

Environmental and Social Considerations in Detailed Planning Survey (Technical Cooperation for Development Planning)

1. Full title of the Project

Master Plan Development Project of Dakar New Port (in Ndayane Area)

2. Type of the study (e.g. Master Plan, Feasibility Study, Detailed Design, etc.)

Master Plan

3. Categorization and its reason

(1) Category: A

(2) Reason:

The project falls into the port sector under the JICA Guidelines for Environmental and Social Consideration (April 2010) .

4. Agency or institution responsible for the implementation of the project

Autonomous Port of Dakar (PAD)

5. Outline of the Project

5.1. Objectives

To contribute to increasing the international competitiveness of the Dakar Port as a whole, including the new port by giving technical support for (1) formulation of a master plan for Ndayane Port development, (2) making the short-term development plan for the priority projects, and (3) formulation of long-term strategies for capacity development of PAD staff. Based on the Master Plan, the port is operated efficiently to accommodate the increasing size of ships and volume of cargo.

5.2. Justification

The Port of Dakar, located at the westernmost tip of the African continent, is a major sea lane transit point between Europe and South America, and is the third largest trading port in West Africa after Abidjan (Cote d'Ivoire) and Lagos (Nigeria). The port's cargo volume has been growing rapidly, nearly doubling from about 10 million tons to 19 million tons between 2008 and 2018. However, the port's facilities are deteriorated and not equipped to handle large water depth berths, making cargo handling activities inefficient. Although renovation work is being carried out at the No. 3 wharf, which mainly handles transit cargo bound for landlocked countries, based on Japan's grant aid, the Port of Dakar is located in the center of the city and has little room for expansion,

making it difficult to accommodate larger vessels and further increases in cargo. Therefore, as one of the priority projects of the Plan Sénégal Emergent (PSE), which aims to make Senegal an emerging country by 2035, the Senegalese government has come up with the concept of developing a new port in Dakar at Ndayane, about 45 km southeast of Dakar, as a port complex to handle foreign and domestic trade cargo. On the other hand, there is no master plan that includes an overall roadmap, facility details, division of roles between the existing port of Dakar and the new port, and an action plan for the realization of the concept, and the materialization of the concept has become an urgent issue. Under the circumstances, the Senegalese government has requested Japan to conduct a Master Plan Development Study for the Ndayane New Port.

5.3. Location

Ndayane New Port and vicinity area of the New Port

5.4. Scope of the study

(1) Outputs

- 1) Evaluation of the current status of the port sector and domestic development plans in Senegal
- 2) Formulation of a master plan for Dakar New Port development
- 3) Formulation of the short-term development plan for the priority projects
- 4) Formulation of long-term strategies to improve the capacity of PAD staff

(2) Activities

- 1) Evaluation of the current status of the port sector and domestic development plan in Senegal
 - Collection and review of existing materials.
 - Analysis of related development plans including high priority plans and other transportation modes
 - Analysis of socio-economic trends
 - Analysis of surrounding special economic zones
 - Analysis of the current status of the transportation sector (current status and planning of infrastructure development, cargo flow analysis)
 - Analysis of the current status of marine transportation (trends in international and regional shipping, ship service status, etc.)
 - Analysis of the current status of the port sector (existing port facilities, port management and operation structure, etc.)
 - Analysis of existing related laws and organizations in the port sector
 - Study of natural conditions (such as sediment transport analysis), study of laws and organizations related to environmental and social considerations
 - Climate risk assessment and study of adaptation options
 - Study of port-related projects by other donors, other countries, private sector, etc.
 - Study of neighboring countries (Forecast of logistics demand to hinter countries such as Mali, competing ports)
 - Summary of current status evaluation

2) Formulation of new port development master plan (target year: 2047)

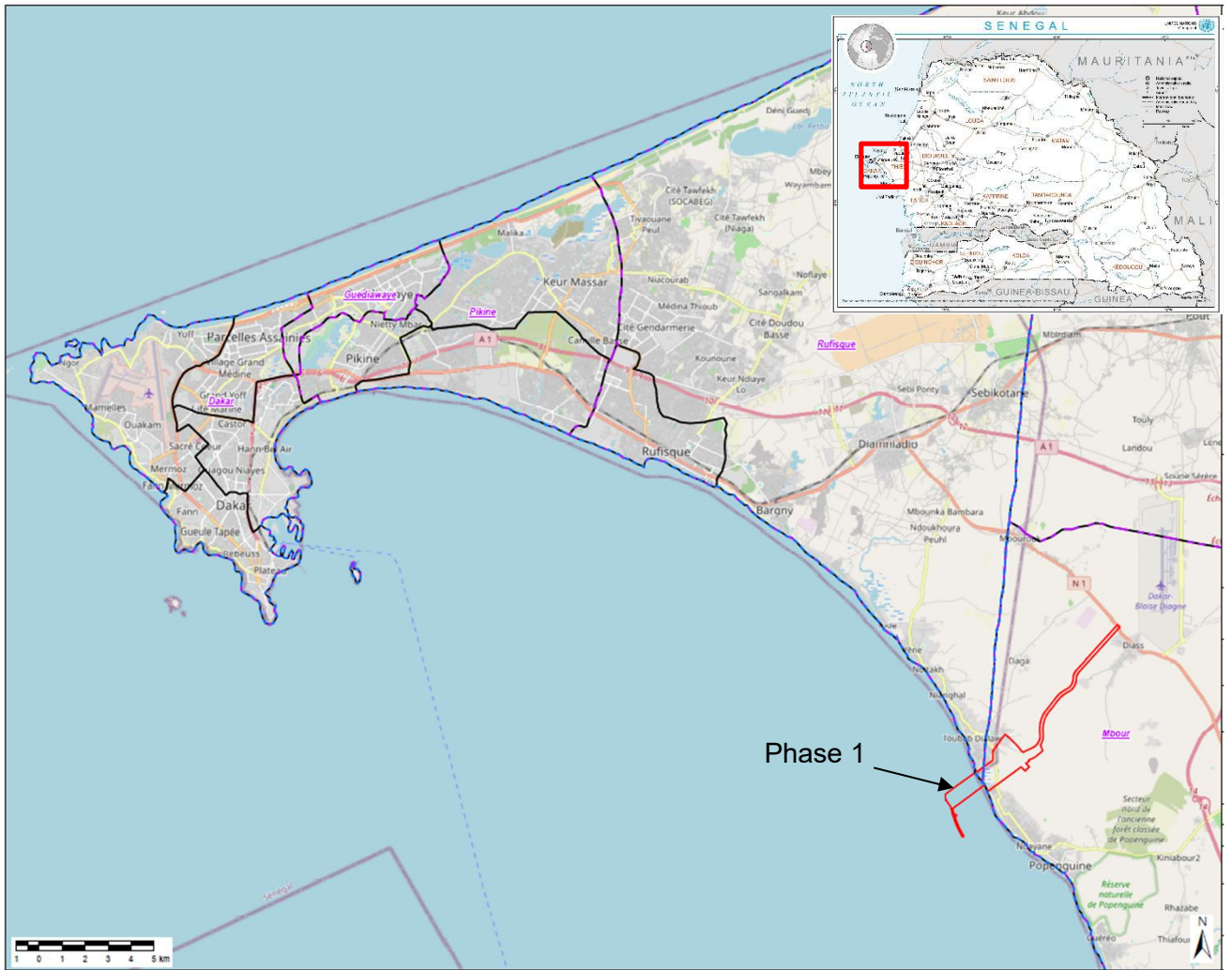
- Setting a socio-economic frame, preparing a strategic environmental assessment report, and comparing alternatives including environmental and social impacts based on the concept of strategic environmental assessment
- Formulation of basic policy on port development in Senegal
- Future Demand Forecast (International / Domestic, Passenger / Freight)
- Examination of the possibility of large vessels calling at the port
- Examination of marine transportation network scenarios including neighboring countries
- Confirmation of appropriate location of the new port from a technical view point
- Arrangement of the roles of the existing Dakar Port and the new port
- Examination of new port development plan (setting and placement of functions / roles to be played, extraction of current issues, scale of major facilities, overview of port-related facilities in the adjacent area)
- Calmness analysis for waves (Port Layout)
- Examination of priority development facilities
- Examination of maintenance dredging (including sediment transport/shoreline analysis)
- Formulation of an action plan for realization of the master plan
- Formulation of a staged development plan based on demand and financial plans
- Examination of organizational structure / system (including utilization of PPP) related to port operation and management
- Formulation of long-term strategies to improve the capacity of PAD staff
- Summary of master plan
- Submission of Master Plan (by PAD)/Approval (by Senegalese Government)

3) Formulation of short-term plan (target year: 2030 years)

- Examination of facility layout plan
- Examination of outline design
- Examination of construction plan
- Estimation of project cost
- Examination of project implementation plan
- Economic and financial analysis and evaluation
- Environmental and social consideration (scoping of the project)

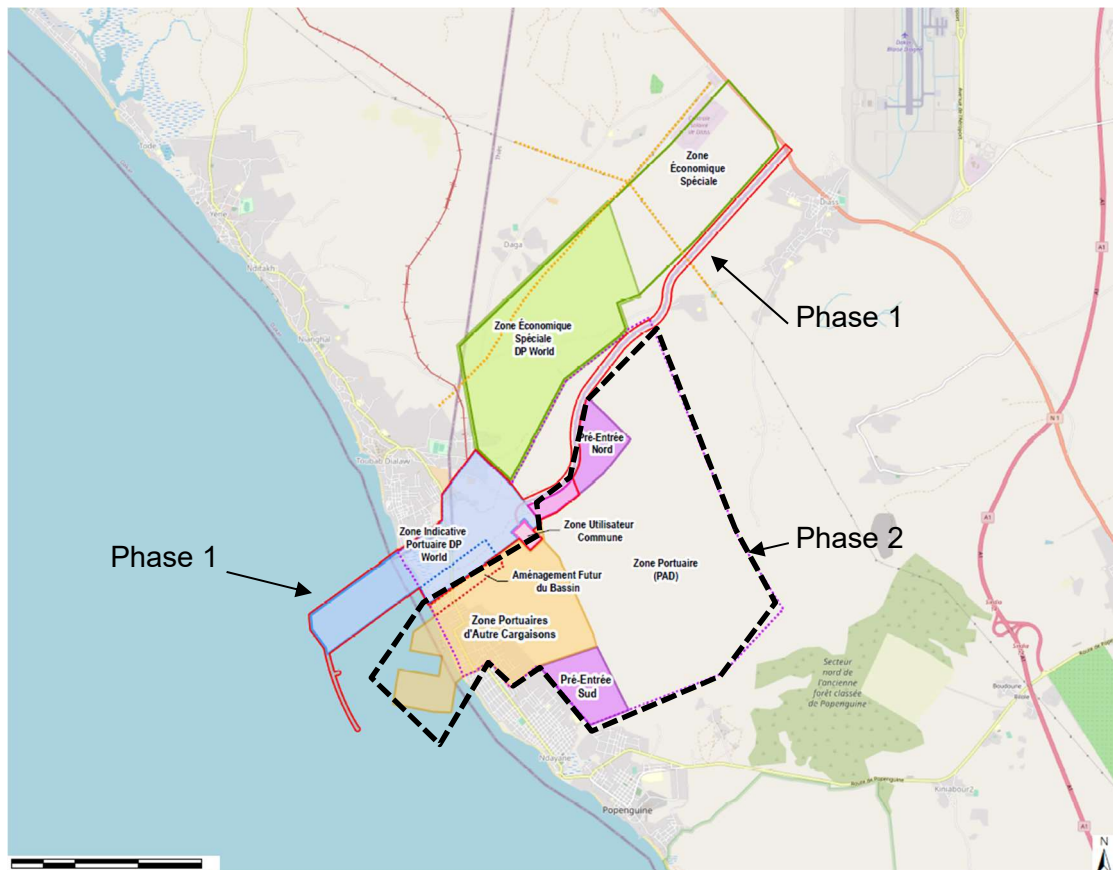
6. Description of the project site

6.1. Location Map of Project Site



Source: Etude D'impact Environnemental Et Social Du Project Port De Ndayane, United Nations Geospatial

Target Area for Master Plan



Source: Etude D'impact Environnemental Et Social Du Project Port De Ndayane

6.2. Environmental and social condition

(1) Topographical and Geological Condition

The area around Dayan is a shallow sandy beach facing the Atlantic Ocean, with a depth of about 2km to -10m and a very gentle seabed slope of 1/200. From north to south, Yene, Toubab Dialao, Ndayane, Popenquigne, and other relatively small towns are scattered around the coast. One road connecting the villages runs from the coast to inland, and part of the road has been constructed by AGEROUTE and is scheduled to be completed in October 2021. The new port will be built between Ndayane and Toubab Dialao. The area is a low-lying area that is connected to the land during the dry season, but during the rainy season, rainfall accumulates in the surrounding area and forms a wetland, which is subject to seawater intrusion during high tides. The tidal range is about 1.7 meters.

The climate of the project area which is referred by those of Dakar is a semi-arid with 100 ~ 1,000 mm annual rainfall. The dry season is from November to June while rainy season starts in July and end in October.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
High Temp(°C)	24.5	24.0	23.6	23.7	24.6	27.3	28.6	28.5	28.5	29.5	28.2	26.4	25.7
Average Temp(°C)	21.3	21.5	21.6	21.9	23.2	25.9	27.6	27.5	27.9	28.1	26.3	24.0	24.7
Low Temp(°C)	18.7	19.7	20.2	20.2	21.4	24.4	26.5	23.7	27.0	26.9	23.2	22.3	23.7
High Humidity (%)	77.0	83.5	80.0	83.0	81.0	82.0	82.5	85.5	85.5	81.0	82.0	75.5	78.0
Average Humidity (%)	66.4	70.8	74.1	78.8	79.1	78.4	77.0	80.3	81.5	78.1	69.9	65.6	75.0
Low Humidity (%)	51.0	58.6	66.1	74.1	75.1	74.0	73.3	77.5	72.0	74.5	61.0	54.5	73.0
Max. Precipitation (mm)	34.8	3.9	1.0	0.0	6.9	92.3	173.8	356.5	260.9	94.6	3.6	19.1	1047.4
Aver. Precipitation(mm)	1.9	0.5	0.1	0.0	0.4	14.1	58.2	162.6	128.5	24.8	0.2	0.8	392.0
Min. Precipitation(mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.7	70.2	40.2	0.0	0.0	0.0	111.1

(2) Protected Area

The protected areas with total protection are prohibited from hunting and exploitation of natural resources. These protected areas are classified according to their richness in flora and fauna and the need to safeguard them for future generations. Protected areas with partial protection are areas whose natural resources can be exploited in a sustainable manner. There are no designated and/or protected areas located in the Project area. The designated and protected areas closest to the Project are the Popenguine Forest Reserve (2.5 km to the east); the Somone Community Forest Reserve (10 km to the southeast); and the Bandia Reserve (11 km to the northeast). Although the Somone Natural Reserve is the nearest Ramsar Convention site, the project area is out of the core and buffer zones. Two other protected areas, the Thies Forest to the north and the Sebikhotane Forest to the northwest, are more than 20 km from the Project Area and are separated from the Project Area by numerous roads and settlements.

The vegetation of the Project area is made up of grasses, shrubs and open wooded savanna, dominated mainly by *Acacia*, *Combretum* and *Grewia*, growing on sandy-clay soil with laterite in the hills and slopes. Woody trees were the main component with 67% of species recorded. Of the species recorded, only *Borassus akeassii*, *Ceiba pentandra* and *Tamarindus indica* are listed as Least Concern by the International Union for Conservation of Nature (IUCN).

As for the fauna, a total of eight mammal species belonging to six families were recorded. The most frequently recorded species was the chipmunk while bats were observed during night surveys. Several small carnivores (jackal, mongoose and bobcat) were also occasionally seen in the Project area.

(3) Population

The project's area of direct influence includes the coastal localities of Popenguine (Escale and Serer), Ndayane to the south and Toubab Dialao to the north. These villages are part of the Thiès region. The population of Ndayane was approximately 2,000, the population of Popenguine was approximately 7,000, and the population of Toubab Dialao was 3,000 based on the site survey, although specific demographic data for the villages in the study area were difficult to obtain. Thus, the total population of the zone of influence is 12,000. It should also be noted that some residents may live in the area permanently but may not be officially registered with the respective local

authorities (e.g., Popenguine Ndayane or Venne), or may have a seasonal secondary house and the primary residence may be registered elsewhere (e.g. Dakar).

(4) Economy

The Thiès region ranks the second economy in Senegal next to Dakar for its significant economic potential in the following industries: agriculture, livestock, fishing, tourism, crafts, trade, and mining. Agricultural activities take place inland, while artisanal fishing is a common subsistence activity for the local people along the coastline. The region also has significant tourism potential with the presence of hotels and beaches that can accommodate large numbers of tourists. The main livelihood activities undertaken by local communities in the Project area are mainly artisanal fishing, agriculture and animal husbandry, small business management and informal trade.

(5) Religion

Senegal is a predominantly Muslim country, with over 96% of its population identifying as Muslim, and the remainder consisting of Christians (3.8%) and small localized belief systems (ANSD, 2014). Interfaith activities are considered important to communities in the Project Area. For example, the annual Catholic pilgrimage to the Basilica of Our Lady of La Delivrande in Popenguine on Pentecostal Monday brings thousands of faithful to the area.

(6) Language

French is the official language in Senegal, but most Senegalese speak Wolof (75%) or their own ethnic language. Other major languages in Senegal are Serere, Alpuular, Mandingo, Diola, and Bassari. Wolof is the predominant language spoken in the Project area.

(7) Ethnic

The vast majority of the population of the three villages in the zone of influence identify themselves as Lebou (70%) and Serere (35%), while the Lebou represent approximately 1% of the Senegalese population. The three villages in the Project Area are mixed, intermarriage between ethnic groups is common.

(8) Poverty

Although Senegal's macroeconomic environment has improved, structural poverty remains a major problem. Poverty is more evident in rural areas than in urban areas; poverty rates in rural areas were found to be about 57 percent, while they were 26 percent in Dakar and 41 percent in other urban environments. Livelihoods in urban peripheries and rural areas tend to be tied to informal or subsistence activities such as small-scale farming and fishing, which activities are major in Popenguine, Ndayane and Toubab Dialao.

6.3. Current issues

An Environmental Impact Assessment (EIA) for Phase 1 of the Ndayane New Port Development is being conducted in the vicinity of the project site. A stakeholder meeting was held on September 7, 2021, and the EIA is expected to be approved, although there are some comments. The EIA

reported that the development of the new Ndayane Port Project will have a moderate negative effect on the environmental and social environment. The summary of the EIA follows.

The Phase 1 Project will have a high to moderate beneficial impact on air quality and the living environment near the current port of Dakar. Reducing the number of ships and land vehicles using the current port of Dakar will reduce air emissions in the city of Dakar. The Phase 1 Project will also increase Senegal's import and export capacity, allowing larger ships to dock at the new port of Ndayane. The Phase 1 Project will have a direct or indirect impact on increasing the incomes of individuals, households and small businesses, giving it the potential to improve well-being.

On the other hand, the EIA had identified moderate to high negative residual impacts that may result from the Phase 1 Project. The most significant impacts relate to air quality, noise, waste, terrestrial ecology, marine ecology, traffic, local socioeconomics, and archaeology and cultural heritage. According to PAD, the Phase 1 Project is planned in wetland area, although the involuntary resettlement is estimated approximately 60 houses, which means a large-scale involuntary resettlement in the JICA Guidelines for Environmental and Social Considerations (2010).

The EIA report also recommended that all commitments (integrated mitigation and additional mitigation) detailed in the Environmental and Social Management Plan must be implemented during the construction and operation of the Phase 1 Project and other environmental and social management plans must be developed and executed by the conductors; Environmental and social monitoring must be undertaken throughout construction and operation to demonstrate compliance of the Phase 1 Project with standards and to confirm that the mitigation measures implemented are achieving the expected effects.

The Master Plan will include the Phase 1 Project of Ndayane New Port Development and should refer the results of the EIA of the Phase 1 Project.

7. Legal Framework of Environmental and Social Considerations

7.1. Laws, Regulations and Relative agencies and institutions

Environment and social issues are prescribed by Environmental law (No.2001-01) which was established in 2001 and Presidential Degree published in the same year. The Environmental law covers Environmental Impact Assessment (EIA) as well as Strategic Environmental Assessment (SEA). Items covered by the Environmental law are as follows;

Contain	Chapter
Contain I General provisions	Chapter I Definitions
	Chapter II Basic principles
	Chapter III Instruments of environmental protection
Contain II Prevention and control of	Chapter I Installations classified for environmental protection

Contain	Chapter
pollution and nuisances	Chapter II Human settlements
	Chapter III Waste management
	Chapter IV Harmful and dangerous chemical substances
	Chapter V Impact study
	Chapter VI Establishment of emergency plan
Contain III Protection and development of the receiving mediums	Chapter I Water pollution
	Chapter II Unpleasant air pollution and odors
	Chapter III Basement and pollution and impoverishment of the soil
	Chapter IV Sound pollution
Contain IV Various sanctions and provisions	Chapter I Penal sanctions
	Chapter II Administrative sanctions
	Chapter III Various provisions

The Law 76-67 of July 1976 on land expropriation provides the legal basis for expropriation in the public purposes. The following two basic conditions should be met.

- The compensation is fixed, paid or registered before taking possession.
- The expropriated person must be relocated in conditions similar to those of the previous situation. The compensation must cover all direct material damages caused by the expropriation.

The Law 76-67 regulates expropriation and compensation procedures, as well as other relevant laws. With respect to compensation, it provides that losses and property damage are compensated in kind or in cash. Relocation support is also included, but compensation for loss of income is not included.

DEEC (Direction de l'Environnement et des Etablissements Classées) under the Ministry of Environment and Sustainable Development (MESD) is in charge of supervision and approval of the relevant environmental procedures such as EIA and SEA. Public consultation and information disclosure are recommended at the initial stage of EIA process based on the Presidential decree and a ministerial ordinance (No. 9468 MJEHP/DEEC 28 Nov. 01).

7.2. Procedures of EIA, stakeholder participation and information disclosure

(1) Procedures of EIA & SEA

The Environmental law and its enforcement orders make impact studies obligatory and set out their scope and content as well as the public consultation process. Projects are classified into two categories:

Category 1:

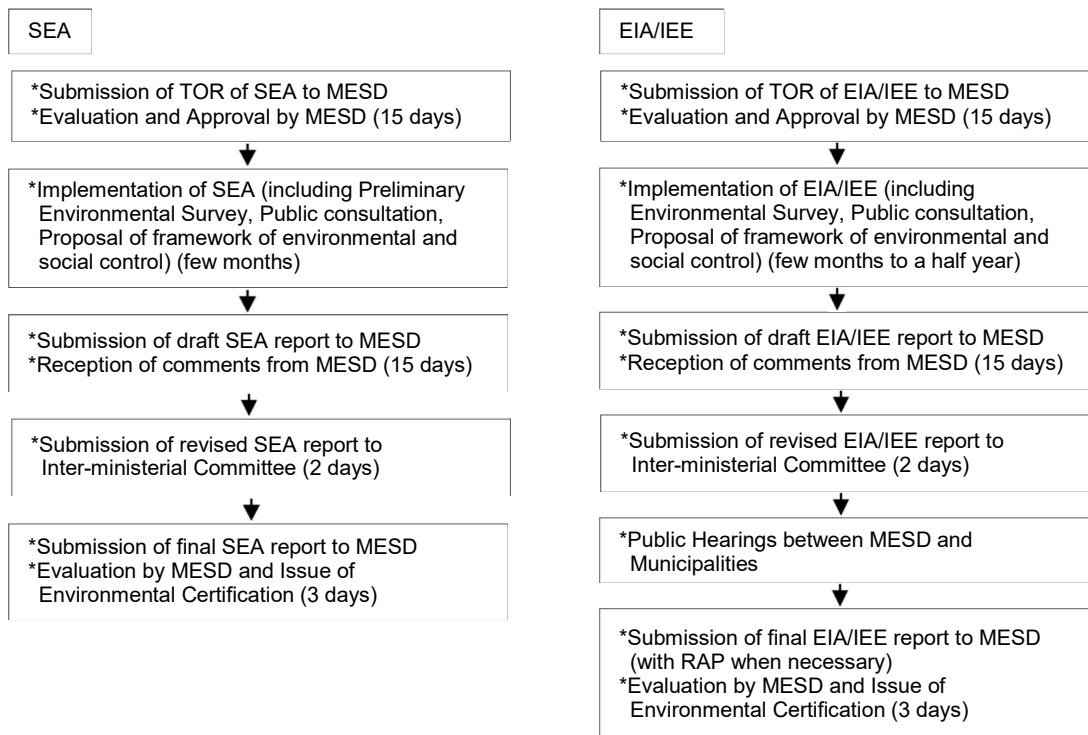
The projects which are likely to have significant impacts on the environment; a study on the evaluation of the environmental impacts will allow to integrate the environmental considerations in the economic and financial analysis of the project; this category requires a thorough

environmental evaluation.

Category 2:

The projects which have impacts limited on the environment or the impacts; they can be attenuated by applying measurements or changes in their design; this category is the object of an initial environmental analysis.

Procedures of SEA and EIA/IEE are as follows;



According to the MESD, the legal system for resettlement in Senegal has not yet been fully discussed. As a matter of practice, it is discussed in committees that assess the risk of disasters to the population in each region, and World Bank projects follow OP4.12 of the Safeguard Policies. According to the environmental consultants, consultants consider and prepare the methodology for RAP with reference to the Environmental Law. The World Bank and JICA projects consider RAP based on the World Bank's OP4.12. If the number of resettlement is more than 200 people, a RAP should be prepared, which will be submitted to the MESD for review and validation. The RAP should include the following four items: 1) identification of the people who need to be relocated, 2) assessment of the value of their assets (land, houses, household goods, etc.), 3) assessment of their willingness to be relocated, and 4) agreement on the method of relocation among all stakeholders involved in the relocation. The consultant will hold a public consultation, inviting residents, municipalities, and other stakeholders. Relocation measures such as compensation or provision of relocation sites and housing should be secured before the relocation takes place. The RAP including all these matters should be submitted to the MESD with the submission of the EIA Final Report. After review by the Environment Council consisting of the relevant ministries and agencies, the RAP would be approved if the contents are appropriate.

(2) Stakeholder participation

The Environmental law indicates stakeholder participation to engage people in the decision-making process and public participation involves three stages including information, consultation and public hearing.

(3) Information disclosure

The Environmental Law indicates that information related to the environmental issues should be disclosed to residence and other stakeholders in public consultations. The Law also includes that the application for authorization of category 1 facility must be the subject of a public inquiry prescribed by decision of the State representative under conditions set by decree.

8. Provisional Scoping (types and magnitudes of possible adverse impacts and mitigation measures)

The EIA for the Phase 1 Project had identified moderate to high negative residual impacts that may result from the Phase 1 Project as well as several positive impacts. The most significant negative impacts relate to air quality, noise, waste, terrestrial ecology, marine ecology, traffic, local socioeconomics, and archaeology and cultural heritage. The impacts from the Ndayane New Port Development master plan seem to be similar to those of the Phase 1 Project because the contents and area of construction are quite similar. Therefore, based on the results of the EIA for the Phase 1 Project, the provisional scoping on possible environmental and social impacts related to the formulation of the Ndayane New Port Development Master Plan is shown below.

Provisional Scoping Table

		Item	Possible Impacts		Description
			Pre-const./ Construction Phase	Operation Phase	
Pollution	1	Air Pollution	✓	✓	Construction Phase : If port infrastructure or facility development is implemented, exhaust gas from construction equipment, ships and vehicles, and the dust caused by construction works may increase temporarily during construction period. Operation Phase : Growth in traffic volume due to increase of social/economic activities and flow of goods may generate more exhaust gas and give negative impact.
	2	Water Pollution	✓	✓	Construction Phase : If port infrastructure or facility development is implemented, discharge of dirty water, mud, oil, etc. from the construction site, heavy vehicles, vessels and dormitory for workers may cause water pollution. Operation Phase: If dirty water from port development area is not handled properly, it may cause water pollution.
	3	Waste	✓	✓	Construction Phase: Port infrastructure or facility development may generate wastes. Operation Phase: If wastes from port development area is not handled properly, it may cause scattering of wastes.

		Item	Possible Impacts		Description
			Pre-const./ Construction Phase	Operation Phase	
	4	Soil Contamination	✓	✓	Construction Phase: Dredging in the project area may cause soil contamination, although the dredged soils will be used for reclamation or offshore deposit. Since the EIA for the Phase 1 observed relatively high concentrations of cadmium, copper and zinc, sampling over a full annual period would be necessary to establish persistent pollution. Operation Phase: If wastes from port development area is not handled properly, it may cause soil contamination.
	5	Noise and Vibration	✓	✓	Construction Phase: Port infrastructure or facility development may generate noise and vibration, especially Toubab Dialao. Operation Phase: Increase of traffic and vessels may generate noise and vibration.
	6	Ground Subsidence	✓	✓	Construction Phase: Ground subsidence by port infrastructure or facility development is not foreseen. But a further study is necessary. Operation Phase: Excessive pumping of ground water in port development area may cause ground subsidence.
	7	Offensive Odor			No significant impact on offensive odor is foreseen.
	8	Bottom Sediment	✓	✓	Construction Phase: Dredging in the project area may affect bottom sediment. Operation Phase: Dredging and reclamation of port infrastructure development area may cause negative impact on bottom sediment.
Natural Environment	9	Protected Areas	✓	✓	There are no national parks or protected areas in the vicinity of the project area.
	10	Ecosystem, Flora, Fauna and Biodiversity	✓	✓	Negative impact on flora and fauna, such as loss of habitat for macro invertebrates, fish, amphibians, reptiles, birds and mammals and loss of existing vegetation, may be caused in construction phase as well as operation phase. The Project area is a part of IBA (Important Bird Area) and may affect the bird ecology.
	11	Hydrology and Groundwater	✓	✓	Construction Phase: The port development site is located in a river area during the rainy season, which may affect water flow and sediment runoff. Operation Phase: The port development may cause the change of flow path of rivers.
	12	Topography and Geographical Features	✓	✓	Large-scale land reclamation, dredging channels, land development, and other construction projects may affect the topography, resulting in changes of water currents and waves conditions.
Social Environment	13	Involuntary Resettlement	✓		Pre-construction Phase: Scale of land acquisition and resettlement can be minimized based on the layout of port facilities and the related facilities. Construction Phase: It is foreseen that Involuntary resettlement caused by port infrastructure or facility development is relatively large.
	14	The Poor	✓	✓	Pre-construction Phase: Their livelihoods may be affected in relocation or involuntary resettlement according to the new port development plan. Construction Phase: (+) Port development may generate

	Item	Possible Impacts		Description
		Pre-const./ Construction Phase	Operation Phase	
				employment, including the non-skilled workers, and benefit the poor. (-) The poor may have to be relocated. Operation Phase: (+) Development of port infrastructures may give positive influences on the poor by increasing job opportunity. (-) Port development site may be close to the residential areas of the poor and may be exposed to noise and accident risks.
15	Minority and Indigenous Peoples			Existence of minority and indigenous peoples is not foreseen.
16	Local Economy (Employment, Livelihood etc.)	✓	✓	Pre-con./ Construction Phase: (+) Port infrastructure or facility development may generate employment. (-) Inadequate compensations can cause loss of livelihoods, difficult to recover livelihoods, and/or degradation of previous living conditions of relocated people. Operation Phase: Economic activities may generate more employment
17	Land Use and Utilization of Local Resources	✓	✓	Pre-construction Phase: Changes in land use planning may restrict movement in the vicinity or limit the ability to continue doing business. Construction Phase: Reduction of farm land is foreseen with port development and related infrastructures. Operation Phase: Port development may induce the development of surrounding areas and cause the reduction of farm land.
18	Water Use	✓	✓	Construction Phase: If port infrastructure or facility development/improvement consume much water, it might cause negative impact on existing water use. Operation Phase : If provision of water for port development area is not sufficient, it may cause negative impact on existing water use.
19	Existing Social Infrastructure and Services	✓	✓	Pre-construction Phase: Public facilities and some activities (e.g. fishing) may be closed or restricted before construction. Construction Phase: Port infrastructure or facility development may cause traffic jam. Operation Phase: If road infrastructure is not provided sufficiently, it may cause traffic jam. With an influx of population to port development, social infrastructure/ service (housing, school, hospitals) may be deteriorated.
20	Social Institutions such as Social Capital and Local Decision-Making Institutions	✓	✓	Port development involves the construction of new port facilities in an area dotted with villages, which is expected to have negative impact on social organization.
21	Misdistribution of Benefit and Damage	✓	✓	Construction Phase: Although the loss of assets is limited to local residents, negative impact can be mitigated by making appropriate compensation. Loss of assets is offset to a certain extent since local residents are employed during construction, but equitable distribution of benefits is difficult in practice. Operation Phase: The chance for local residents to be employed in port development area is increased. However, since jobs for non-skilled workers are limited, the benefit received by local residents may also be limited.
22	Local Conflict of Interest	✓	✓	If damage and benefits are unevenly distributed, there is

	Item	Possible Impacts		Description	
		Pre-const./ Construction Phase	Operation Phase		
				potential for conflict within the surrounded area.	
	23	Cultural Heritage	✓	✓	Impacts on chapels, cemeteries, pottery and excavation of stoneware are expected.
	24	Landscape	✓	✓	Construction Phase: Port infrastructure or facility development may cause scattering of wastes or deteriorate landscape. Operation Phase: If port development may cause negative impact, it is necessary to consider the mitigation for landscape.
	25	Gender	✓	✓	Women's employment and participation will need to be promoted.
	26	Children Right	✓	✓	Because more than 22% of children were working in Senegal, it is necessary to monitor the actual situation of child labor in construction phase as well as operation phase.
	27	Sanitation and Infectious Disease (HIV/AIDS)	✓	✓	An influx of large number of workers during construction phase as well as operation phase may cause infectious disease.
	28	Working Conditions including Occupational Safety	✓	✓	People who engaged in construction and port operations should be considered with working conditions.
Other	29	Accidents and Safety	✓	✓	Construction Phase: Port infrastructure or facility development may cause accidents. Operation Phase: Accidents may increase with the increase of traffic.
	30	Trans-boundary or Global Scale Impacts		✓	Construction Phase: No trans-boundary or climate change impacts are expected due to the port development. Operation Phase: Impacts from changes in meteorological and oceanographic conditions due to climate change may occur.

9. Alternatives to the project activities including “without project” option and “zero option”.

Since the Project aims at master plan formulation, alternatives will be examined in the Project during the process of developing the master plan by use of Strategic Environmental Assessment. The Project will compare “with” and “without project” option which is a proposal not to implement the plan. The Project will also consider “zero option” which is an option that project purpose is met by method/business which is not subject to EIA. In addition, alternatives of specific design will be considered during the outline design phase.

10. Result of the consultation with recipient government on environmental and social consideration including roles and responsibilities.

Senegalese side agreed with JICA Study Team that environment and social consideration based on JICA guidelines for environmental and social considerations (April 2010) is carried out through the Project. The EIA for the phase 1 project had conducted several tens of stakeholder meetings with PAD, DEEC, and other relevant ministries, as well as local residents (men, women, and youth), fishermen, and farmers in Ndayane, Toubab Dialao, and Popenguine from May 2017 to May 2018 and on September 7th 2021 as the final public consultation. The key comments from

the stakeholders are following:

- Clearly present the boundaries of the project
- Damage to the integrity of the marine area (the reproduction of turtles and fishing stocks)
- Concerns about the interruption of the annual pilgrimage to Popenguine
- Respect culturally symbolic and traditional sites, in particular the cemetery
- Land/ Coastal erosion/ Increased traffic
- Support to local artisanal fishermen and women involved in fish processing
- Communication with the local community

Based on the results of the stakeholder meetings, the Project needs to communicate closely with local residents and other stakeholders at each stage of the master planning in order to build good relationships with stakeholders. In addition to the results of the Phase 1 EIA, it is necessary to conduct a broad survey of the newly assumed impacts, and to disclose the information to local residents and others as early as possible, sharing it at stakeholder meetings.

11. Terms of Reference for Environmental and Social Considerations

(1) Objective/ Rationale

The objective of the study for environmental and social considerations is to clarify the impact on environments and societies caused by the Project, using the Strategic Environmental Assessment (SEA). The rationale for this study is to be able to minimize the impact on environments and societies to consider the impact at earlier stage: master plan formulation.

(2) Description of SEA

SEA will be implemented in the Project at master plan level according to "JICA Guidelines for Environmental and Social Considerations, April 2010". Its procedures and methods are discussed and decided through coordination among the stakeholders in the Project. Main items of the environmental and social considerations study shall include, but not limited to, the followings.

(3) Scoping on possible environmental and social impacts of the Master Plan

(4) Study on current environmental and social status of areas covered by the Master Plan (Baseline of Environmental and social conditions)

(5) Study on institutional framework of Senegal regarding environmental and social considerations.

Gaps between the JICA Guidelines and the legal framework of Senegal on environmental and social considerations and how they will be filled in the Project

- (6) Analysis on alternatives, including zero-option scenario, through the implementation of Strategic Environmental Assessment
- (7) Elaboration of mitigation measures
- (8) Elaboration of draft of environmental management plan and monitoring plan
- (9) Organization of environmental and social concerns for short-term planning
- (10) Implementation of stakeholder consultation meeting after the disclosure of the scoping drafts/draft reports, and results of consultations should be reflected in the project plan.

End