

Chapter 13: Sea Ports

MCC will use the feasibility study of the port project as the basis to examine the following and to make a determination on what supplemental studies, if any, are required to develop the project sufficiently so that appraisal could commence:

- ★ Preliminary description of the rationale for MCC interventions, including nature and measure of benefits and beneficiaries (disaggregated by income, gender, age, and ethnicity).
- ★ Confirmation supported by appropriate data, that the proposed project is likely to deliver the stated benefits to identified beneficiary groups, informed by meaningful public consultation which may include income- and gender-based focus groups and a stakeholder analysis including social and women's government ministries and NGOs.
- ★ Information on market demand which justifies the project financially, economically and operationally. The information should take into account competition, total costs of operations, and forecast the future growth of demand.
- ★ Identification of alternatives to accomplish the objective, such as expansion of an existing port or construction of a new port or other transport modes, where applicable, including environmental and social considerations related to each alternative.
- ★ Identification of the facilities' throughput and operating statistics, including current vessel service and cargo handling characteristics in comparison with international norms and definition of performance targets for operations after completion of the project. Data should include current trends and forecasts of future throughput parameters; current and expected vessel service capabilities and efficiencies; cargo discharge/load and take away rates; efficiencies and capabilities of cargo processing systems such as container yards, warehouses, and container freight station (CFS) operations on the terminal and overall port performance capabilities, including total throughput and growth rates; average vessel waiting and service times; average cargo dwell times; and overall cargo processing costs.
- ★ Data on terminal congestion indicators to identify the need for off-terminal service facilities.
- ★ Data on port operations and overall cargo distribution costs to identify the potential economic impact of the project on the local and regional economy.
- ★ Information on whether project components, engineering design, and associated technologies are considered appropriate for the port in relation to its international shipping network.
- ★ A preliminary description of the institutional arrangements at the port including without limitation: (i) the entity responsible for overall oversight of port facilities and its scope of authority; (ii) other government institutions/entities operating in the port; (iii) any other government entity operating in the port; (iv) other private sector or other entities/organizations operating in the port, including role and capacity; (v) arrangements/institutions in place to manage and maintain port facilities, including, without limitation, road and rail networks inside and outside of the port; (vi) funding arrangements for port facility maintenance and oversight; (vii) maintenance history; and (viii) general capability of all involved government institutions/entities.
- ★ Identification of the current and projected land uses to define and evaluate the existing utilization of land, including, if an existing port, the current port operators, both private concessionaries and government, as well as options for changing land uses to maximize operating efficiencies for existing and future systems, and land resources for long term development.
- ★ Consideration of land acquisition and/or relocation requirements (potential for resettlement) as necessary.
- ★ Identification of areas which require obtaining more detailed, current or reliable information. If a new port (or expansion of an existing port) is proposed, obtaining approvals from all relevant parties for land may be a significant and time consuming issue that requires additional risk assessment. Identify the party responsible for acquiring or developing the information, the process to acquire that information, the party responsible for approval, and a timeline for information acquisition at commencement of the due diligence phase. This analysis may also require a preliminary assessment of a party's willingness to provide an approval and the ability of a government to renegotiate or modify existing land use arrangements in a port.
- ★ Collection and integration of satellite imagery and topographical maps at the appropriate scale (typically 1:25,000 for urban planning) identifying key elements of existing and proposed infrastructure, rights-of-way, and service areas. In addition, it may be appropriate for the due diligence process to identify other geo-spatial

data – including but not limited to census data, water resources, and geological data – and combine them into a single GIS database.

- ★ Description of the local process by which the project will receive the necessary permits and approvals of design documents and construction work.
- ★ A preliminary description of the applicable local and regional laws, regulations and codes, as well as international agreements/treaties, related to port operations.

Once MCC has made the determination to commence appraisal on a project, the infrastructure group will conduct the following assessments and identify any key constraints.

Technical Assessment: Engineering

- ★ Review all aspects of preliminary technical designs and proposed standards and confirm appropriateness for criteria, demand requirements and environmental and social factors.
- ★ Survey and assess channel and navigational characteristics (including draft, width, turning radiuses, shoaling areas, navigational aids, and anchorages) and environmental factors which may affect the safe navigation of the channel to define the maximum size, operating characteristics of water access, and assist requirements for vessels to safely access and operate within the port harbor.
- ★ Survey and assess existing piers, wharfs, or other vessel mooring and discharge/load facilities to define their physical condition, operating characteristics and constraints, and to assess safety issues, accessibility to storage and cargo processing areas and any obstructions or impediments to efficient work flow.
- ★ Confirm that project design is based on internationally accepted engineering standards for port civil works.
- ★ Assess capital operating equipment including rail-mounted or mobile shore cranes, container handling and/or specialized cargo discharge/load systems, or other capital equipment to define their capacities and capabilities, service life expectancy, maintenance and repair needs, and long-term replacement requirements.
- ★ Survey and assess warehouses, container yards, bulk storage facilities, and specialized operations areas to define their physical condition, functions, operational capacities, environmental and safety concerns, and impediments to work organization and traffic flow.
- ★ Assess accessibility of the port to land transportation and to terminal storage and cargo processing areas to define system capacities, operational limitations, bottlenecks and impediments to traffic flow, associated transport and distribution costs, and environmental, social, and safety concerns including impacts to surrounding communities, HIV/AIDS, human trafficking, child and forced labor, and gendered impacts on existing income-generating activities.
- ★ Survey and assess security systems including perimeter fencing and surveillance systems, gate and access control systems, and emergency response systems and capabilities to determine if they meet International Maritime Organization (IMO) standards, International Ship and Port Security (ISPS) codes and International convention for Prevention of Pollution from Ships (MARPOL) requirements.
- ★ Review topographic map of the project area.
- ★ If projects are to be constructed within the marine environment, conduct a bathymetric survey of the project site to measure water depths, define the topographic features of the bathymetric landscape, identify potential impediments to construction, and identify archaeological remains or environmentally sensitive areas.
- ★ Complete a geotechnical investigation of the subsurface strata of the project area to determine the characteristics of the sub-surface material and its potential impact on the engineering design.
- ★ Identify major project risks and quantify, as much as possible, the impact of these risks on project cost, timeline and quality. Develop mitigation measures and estimate the cost of mitigation.
- ★ Develop project cost estimates of +/-35%, including all associated costs, such as costs relating to environmental mitigation, resettlement compensation, social safeguard measures, construction supervision, project management and technical audits.
- ★ Develop provisions to be included in project cost estimate, such as physical contingency, allowances for specific risks that were identified in Appraisal, price contingencies, and allowance for the effects of foreign exchange rate fluctuations, and determine meaningful rates of inflation – local and foreign – to apply to base costs.

Technical Assessment: Economic and Financial

The MCC economist responsible for the assessment of the project will work to ensure that proposed port project complies with *MCC Guidelines for Economic and Beneficiary Analysis*. The economic rate of return for each project should be sufficiently high to warrant investment and eligible countries should have reviewed relevant governance practices, including laws and regulations, and undertaken reforms, as possible, to enhance the anticipated economic benefits generated by the port project. Infrastructure input to this analysis may include the following:

- ★ Identify benefits expected to flow from project, focusing on increases in incomes for workers, firms, and households disaggregated, to the extent possible, by income, gender, age, and ethnicity. Identify the beneficiaries, to the extent possible. Compare projected incomes and other benefits of the various demographics with and without the proposed project.
- ★ Make an assessment of how benefits resulting from increased efficiencies (e.g., reduction in wait and queue time) are likely to accrue to the extremely poor, poor, near-poor, and not-poor and how the benefits would impact poverty reduction on the various demographic groups.
- ★ Summarize the design standards, design life and cost estimates (capital and maintenance) and confirm these are consistent with the assumed benefits and duration of the benefit stream. Note that the duration of the benefit stream is typically assumed to be twenty years. Assumptions that the duration is longer or shorter than this should be clearly justified.
- ★ Confirm that the costs and project life are consistent with the engineering design.
- ★ Complete a financial analysis.
- ★ Confirm that the technologies that are proposed in the project and the engineering design will allow fulfillment of operational performance, financial, and economic objectives.
- ★ Assess regional port activities, specifically addressing demand and growth for port services.

Technical Assessment: Environment, Social and Gender

MCC environment and social assessment and gender experts will review proposed projects for their compliance with MCC Environmental Guidelines and Gender Policy and resettlement guidance (www.mcc.gov), which include an expectation of compliance with host-country laws, regulations and standards, as well as requirements by which the host country is bound under international agreements (including the identification of such international agreements and obligations). Particular attention must be paid to issues which generally arise including, but not limited to, the potentially toxic nature of dredged material and disposal of dredged sediment, seasonal wildlife issues, degradation of the marine ecology, and hazardous/toxic materials currently or potentially transiting through the port as cargo, including an assessment of safeguards in place to handle/contain such materials. Assessment will also inform design by including gender analysis of use, control of resources, design appropriateness, and how well gender is integrated into project design, participatory planning processes, and implementation.

- ★ Identify country-, region- or sector-level assessments, strategies and commitments with respect to climate change and their relevance to compact activities.
- ★ Identify climate change impacts (from the project) and risks (to the project) and corresponding mitigation and/or adaptation opportunities, as relevant.

Sustainability Assessment

- ★ Review detailed description of current arrangements for ownership, management and maintenance of ports, including details of the legislative framework, administrative framework, funding arrangements and maintenance responsibilities. This will build on the preliminary description included in the feasibility study and should include and identify, without limitation: (i) local, regional and international laws, regulations and codes relating to port construction and operations (such as local codes and laws, as well as international agreements to which the country is a signatory); (ii) the entity responsible for overall oversight of port facilities and its scope of authority; (iii) other government institutions/entities operating in the port; (iv) any other government entity operating or acting in the port; (v) other private sector or other entities/organizations operating in port, including role and capacity; (vi) arrangements in place to manage and maintain port facilities, including road and rail networks inside and outside of the port; (vii) funding arrangements port facility maintenance and port oversight; (viii) maintenance history; and (ix) general capability of implicated government institutions/entities.
- ★ Review existing performance with respect to clarity and level of acceptance of arrangements and responsibilities, and acceptance of reserves for maintenance. Identify causes of inadequate performance including

legislative or administrative arrangements, resources, technical capability and capacity, and funding.

- ★ Review maintenance programs to ensure that such plans are suitable for the new or improved port, including responsibilities, resources and funding. Identify shortfalls with current arrangements and providing details of a program to strengthen port management and maintenance arrangements.
- ★ Review details of alternative maintenance funding options, including details of income derived from users and potential for increased cost recovery.
- ★ Prepare a summary of actions needed to maintain the port to an acceptable level, including institutional strengthening or modifications to institutional arrangements, funding (responsibility and funding levels) and additional resources needed. To the extent that institutional modifications, including modifications to existing land use arrangements or concessions within an existing port, are required, indicate parties from which approvals will be required and such party's role within the existing institutional and operational structure.

Risk Management Assessment

- ★ Identify significant risks to the project, with particular respect to required third party approvals or consents (e.g., from private sector operators already operating within the port), construction cost increases, delays, sustainability of the port, trade union issues, and local acceptance and take up of benefits, and other factors affecting economic performance and distribution of benefits, including social and health risks such as exacerbation of existing gender inequalities, HIV/AIDS, human trafficking, child/forced labor, or resettlement.
- ★ Identify and assess significant risks relating to durability and confirm that design criteria adopted shall mitigate these risks within acceptable tolerance levels.
- ★ Prepare a risk management plan to minimize the negative impact of identified environmental, social, and sustainability risks.

Implementation Assessment

- ★ Provide a summary of the technical and construction resources available in country, and experience with projects of similar size, nature and type.
- ★ Identify local factors that may affect the timely completion of the works, including transport to/from the location for the contractor's equipment, fuel and other materials, seasonal weather patterns, and health issues that may impact the labor force during construction or operation such as HIV/AIDS, among others.
- ★ Prepare an implementation program including contract awards, any approvals and permits needed, construction times, cash flow, government commitments and other hold points as appropriate.
- ★ Recommend an appropriate procurement procedure, sequencing, and packaging.
- ★ Recommend suitable supervision and management arrangements.