> <ul style="list-style-type: none"> -Customers aware about new services and about the safe use of water; -Customers use water supply facilities safely 	<ul style="list-style-type: none"> -achieve 90% coverage of target population (m/f) with hygiene education program by 1999; -70% of target population (m/f) know at least two out of three communicated hygiene messages; -collection rates increased from 60% to 85% by 1998; - 50% of target population (m/f) apply at least two out of three communicated hygiene behavior messages; 	<ul style="list-style-type: none"> - Special reports (Hygiene education/ environmental education at schools) - Progress reports - Water enterprise reports (consumer complaints list) -Reports of the Ministry of Health and the Ministry of Education 	<ul style="list-style-type: none"> - no health disasters
<p>4. Activities</p> <p>4.1Develop Physical Infrastructure</p> <ul style="list-style-type: none"> -Detailed Eng'g. Design -Land acquisition -Procurement -Construction -Supervision -Environmental Management 	<p>5. Inputs</p> <p>5.1</p> <ul style="list-style-type: none"> - consultancy services for detailed eng'g. design / supervision (US\$3 mn) - \$2 mn government funding for land acquisition; - \$50.5 mn funding for procurement of equipment and materials - provision for operational expenses 	<ul style="list-style-type: none"> - Progress reports and Review missions - Special reports 	<ul style="list-style-type: none"> - loan awarded; - government funds awarded;
<p>4.2.Environmental component</p> <ul style="list-style-type: none"> -water rescues study -water quality protection measures -facilities 	<p>5.2.</p> <ul style="list-style-type: none"> - local consultancy services planned studies (10 person months) - international consultancy services (6 person months) - local staff + government funding - US\$1.5 mn funding for procurement of equipment and materials - US\$3 mn for construction works 	<ul style="list-style-type: none"> - Progress reports and Review missions - Special reports 	<ul style="list-style-type: none"> - materials available on time; - no delay in consultancy services;

<p>4.3 Establish Organization and Management -Institutional Dev. -Organization Dev. -Human Resource Dev.</p>	<p>5.3. - US\$ 0.8 mn p.a. government funding for local staff (operational costs) - US\$ 0.6 mn for consultancy - US\$1.4 mn for training</p>	<p>- Progress reports and Review missions - Special reports</p>	<p>- resettlement program effective - contractors available on time;</p>
<p>4.4 Establish sustainable financial framework -establish tariff structure -financial management system operational</p>	<p>5.4. - US\$0.3 mn for computer and management information system - international consultancy services (4 mm) - local consultancy services (12 mm) - computer hardware US\$0.7 mn</p>	<p>- Progress reports and Review missions - Special reports</p>	
<p>4.5 Community-Oriented Activities -community info programs -Health education -community org -PublicRelations programs</p>	<p>5.6. - US\$0.5 mn for training and extension materials; - 36 person months local consultancy staff, 12 person months international consultants; - US\$0.2 mn for vehicles/other transport means; - US\$0.5 mn for public relations and mass media activities; - local staff</p>	<p>- Progress reports and Review missions - Special reports</p>	

Source: RETA 5608 Case Studies on Selected Water Supply Projects