



Appendices

A. Outline of an Appraisal Report

This Section offers a detailed, even if only indicative, outline of a typical Appraisal Report for a large project. Under SF Regulations, Member States are responsible for producing their prior appraisal and they are free to follow any suitable procedure of analysis. Nevertheless, in some cases it may be useful to refer to the following outline as a check-list, both for experts working under the responsibility of Member States and for project examiners working for the Commission. Though there is no particular need to follow this format, it may be an advantage if applicants deliver Appraisal Reports that cover the relevant items suggested below. These Appraisal Reports may be attached to the application forms for assistance or delivered to the Commission in any other appropriate way.

A.1 Summary

In the first chapter of the report, a short presentation of the objectives of the promoters, the characteristics of the project and the main results of the analysis is required.

- 1.1 Project promoters and the authority responsible for the proposal to the European Commission
- 1.2 Object of the analysis
 - 1.2.1. Name of the project
 - 1.2.2. Summary description of the project
 - 1.2.2.1. Sector (railway, highway, power station, environment project, etc)
 - 1.2.2.2 Location
 - 1.2.2.3 Impact area (regional, interregional, national, international)
- 1.3 Objectives of the Promoters
- 1.4 Previous experiences with similar projects
- 1.5 Summary description of the present Appraisal Report
 - 1.5.1 Authors of the present Report (Consultants, Government Bodies, etc)
 - 1.5.2 Delimitation of the scope of the Report. Linkages with other projects. Specification of functional components into which the project has been divided. Independent components of the project which can be developed in sequence.
 - 1.5.3. Methodology of the present project analysis
- 1.6 Indication of the main results of the analysis
 - 1.6.1 Financial returns

- 1.6.2 Economic returns
- 1.6.3 Employment impact
- 1.6.4 Environmental impact
- 1.6.5 Other outcomes

A.2 Socio-economic environment

The Report should present the essential socio-economic environment of the project and of the sector it refers to. In this presentation the main institutional aspects are to be included.

- 2.1 Main relevant aspects of the socio-economic environment
 - 2.1.1 Territorial and environmental aspects
 - 2.1.2 Demographical aspects
 - 2.1.3 Socio-cultural aspects
 - 2.1.4 Economic aspects
- 2.2. Institutional and political aspects
 - 2.2.1 General policy framework. Consistency of the project with the objectives of plans and programmes from the different national and local authorities: Community support framework; Operative Programme; Regional development plans; Sector plans on a national level; Sector Regional Plans; Other EC policies and programmes

- 2.2.2 Source of finance (specify if loans or grants); EC instruments (ERDF, EIB, CF, ESF, etc); National authorities (Central Government, Regions, others); Private
- 2.2.3 Financial coverage by the above mentioned sources (discussion of implementation issues, timing, etc)
- 2.2.4 Procedures and administrative constraints; authorities involved in the decision making process on the project, with an identification of specific roles: different land planning constraints (town-planning, hydro-geological, state-owned, military, etc.); authorizations/permits at local level; specific requirements for concessions and incentives
- 2.2.5 Timing for: obtaining authorizations/permits; concessions/ incentives to be paid; others

A.3 Demand and supply of the project's outputs

The project is aimed at producing public or private goods and services, allocated either by market or non-market transactions. In any case, these outputs have to be identified and demand for them measured. Other producers have to be indicated and their reactions foreseen.

- 3.1 Forecast of the potential demand
 - 3.1.1 Needs that the project may satisfy in a given time horizon (to be maintained for the whole Report)
 - 3.1.2. Current and future demand trends (local, regional, national)
 - 3.1.3 Demand segmentation by kinds of consumers
 - 3.1.4 Purchasing or distribution processes
 - 3.1.5 Specific market research studies: results

- 3.2 Competition
 - 3.2.1. Characteristics of regional/ national offer of similar outputs
 - 3.2.2 Structure of competition, if existing or foreseeable
 - 3.2.3 Factors of success (prices, quality, timing)
- 3.3. Proposed Sstrategy
 - 3.3.1 Products
 - 3.3.2 Prices
 - 3.3.3 Promotion
 - 3.3.4 Distribution
 - 3.3.5 Marketing
- 3.4 Forecasts of rate of utilized capacity
 - 3.4.1 Sales forecast for the project
 - 3.4.2 Market shares, coverage of needs share
 - 3.4.3 Forecasting assumptions and techniques

A.4 Technology options and production plan

Production of both tangible and intangible goods and/or services requires the appraisal of technological options and the selection of the best combination of factors of production. Analyse briefly options and efficient solutions by using, whenever possible, the sector experts' assessments.

- 4.1 Description of the relevant technological alternatives
- 4.3 Selection of the appropriate technology
- 4.4 Buildings and plants
- 4.5 Physical inputs

- 4.6 Required personnel
- 4.7 Energy requirement
- 4.8 Technology suppliers
- 4.9 Investment costs
 - 4.9.1 Planning and know-how
 - 4.9.2 Buildings
 - 4.9.3 Machinery
- 4.10 Production plan for the project's time horizon
- 4.11 Joint supply of products
- 4.12 Production organization

A.5 Human Resources

In public infrastructure projects, as in most private projects, the human factor is the key one. The analyst must be very careful about forecasts concerning human resources available.

- 5.1 Organization chart
- 5.2 Staff list and wage parameters
 - 5.2.1 Managers
 - 5.2.2 Office workers
 - 5.2.3 Technicians
 - 5.2.4 Workmen
- 5.3 Services contracted out
 - 5.3.1 Administrative
 - 5.3.2 Technical
 - 5.3.3 Others
- 5.4 Recruiting procedures
- 5.5 Training procedures
- 5.6 Annual costs (both before and after start-up)

A.6 Location

The choice of location and a suitable site selection are dependent on many factors: the proximity of demand (centres of consumption), the availability of managerial staff and skilled labour, Government regulations and restrictions (political-administrative constraints), the availability of incentives and concessions (public or institutional finance linked to location, etc.).

The selection of a site among different alternatives must be accompanied by an evaluation of the impact on the environment.

- 6.1 Optimum location requirements
- 6.2 Available alternatives
- 6.3 Site selection and characteristics
 - 6.3.1 Climatic conditions, environmental aspects (if relevant)
 - 6.3.2 Site or land
 - 6.3.3 Transport and communications
 - 6.3.4 Water and electricity supplies
 - 6.3.5 Waste disposal
 - 6.3.6 Government regulations
 - 6.3.7 Local authorities' policies
 - 6.3.8 Description of selected site (details in Appendices)
- 6.4 Cost of land and site preparation
- 6.5 Availability of the site

Some of the following questions may be important. Is the project realization dependent on that particular site? Is the area available to the promoter? Can the area be acquired on the market? At what price? Should it be acquired through expropriation? At what price? Is the site-use considered by the project acceptable to the planning authorities?

6.6 Infrastructural requirements

List of the main infrastructural requirements the project needs as external provisions, such as: connecting roads; public transport; water network; electricity network; methane gas network; drainage system; liquid urban waste disposal; solid urban waste disposal; special waste disposal; toxic waste disposal.

Can the project adequately solve all the infrastructural needs mentioned above? If not: which are to be provided by other bodies? with which technical characteristics? with which additional financial burden (for the project)?

A.7 Implementation

The analysis of the realization and of the timing will be brief, unless time uncertainty and risk are critical factors. It may be summarized by appropriate diagrams.

- 7.1 Analysis of the construction/start-up time (project cycle)
 - 7.1.1 Selection of the project management team
 - 7.1.2 Definition of the information system
 - 7.1.3 Negotiations for the acquisition of know-how and machinery
 - 7.1.4 Detailed planning of buildings and contracts
 - 7.1.5 Negotiations for financing
 - 7.1.6 Acquisition of land and concessions
 - 7.1.7 Organizational build-up
 - 7.1.8 Recruitment of staff
 - 7.1.9 Recruitment and training of personnel
 - 7.1.10 Supply agreements
 - 7.1.11 Distribution agreements

- 7.2 Bar-chart planning for the main phases (Pert or similar for more complex projects)

- 7.3 Main timing data to consider in the financial analysis

A.8 Financial analysis

Even in public projects, balance between financial inflows and outflows must be obtained for each year, otherwise the project may become short of cash.

Moreover, one is interested to know the overall financial return of the project (or its overall financial net loss).

- 8.0 Basic assumptions for the financial analysis
 - 8.0.1 Planning horizon (e.g. 10, 20, 50 years)
 - 8.0.2 Pricing of project inputs and outputs (e.g. constant prices in ECU 1994)
 - 8.0.3 Financial real discount rate (5% as a benchmark for real opportunity cost of capital in the long term)
- 8.1 Fixed investments
- 8.2 Pre-production expenditures
- 8.3 Working capital
- 8.4 Total investments
- 8.5 Operating revenues and expenses
- 8.6 Sources of finance
- 8.7 Financial planning (a table with in flows and out flows year by year)
- 8.8 Statements of assets and liabilities
- 8.9 Profit and loss account
- 8.10 Determination of net cash flow

- 8.10.1 Net Flows to calculate the return on the total investment (project investments as a whole)
- 8.10.2 Net Flows to calculate the return of the equity/grant capital (public or private)
- 8.11 Net present value / Internal rate of return

A.9 Socio-economic Cost-Benefit Analysis

The analysis may be widened beyond the limited set of official socio-economic objectives (see 9.5, below) if there are other objectives which are important for the promoters and for the European Commission.

- 9.1 Unit of account and discounting for Cost-Benefit Analysis (constant ECUs 1994, 5% normal social discount rate, 3% minimum social discount rate, other assumptions if any)
- 9.2 Social cost analysis
 - 9.2.1 Price distortions of inputs
 - 9.2.2 Wage distortions
 - 9.2.3 Tax aspects
 - 9.2.4 External costs
 - 9.2.5 Non-monetary costs, including environmental aspects
- 9.3 Social benefit analysis
 - 9.3.1 Price distortions of outputs
 - 9.3.2 Social benefit of additional employment
 - 9.3.3 Tax aspects
 - 9.3.4 External benefits
 - 9.3.5 Non-monetary benefits, including environmental aspects

- 9.4 Economic rate of return or present net social value of the project in monetary terms
- 9.5 Additional evaluation criteria (if relevant)
 - 9.5.1 Presentation of results in terms of the general objectives of EU policies
 - 9.5.2 Increase in EU's social income
 - 9.5.3 Reduction in disparities among GDP per capita among EC regions
 - 9.5.4 Increase in employment
 - 9.5.5 Better environment quality
 - 9.5.6 Other objectives of the Commission, National, Regional authorities

A.10 Risk analysis

The analysis must indicate the uncertainty sources and test the strength of its conclusions. An appropriate software can be useful for the sensitivity and probability analyses.

- 10.1 Determination of the critical variables with the help of sensitivity analysis (percentage change of objectives by percentage change of each individual independent variable)
 - 10.1.1 Demand/Supply variables
 - 10.1.2 Input variables
 - 10.1.3 Human Resources
 - 10.1.4 Time and implementation variables
 - 10.1.5 Financial variables
 - 10.1.6 Economic variables
- 10.2 Simulation of pessimistic and optimistic scenarios
- 10.3 Probability analysis (e.g. with Montecarlo techniques)
- 10.4 Expected value of NPV or IRR and its distribution

B. Glossary

Accounting prices - Equilibrium prices that are generally different from actual market prices and from regulated tariffs. They should be used in project appraisal to reflect better the real costs of inputs to society, and the real benefits of the outputs, than actual prices do. Often used as a synonym of shadow prices.

Constant prices - Prices related to a base year in order to exclude inflation from economic data.

Cost-Benefit Analysis - A procedure for evaluating the desirability of a project by weighting benefits against costs. CBA usually implies the use of accounting prices. Results may be expressed in many ways, including internal rate of return, net present value and benefit cost ratio.

Cost/effectiveness - The ratio between physical results and costs in money terms incurred in getting these results.

Current prices - Prices as actually observed at a given time.

Discount rate - The rate at which future values are discounted to the present. Financial discount rate and economic rate may differ, in the same way that market prices may differ from accounting prices.

Discounting - The process of adjusting the future value of a cost or benefit to the present by a discount rate, i.e. by multiplying the future value by a coefficient that decreases with time.

Distortion - A mechanism that generates a gap between the opportunity cost of a good and its actual price, e.g. monopoly pricing, externalities, indirect taxes, duties, regulated tariffs, etc.

Economic rate of return (ERR) - The socio-economic profitability of a project. It may be different from financial rate of return (FRR), because of price distortion. ERR implies the use of accounting prices and the calculation of the discount rate that makes project benefits equal to present costs, i.e. makes economic net present value (ENPV) equal to zero.

Elasticity - The ratio of the percentage by which one variable changes, given a 1 per cent change in another.

Financial rate of return (FRR) - The financial profitability of a project, see internal rate of return. Not to be confused with financial ratios such as return on sales (ROS) or return on investment (ROI).

Gross domestic product (GDP) - The total product or value added within the physical borders of the country. It includes production based on foreign-owned resources, even though part of the income earned by these factors of production is transferred abroad as factor service income payments.

Income multiplier - Ratio between national income variation and the expenditure variation that caused it.

Internal rate of return - The discount rate at which a stream of costs and benefits has a net present value of zero. Financial rate of return (FRR), when values are estimated at actual prices. Economic rate of return, (ERR) when values are estimated at accounting prices.

Merit good - An additional criterion of project appraisal applied when the government has a preference for more or less consumption of particular goods, such as education and alcohol respectively.

Multicriteria evaluation - An evaluation methodology that considers many objectives by the attribution of a weight to each measurable objective.

Net present value (NPV) - The net value or net benefit of a project when all costs and benefits have been discounted to the present at the discount rate. ENPV, economic net present value. FNPV, financial net present value.

Net social income - The net increase in income inputted to the project, on the basis of accounting prices - equivalent to the net present value.

Nominal prices - Current prices - these of course include the effects of inflation and are to be contrasted to constant or real prices.

Nominal wages - Wages that include the effects of inflation, also current wages.

Non-tradeable goods - Goods that cannot be exported or imported, e.g. local services.

Opportunity costs - The value of a resource in its best alternative use.

Option value - The present value of a capital asset in the best alternative use, opportunity cost of a capital asset.

Real convergence - Reduction of disparities of per capita income and economic welfare among regions.

Real rates - Rates deflated to exclude the change in the general or consumption price level.

Residual value - The net present value of assets at the final year of the period selected for evaluation analysis.

Risk analysis - A study of the odds of the project's earning a satisfactory rate of return and the most likely degree of variability from the best estimate of the rate of return.

Sensitivity analysis - A study of the impact that pre-assigned changes in variables affecting costs and/or benefits would have on the ERR or FRR.

Shadow prices - see accounting prices.

Social discount rate - Social discount rate is to be contrasted to financial discount rate. It attempts to reflect the social view on how the future should be valued against the present.

Socio-economic costs or benefits - Opportunity costs or benefits for the economy as a whole. They may differ from private costs to the extent that actual prices differ from accounting prices.

Standard deviation - It is a measure of the spread of data about their mean (m) and an essential part of many statistical tests. The standard deviation depends on calculating the average distance that the observation (x) is from the mean.

$$\sqrt{\frac{\sum(x-\mu)^2}{N}}$$

Tradeable goods - Goods that can be traded internationally in the absence of restrictive trade policies.

Unit of account - The measure that makes it possible to add and subtract unlike items. ECU may be the unit of account for the appraisal of EC financed projects.

Willingness to pay - What consumers are willing to pay for a good. If a consumer's willingness to pay for a good exceeds its price, the consumer enjoys a rent (consumer surplus).

C. Reference by main sectors

The following reading list is extremely selective. It comprises a limited number of reference manuals or other published material which are of particular interest for applied work in the public sector. In many cases, the cited texts show substantial differences of methodology and definitions. Nevertheless, the list may help the user of the present guide to become aware of the variety of existing literature and of relevant experience, and to understand the quality of project analysis that the Commission aims to stimulate under the reformed Structural Funds. References to published materials in English and in French only have been included.

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2. Experience

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3. Energy

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