

### **3.3 Initial Environmental Examination(IEE)**

#### **3.3.1 Initial Environmental Examination (IEE) for Natural Environment for the Study**

This section presents the systematic identification of the potential impacts (Significant Environmental Impacts; SEIs) of the project to the natural environment. The project involves reclamation, construction of horizontal and vertical structures, access road, waiting area buildings and parking areas. Recognizing these various components of the proposed project, comprehensive environmental impact assessment was undertaken and the result of which are presented in the succeeding sections. The IEE studies were carried out following areas; 1) the Cebu Base Port, 2) the New Cebu Port in Consolacion, 3) San Remigio area and 4) Toledo port area.

##### **(1) Identification of Significant Environmental Impacts (SEIs)**

The methodology for the identifying impacts and evaluation these impacts in the IEE section employs both quantitative and qualitative measures. The identification of significant environmental impacts (SEIs) considered two environmental components (natural environment and pollution) of the project area (IEE of Social Environment is described in the following section 3.3.2). Potential environmental impacts were briefly described and rated accordingly.

- Type of Consequence: Positive (+)/Negative (-)
- Impact duration: Long term or Short-term
- Possible rectification of impact: Reversible or Irreversible
- Magnitude: Nil/Minimal/Moderate/Significant
- Probability of Occurrence: Low/Medium/High

The results of the impact identification are presented in Table 3.3.1-1 Table 3.3.1-8.

**Table 3.3.1-1 Matrix for Environmental Impacts During Construction Phase**

**Cebu Base Port**

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Moderate	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	Negative	Moderate	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	d) Effect on Topography and Terrain	Negative	Nil to minimal	Medium	Reversible/Transient	Short term	Immediate vicinity of the project area
	e) Effect on Ecological Environment	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	f) Effect on Visual Resources	Negative	Nil to minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	Negative	Moderate	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Soil Contamination	No Effect	--	--	--	--	--
	d) Effect of offensive Odor	No Effect	--	--	--	--	--
	e) Noise and Vibration	Negative	Moderate	Medium	Reversible/Transient	Short term	Immediate vicinity of the project area

Table 3.3.1-2 Matrix for Environment Impact During Operation Phase

Cebu Base Port

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Nil	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	Negative	Nil to minimal	Medium	Irreversible/Permanent	Long term	--
	d) Effect on Topography and Terrain	Negative	Moderate	Medium	Reversible/Transient	Short term	Immediate vicinity of the project area
	e) Effect on Ecological Environment	No Effect	--	--	--	--	--
	f) Effect on Visual Resources	Negative	Nil to minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Moderate	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	Negative	Moderate	High	Irreversible/Permanent	Long term	Immediate vicinity of the project area
	c) Soil Contamination	No Effect	--	--	--	--	--
	d) Effect of offensive Odor	No Effect	--	--	--	--	--
	e) Noise and Vibration	No Effect	--	--	--	--	--

**Table 3.3.1-3 Matrix for Environmental Impacts During Construction Phase**

**New Cebu Port**

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	Negative	Nil to minimal	Low	Reversible/Transient	Long term (3 yr.)	--
	d) Effect on Topography and Terrain	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	e) Effect on Ecological Environment	Negative	Significant	High	Reversible/Transient	Long term	Immediate vicinity of the project area
	f) Effect on Visual Resources	Negative	Nil to minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	Negative	Moderate	Medium	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Soil Contamination	No Effect	--	--	--	--	--
	d) Effect of offensive Odor	No Effect	--	--	--	--	--
	e) Noise and Vibration	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area

Table 3.3.1-4 Matrix for Environmental Impacts During Operation Phase

New Cebu Port

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Nil to minimal	High	Reversible/Transient	Long term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	Negative	Nil to minimal	Medium	Irreversible/Permanent	Long term	The vicinity of the project area
	d) Effect on Topography and Terrain	Negative	Moderate	Medium	Irreversible/Permanent	Long term	Immediate vicinity of the project area
	e) Effect on Visual Resources	Negative	Significant	High	Irreversible/Permanent	Long term	Large area
	f) Effect on Ecological Environment	Negative	Minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Significant	Low	Reversible/Transient	Long term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	Negative	Moderate	High	Irreversible/Permanent	Long term	--
	c) Soil Contamination	No effect	--	--	--	--	--
	d) Effect of offensive Odor	No effect	--	--	--	--	--
	e) Noise and Vibration	Negative	Moderate	High	Irreversible/Permanent	Long term	Immediate vicinity of the project area

**Table 3.3.1-5 Matrix for Environmental Impacts During Construction Phase**

**San Remigio**

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Moderate	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	Negative	Minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	d) Effect on Topography and Terrain	Negative	Moderate	Medium	Reversible/Transient	Short term	Immediate vicinity of the project area
	e) Effect on Visual Resources	Negative	Moderate	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	f) Effect on Ecological Environment	Negative	Moderate	High	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Minimal	Low	Reversible/Transient	Long term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	No effect	--	--	--	--	--
	c) Soil Contamination	No effect	--	--	--	--	--
	d) Effect of offensive Odor	No effect	--	--	--	--	--
	e) Noise and Vibration	No effect	--	--	--	--	--

**Table 3.3.1-6 Matrix for Environmental Impacts During Operation Phase**

**San Remigio**

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	No effect	--	--	--	--	--
	d) Effect on Topography and Terrain	No effect	--	--	--	--	--
	e) Effect on Visual Resources	Negative	Nil	--	--	--	--
	f) Effect on Ecological Environment	Negative	Minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Significant	Low	Reversible/Transient	Long term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	No effect	--	--	--	--	--
	c) Soil Contamination	No effect	--	--	--	--	--
	d) Effect of offensive Odor	No effect	--	--	--	--	--
	e) Noise and Vibration	No effect	--	--	--	--	--

**Table 3.3.1-7 Matrix for Environmental Impacts During Construction Phase**

**Toledo**

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	No effect	--	--	--	--	--
	d) Effect on Topography and Terrain	Negative	Moderate	Medium	Reversible/Transient	Short term	Immediate vicinity of the project area
	e) Effect on Visual Resources	No effect	--	--	--	--	--
	f) Effect on Ecological Environment	Negative	Nil to minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Significant	High	Reversible/Transient	Long term	Immediate vicinity of the project area
	b) Air pollution from emissions of NOx, SOx, and TSP	No effect	--	--	--	--	--
	c) Soil Contamination	No effect	--	--	--	--	--
	d) Effect of offensive Odor	No effect	--	--	--	--	--
	e) Noise and Vibration	No effect	--	--	--	--	--



**Table 3.3.1-8 Matrix for Environmental Impacts During Operation Phase**

**Toledo**

Impact Area	Potential Impacts	Nature	Magnitude	Probability of Occurrence	Reversibility/ Permanence	Impact Duration	Geographic Extent
Natural Environment	a) Threat of Environmental Hazard	Negative	Nil to minimal	Low	Reversible/Transient	Short term	Immediate vicinity of the project area
	b) Effect on Water Quality and Quantity	Negative	Significant	High	Reversible/Transient	Short term	Immediate vicinity of the project area
	c) Effect on Air Quality and Atmosphere	No effect	--	--	--	--	--
	d) Effect on Topography and Terrain	No effect	--	--	--	--	--
	e) Effect on Visual Resources	No Effect	--	--	--	--	--
	f) Effect on Ecological Environment	Negative	Minimal	Low	Irreversible/Permanent	Long term	Immediate vicinity of the project area
Pollution	a) Water Pollution	Negative	Significant	High	Reversible/Transient	Long term	Immediate vicinity of the project area
	b) Air pollution from emissions of NO <sub>x</sub> , SO <sub>x</sub> , and TSP	No effect	--	--	--	--	--
	c) Soil Contamination	No effect	--	--	--	--	--
	d) Effect of offensive Odor	No effect	--	--	--	--	--
	e) Noise and Vibration	No effect	--	--	--	--	--

## (2) Public Participation and Social Acceptability in the EIA process

The role and concerns of the affected communities in the EIA process are given primary environmental consideration. DAO 96 - 37 expressly gives importance to meaningful public participation and transparency of the EIA process as a gauge to fully determine the acceptability of the proposed project.

The public hearing is held especially for social environmental study in the EIA process, however a few question and answer about natural environment was discussed in the sessions at two proposed sites. Natural environmental aspects of them are described in this section. Regarding social environmental aspects are described in succeeding section 3.3.2.

### 1) Public Hearing for Cebu Base Port Development Plan

Public Hearing session was held in October 4<sup>th</sup> in Cebu Base Port passenger terminal for the Cebu Base Port development plan. The following is the opinions concerned with natural environment;

Sanitation problem in the community in the Cebu Base Port, it is the one of the causes of the water pollution in the port.

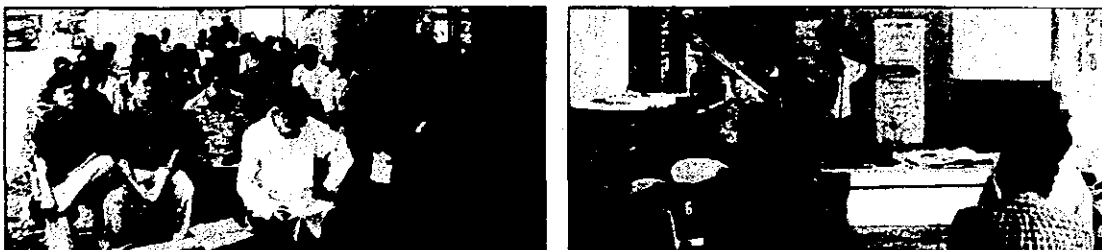
The place of the garbage-dumping site in port area is the problems should be solved. It is also the cause of water pollution.

### 2) Public Hearing for New Cebu Port Development Plan

Public Hearing session was held in October 5<sup>th</sup> in Brgy Tayud in Consolacion for the New Cebu Port development plan. The following is the opinions concerned natural environment;

A question was mentioned from a fisherman about the relation between existing mangrove trees and the proposed reclaimed area and access road placement.

A member of JICA study team replied that the study team is now planning the mangrove mitigation planting activities and its area instead of cutting mangrove individuals by the construction works. Mangrove substitution planting candidate area is already zoned.



**Fig. 3.3.1-1 Public Participation Session for Social Acceptability (Brgy Tayud)**

### 3.3.2 Initial Environmental Examination (IEE) for Social Environment

#### (1) Executive Summary

The Initial Environment Examination (IEE) report of the Social Environment of the location of the New Port - Barangay Tayud in the Municipality of Consolacion and the rehabilitation of the Base Port in Cebu City describes the consequential environmental impacts, the drawing of appropriate mitigation and the recommendation of enhancement measures of the project based on the requirements set forth by the Department of Environment and Natural Resources (DAO 96-37) and the Japan International Cooperation Agency's environmental guidelines for infrastructure study.

The examination used the Socio-cultural and Economic survey as one of the baseline data for the formulating of recommendation to mitigate adverse impacts; the perception interviews of key-persons and authority figures to verify data from the survey as well as other information not captured in the survey; and, the impact assessment and mitigations.

The survey interview instrument used a 55- item questionnaire covering 12 areas such as: the respondent's profile. Migration and settlement history, perception of the project, housing and utilities, household income and employment, community problems, land resources, coastal resources, perception of environmental situation, health condition, pattern of decision making and sources of information.

The Base port area is estimated to have 1,063 households with a respondent sample size of 104 households, while that of Tayud, Consolacion of a new Cebu Port area is estimated to have 1,370 households with a sample size of 135.

Most of the respondents in the base port are migrants and have moved to the place to stay because of the livelihood and work opportunities the port offered. More than half know of the base port rehabilitation and are in favor of it because of the improvement it will bring to the area. Most fear the demolition of their shanties because they are only squatters. They hope that they are given a decent resettlement area with amenities and that the said area be close to their source of livelihood which is the port.

A majority of the respondents in Barangay Tayud, Consolacion are either born in the barangay or have moved to the community by affinity (marriages). In-migration in the past years has occurred due to the establishment of the eight industrial firms. Almost all are aware and are in favor of the project. The few who are not in favor cited the project's adverse effects it will have on the displacement of fisher folk and increase of crime against property. If relocated, the respondents mentioned proper negotiation and equitable pricing of their lands together with the package of disturbance fee. Based on the focus interviews, almost all shipyard owners agreed, except for Mr. Porter who owns El Nor Marine Services who pointed out that if expansion plans for the port were made he would not agree to sell.

The impact assessment shows that the local government units (LGU) will directly earn from the Base port project through taxes and business permit. The project may prompt the increase in land values around the port area. This becomes a long-term positive impact. Direct and indirect employment opportunities will create labor demand both in port operation and commercial enterprises. Women will benefit from employment opportunities particularly in commercial enterprises. Although Cebu is rich in archeological possibility, it is unlikely that the proposed site will yield finds due to intense use of the area.

In Tayud, Consolacion impact assessment showed that the project will prompt the closure of the shipyards operating in the area resulting to unemployment. On the other hand, the conversion of the use of the shore and off-shore areas will have an impact on food production capacity of the local population. Although the productivity of the fishing ground is relatively low and diminishing, many poor households still depend on it for food.

To mitigate the negative impacts at the Base Port and New Port, a full information, education and communication strategy shall be employed to make the directly affected populace and other stakeholders to actively participate in the process of the Environment Impact Assessment for an assured Social Acceptability. A Social Development Plan shall be evolved by the stakeholders to assure the sustainability in the implementation of the plan as well as the monitoring of the conditions set forth by DENR.

## (2) Base Port - Cebu City

### 1) Socio-Cultural and Economic Survey

The household survey collected two types of data: socio-cultural and economic characteristics of the residents within the port area and their perception of the project's impact. The data serve as a baseline and basis for formulating recommendation to mitigate adverse impacts.

#### a. Survey Instrument

The survey used a 55-item questionnaire. The questionnaire covers 12 areas: respondent's profile, migration and settlement history, perception of the project, housing and utilities, household income and employment, community problems, land resources, coastal resources, perception of environmental situation, health condition, pattern of decision-making and sources of information.

#### b. Survey Team and Duration

There were 6 interviewers in the survey team recruited from the site. Local interviewers are used for three reasons: (1) tap their familiarity with the area's physical lay-out and rapport with the community; (2) enable the residents attest the accuracy of survey result; and (3) provide a chance to community members to study the community situation. The interviewers were briefly oriented on the questionnaire, sampling technique and survey procedures. The

interviewers carried out the household survey from 11 to 16 June 2001. The filled-in questionnaires were reviewed and questionable responses were clarified.

#### c. Area Coverage and Sample Size

The survey covers the port area. The port area has four residential sites called as follows: Panaghi-usa, Ober-da-Bakod, Silangan and Escano. These residential portions are not formally part of any barangay because the port-area under its charter is declared as a non-barangay. The port area is estimated to have 1063 households. The sample size of the study is 104 households. The number of households and sample taken in each residential site are as follows: Panaghi-usa, 108 (10); Ober-da-Bakod, 135, (21); Silangan, 700 (71) and Escano, 20 (2). The total sample size is estimated to have 4% sampling error with reliability level of 95 percent.

#### d. Characteristics of the Respondents

Around 31% of the respondents are male and 69% are female. Except for 2%, all respondents are born outside the port area. The birthplace of 31% is another place in Cebu City. Another 22% are born in Cebu Province but outside Cebu City. Those born in other provinces in the Visayas outside Central Visayas constitute 23 percent. The provinces are Leyte, Samar and Negros Occidental. Only 7% are born in the other provinces in Central Visayas. Those born in Luzon and Mindanao provinces compose 3% and 12%, respectively. The birthplace of the respondents tells that the port area is an in-migration area.

The age of the respondents ranges from 17 to 88 years old. Their average age is 36.7 years. Close to half of the respondents (48%) completed at least a year of elementary education. Those who have some high school education constitute 32 percent. The respondents who went to college comprise 14 percent. Only 2% do not have any education. The average number of years they spent in school is 6.4 years or a mean educational attainment of Grade Six of elementary education.

About 62% of the respondents are married. Fertility is high with an average of 3.2 children per household. The children are almost equally divided between males (52%) and females (48%). The respondents are predominantly Roman Catholics at 95 percent.

The average household has 5.1 members or the same as the national average. Half (42%) of the population is below 15 years of age. Together with the aged who are over 65 years, they constitute the dependents of the economically active adults (aged 15 -65 years). The economically active adults compose 55 percent.

The characteristics of the respondents in the Cebu Baseport are summarized below.

• Sex	Male	31 %		
	Female	69 %		
• Berth Place	Port Area	2 %		
	Same City	31 %		
	Same Province	22 %		
	Another Province	45 %	Central Visayas;	7 %
			Another Visayas;	23 %
		Luzon Province;	3 %	
		Mindanao;	12 %	
• Age	17 - 88 years	Average 36.7 years		
• Civil Status	Single	31 %		
	Married	62 %		
	Separated/ widow	7 %		
• Education Attained	None	2 %		
	Elementary	48 %		
	High school	32 %		
	College	14 %		
	Vocational	4 %		
• Religion	Catholic	95 %		
	Protestant	2 %		
	Others	3 %		
• House Size	Average household size	5.1 members		
• Age composition	Less than 5 years old	17 %		
	6-10	12 %		
	11-14	13 %		
	15-60	55 %		
	60-64	2 %		
	More than 65	1 %		

#### e. Migration/Settlement History

Other than their place of birth, 75% of the respondents have lived in another place before moving into the port area. About 32% lived in a town or city in Cebu province other than Cebu City. Another 25% lived in a barangay outside the port area but within Cebu City. Those who live in Mindanao comprise 20% and in Luzon, 10 percent. Only 4% lived in another province within Central Visayas.

The in-migration into port area is mainly propelled by a pull factor. Around 68% are attracted by the livelihood and work opportunities spawned by the port. The port offers opportunities in small-scale business operation, portage, transportation services and even petty crimes. Some 7% cite marriage as a reason while 5% say they have no other place to stay. Only 1%

settled in the port as a result of pull factor: breakdown of peace in place of origin.

The preference of 87% of the respondents is to stay in their present abode. The main reason is the same as their reason for moving in livelihood and work. About 98% of the respondents cited this. Other reasons are the investment they put in their house (1%) and family (1%). Those who want to live somewhere else have their reasons too. About 50% want to be in a more orderly place while 22% are looking for a place to improve their lives. Some 14% like to return to their place of origin. The respondents who prefer to be in a place where they can have land tenure and a farm constitute 7%, respectively.

Some 87% of the respondents do not plan to move. Among the minority who plans to move, 40% want to be back in their hometown and 27% is looking for a place with better livelihood opportunities. A place with greater sense of order or a good relocation site is the preference of 13%, respectively. Some 7% just want to be near a port.

The migration/settlement characteristics of the respondents is summarized below.

Number of Years of Living	Percentage of households who live in another place other than place of birth	75 %
	Mean no of years stay of non-native born	15 yrs
Previous Residence	Within Cebu City	25 %
	Within Cebu province outside Cebu City	32 %
	Within Central Visayas outside Cebu	4 %
	Another region in the Visayas	9 %
	Luzon Provinces	10 %
	Mindanao Provinces	20 %
Reason for Moving into	Livelihood/employment	86 %
	Marriage	7 %
	No other place to stay	5 %
	Property in the place	1 %
	Breakdown of peace in place of origin	1 %
Choice of Residence to stay	Present Residence	87 %
	Another place	13 %
Reasons of the above choice	Livelihood/employment	98 %
	Family	1 %
	Property in the place	1 %
With plan to move	No Plan	86 %
	With Plan	14 %

#### f. Awareness and Perception of the Project

The awareness level and perception of the respondents on the proposed project is high at 66 percent. Word of mouth is the main source of information about the project. The Cebu Port

Authority personnel are identified as the source of information of 55% of the respondents. Around 29% of the respondents point to their neighbors and friends. The surveys conducted in the port area serve as the channel of information of 3% of the respondents.

Around 67% of the respondents are in favor of the project. The main reason given by the respondents who are in favor of the project is port improvement. More and better employment and income are cited by 22 percent.

Among the few who are not in favor, the main reason cited is the project's possible adverse impact on their housing and income sources. The demolition that may occur is the concern of 79 percent. The deterioration of business is expressed by 21 percent.

The conduct of consultation and meeting and provision of relocation site are identified as planning considerations by 34%, respectively. Both considerations have highest level of importance given the high frequency of mention. Around 7% of the respondents say that eliminating criminality in the port area must be considered in plan finalization. The provision of livelihood is the need mentioned by 6 percent. Only 1% cites compensation. But 18% give no opinion.

Awareness of the Project	Aware	66 %
	Not aware	34 %
Source of Information on the Project:	Cebu Ports Authority	55 %
	Neighbors and friends	29 %
	Surveyors	3 %
	Seen construction activities	13 %
Opinion of the Project	Favor	67 %
	Not in favor	31 %
	Conditional	2 %
Reason of being in Favor of the Project	Port improvement	45 %
	Employment and business opportunities	22 %
	No choice but accept the plan	14 %
	Common good	10 %
	City improvement	6 %
	Higher city revenue	3 %
Reason of Not in Favor of the Project	Demolition of houses	79 %
	Adverse impact on livelihood	21 %
Things Suggested to be considered in finalizing Project Plan	Provision of relocation near the port	34 %
	Consultation and community meeting	34 %
	Elimination of criminality	7 %
	Employment and livelihood opportunities	6 %
	Compensation	1 %
	No opinion	18 %



g. Possible Project Effects

The perceived possible effects of the project on the environment are presented that around 90% of the respondents do not foresee any impact of the project on plants and animals. Some 8% say that the project will destroy plants and animals. But 2% say it may even enhance the plants, which are now barely seen in the port area. Only 54% say that the project has no effect on air, soil and water. The concern of 35% is pollution. The destruction of these elements and increase in temperature due to more concrete pavement are mentioned by 2%, respectively. But 7% say that the project can even enhance the state of these elements if implemented well.

Effects of Baseport on plants and animals as perceived	Destruction of plants	8 %
	Enhancement of vegetation	2 %
	None	90 %
Effects of Base port Project on Air, Water and Soil as Perceived	Pollution	35 %
	Destruction of water and soil	2 %
	Increase in temperature	2 %
	Enhancement of air and water	7 %
	None	54 %

h. Benefits provided by the Base Port

The beneficial effects by the project to the people at the provincial and municipal level, shows that only 33% do not see any benefits from the project. More and better employment and income are mentioned by 43 percent. Some 15% mention the increase of business opportunities the increase of the city's revenue and level of travel safety are mentioned by 2%, respectively. About 5% said that the project would result to a more orderly port operation and beautiful environment.

Around 56% said that the project has no benefit at the household level. But some 23% of the respondents expect more and better employment and income. Generation of business opportunities is looked forward to by 6 percent. Some 15% see the project as a chance to own a home through its resettlement component.

Benefits on Municipality and Province	More and better employment and income	43 %
	More business opportunities	15 %
	Increase in city revenue	2 %
	Increase in travel safety	2 %
	More beautiful and clean port area	5 %
	None	33 %
Benefits on the Households	More and better employment and income	23 %
	Business opportunities	6 %
	Provides opportunity to have a house	15 %
	None	56 %

i. Negative Effects of the Base Port

The perceived negative effects of the project are presented at the municipal and provincial level that the most respondents see negative effect of the project. Only 28% said that there is none. Some 25% mention its adverse impact on livelihood while 17% remark on environmental destruction. Demolition is the fear of 16% and congestion is reported by 6 percent. The increase of criminality as possible negative effect is noted by 5 percent. Other adverse impacts mentioned are increase of accident rate and stricter authority in the port.

At the household level, 31% do not see any negative effect of the project. The possible demolition of houses is identified by 60 percent. Some 6% are concern over the deterioration of livelihood while 3% note of possible environmental destruction.

Negative Effects on the Municipality and Province	Undermines livelihood	25 %
	Degrades the environment	17 %
	Demolition of houses	16 %
	Generates congestion	6 %
	Increases criminality	5 %
	Stricter port authority	2 %
	Accidents	1 %
	None	28 %
Negative Effects on the Households	Demolition	60 %
	Undermines livelihood	6 %
	Degrades the environment	3 %
	None	31 %

Assistance Needed in Relocation and Reasons for choice

The findings by the interview survey are summarized below.

Type of assistance needed	Relocation site close to the port	55 %
	Compensation	6 %
	Compensation and relocation site	28 %
	Livelihood and relocation site	9 %
	Employment	1 %
	None	1 %
Preferred relocation site	Close to the port	34 %
	Close to livelihood source	19 %
	Anywhere with services	17 %
	Home province	11 %
	Within Cebu City	10 %
	Within Cebu Province	7 %
	Anywhere	2 %

Reason for choice of relocation site	Proximity to income source	56 %
	No better place to stay	13 %
	Presence of family and relatives	11 %
	Familiarity with the place	8 %
	Close to services (road, water, electricity)	7 %
	Tenure of Lot	5 %
Amount as price of dislocation	Not give a price	14 %
	Range	10,000 - 50,000
	Average	33,000 peso

The assistance that the respondents most frequently cited is relocation site. The preferred relocation site reflects their intention to preserve their existing livelihood activities. The reasons for choice of relocation site are that Livelihood is the respondents' primary consideration for the choice of relocation site.

The respondents give a wide range (P10, 000 -500,000) of amount that they consider just and fair financial assistance for dislocation. The average amount is P33, 000.00. Only 14% of the respondents refuse to give an estimate. They express preference for a professional appraisal and personal negotiation during acquisition. No respondent gives a fantastic figure.

#### j. Housing conditions and Utilities supply usages

The characteristics of the housing and utilities shows that the housing materials used are mostly semi-permanent but few enjoy basic utilities. About 93% of the houses have galvanized iron as roof.

The occupant mostly owns the houses in Cebu Port Area. The owner-occupants comprise 92 percent. The renters and free occupants constitute 4%, respectively. The Cebu Ports Authority owns the land in the port area.

The average floor area of the houses is 27.10 sq. meters. Most homes have a floor area between 10 to 15 sq. meters and a one-room affair. The average house has 1.6 rooms. The houses are relatively new with an average age of 12.4 years.

Some 70% of the houses are lighted with electricity. About 22% still rely on kerosene. Kerosene is also used for cooking by 56% of the households. Another 26% use liquefied petroleum gas (LPG) and 18% still rely on wood. None cook their food using electricity. Among the households who use electricity, the average amount they pay monthly is P353.20. For waste disposal, 56% do not use any toilet. Many do it in the pier embankment or in the toilets in ships. Some 41% of the households have water-sealed toilet and 3% have pit type toilets. The housing conditions and utilities usage are summarized below.

Housing Conditions		
Roof of Houses	Galvanized iron sheet as roof	93 %
	Combined material	6 %
	Wood	1 %
Wall of Houses	Wood	83 %
	Concrete	8 %
	Galvanized iron sheet	5 %
	Bamboo/nipa	4 %
Floor material of House	Wood	60 %
	Concrete	35 %
	Bamboo	2 %
	Earth	3 %
Tenure of House and Lot	House	
	Owned	92 %
	Rented	4 %
	Free occupancy	4 %
	Total	100 %
	Home lot	
Free Occupancy	100 %	
Estimated Floor Area of Houses	Range	5 - 90 sq m
	Mode	10 - 15 sq.m
	Average	27.10 sq.m
Number of Rooms of Houses	Range	1 - 4 rooms
	Mode	1 room
	Average	1.6 rooms
Age of House	Range	2 - 30 years
	Average	12.4 years
Lighting Fuel Used	Electric	70 %
	Kerosene	22 %
	LPG	8 %
Cooking Fuel Used	LPG	26 %
	Kerosene	56 %
	Wood	18 %
Estimated Monthly Electric Bill	Range	75 - 1,200 peso
	Mode	200 - 300 peso
	Average	353.2 peso
Type of Toilet	None	56 %
	Water sealed	41 %
	Pit	3 %

#### k. Household Income and Employment

The information of the respondents' household income and employment is presented hereinafter. Most households have only member earning for a living. The one-earner

households comprise 55 percent. The average number of earners per household is 1.5 persons. About 39% of the households have two income earners. The rest have three or four income earners. Around 51% are earning salaries and wages. Small-scale business is also a major income source with 22% of the households depending on it as a main one. In 27% of the households, salaries and wages combined with small-scale business constitute the main income source. The male members are the main income earners in 66% of the households. These are mostly husbands. In 21% of the households, it is the female member usually the wife. Both the male and female members earn a living in 13% of the households.

Most households have only one income source. About 62% have no secondary income source. The secondary income sources of those who have are mostly trading and store operation (76%) and wage labor (19%). Livestock production is done by 5 percent.

The greatest percentage of households in Cebu Port Area (about 55%) is earning between P 1000 and P 4999 per month. About 15% of the total number of households are earning between P5, 000 and 9,999 per month and less than P1000 comprise 6 percent. Only 3% are earning from P10, 000 to 15,000 a month. Among working women, the average earning is 2,393 a month.

Number of Household member to Family income

	One	55 %
	Two	39 %
	Three	4 %
	Four	2 %
	Average	1.5 member
Main Income Source	Salary and wages	51 %
	Business	22 %
	Salary and Business	27 %
Member of Income Source of Household	Male	66 %
	Female	22 %
	Both male and female	13 %
Secondary Income Sources	Households with secondary sources	38 %
	Households by type of secondary income sources	
	Wage labor	19 %
	Trading and vending	76 %
	Livestock production	5 %
Estimated Household Income Per Month	Less than 1000	6 %
	1,000 - 4,999	76 %
	5,000 - 9,999	15 %
	10,000 - 15,000	3 %

### I. Community Situation

The top-ranking problem in the community is crime. These include drug use, drug peddling and theft. Crime is mentioned by 35% of the respondents. The absence of land tenure and lack of utilities and services are the second most frequently mentioned problem at 26%, respectively. Some 10% of the respondents cite the lack of livelihood opportunities. Only 1% of the respondents does not see any problem in the community.

Among those who mentioned a problem, 65% say that none has been done about it. Around 26% say some police action has been done. The rest mention about provision of livelihood and seeking government action. The recommendation of 32% is to arrest the criminals including the drug pushers and thieves. To seek government assistance and the provision of tenure is recommended by 15% and 14%, respectively. Around 7% suggest the launching of a livelihood program. The provision of services and utilities is seen as a solution by 8 percent. About 16% do not offer any recommendation.

Community Problems	None	2 %
	Crime (theft and drug use)	35 %
	Insecure tenure	26 %
	Lack of utilities and services	26 %
	Lack of livelihood opportunities	10 %
	Pollution	1 %
Activities Done to Solve the Problem	None	65 %
	Police action	26 %
	Sought government action	5 %
	Provision of livelihood	4 %
Solutions Recommended to Solve the Problem	None	16 %
	Enforcement of laws	32 %
	Seek government assistance	15 %
	Provide tenure	14 %
	Provide services and utilities	8 %
	Cooperation among citizens	8 %
	Provide livelihood	7 %

### m. Farming and Fishing Operation

The port area does not have farming and fishing activities.

### n. Perception of Environmental Change

The survey presented six environmental aspects to the respondents for them to determine the change that occurred in the past ten years. These aspects are plants, animals, fresh water, and sea water and air quality. The opinions of the respondents on environmental change are shown below. The most number of respondents noted the change in air quality among the

environmental aspects. About 56% of the respondents note the change. Only 50% of the respondents say that plants, seawater quality and fishes have changed. The environmental aspects which change is noted by least number of respondents are the animals and freshwater quality. Only 46% say that both aspects changed in the past ten years.

Among those who noted change, it is not always for the worse. Less than half say that the selected environmental aspects are degraded in the past ten years. The environmental aspect pointed out by most number of respondents to have been degraded is air quality. About 49% noted the change. The next is the fishes. Around 47% observed their change for the worse. 40% and 38% sees the deterioration of the condition of plants and animals, respectively. About 42% say fresh water quality is lower at present and 45% say the same thing for seawater.

Although 35% give no reason for the changes in the environmental condition, 34% attribute it to pollution. The wrong behavior of people towards the environment is the culprit for 14% of the respondents. Other reasons given are poverty, destruction of vegetation and lack of environmental awareness. About 63% of the respondents offer suggestion to improve environmental condition. Cleaning up and installation of solid waste management program is the suggestion of 76 percent. About 7% say the laws must be enforced. The provision of toilet and water and cooperation among citizens are put forward by 4%, respectively. Other suggestions are tree planting, calling the attention of authority, discipline and nature protection.

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Noted Changes in Selected Environmental Aspects

Plants	50 %
Animals	46 %
Fresh water quality	46 %
Sea water quality	50 %
Fishes	50 %
Air quality	56 %

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Noted Adverse Change in Selected Environmental Aspects

Plants	40 %
Animals	38 %
Fresh water quality	42 %
Sea water quality	45 %
Fishes	47 %
Air quality	49 %

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Reasons Cited for Environmental Changes

No reason given	35 %
Pollution	34 %
People's wrong behavior	14 %
Installation of infrastructure	7 %

Destruction of vegetation	3 %
Congestion	3 %
Poverty	2 %
Lack of education	2 5

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Suggestions of Respondents to Improve Environmental Condition

Percentage of respondents with suggestion	63 %
Suggestions Given	
Clean up and solid waste management	76 %
Enforcement of law	7 %
Provision of toilet and water	4 %
Cooperation among citizens	4 %
Tree planting	3 %
Nature protection	2 %
Discipline among citizen	2 %
Call attention of Authority	2 %

**o. Health Situation**

The health condition among the respondents' households is shown that about 56% of the households have a member who got sick in the past year. An average of two members per household got sick. Measles is also prevalent particularly among children with 21 cases per 1000 population. Other diseases are asthma, pneumonia, liver illness and hypertension. The respondents also reported cases of dengue and cholera. The findings are summarized below.

Selected Data on the Health of the Households: Percentage with sick member in past year: 74 %

Mean number of household members who got sick: 2 members

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Eight Top Causes of Sickness (cases/1000 persons)		
Upper respiratory		78 cases
Fever		75
Gastroenteritis		24
Measles		21
Asthma		15
Pneumonia		11
Liver		6
Hypertension		6
<hr/>		
Type of Treatment Provider That Attended the Sick Members of Respondents' Households	Home treatment	21 %
	Government health center	38 %
	Private clinic	32 %
	Hospital	4 %
	Traditional healer	5 %

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p. Patterns of Decision-making

The decision making patterns is made at the two levels. At the household level, the husband and the wife usually make decision. The more important the decision, the more the couple make the decision together. This is seen in the aspect of selection of school for children. In 68% of the households, the couple makes the decision. But in deciding the items to buy in the market and the food for dinner, the couple makes the decision in only 49% of the households. Most likely the wife makes the decision on these two aspects. This is the case in 44% of the households for items to buy in the market and in 48%, for type of food for dinner. If the couple do not decide together, the wife is most likely the decision-maker except in house repair. Although house repair is also normally a joint decision, the husband decides in 25% of the households.

The participation of the respondents' households in community-level decision making is seen in election of barangay officials, attendance in community meeting and involvement in fiesta preparation. The respondents' households are most active in electing barangay officials. Around 68% have a member who participates in the exercise. But not much participation is given in community meetings. Only 47% have a member who attend these meetings. The preparation for the fiesta gained more participation. Some 52% of the respondents report that they have a household member involved in such preparation.

The percentage of households where the husband makes the decision of selected aspects of household operation is shown below.

Aspects	Husband	Wife	Both	Total
Selection of school for children	13	19	68	100 %
Conduct of house repair	25	19	56	100 %
Purchase of appliances	17	25	58	100 %
Items to buy in the market	7	44	49	100 %
Type of food for dinner	5	46	49	100 %

Percentage of Respondents with Family Members Participating in Selected Barangay Activities:

Election of officials	68%
Community meeting	47 %
Preparation for the fiesta	52 %

q. Sources of Information

The respondents' sources of information are determined by looking at four types of information: national events, provincial events, city events and government programs. It is found out that the respondents have an average of two to three sources of information.

For events at the national level, the average of number of sources is 3.0. This average is reduced to 2.7 for provincial events and 2.6 for city events. For government programs that may be implemented in the port area itself, the average number of information sources is 2.5.

Regardless of the type of information needed, the radio and television are relied upon. These sources may be used simultaneously. For government programs, 72% of the respondents know about it from the radio and 62% from television. Next to the radio and television, the newspaper is the most widely used information source. The source provides information to 63% on national events, 59% on provincial events, 58% on city events and 56% on government programs.

Word of mouth is not a powerful source of information. The preference for the broadcast and print media reflects the highly urbanized character of the port area. Other people provide information to only 29 to 35% of the respondents in all types of information.

The percentage of respondents by source on selected type of information is shown below.

Source	National Event	Provincial Event	City Event	Government Program
Relatives	16 (%)	18 (%)	15 (%)t	11 (%)
Other people	35	32	32	29
Radio	79	74	62	72
Television	83	64	68	62
Newspaper	63	59	58	56
Public officials	21	24	25	30

## 2) Focus Interviews

### a. Youth Sector

The youth sector in the Cebu Baseport is a large section of the Baseport population. They are estimated to reach 60-70% of the entire population. A considerable number of the youth are out of school and work within the port area. The males engage in stevedoring and *trisikad* driving while the females earn their keep as ambulant vendors or as *labanderas*.

For families living in the port, the sari-sari stores are essential income-generating enterprise. A regular earning of P200-P300 pesos of net profit a day is more than enough to supplement the needs of her family.

However, with the impending implementation of the CPA port facility improvement plan, CPA policies have become more stringent on ambulant vendors and squatter residents within the port area. Port police arrests vendors who sell their wares without prior authorization from the CPA. Although they know that they are living on a government/private property, the youths demanded that they should be properly informed regarding port policies affecting them.

As per experience, they revealed that port policies and actual conditions of Baseport residents do not always meet. They cite CPA's campaign for waste segregation, which, they observed, failed because of the lack of proper information dissemination and due to financial constraints of the residents (i.e. people cannot afford building toilets). Thus, the CPA should also include them in the policy deliberations.

With the impending improvement of the Baseport, they revealed that they are willing to be relocated as long as it is permanent, proximate to their workplace (i.e. port), to educational institutions, and least the amenities i.e. low cost housing, electric and water facility. They added that for the relocation site to be feasible, alternative livelihood opportunities should be provided.

Prostitution is also present in the community. Health problems associated with sex trade is addressed by the Cebu City Health Department through regular medical consultations among prostituted women.

#### b. Women Sector

Women generally treat themselves as secondary income earners despite earning a relatively higher income than their husbands earn. Women often work as vendors, while their husbands are employed as dockworkers, trisikad (three wheeled bicycles) drivers, and construction workers. Aside from being income earners, women's responsibilities include managing the housework and child rearing. Some women residents also said that their desire to put up a small business is hampered by the lack of needed financial capital.

The women are critical to the CPA policies vis a vis ambulant vending, especially since most of them are either fixed stall owners or are sidewalk vendors. Port policies prohibit them from selling their wares in their customary vending site and allowed only transferred to another place. They complained that the new site has fewer boat passengers passing and far from their residential site.

The "transfer" has drastically lowered their sales and thus the net profit and some even stopped-attributed much to bankruptcy and the distance of the stalls from their homes. Besides, they fear that thieves might take advantage of the opportunity of them not being in either stall or house and steal their goods or belongings.

The women of the Baseport area knew beforehand that the demolition of their homes is impending. They said that before any demolition could happen, they should be informed and consulted regarding the project. They suggested that the relocation site should have at least an electric and water facility and only a short distance away from the port. They added that livelihood opportunities and programs should be given directly to the community instead of letting it pass through the hands of the government.

#### c. Base Port Residents

Residents in the Baseport area are located along the pedestrian lanes and in vacant lots scattered intermittently in the Baseport Area. One such lot is owned by Lawrence Realty and reportedly sequestered by a bank—previously a dumping site and now a residential area for squatter families.

Most residents establish their homes in the area since it is proximate to the job site of the husbands. They have to construct their houses under the cover of the night to evade detection from the port police. After several years, the community was renamed as Sitio Silangan.

The people are settled in the port area because their family relies on the jobs available in the port for sustenance. Residents in the area are usually migrants from neighboring provinces or from municipalities of the province of Cebu. Some residents are displaced people who have their houses demolished from neighboring city-based communities.

Port-related jobs and services enabled families in the baseport to support their daily sustenance.

The security of their residence is the residents' prime problem. Although they knew beforehand that their stay is temporary, they worry about where they will reside after the demolition.

They would opt to stay in their present residence if given a choice. One option they suggested is for the government to buy the vacant lots in the port area and sell them off to the residents at an affordable price. However, if all options are exhausted, they would settle for a relocation site that is near the port area and/or a site where livelihood opportunities and sources of income is present and sustainable. They also assert that the site should have good electric and water facility as well as a sanitation system.

#### d. CPA-recognized Vendors (i.e. with ID card)

CPA-recognized vendors are those given official recognition by officials of the Cebu Port Authority. This recognition is best expressed through the release of identification cards to vendors' association members. CPA advised them not to accept new members since this would add to the growing port area activities thus disrupting normal port operations.

CPA-authorized ID holders are allowed to sell but on the condition that location is temporary. Generally, port area vendors are either CPA-recognized or otherwise. CPA-recognized vendors are given fixed sites for selling their wares. Usually, these sites are lots adjacent to the berthing area of passenger ships or along walls lining up the entire port area.

Another problem is that passenger ships have no fixed docking area. The territorial division among vendors accentuates this problem where each vendor group lot is assigned to a passenger vessel as one's market share territory.

Despite these problems, vending in the port area is relatively higher income returns than their previous regular employment. A vendor usually rakes in P200.00 a day of net profit at the minimum. A vendor said has enabled her to send some of her children to college.

Some vendors' associations have transformed their group into a credit cooperative. The cooperative helped members who need additional capital or in need of cash during emergency cases. One such cooperative is the SROTTiCaM cooperative where their actual funds have reached a total of more than P400,000.00. Aside from the money poured into the cooperative by the members, SROTTiCaM availed of financial assistance from Congressman Raul del Mar's Lingap sa Mahihirap program worth 47,500 in the year 2000.

### 3) Impact Assessment and Mitigations

#### a. Data Collection Methodology

The socio-economic data that an IEE requires are obtained from key informant interviews and secondary sources. The key informants are the city planning and development coordinator, store owners operating within the existing port, informal sector representatives residing in the port area and personnel of Cebu Port Authority (CPA). Obtained from key informants is information about their perception of the project, probable impacts and measures to mitigate adverse impacts. The secondary sources are the Draft Cebu City Strategic Master Plan 2000 and National Statistics Office (NSO) documents.

#### b. Future Environmental Conditions without the Project

The population size of Cebu City appears to be moving towards stabilization. The declining growth rate reached 1.5% between 1990-1995 period which indicates this trend. For instance, the population of Lapu-lapu City and Consolacion is growing at 3.5 percent during the same period. The whole Metro Cebu has a population growth of 2.5% per year. The limited expansion area of Cebu City due to mountainous terrain largely stymies population growth.

Metro Cebu serves as the center of commerce, industry, finance, tourism and services in an area that stretches from the southern tip of Luzon to the western and eastern tip of Mindanao. The area covers as far as Masbate in the north, Northern Samar in the east, Surigao del Sur in the southeast and Zamboanga del Norte in the southwest. The economic development of Cebu City is linked to this area and vice versa. Because of this linkage, the increasing overload of the existing port will not only affect Cebu City and Metro Cebu but also the entire area using Cebu as its entry port and gateway to the world market.

The continuing growth of the population and production of the area has heavy bearing on the capacity of the port. Such growth means increase in demand for outside goods and services and need to market their own goods and services. Such increase will need more efficient seaport to bring out more products to Metro Cebu and bring in needed goods and services. A limited capacity of the existing port can constrict said increase. The limited capacity of the

port also constricts the population's access to services (e.g., schools and hospitals) available in Metro Cebu and inflow of potential investments that provides employment opportunities.

### c. Environmental Impact Identification and Assessment

#### a) Construction Phase

The proposed base port rehabilitation requires resettlement of about 1160 households. These households are living in stalls and houses within the 127,000 square meter port area managed by the CPA. At the average household size of 5.0 persons, there will be 5,800 squatters. The CPA area is not within the jurisdiction of any barangay and is considered a non-barangay in the CPA charter.

If the workers from outside will not take residence in or near the construction site, and commute from their present residence, they will merely add to the day-time, but not to the night-time, population of the area. In any case, the increase in population will automatically increase the population density in the impact area.

If the project will employ port area residents during construction, it will reduce unemployment. It will spur greater employment in vending and store operation. It will be in this aspect where women can find work opportunities. The expanse of construction work will require a number of workers and the corresponding increase in commercial activities may encourage the transfer of female labor from housekeeping to sales work.

If resettlement is done for quality of life improvement, it will provide an opportunity to the resettlers to have better quality housing and social services. Apart from tenure, the resettlers may be ensured of such basic utilities as toilet, water and electrical connection. Most of them do not have these utilities at present. They have also more spacious accommodation and such facilities as community center, recreation area and health center.

The existing low sanitation level may further deteriorate. The incidence of water-borne (e.g., diarrhea) and insect-borne (e.g., dengue) diseases may increase. The occupants of these new structures may compete for such resources as water and space with existing residents. They will also further strain CPA's capacity to provide such services as garbage collection, drainage, prevention of stray animals, peace and order maintenance and road improvement.

The wages to be paid by the project will have positive impact on health through increased affordability of better food and health services. The wages will also increase the capability of the economically active adults to support longer years of schooling.

The resettlement is not expected to have deep impact on social cohesion. Tightly cohesive communities evolved through generations of patterned interactions that changed little through the years.

The resettlers need employment. The income they will earn from the project will enable them to cope better with relocation. It will also create a second wave of positive economic impact within the area as the resettlers will spend it on food, transport and clothing. If workers are from outside, they will remit most of their income to their families. The transfer of funds will be confined to the expenditures of these outside workers within the project site.

The local government units (LGU) will directly earn from the project through taxes and business permit. The project may prompt the increase in land values around the port area. This is a long-term positive impact. Although Cebu is rich in archeological possibility, it is unlikely that the proposed site will yield finds.

#### b) Operation Phase

If the project will have a residential component, it will create a permanent population in the port area. Because the project will directly and indirectly generate employment during operation, the residential component will attract in-migrants. A strong tenure mechanism will control the in-migrants from congesting the residential component. If in-migration cannot be controlled, the population size within the port area will expand and age composition will be altered. The employment opportunities in the port area will most likely attract the persons in the productive and reproductive age.

The direct and indirect employment opportunities during the operation phase will reduce unemployment. The reduction will be highly significant if it will occur among resettlers. Both the port operation and commercial enterprises will create a labor demand. Women will benefit from employment opportunities particularly in commercial enterprises.

If improved accessibility will result from the project, the population of the port's service area will have increased opportunity bring their goods and obtain services offered in Metro Cebu. It will also bring their goods faster to the world market. Metro Cebu's airport and seaport connect it to a number of foreign cities. At the same time, goods needed as capital investment and raw materials will reach faster to local destinations from Metro Cebu. The seaport will also boost tourism both in Cebu and destinations within the service area of its port. Through tourism activities, the seaport will serve as a channel to bring income to tourist destinations within its service area.

The local government units (LGU) will indirectly earn from the project through taxes and business permit. The taxes will be collected from the commercial enterprises and services spawned by the project. Land values in areas near the seaport will intensify. The seaport may hasten the urbanization in places within its service area. The economy and culture of these places will be integrated more to Metro Cebu. Through exchanges at the commercial and personal level and tourism activities, elements of urban environment (e.g., impersonalism, formality and use or non-ascriptive basis of behavior) will penetrate faster.

The port area is within the site where Cebu grew into city and a metropolis. The architecture of the prominent structures within the site reflects the country's colonial past and the historical role of the city in building the nation. The port area itself has American colonial warehouses that must be preserved. The site still has a number of architectural treasures that suffered neglect (e.g., Bureau of Plant Industry Building).

The summary of matrix of anticipated impacts and level of significance by the project at construction and operation stages are described below.

**Table 3.3.2-1 Summary Matrix of Impacts and Their Level of Significance at Various Stage of Development**

Parameters	Impact	Nature	Magnitude
<b>Construction Phase</b>			
Population size	Population may increase if outside workers are used	MN	Significant
Dependency burden	Wages will increase capacity to support dependents	MP	Significant
Education	Wages will increase capacity to get education	MP	Significant
Sex ratio	Outside workers may alter sex ratio in port area population	MN	Significant
Housing and utilities	Resettlers may obtain better housing and utilities. Wages may be spent on home improvement; Outside workers may put unplanned housing cluster.	MP/MN	Significant
Social services	Outside workers increase demand for services; Resettlers may get better services in resettlement site	HN/HP	Significant
Health	Outside workers may lower sanitation level; Wages may afford better medical care	MN/HP	Significant
Employment and Income	Temporary displacement of vendors and store operators; Creation of employment and income;	HN/HP	Significant
Women's welfare	Creation of work opportunity for women	LP	Significant
Land values	Increase of land values and tax rate	MP/MN	None
Archeology and culture	Possible unearthing of finds	LP	Minimal
<b>Operation Phase</b>			
Population size	Expansion of population size requiring more investment in services if migration to port's residential component is not controlled	HN	Significant
Dependency burden	Higher income increases capacity to support dependents	HP	Significant



Parameters	Impact	Nature	Magnitude
Education	Higher income increase affordability of education	HP	Significant
Sex ratio	Initial preponderance of male migrants	LN	Minimal
Housing and utilities	Higher income increases capacity for home improvement	MP	Significant
Social services	Increase demand for services	HN	Significant
Health	Increased income raises affordability of medical care and proper nutrition	MP	Significant
Employment and Income	Reduced unemployment and increase income due to stimulated production and commerce; Encourage inflow of investment creation more employment and income; greater access of world market of port's service area	HP/HN	Significant
Women's welfare	Employment in enterprises and services spawned by the operation	HP	Significant
Land values	Increase burden to taxpayers but more income to LGU	HP	Significant
Archeology and culture	Possible catalyst of restoration and revival of Cebu's core area; Showcasing of city's architectural wealth and history	HP	Significant
Abandonment			
Population size	Possible reduction of population near the site	LP/LN	Minimal
Dependency burden	Decrease capability to support dependents	HN	Significant
Education	Decrease capability to support education	HN	Significant
Sex ratio	None	NP	None
Housing and utilities	Reduced demand of nearby housing units	MP	Significant
Social services	Reduced demand for social services	MP	Minimal
Health	Decrease capability to afford medical care	HN	Significant
Employment and Income	Loss of employment and income	HN	Significant
Women's welfare	Loss of employment and income	HN	Significant
Land values	Decrease of real property demand and tax	HN	Significant
Archeology and culture	Deterioration of the city's core and destruction of the city's archeological wealth	HN	Significant

LN (Low Negative), MN (Medium Negative), HN (High Negative), HP (High Positive), MP (Medium Positive), LP (Low Positive), NP (Not Applicable)

#### 4) Mitigating Measures

- a. Full scale intensified Information, Education and Communication materials should be prepared using wall comics, brochures, primers, print ads and community theater to fully inform and disseminate information about the Environment Impact Assessment Process, the construction and operation of the Base Port rehabilitation. (CPA & LGU)
- b. Prioritization of the resettlers for employment will maximize the positive impact of the project. The employment package may become part of the compensation and will serve as livelihood mechanism to tide the resettlers over as they adjust to their new location and establish new livelihood sources. ( CPA )
- c. If the project management must bring in workers from outside, housing and utilities must be provided for these workers. This will prevent the creation of unsightly housing units that workers may construct for temporary use and competition for social services with the local population. The coming in of workers from outside without proper utilities will lower the existing sanitation level. (CPA)
- d. The city government of Cebu and CPA should generate a detailed land and water use and zoning plan of the area around the seaport site if this does not exist yet. This plan should be strictly implemented. The plan will attain the following:
  - Prevent the creation of undesirable housing clusters that may be attracted by the employment opportunities;
  - Protect heritage buildings from incompatible uses and deterioration;
  - Ensure that future development around the port area is consistent with the economic, tourist and cultural use of the port area; and
  - Rationalize tax assessment of the area.
- e. The architectural style and motif of buildings within the port area development must be consistent with the historical and cultural properties within and around the site. ( CPA , Cebu Historical & Cultural Committee & DOT )
- f. The identified men and women resettlers shall prepare a Social Development Plan. This shall be facilitated by the responsible government and non-government agencies such as:
  - Relocation Plan. The relocation site must be a choice of two sites in consultation with the resettlers. The house style must be the choice of the family while the families must agree upon the distribution of house lots. Amenities such as light, water, pave roads, drainage system, a multi-purpose building, and waste management system (DSWD, NHA & CPA);
  - Alternative Livelihood and Credit facilities (DSWD, DA, TESDA, DECS);
  - Infrastructure development for health, education and welfare services (CPA, DPWH, DOH, DSWD & DECS);
  - d) Social Services and Recreational facilities (CPA, LGU,

DPWH, DSWD & DECS) Through a common agenda, multi-sectoral support is gained and conflicts that usually threaten the viability of a Social Development Plan will be avoided.

- g. The Social Development Plan must allow the resettlers to maintain their existing livelihood. By maintaining and enhancing the resettlers' livelihood sources, the impact of resettlement will be minimal. ( DSWD, LGU & CPA )
- h. The implementation of the Social Development Plan should be made before the opening of classes. This will minimize the disruption immediately affecting children, the most vulnerable group in resettlement. This will give the children time to adjust to their new surroundings and establish social network before being put into the pressure of school. It will also give parents opportunity to settle before being thrust into the stressful task of looking after their children's education. (Base Port Multipartite Monitoring Team)
- i. If relocation will be outside the port area, a study to establish the conditions and readiness of the recipient communities must be undertaken. This is to ensure that resettlement will not result to adverse impacts. Some of these impacts are overloading of existing services, eruption of social conflicts, competition over economic opportunities, introduction of vices and breakdown of existing leadership structure. (NHA, DSWD & CPA)

#### ACRONYMS:

CPA	- Cebu Port Authority
LGU	- Local Government Unit
DENR	- Department of Environment and Natural Resources
DA	- Department of Agriculture
DSWD	- Department of Social Work and Development
DOH	- Department of Health
DECS	- Department of Education, Culture and Sports
DOT	- Department of Tourism
DPWH	- Department of Public Works and Highways
TESDA	- Technical Education and Development Assistance

#### (3) New Port, Brangay Tayud, Municipality of Consolacion

##### 1) Socio-Economic and Political Environment

The household survey carried out and collected two types of data: socio-economic characteristics of the residents in Barangay Tayud and their perception of the project's impact. The data serve as a baseline and basis for formulating recommendation to mitigate adverse impacts.

#### a. Survey Instrument

The survey used a 55-item questionnaire. The questionnaire covers 7 areas: respondent's profile, migration and settlement history, perception of the project, housing and utilities, household income and employment, community problems and land resources.

#### b. Survey Team and Duration

There are 5 interviewers in the survey team recruited from Barangay Tayud. Local interviewers are used for three reasons: (1) tap their familiarity with the area's physical lay-out and rapport with the community; (2) enable the residents attest the accuracy of survey result; and (3) provide a chance to community members to study the community situation. The interviewers were oriented on the questionnaire, sampling technique and survey procedures. The interviewers planned the strategies to undertake the survey and divided the work required among them. The interviewers carried out the household survey from 11 to 18 June 2001. The filled-in questionnaires are reviewed and questionable responses are clarified.

#### c. Area Coverage and Sample Size

The survey covered the 10 sitios composing Barangay Tayud. The barangay has 1,370 households. The sample size of the study is 135 households. The estimated number of households and sample taken in each sitio are as follows: Pagutlan, 219 (21); East Binabag, 192 (19); West Binabag, 123 (12); Sun-ok, 137 (14); Libo, 192 (19); Bangkerohan, 82 (8), Tawagan, 192 (19); Bagakay, 110 (11); Bahabaha, 82 (8) and Looc, 41 (4). The total sample size is estimated to have 6% sampling error with reliability level of 95 percent.

#### d. Characteristics of the Respondents

Around 42% of the respondents are male and 58% are female. Exactly 60% of the respondents are born in Barangay Tayud. The percentage of respondents born outside the barangay speaks of the intensity of in-migration rate. Around 12% of the respondents are born in another barangay within the municipality of Consolacion while 13% are in other municipalities in Cebu. The remaining 15% are from outside the province. They are mostly from other provinces in Central Visayas and Mindanao. The pattern in the birthplace of respondents indicates that migration occurs at four levels: intra-municipality, intra-province, intra-region and inter-geographic zone (Mindanao to Visayas).

The age of the respondents ranges from 20 to 80 years old. Their average age is 45.5 years. Around 82% are married. The educational attainment of 60% is at elementary level. Those with some high school education constitute 25 percent. Only 11% have some college education. Those who have never gone to school comprise 2 percent. The average number of years that the respondents spent in school is 6.9 years. An average household has 3.5 children. The respondents are predominantly Roman Catholic at 99 percent.

The characteristics of the respondents in the Cebu Baseport are summarized below.

Sex	Male	42 %		
	Female	68 %		
Berth Place	Same Area	60 %		
	Same Municipality	12 %		
	Same Province	13 %		
	Another Province	15 %	Central Visayas;	6 %
			Another Visayas;	2 %
		Luzon Province;	- %	
		Mindanao;	7 %	
Age	20 - 80 years	Average 45.5 years		
Civil Status	Single	13 %		
	Married	82 %		
	Separated/ widow	5 %		
Education Attained	None	2 %		
	Elementary	60 %		
	High school	25 %		
	College	11 %		
	Vocational	2 %		
Religion	Catholic	99 %		
	Iglesia	1 %		
House Size	Average household size	6.0 members		
Age composition	Less than 5 years old	9 %		
	6-10	7 %		
	11-14	8 %		
	15-60	72 %		
	60-64	2 %		
	More than 65	2 %		

#### e. Migration/Settlement History

The migration/settlement characteristics of the respondents present that around 60% of the respondents are born in the barangay. Their average length of stay indicates that high in-migration into the barangay occurred only in the past 10 years.

Among those who lived outside Barangay Tayud before taking up their present residence, 37% lived in Mindanao. This is a reverse of the general migration trend because Mindanao is an in-migration area and Central Visayas is an out-migration area. Some 28% lived in other municipalities and cities in Cebu. There are also those who used to live in Luzon (15%) and other provinces in Central Visayas outside Cebu (11%).

Some 36% moved to the barangay due to employment and livelihood. The eight industrial firms within the barangay offer both direct and indirect employment. Being part of Metro

Cebu, the barangay provides easy access to wide range of the work places. Although 40% reported that they chose to live in the barangay because of their marriage or relatives, economic factor largely dictated their choice. Other specific reasons given for moving into the barangay are the availability of schools for children and ownership of a property.

The preference of all the respondents is to stay in their present abode. The reasons are closely similar for their reason for moving in. About 34% of the respondents cite livelihood and employment. Some 26% consider the barangay as their place of birth and where they grow up while 25% consider the presence of their family and ancestral roots. Other reasons are their property (2%), marriage (2%) and liking for the place (4%). Among the respondents, 99% do not have a plan to transfer residence. Only 1 % with plans to move wants to transfer to Mandaue, the city adjacent to Consolacion.

The migration/settlement characteristics of the respondents is summarized below.

• Number of Years of Living	Native born	60 %
	Non-Native born	40 %
	Mean no of years stay of non-native born	8.7 yrs
• Previous Residence	Within Cebu City	- %
	Within Cebu province outside Cebu City	28 %
	Within Central Visayas outside Cebu	11 %
	Another region in the Visayas	9 %
	Luzon Provinces	15 %
	Mindanao Provinces	37 %
• Reason for Moving into	Livelihood/employment	36 %
	Marriage /relatives	40 %
	School for children	2 %
	Property in the place	2 %
	Others	20%
• Choice of Residence to stay	Present Residence	100 %
	Another place	- %
• Reasons of the above choice	Livelihood/employment	34 %
	Family and ancestral roots	25 %
	Value of place of birth and childhood	26 %
	Marriage to a local	2 %
	Liking for the place	4 %
	Others	7 %
	Property in the place	2 %
• With plan to move	No Plan	99 %
	With Plan	1 %

f. Awareness and Perception of the Project

The awareness level and perception of the respondents on the proposed project is very high at 83 percent. Word of mouth is the main source of information about the project. The surveys conducted in the barangay serve as the channel of information of 46% of the respondents. Neighbors and other barangay residents provide it to 34 percent. Some 14% learned about it from barangay officials and 6% from family members.

An overwhelming 90% of the respondents are in favor of the project. The main reason given by the respondents who are in favor of the project is employment and income. This is cited by 49 percent. The respondents who cite development and well being as a reason constitute 28 percent. Business opportunities resulting from the project is seen by 8 percent. Other reasons given are the absence of any adverse effect of the project and possible increase of barangay income.

Among the few who are not in favor, the main reason cited is the project's possible adverse impact on existing income sources. This is mentioned by 64 percent. The displacement of fisherfolks is the concern of 18 percent. The increase of crime against property is expressed by another 18 percent.

Around 61% of the respondents said that negotiation with the affected households and compensation must be considered in plan finalization. This consideration has high level of importance considering the very high frequency of mention. The far second consideration in terms of frequency of mention is conduct of consultation and community meeting. The need for this one is mentioned by 18 percent. Some 11% believe information dissemination on the project must be done. The prioritization of residents for employment and livelihood opportunities is mentioned by 4 percent. Other considerations mentioned are the decision of barangay officials and the fishing ground of fisher folks.

Awareness of the Project	Aware	83 %
	Not aware	17 %
Source of Information on the Project:	Public officials	14 %
	Neighbors and barangay residents	34 %
	Survey interviewers	46 %
	Family members	6 %
Opinion of the Project	Favor	90 %
	Not in favor	10 %
	Conditional	- %
Reason of being in Favor of the Project	Employment and income	49 %
	Business opportunities	8 %
	Development and well-being	28 %
	Absence of adverse effect	5 %

	Barangay Income	2 %
	Others	8 %
Reason of Not in Favor of the Project	Displacement of fisherfolks	18 %
	Increase of crime against property	18 %
	Adverse impact on income sources	64 %
Things Suggested to be considered in finalizing Project Plan	Negotiation with and compensation	61 %
	Consultation and community meeting	18 %
	Information dissemination on the project	11 %
	Decision of barangay officials	3 %
	Fishing ground for fisherfolks	3 %
	Prioritization of residents for employment and livelihood opportunities	4 %

#### g. Possible Project Effects

The perceived possible effects of the project on the environment are presented that around 78% of the respondents do not foresee any impact of the project on plants and animals. Some 20% simply said that the project has negative impact on plants and animals in the barangay. Similar trend is noted on air, water and soil. Some 76% do not see any project effect on these elements. The concern of 21% is pollution. The reduction of farmland, increase in land value and drying-up of water sources are mentioned by 1%, respectively.

Effects of new Cebu port on plants and animals as perceived	Negative effect	20 %
	Fewer plants affecting livestock	1 %
	Pollution	1 %
	None	78 %
Effects of Base port Project on Air, Water and Soil as Perceived	Pollution	21 %
	Destruction of farmland	1 %
	Increase of land value	1 %
	Drying-up of water sources	1 %
	None	76 %

#### h. Benefits provided by the Newport

The beneficial effects of the project to the people at the provincial and municipal level show that only 28 % do not see any benefits from the project. Employment, income and livelihood are mentioned by 30 %. The increase of barangay income and the standard of living are mentioned by 11%, respectively. About 4% said that the project would generate business opportunities.

Around 36% said that the project has no benefit at the household level. But some 28% of the respondents expect the project to generate business opportunities. Employment and income are looked forward to by 24 %. Other possible benefits mentioned are the assistance that the project will provide to families and a chance to have a house.



Benefits on Municipality and Province of new Cebu port area	Employment, Income and livelihood	30 %
	Development	16 %
	Increase in barangay income	11 %
	Increase of standard of living	11 %
	Provision of business opportunities	4 %
	None	28 %
Benefits on the Households	Business impunities	28 %
	Employment and income	24 %
	Assistance to family	11 %
	Provides opportunity to have a house	1 %
	None	36 %

#### i. Negative Effects of the Newport

The perceived negative effects of the project are presented at the municipal and provincial level that the most respondents do not see any negative effect of the project. About 75% said there is none. Some 14% mention the increase of criminality as possible negative effect. The generation of garbage and pollution on one hand and congestion on the other are cited by 3%, respectively. Some 2% said that the project would undermine existing livelihood sources.

At the household level, 85% do not see any negative effect of the project. Increase of criminality is the negative effect mentioned by 8 percent. The effects mentioned by less percentage of respondents are undermining of livelihood sources (3%), pollution and illness (3%) and demolition (1%).

Negative Effects on the Municipality and Province	Increases criminality	14 %
	Generate garbage and pollution	3 %
	Generates congestion	3 %
	Undermines livelihood	2 %
	Others	3 %
	None	75 %
Negative Effects on the Households	Increases criminality	8 %
	Undermines livelihood	3 %
	Pollution and illness	3 %
	Demolition	1 %
	None	85 %

#### j Assistance Needed in Relocation and Reasons for Choice

The respondents give a wide range (P50, 000 -5,000,000) of amount that they consider just and fair financial assistance for dislocation. The average amount is P330, 495.00. But 70% of the respondents refused to give an estimate. They expressed preference for a professional

appraisal and personal negotiation during acquisition. Few respondents who did not give figures in their responses are excluded from the computation of the average.

Type of assistance needed	Relocation site of own choice	11 %
	Compensation	68%
	Compensation and relocation site	4 %
	Livelihood and relocation site	4 %
	House and lot	6 %
	Livelihood	6 %
	Fishing gears	1 %
	None	- %
Preferred relocation site	Within Barangay Tayud	65 %
	Within Consolacion	1 %
	Within Cebu Province	8%
	Other province	3 %
	Far from the port	16 %
	Near the port	4 %
	Anywhere	3 %
Reason for choice of relocation site	Distance from pollution	23 %
	Similar to present resident/hometown	22 %
	Presence of family and relatives	11 %
	Proximity to income source	17 %
	Being adjusted to the place	11 %
	Personal safety	6 %
	Better opportunities	1 %
	Others	9 %
Amount as price of dislocation	Not give a price	70 %
	Range	50,000 - 5,000,000
	Average	330,495 peso

#### k. Housing conditions and Utilities supply usage

The characteristics of the housing materials and utilities shows that the housing material used are mostly permanent and only few do not enjoy basic utilities. About 95% of the houses have galvanized iron as roof. Only a few have nipa or bamboo as roof. Most houses make use of concrete as walls. Around 74% have concrete walls. Wood is the wall of 19 percent. The use of light materials (nipa, cogon and bamboo) is very limited. Concrete is also most widely used material for flooring. It is the floor of 84% of the houses. Only 7% use wood. Bamboo is still used in 7% of the houses.

The occupant mostly owns the houses in Barangay Tayud. The owner-occupant comprises 93 percent. About 88% of the occupant also own the homelot. In 67% of households, the

title of the homelot is in the name of the husband. The households whose homelot is under the name of the wife comprise only 33 percent.

The floor area of the houses has an average of 69.61 sq. meters. The area ranges from 15 to 250 sq. meters. Most homes have a floor area between 30 to 39 sq. meters. The average number is 2.3 rooms with a range of one to five rooms. The houses are relatively old with an average age of 17 years.

Some 86% of the houses are lighted with electricity. Only 12% still rely on kerosene. Kerosene is also used for cooking by 10 percent of the households. Another 39% use liquefied petroleum gas (LPG) and 30% still rely on wood. About 4% cook their food using electricity. Among the households who use electricity, the average amount paid monthly is P368.11. For waste disposal, 75% of the households have water-sealed toilet and 11% have flush toilet. Some 10% still do not use a toilet to dispose their waste. The rest have pit type toilets. The housing conditions and utilities usage are summarized below.

Housing Conditions		
Roof of Houses	Galvanized iron sheet as roof	95 %
	Nipa	3 %
	Other	2 %
Wall of Houses	Wood	19 %
	Concrete	74 %
	Others	5 %
	Bamboo/nipa	2%
Floor material of House	Wood	7 %
	Concrete	84 %
	Bamboo	7 %
	Others	2 %
Tenure of House and Lot	House	
	Owned	93 %
	Rented	3 %
	Free occupancy	4 %
	Total	100 %
	Home lot	
	Owned	88 %
Rented	5 %	
Free Occupancy	7 %	
Estimated Floor Area of Houses	Range	15 - 250 sq m
	Mode	30 - 39 sq.m
	Average	69.61 sq.m

Number of Rooms of Houses	Range	1 - 5 rooms
	Mode	2 rooms
	Average	2.3 rooms
Age of House	Range	1 - 35 years
	Average	17 years
Lighting Fuel Used	Electric	86 %
	Kerosene	12 %
	LPG	2 %
Cooking Fuel Used	LPG	39 %
	Kerosene	10 %
	Wood	30 %
	Electric	4 %
	Others	17 %
Estimated Monthly Electric Bill	Range	100 - 1,700 peso
	Mode	100 - 199 peso
	Average	368.11 peso
Type of Toilet	None	9 %
	Water sealed	75 %
	Flash	11 %
	Closed-pit	2 %
	Open-pit	3 %

#### 1. Household Income and Employment

The households with two income earners comprise 39 percent. The average number of earners per household is 1.9 persons. About 24% of the households have three or more income earners. The one-income-earner households constitute 37 percent.

The greatest percentage of households in Barangay Tayud is earning between P 1000 and P 4999 per month constituting 48% of the total. About 30% of the total number of households are earning between P5, 000 and 9,999 per month. Those who are earning less than P1000 comprise 4 percent. At the higher end, 4% of the households are earning from P10, 000 to 20,000 a month and more than 20,000 a month, respectively. It can be seen that the disparity in income distribution in Barangay Tayud is not very wide. About 45% of the wives are working and their average earning is 3,620 a month.

Number of Household member to Family income	
One	37 %
Two	39 %
Three	18 %
Four	5 %
Five	1 %
Average	1.9 member

Main Income Source	Salary and wages	60 %
	Business	15 %
	Farming	3 %
	Fishing	5 %
	Others	15 %
Member of Income Source of Household	Husband	48 %
	Wife	21 %
	Son	17 %
	Daughter	9 %
	Male Relative	3 %
	Female Relative	2 %
Secondary Income Sources	Households with secondary sources	37 %
	Households by type of secondary income sources	
	Trading and store operation	34 %
	Livestock production	19 %
	Craft and home industry	11 %
	Services	22 %
	Remittances	8 %
	Farming	3 %
	Fishing	3 %
Estimated Household Income Per Month	Less than 1000	4 %
	1,000 - 4,999	48 %
	5,000 - 9,999	30 %
	10,000 - 14,999	10 %
	15,000 - 20,000	4 %
	More than 20,000	4 %

#### m. Community Situation

The top-ranking problem in the community is drug abuse. This is mentioned by 48% of the respondents. The lack of employment and livelihood is the second most frequently mentioned problem. Some 16% of the respondents cite this one. Other problems mentioned are theft and lack of water. About 24% of the respondents do not see any problem in the community.

Community Problems	None	24 %
	Drug abuse	48 %
	Lack of employment and livelihood	16 %
	Lack of water	2 %
	Theft	4 %
	Others	6 %
Activities Done to Solve the Problem	None	59 %
	Police action	25 %
	Action of barangay officials	3 %
	Provide works to residents	3 %

	Provide services	5 %
	Start port project	4 %
	Others	1 %
Solutions Recommended to Solve the Problem	None	52 %
	Arrest of criminals	34 %
	Provide employment	5 %
	Provide services	4 %
	Anti-drug campaign/education	3 %
	Start port construction	2 %

#### n. Farming and Fishing Operation

The situation in the limited farming and fishing operation in Barangay Tayud is seen in the municipal situation. Corn is the primary crop in the municipality. The average harvest is 1,100 kilograms per hectare in 1999. There are two to three cropping cycles a year. Mango, coconut and legumes are also planted. The average farmland holding in the municipality is 0.25 hectares. About 67% of the farming households are shareholders or lessee. Livestock raising supplements farming income. In Barangay Tayud, there are 1,945 cattle, 98 carabaos, 20,500 swine and 1,998 goats.

Consolacion has 500 municipal fishers and no commercial fishers. Only 8% of them have motorized boat and 20% have non-motorized boat. The rest have no boat at all. In Barangay Tayud, hook and line is the most commonly used gear. The tidal flat and mangrove area in the barangay is used for gleaning. The average yield per gleaning session is about one kilo of assorted catch. The total municipal fishing ground is 348 hectares. The municipality has 88 hectares of fishpond.

#### 2) Perception Interviews

##### a. Shipyard Owners

The municipal government of Consolacion classified Barangay Tayud as an industrial zone. Shipyards, which are relatively numerous than the other establishments, are located along the coastlines. Near these business establishments are shanties sheltering the family of workers employed in factories as hired labor.

The shipyard is a vital part in the economy of the municipality of Consolacion. It provides revenue to the municipality's coffers and gives needed employment for Consolacion residents. As a pioneer of the ship repair and shipbuilding in the area, Mr. Eriberto Chua of the Colorado Shipyard pointed out that most of their workers came from the locality and he attributed the economic vibrancy of the barangay to the presence of the shipyards. Mr. Chua added he also invested money and effort for the training of workers, which he said, enabled local shipyard workers to be at par, or even bested, the top ship repairmen of the province.

With the building of the international container port, displacement happens not only among shipyard owners but also includes the workers employed therein. The shipyards hire 80% or more of their workers from Barangay Tayud. Mr. Harold Tan explained that the dislocation of the their shipyard would affect residents who solely rely on their business as a source of income. If ever relocated to another area, the workers can no longer be employed in the new site since residents would always be given top priority for the job opportunities offered.

Since their investments amounted to several millions, shipyard owners expect to be compensated fairly and equitably. Mr. Pablo Koh of PKS Shipyard said that shipyard owners could always negotiate with the project proponents for certain concessions and reach a mutually beneficial compromise.

Mr. Jet Hoffer of GTH Shipyard roughly estimated a million of regular earning in a month). Besides, shipyard owners contend, relocating their shipyard would probably cost three times the original amount.

The shipyard of the El Nor Marine Services is located in Sitio. Calero, Liloan; near the border of the Municipalities of Consolacion and Liloan, a few meters away from the shipyard facility of GTH Shipyard, and is owned by Mr. Edward Porter. The company has been in existence for three years servicing mostly to yachts and ships needing repair. He expanded his shipyard facility extending a spillway further to the seas. Mr. Porter asserts that he is not interested in selling his property unlike the others. He pointed out that selling his property is like selling his life.

Most of the shipyard owners except Mr. Porter, however, welcome the prospect of building an additional port in the area even if it would affect their businesses negatively.

They also said that the site of the proposed port is strategic as the area faces an open sea and ships would not have to pass through the Mactan Channel and the two bridges (Old and New Mandaue-Mactan Bridge). These are the same reasons why they chose the coastal area of Tayud as the location of their shipyards. Mr. Jet Hoffer warned that project proponents should make haste in building the port because once land and property speculators hear of the project, they would be major factors for the delay, if not the stoppage, of the entire project.

The shipyard owners suggested that the CPA should duly inform them of the nature of the project as well as the CPA's proposal for compensation if ever they would be affected.

b. Official of Cebu Port Authority Permit for Private Port Development Division

• Barangay LGU Endorsement

The construction of any development project has to follow certain governmental requirements. First, a private developer has to consult the barangay leaders of the proposed site of the private port.

After these consultations, the barangay officials would then deliberate on the potential impact of the project on the community and, if found generally beneficial, the barangay local government unit will pass a barangay resolution endorsing the project. This resolution would be forwarded to the municipal government officials detailing the desire of the barangay to allow the private port project to be constructed within their jurisdiction.

• Municipal Permit

When the barangay resolution reaches the municipal government council, it would again be deliberated upon and reviewed. This is to ensure that the port project would coincide with the development plans and goals of the municipality. If it is within the development agenda of the municipal government, the port construction would be allowed upon the approval of other government agencies (i.e. DENR and CPA).

• CPA/DENR Permit

The Cebu Port Authority (CPA) is the main office to be consulted with if the proposed port project is an offshore lease. If it is a foreshore lease, then one has to secure an approval from the Department of Environment and Natural Resources.

CPA and DENR require that barangay and municipal permits must be had. Then, a letter of intent detailing the nature of the project and its rationale would then be submitted. The DENR would then require the project proponent to conduct an Environment Impact Assessment before the Environment Compliance Certificate (ECC) is issued.

When the ECC is issued, the CPA would approve the permit to construct if the said port project is not in conflict with the CPA's interest. A private port project will not be given a permit to construct if the government has plans of developing the proposed site (e.g. government-initiated reclamation project).

If approved, the project proponent would then be allowed to start the construction of the port. The CPA would be monitoring the port construction to ensure that the guidelines of the Environment Compliance Certificate are followed.

After the port construction is completed, project proponents would secure from the CPA a certificate of operation, which would allow them to operate the private port. The operation of the private port is then monitored continuously for strict compliance to CPA-mandated standards.



- Religious Institutions

The MSP seminary and the Poor Clare monastery rests on a 20-hectare property owned by the Mission Society of the Philippines, a religious order devoted to an apostolic life. The seminary was established in 1965 by the Catholic Bishop's Conference.

Fr. Alfie Africa, formation director of the seminary, expressed fears that the proposed international container port would severely affect their future plans as well as the atmosphere of silence and prayer the seminary and monastery offers.

An atmosphere of silence and solitude is especially needed since the Poor Clare sisters are contemplative nuns devoting most of their time to prayer. Moreover, future plans of the religious order include transforming the seminary into a home for their elderly priests and the site of their "final resting place," their cemetery.

On the part of the Poor Clare sisters, their representative feared the displacement of Tayud residents with the oncoming construction of the port. Its construction, she said, will entail the displacement of the livelihood of the people and the eventual degradation of their standard of living.

Fr. Alfie Africa suggested that project planners should consult their MSP superiors in Metro Manila for more information and points of clarification. He raised that negative effects of the port plan should be mitigated and, secondly, project proponents should compensate for the loss of property and other issues associated with the construction of the port.

- Barangay Tayud LGU Officials

Officials of the local government unit of Tayud, Consolacion welcomes the building of an international container port within their barangay. The building of the port, they conclude, would enable the barangay LGU to increase its income and internal revenue collections thus allowing them to fund more projects aimed at enhancing the well being of their constituents.

They urged the project proponents to speed up the construction of the international container port so that immediate and long-term benefits would be accrued without delay.

On their part, the barangay officials assisted the study team by actively involving the Sangguniang Kabataan in the research process, updating of barangay files, and ensuring the participation of the residents in any project-related activities. Moreover, the Municipal Government of Consolacion has put on hold all the foreshore lease applications, which were all endorsed by the Tayud barangay LGU, in anticipation of the port plan.

Although the planned construction of the port was taken on a generally positive note, the barangay officials recognized that negative impacts do happen in the process. These include the increase of the sex trade, drug abuse problem among the youth, and, generally, the problem

of maintaining peace and order in the barangay. In the port construction phase, problems envisioned were an increase in traffic, dislocation of residents, and noise pollution. Major problems, they said, usually occurs in the implementation stage and not during planning.

At present, the barangay officials asked for assistance from the project proponents to help them complete the construction of their chapel. They stressed the importance of completing it since it would facilitate in nurturing spiritual values in the community.

- Consolacion Government Line Agencies: Municipal Planning and Development Office and the Department of Agriculture

Tayud is an industrial zone where the shipbuilding and other industries are located. Despite its land use classification, the Department of Agriculture identified Tayud as the Strategic Livestock Development Zone and is included in the proposed Strategic Agricultural Fisheries Zone. This is due to the specific land use characteristic of some of its areas as site of poultry and livestock production and also to its proximity to the Cansaga Bay, a spawning and breeding area for marine animals.

In the 1970's to the early part of 1990, the dominant agricultural activity then was vegetable and corn production catering to the demand of the local and the neighboring city market. Livestock population in 1995 is relatively high as cattle numbered 4,2433 per hectare or 1,945 cows. Swine population outnumbers the other livestock with 20, 500 followed by the goat population with 1,998. Carabaos are a few with only 98 heads.

The fishing sector exists in the barangay of Tayud due to the existence of Cansaga Bay and a few mangroves patches, which serves as spawning and breeding areas for marine animals. The Department of Agriculture in Consolacion has an existing program for Tayud, the Coastal Resource Management Program. Sub-components of the program include (a) Mangrove Rehabilitation, (b) Bantay Dagat Program, and (c) Capability-Building of the Fisherfolk. Mrs. Evangeline Pua, the Municipal Agriculture Officer, identified the absence of landing area for the fisherfolk as the main problem at present. This problem is due to various fishpond lease agreement and foreshore leases, which denies the fisherfolk the needed space to dock their bancas.

The Municipal Planning and Development Officer said that the municipal government is relatively prepared for the construction of the port since they were informed about the project beforehand.

Despite the beneficial effect of the establishment of the international container port, the negative impacts should be thoroughly mitigated, if not avoided. One potential obstacle, Mrs. Palang noted, is the presence of religious institution in the proposed site, which one could not entirely discount due to its influence and role in the community.

- Fisherfolk

As a spawning and breeding area for marine life, Cansaga Bay and the mangrove patch fronting the MSP and Hijos de Escaños properties offer a rich marine resource for the fisherfolk families living by the shores of Tayud.

Fisherfolk families, though a dwindling lot, rely on the resources offered by the Cansaga Bay, the Camotes Sea, and other adjoining seas. They commonly fish for kitong, danggit, gisaw, bogaong, and katambak to sell in the local market and also for their own consumption. In the Cansaga Bay area, fishermen commonly look for shrimps and crabs, which are still aplenty. Fishing activities include gleaning, bunsod, and gangu (i.e. a fish aggregating device).

They attested that spillage of oil and other shipyard waste materials have polluted the marine waters thus, depriving fishes and other marine animals an environment conducive to reproduction.

The dwindling fish catch has severely affected the source of livelihood for most fisherfolk families. In the latest survey by the Department of Agriculture, only 41 families rely solely on fishing while a sizeable number of families engage in fishing only as an alternative source of income. Most fisherfolk families are undergoing a shift from fishing to regular industrial employment in shipyards and other business establishments in the area or work in the service sector (e.g. pedicel driving, vending).

- Women Residents

Majority of women residents in Tayud are secondary income earners and housewives. Women generally assume the responsibilities in the domestic world. These included the rearing of the children and working on the customary household chores.

As recourse, a women's cooperative was formed funded by NorPhil, a non-government organization to provide access to credit among women. The cooperative lends money to its members at an interest rate of 3%. The first loan is worth P2, 000.00 payable within five months. Access however is rather limited as only those who have an existing business and are seen as having enough capital to pay are given the privilege of acquiring credit. The women's cooperative president, Mrs. Lolita Kangke revealed that they have to draw up these policies to attain a certain degree of sustainability.

Despite the number of women in Tayud, women have limited access to local governmental positions. This is best reflected in the local barangay council where regular elected officials are entirely composed of men. Two (2) barangay officials however are women-the barangay secretary and the Sangguniang Kabataan (SK), the barangay youth arm, chairperson. On the other hand, almost all officers and volunteers of the Barangay Health Center are women.