

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

1. Full Title of the Project

Project for Davao City Infrastructure Development Plan and Capacity Building

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

Master Plan Study

3. Categorization and its reason

The Study is classified as a “Category B” because of the following reasons:

The project is unlikely to cause significant adverse environmental and social impacts referring to the sensitive sectors, characteristics and areas described in “Guidelines for Environmental and Social Considerations, JICA, April 2010”.

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

National Economic and Development Authority (NEDA) shall act as the counterpart and responsible agency.

5. Outline of the Project (objectives, justification, location, proposed activities, and scope of the study)

5-1. Expected Goals which will be attained after the Project Completion

(1) Goal of the Proposed Plan

Develop an urban infrastructure development plan for Davao City to be approved by relevant authorities with corresponding capacity building to enhance the capacity of NEDA and Davao City in urban infrastructure planning, among others

(2) Goal which will be attained by utilizing the Proposed Plan

The urban infrastructure development plan for Davao City, which will be developed, will be used to guide the infrastructure development of Davao City, which will ultimately improve the City’s competitiveness, security from disasters, etc.

5-2. Outputs

(1) Urban infrastructure development plan for Davao City, including roads, transport, drainage, water supply, sewage, waste management, and disaster prevention, will be formulated with the target year 2022 in the mid-term and 2045 for the long-term.

(2) Capacity Building activities, such as on-the-job trainings (OJT) and training workshops, to enhance the capacity of NEDA in planning guiding, evaluating, and coordinating an urban infrastructure development

plan

- (3) Capacity Building activities, such as OJT and training workshops, to enhance the capacity of Davao City in urban infrastructure development planning

5-3. Activities

- (1) Review and analysis of current situation
 - 1) Review of Philippines' national development plan and policy, Mindanao Spatial Strategy and Development Framework, and related legal system and implementation structure.
 - 2) Review of current Comprehensive Land Use Plan (CLUP) and Comprehensive Development Plan (CDP) of Davao City.
 - 3) Survey of current situation and identification of urban development issues in Davao City.
- (2) Formulation of urban infrastructure development plan
 - 1) Setting of social economic framework.
 - 2) Formulation of urban infrastructure development plan targeting at short, mid and long-term.
 - 3) Support implementing strategic environmental assessment and environmental impact assessment.
- (3) Implementation of capacity building of NEDA in guiding, evaluating and coordinating urban infrastructure development plan by providing on-the-job trainings and holding workshops.
- (4) Implementation of capacity building of Davao City in planning urban infrastructure development plan by providing on-the-job trainings and holding workshops.

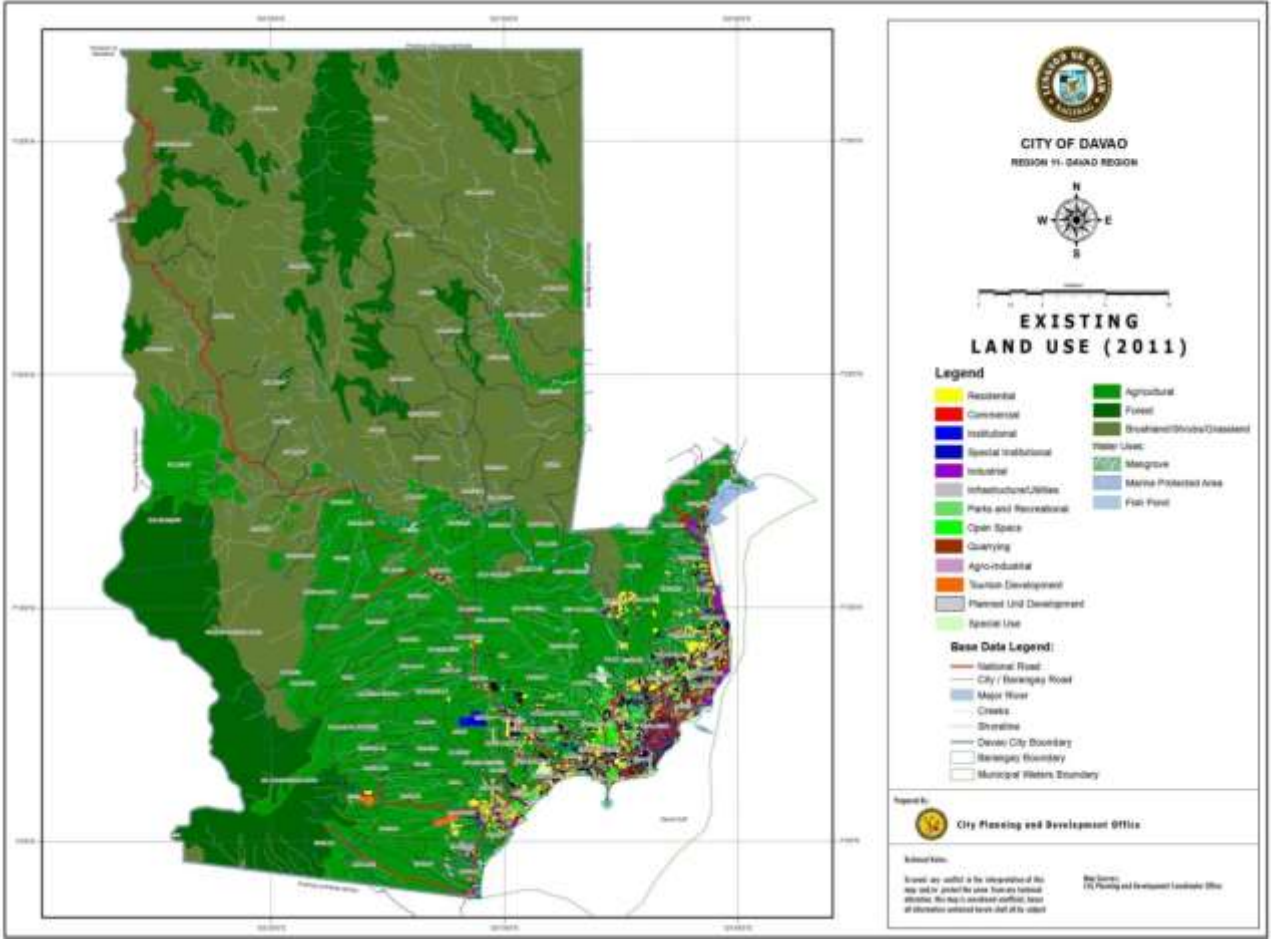
6. Description of the project site (maps, environmental and social condition, current issues, etc.)

6-1. Location map

Location map of Davao City is presented in Figure-1. Davao City is located in Region XI in Mindanao Island, facing to Davao Gulf. As shown in the land use map in Figure-2, urban area is formed along the coastal area at the southeastern part of the city.



Figure-1 Location of Davao City



Source: CLUP

Figure-2 Existing Land Use of Davao City

6-2. Environmental and social condition

Climate of Davao City is characterized as subtropical. It is known as mild weather outside the typhoon belt and lacks major seasonal variations. The annual average minimum and maximum temperature in 2010 is 24.5 and 32.3°C respectively with 2,000 mm of annual rainfall.

With a total land area of 2,444 km², the city is the largest in the country in terms of land area. The city consists of three districts which comprise 184 barangays. 50% of the land area is covered by forest, while 40% is farmland and the remaining 10% is used as residential, commercial and industrial area.

Population of the city is 1.4 million in 2010. Working age (15-64) is 64.9% of total population.

Table-1 Population of Davao City

	Land Area (km ²)	Population	Male	Female	Population density (/km ²)
Philippines	344,879	92,337,852	—	—	271
Davao City	2,444	1,443,890	721,353	722,537	599
ratio	0.7%	1.57%	—	—	—

Source: Census in 2010, National Statistic Office

6-3. Current issues

Current issues on urban environment are identified and listed below:

- Traffic congestion at the city center,
- Flooding,
- Water supply shortage,
- Water pollution caused by domestic wastewater,
- Capacity shortage of the landfill for solid waste, and
- Informal settlers,

7. Legal Framework of Environmental and Social Considerations

7-1. Laws, regulations and standards related to environmental and social issues including requirements and procedures of Environmental Impact Assessment (EIA), stakeholder participation, and information disclosure

(1) Philippine Environmental Impact Statement System (PEISS)

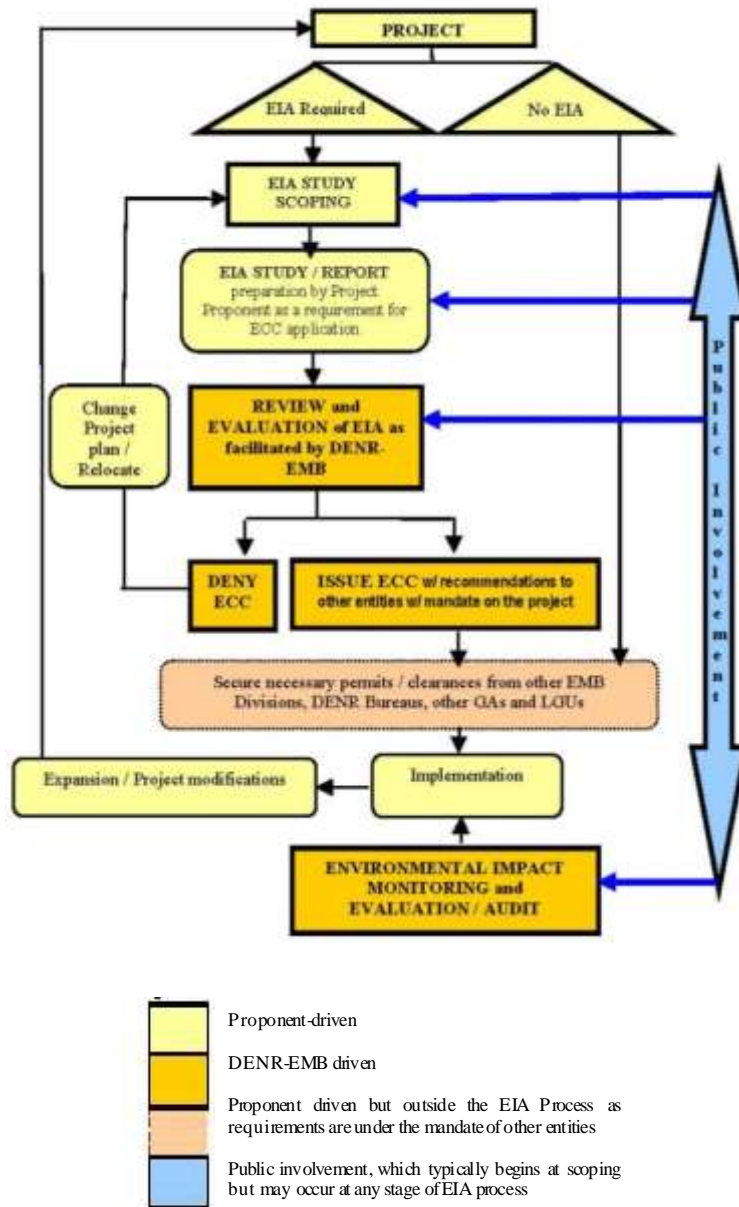
Major laws and regulations for Philippine Environmental Impact Statement System (PEISS) are listed in Table-2.

As described in the flowchart presented in the procedural manual of PEISS (Figure-3), public participation is required at the stages of scoping, EIA study, review/evaluation and monitoring.

Strategic Environmental Assessment (SEA) has not been legislated in Philippines.

Table-2 Major Laws and Regulations for PEISS

Name of Laws and Regulations
● Philippine Environmental Policy, Presidential Decree No. 1151 (1977)
● Establishing an Environmental Impact Statement System including other Environmental Management related Measures and for other purposes, Environmental Impact Statement System, Presidential Decree No. 1586 (1978)
● Proclaiming Certain Areas and Types of Projects as Environmentally Critical and within the scope of the Environmental Impact Statement System established under Presidential Decree No. 1586, Presidential Proclamation No. 2146 (1981)
● Declaring the Construction, Development and Operation of a Golf Course as an Environmentally Critical Project Pursuant to Presidential Decree No. 1586, Presidential Proclamation No. 803 (1996)
● Rationalizing the Implementation of the PEISS and giving authority in addition to the Secretary of the DENR, to the Director and Regional Directors of the Environmental Management Bureau to Grant or Deny the Issuance of ECC, Administrative Order No. 42 (2002)
● Implementing Rules and Regulations (IRR) for the Philippine Environmental Impact Statement (EIS) System, DENR Administrative Order No. 2003-30 (DAO 03-30)
● Revised Procedural Manual for DENR Administrative Order No. 2003-30 (DAO 03-30) (2007)
● Standardization of Requirements and Enhancement of Public Participation in the Streamlined Implementation of the Philippine EIS system, DENR Memorandum Circular No. 2010-14
● Revised Guidelines for Coverage Screening and Standardized Requirements, EMB Memorandum Circular No. 2014-005



Source: Revised Procedural Manual for DENR Administrative Order No. 2003-30

Figure-3 Flowchart of PEISS

(2) Resettlement

Major laws and regulations related to relocation and resettlement of residents are listed in Table-3.

In accordance with Republic Act No. 7279, relocation and resettlement of urban informal settlers are promoted by National Housing Authority (NHA) collaborating with the other relevant agencies providing affordable houses. Davao City also has an ordinance and implementation rules for resettlement of informal settlers.

In the case of relocation of legal residents for public infrastructure projects, Republic Act No. 8974 requires project implementation agency to compensate properly based on the market price and the zonal value. Department of Public Works and Highways (DPWH) also has issued its own order and guidelines for preparing Land Acquisition Plan and Resettlement Action Plan (LAPRAP) which satisfies international standards.

Table-3 Major Laws and Regulations for Resettlement

Level	Name of Laws and Regulations
National	● The Philippine Constitution (1987)
	● Urban Development and Housing Act of 1992, Republic Act No.7279 (1992)
	● An Act to Facilitate the Acquisition of Right-of-Way, Site, or Location for National Government Infrastructure Project and for Other Purposes, Republic Act No. 8974 (2000)
	● Implementation Rules and Regulations for RA 8974 (2001)
	● An Act to Recognize, Protect and Promote the Right of Indigenous Cultural Communities/Indigenous People, Creating a National Commission on Indigenous Peoples, Establishing Implementing Mechanisms, Appropriating Funds Therefore, and for Other Purposes, Republic Act No.8371(1997)
	● Rules and Regulations Implementing Republic Act No. 8371, Otherwise known as "the Indigenous Peoples' Right Act of 1997", National Commission on Indigenous Peoples Administrative Order No.1 Series of 1998
DPWH	● Creation of the Infrastructure Right of Way and Resettlement Project Management Office (PMO) and the Implementation of the Improved IROW, DPWH Order No.5 Series of 2003
	● Guidelines for Land Acquisition and Resettlement Action Plan (LAPRAPs) for Infrastructure Projects, DPWH Order No.327 Series of 2003
	● Land Acquisition, Resettlement, Rehabilitation, and Indigenous People's Policy (LARRIPP), 3 rd edition (2007)
Davao City	● An Ordinance for the Comprehensive Urban Shelter and Services Development Code of Davao City, otherwise known as the "Shelter Code of Davao City", Ordinance no.014-07 Series of 2007
	● Implementing Rules and Regulations (IRR) for Processing the Application for Certificate of Compliance under E.O. 708 as Provided for in Section 4 of the Comprehensive Urban Shelter and Services Development Code of Davao City, otherwise known as the "Shelter Code of Davao City" (2008)

7-2. Relative agencies and institutions

As the project is master plan study, SEA shall be conducted in the project. Roles and functions of the relative agencies for the SEA are described below:

- Department of Environmental and Natural Resources (DENR):
Confirms the appropriateness of environmental and social considerations on the proposed development plan
- National Economic and Development Authority (NEDA):
Confirms the appropriateness of the proposed development plans in terms of the consistency with national/regional policies and plans including environmental and social considerations
- Davao City:
Implement environmental and social considerations on the proposed development plans as the proponent.
Hold stakeholder meetings.
- Project implementation agencies (e.g. DPWH):
Cooperate for the environmental and social considerations on the proposed development plans as the future proponent of development projects.

8. Provisional scoping (type and magnitudes of possible adverse impacts and mitigation measures)

Provisional scoping was carried out based on possible project plans for each sector of infrastructures (Table-4). The results of the scoping are summarized in Table-5. Because this scoping is for identifying important items to be studied for comprehensive development master plan, tentative impacts to be managed by future detailed construction plan are excluded from the scoping.

Mitigation plans and measures will be elaborated through the study of this project.

Table-4 Possible Project Plans for Each Infrastructure Sector

Sector	Possible Project Plans
Roads and transport	<ul style="list-style-type: none"> Construction of new roads/LRT and Construction of terminals
Drainage	<ul style="list-style-type: none"> Construction of new drainage canals and pumping stations,
Water supply	<ul style="list-style-type: none"> Water source development (surface water), Installation of pipelines, water distribution facilities and construction of water purification plants
Sewage	<ul style="list-style-type: none"> Construction of sludge treatment plants, and Construction of sewage and wastewater treatment plants
Waste management	<ul style="list-style-type: none"> Construction of new sanitary landfills
Disaster prevention	<ul style="list-style-type: none"> River embankment and River bed dredging

Table-5 Results of provisional scoping

Sector	Phase	Impacts	Rating											
			Roads and transport		Drainage		Water supply		Sewage		Waste management		Disaster prevention	
			Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase
Pollution	1	Air pollution	D	C	D	D	D	D	D	D	D	D	D	D
	2	Water pollution	D	C	D	C	D	D	D	C	D	C	D	D
	3	Waste	D	D	D	D	D	B-	D	B-	D	D	B+/-	D
	4	Soil contamination	D	D	D	D	D	D	D	D	D	C	D	D
	5	Noise and vibration	D	C	D	C	D	C	D	C	D	D	D	D
	6	Ground subsidence	D	D	D	D	D	D	D	D	D	D	D	D
	7	Odor	D	D	D	D	D	D	D	C	D	C	D	D
	8	Sediment quality	D	D	D	D	D	D	D	D	D	D	D	D
Natural environment	9	Protected area	C	C	C	C	C	C	C	C	C	C	C	C
	10	Ecosystem	C	C	C	C	C	C	C	C	C	C	C	C
	11	Hydrology	D	D	D	C	D	B-	D	C	D	D	D	B+
	12	Topography and geology	D	D	D	D	D	D	D	D	D	B+/-	B+/-	B+/-
Social environment	13	Involuntary resettlement	C	D	C	D	C	D	C	D	C	D	C	D
	14	The poor	C	C	C	D	C	D	C	D	C	B+	C	D
	15	Indigenous and ethnic people	C	C	C	C	C	C	C	C	C	C	C	C
	16	Local economy such as	D	C	D	D	D	D	D	D	D	B+	D	D

Sector	Phase	Impacts	Rating											
			Roads and transport		Drainage		Water supply		Sewage		Waste management		Disaster prevention	
			Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase	Pre/ During Construction	Operation phase
		employment and livelihood												
	17	Land use and utilization of local resources	D	C	D	D	D	D	D	D	D	D	D	D
	18	Water usage	D	D	D	D	D	C	D	C	D	C	D	D
	19	Existing social infrastructures and services	D	C	D	B+	D	D	D	D	D	D	D	B+
	20	Social institutions such as social infrastructure and local decision making institutions	C	C	C	C	D	D	D	D	D	D	D	D
	21	Misdistribution of benefit and damage	C	C	C	C	D	D	D	D	D	D	D	D
	22	Local conflict of interests	C	C	C	C	D	D	D	D	D	D	D	D
	23	Cultural heritage	C	D	C	D	D	D	C	D	C	D	D	D
	24	Landscape	D	D	D	D	D	D	D	D	D	D	D	D
	25	Gender	D	D	D	D	D	D	D	D	D	C	D	D
	26	Right of children	D	D	D	D	D	D	D	D	D	D	D	D
	27	Infectious diseases such as HIV/AIDS	C	D	C	D	C	D	C	D	C	D	C	D
	28	Labor environment (including work safety)	D	C	D	D	D	C	D	C	D	C	D	D
Others	29	Accidents	D	C	D	D	D	D	D	D	D	C	D	D
	30	Cross boundary impacts and climate change	D	C	D	D	D	D	D	D	D	D	D	D

A: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected (except tentative impacts to be managed by future detailed construction plan).

9. Alternatives to the project activities including ‘without project’ option

9-1. Without project option

‘Without project option’ means no urban infrastructure development plan is formulated and will not take any action on the present situation. As the population of Davao City is increasing and the economic activities are being accelerated, following issues are expected to occur if ‘without project’:

- Traffic congestion at the city center will be accelerated,
- Flooding occurs continuously and will damages properties and economic activities,
- Water supply shortage will affect living conditions and economic activities,
- Water pollution caused by domestic and industrial wastewater will affect natural resources, and
- Solid waste will be overflowed from the existing landfill

In addition, urban development will not be consistent with upper level development plan supported by NEDA

and will not materialized smoothly.

Therefore, the urban infrastructure development plan consistent with upper level plan needs to be established to cope with the current situations.

9-2. Consideration of alternative/optional activities

The alternative or optional activities will be discussed in this study.

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

NEDA and Davao City agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project. This statement of agreement is described in the Record of Discussions (R/D) on this project.

11. Terms of reference for environmental and social considerations

Terms of Reference (TOR) for environmental and social considerations to be conducted in this project are presented as follows:

- 1) Review of existing development plan, development projects, studies, and public and private investment;
- 2) Analysis to identify constraints to development, factors of promoting development;
- 3) Analysis of alternatives for achieving the goals of the Project;
- 4) Consideration of contents of developed policy and plans;
- 5) Scoping (clarify extremely important items on environmental and social impacts and its evaluation methods at the time of decision making of urban infrastructure development plan);
- 6) Confirmation of existing environmental and social conditions of the proposed project area of urban infrastructure development plan as baseline data (details are presented in Table-6 considering the items rated as B or C in the provisional scoping results);
- 7) Confirmation of legal framework and institution of Philippine on environmental and social considerations, and examination of the experiences of SEA study in Philippine;
 - A) Laws, regulations and standards related to environmental and social considerations (environmental impact assessment, resettlement, public participation, information disclosure and other);
 - B) SEA study reports conducted in Philippine development projects, and other relevant information;
 - C) Gaps between the "JICA Guideline for Environmental and Social Considerations (April 2010)" and legal framework of Philippine on environmental and social considerations;
 - D) Institute of relative agencies responsible for implementation of projects and their roles on environmental and social considerations including EIA and SEA;
- 8) Prediction of likely impacts of proposed projects in urban infrastructure development plan;
- 9) Evaluation of likely impacts of the project above 8) and comparative analysis of alternative of proposed

projects, including 'without project' option;

- 10) Examination of the mitigation measure (to be avoid, minimized and compensated);
- 11) Examination of the monitoring methods (monitoring items, frequencies and methods); and
- 12) Support to hold stakeholder meetings.

Table-6 Survey Items and the Methodologies for Environmental and Social Considerations in this Project

Environmental items	Survey items	Survey methodologies
Air quality	Ambient air quality (particle matters, NOx, SOx, etc.)	Collecting secondary data from relevant agencies such as DENR, Comparing with environmental standards
Water quality	River and coastal water quality (BOD, suspended solid, etc.)	Collecting secondary data from relevant agencies such as DENR, Comparing with environmental standards
	Discharged water quality (BOD, suspended solid, etc.)	Collecting secondary data from relevant agencies such as DENR, Comparing with environmental standards
Noise	Noise level	Collecting secondary data or measuring by simplified methodology, Comparing with environmental standards
Protected area	Location of protected areas, restricted activities and environmental features	Collecting secondary data from relevant agencies such as DENR
Ecosystem	Habitat distribution	Aerial photo analysis, field reconnaissance
	Species in the area, protected species	Collecting secondary data from relevant agencies such as DENR and Davao City
Hydrology	Map of water systems	Collecting secondary data from relevant agencies such as DPWH and Davao City
	Flow volume of rivers (dry/rainy seasons, annual average)	Collecting secondary data from relevant agencies such as DPWH
	Groundwater level (same as above)	Collecting secondary data from relevant agencies such as Davao City Water District (DCWD)
Topography	Topographic map	Summarizing existing topographic maps
Land use	Land use map	Confirmation/updating of present and future land use map
	Distribution of informal settlers	Collecting secondary data from relevant agencies such as Davao City
Local community	Social characters of each barangay (population, ethnicity, religion, livelihood, lifestyle, culture, etc.)	Collecting secondary data from relevant agencies such as Davao City, and interview
	Infrastructure and social services (water supply, disposal of solid waste, etc.)	Collecting secondary data from relevant agencies such as Davao City, and interview
	Water use (irrigation, source of portable water, etc.)	Collecting secondary data from relevant agencies such as Davao City, and interview
	Infectious diseases (e.g. HIS/AIDS)	Collecting secondary data from relevant agencies such as Davao City, and interview
Cultural heritage	Distribution of cultural heritages (e.g. monuments)	Collecting secondary data from relevant agencies such as Davao City
Labors environment	Regulations related to working conditions and the actual working conditions, and Conditions of the workers related to the existing landfill such as waste pickers (e.g. population, gender ratio and income).	Collecting secondary data from relevant agencies such as Davao City
Traffic	Present and future road traffic	Traffic survey and the prediction
	Traffic accidents (number of accidents and the cause, etc.)	Collecting secondary data from relevant agencies such as Davao City
Flood	Record of flooding (frequency, area, damages, etc.)	Collecting secondary data from relevant agencies such as Davao City