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Ex-post Evaluation Report on the Project for Busuanga Airport Development in the Philippines

한국국제협력단

KOICA

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2013. 12

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KOICA 한국국제협력단
WORLD FRIENDS KOREA

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The Korea International Cooperation Agency (KOICA) performs various types of evaluation in order to secure accountability and achieve better development results by learning.

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This evaluation study was entrusted to Korea Global Development Consulting Center (KGDC) by KOICA for the purpose of independent evaluation research. The views expressed in this report do not necessarily reflect KOICA's position.

Table of Abbreviation

CAAP	Civil Aviation Authority of the Philippines
CM	Construction Management
CPS	Country Partnership Strategy
DOTC	Department of Transportation and Communication
EDCF	Economic Development Cooperation Fund
ICAO	International Civil Aviation Organization
JICA	Japan International Cooperation Agency
KGDC	Korea Global Development Consulting Center
KOICA	Korea International Cooperation Agency
LMIC	Low Mid-Income Country
MDG	Millenium Development Goal
NEDA	National Economic Development Agency
ODA	Official Development Aid
OECD DAC	Organization for Economic Cooperation and Development, Development Aid Committee
PDM	Project Design Matrix
PMC	Project Management Company
PPP	Private Partnership Project
SOC	Social Overhead Capital

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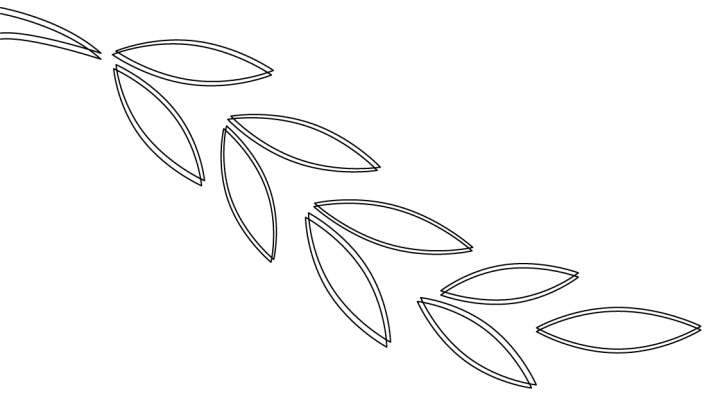


Executive Summary

Executive Summary

The Busuanga Airport project, which is located in Northern Palawan Province in the Philippines, selected as the ex-post evaluation service, was implemented from January in 2006 to September in 2008 at the expense of $3 million which was funded by the Korea International Cooperation Agency(KOICA), for the purpose of improving aviation safety and passenger convenience by extending the effective runway length from 731 meters to 1,200 meters and constructing a new terminal building.

From 1987 to 2004, the number of users of Busuanga airport increased moderately, by an annual average of 5.5%. However, this increasing trend went up from 2001 to 2007, by an annual average of 16.2%. Since the project was completed in 2008, the trend from 2009 to 2012 skyrocketed to 58.1% per annum.

Taking into account the tourist related industry development indices such as hotels, restaurants and resorts, and fiscal revenue data provided by the city of Coron, as well as the results of interviews with business representatives, it is considered that the current project objective: "Airport vitalization and creation of an effective airport demand" has been attained, and thus the higher development objective; "contribution to the regional economy" will be the focus and the direction.

Even longer term, the number of airport users is predicted to increase by 8.5% annually for 25 years until 2037, and therefore a sustainable business foundation seems to be established.

It is inferred that this remarkable performance should be attributed to the fact that the abundant tourist potential of the Calamian Islands has gradually become known to the public, and after the airport was developed with KOICA funding,

aviation operating capacity was increased from 19-seaters to 70-, 80-seaters, even 90-seater airlines in the high season; moreover, during rainy season the airport used to be closed at certain times, now the airport can be operated all year around, which will promote the tourist industry's development.

Contrary to this visible performance, it was confirmed in the process of the site research activities of the evaluation team that the current terminal congestion should be attributed to flying 70-seater and 80-seater airlines, and this will further affect aviation safety.

Meanwhile, according to the design report, the airport runway and terminal building were designed for 50-seater airlines at most, but the airport aviation safety type is classified as a code 3-c, the runway length of a code 3 airport is defined between over 1,200 meters within 1,800 meters which may exceed the length of the current runway 1,200 meters.

In this point, the design report might overestimated the aviation safety code of Busuanga airport as the code 3-c.

To deal with increasing airport user demand, the Philippine Department of Transportation and Communication (DOTC) is setting up a new master development plan that does not involve extension of the current runway but adjustment of the runway direction and construction of a new terminal building that is different from the current one.

The new master development plan may take five to ten years to fulfill. However, until that time in the terms of aviation safety and maintenance of the airport, it might not be certain whether or not the current airport facilities are sustainable.

In this context, aviation expert technical safety diagnosis is necessary as a preemptive measure, a self-reliable maintenance system shall be prepared, and further technical feasibility study on the new master plan shall be reviewed again because different opinions in the process of both the site survey and the evaluation team's study were raised with regard to a topographic obstacle which

cannot be aligned with an extension of the current runway.

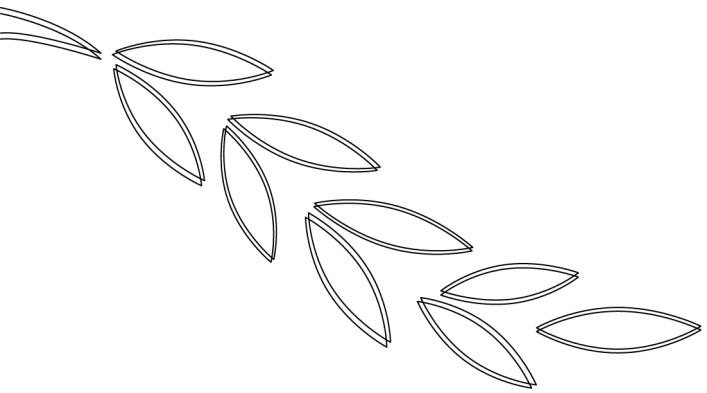
The priority works for sustainability of the airport prior to implementing the master plan, which may depend on the result of the safety diagnosis, are estimated as recovery work of the current runway and the minimum extension to the only macadamized 340 meters, establishment of runway lighting, upgrading of the generator, expansion of the current terminal and expansion of drainage capacity, etc.

Airport development sector in the Philippines can be regarded as one of the emphases of the ODA policy as presented for the Country Partnership Strategy (2012~2016) in 2012 through Korea's related ministries.

Busuanga Airport is the first trial project among 84 regional airports in the Philippines.

In terms of Korea's ODA Policy for the Philippines, it seems to be necessary for KOICA to maintain an interest in the sustainability of Busuanga airport, and the matters of work resulting from less considerations on the natural environment impact shall be complemented in a short period of time, such as the measure to block the wild birds inhabit, the complementary measure of natural ventilation in the terminal building, putting up more electric fans, the dredging work and expansion of the drainage if necessary, minimum upgrading of generator' capacity and recovery of parking lot, etc.

In addition, it is believed that effective user demand will increase steadily as mentioned above, and thus in terms of commercial purposes, EDCF loans and Private Partnership Projects can be considered.



Ⅰ. Overview of the Ex-Post Evaluation

Chapter

I Overview of the Ex-Post Evaluation

1. Background of the Ex-Post Evaluation

1) Necessity of the Ex-Post Evaluation

The Project of Busuanga Airport was implemented from January 2006 to September 2008 at a cost of $3 million, which was funded by Korea international Cooperation Agency. As four years and half has passed since the project was completed, now it is the proper time to perform an ex-post evaluation followed by the end of project appraisal in January of 2011.

Meanwhile, the project can be chosen as the target object of an ex-post evaluation, when more than one year has passed after the project is completed, according to the Development Cooperation Evaluation Guideline formulated by KOICA in November 2008.

2) Background Chosen as the Ex-Post Evaluation

At the end of 2011, the Korean government in accordance with the Philippine PDP(2011-2016) set up the highest ranking official development aid plan designated as the "Country Partnership Strategy (CPS)" for the Philippines during 2012 to 2016, in which the focus was placed on three sectors developing 1) transportation infrastructure including aviation sector as a basis of sustainable economic development, 2) development of agriculture and water resources for agricultural improvement and rural poverty reduction, 3) public health and medical care for

strengthening public health and improving the regional health care system. In this context, it is believed that the preparatory studies for several sectors including a master development plan are underway.

Busuanga Airport is the first project in the aviation sector among 84 regional airports in the Philippines, which means that it might be a good model for developing possible future consecutive works.

2. The Purpose and Work Scope of the Services

1) The Purposes of the Ex-post Evaluation

The purposes of the ex-post evaluation are (1) to improve future aid projects through feedback of lessons learned in the whole process, from project preparation to completion, and (2) to provide a basis for accountability, including the provision of information to the public; if evaluation information, whether affirmative or negative, is well generated and properly fed back to the public in every step, it can contribute to improving future aid projects.

2) Work Scope of the Services

An end-of-the-project evaluation was performed in January 2011, which confirmed the relevance and the short-term performance of the project.

This ex-post evaluation will be carried out in two categories; one part will focus on a comprehensive review of the process based on the criteria of relevance and efficiency, while the other part will focus on evaluating the performance by the criteria of effectiveness, impacts, and sustainability and one of the cross-cutting issues: environment.

In order to enhance the effectiveness of the project, the evaluation will be extended to the ownership and mutual accountability criteria recommended by the Paris Declaration as well.

3. The Target Project

1) The Project Background

The Japan International Cooperation Agency (JICA) Study on an Environmentally Sustainable Tourism Development Plan for Northern Palawan in 1997 forecasted an increasing visitor volume to be serviced by Busuanga Airport. In order to accommodate the increasing demand for airports, the JICA recommended upgrading the airport from a feeder airport to a commercial airport meeting international standards.

In 1997, the Asian Development Bank recommended the Department of Transportation and Communication (DOTC) via its Study on the Civil Aviation Master Plan that it was necessary to upgrade the runway, terminal building and other airport facilities.

In 1998, the Civil Aviation Consultant Committee under DOTC recommended upgrading the airport facility in compliance with the International Civil Aviation Organization (ICAO) standards as well.

During the President Arroyo regime, under the Medium Term Philippine Development Plan(2004-2010),Palawan Province was designated as a major tourist destination, and in this context, the Northern Palawan region has been developed as an environmentally and socially sustainable high value tourist area for longer term prospects.

2) The Project Overview

(1) Implementation Companies <Korean side/ Philippine side>

a. Design: Daewoo Engineering Co./Schema Konsult Corp.
b. Execution of Works: SeoKwang Development Co., Ltd./ BCT Trading and Construction Company

c. Construction Management (CM): SunJin Engineering and Architecture Co.

d. Equipment and Materials Supply: HiNet Trading Co., Ltd., Hyundai Motor Co.

(2) Input Activities

a. Korean side

a) Construction and Civil Engineering ($2,114 thousand): Rehabilitation of Runway and Stopway, Repair work and Expansion of Apron, construction of the New Air terminal

b) Equipment and Material supply ($170 thousand): Fire truck, Tractor Weeder and Administrative vehicle, two sets of apron lights

c) Training Invitation($20 thousand): Two trainees to Airport Management and Maintenance for 2 weeks curriculum

d) Construction Management ($194 thousand): Dispatch Construction Manager to the site.

e) Miscellaneous ($502 thousand): Preliminary Research, Exchange of Record of Discussion, Evaluation and bidding balance.

b. Philippine side

a) Dispatch some officers from DOTC to support administrative cooperation for executing works and provide tax exemption of Equipment and Materials donated by the KOICA, etc.

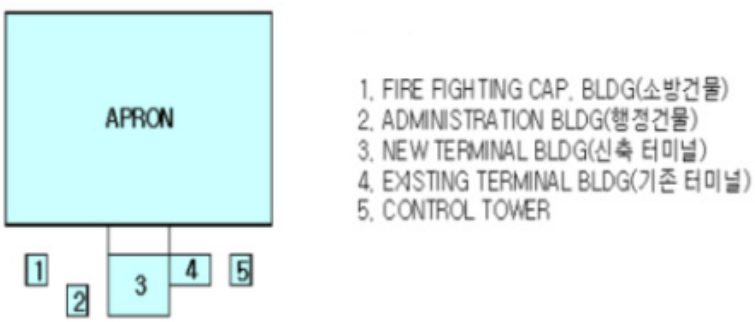
b) Provide the necessary land for constructing terminal building, runway and apron, and supply electricity and water.

3) Specified Input Activities

(1) Airport incidental facilities: rehabilitation of facilities related to aircraft landing and take-off.

a. Construction

<Figure 1-1> Airport Facilities for Construction



a) Passenger Terminal Building

(a) Construct the new Passenger Terminal Building as shown in <Figure 1-1>. The building stands on a land area spanning one thousand five hundred square meters (1,500m^2); 60 meters wide by 25 meters long, and on the same line as the previous terminal building, as structure of steel pillar and truss.

(b) Renovate one previous terminal building with an area of two hundred forty square meters; 24 meters wide by 10 meters in length, for commercial purposes.

b) Administration Building

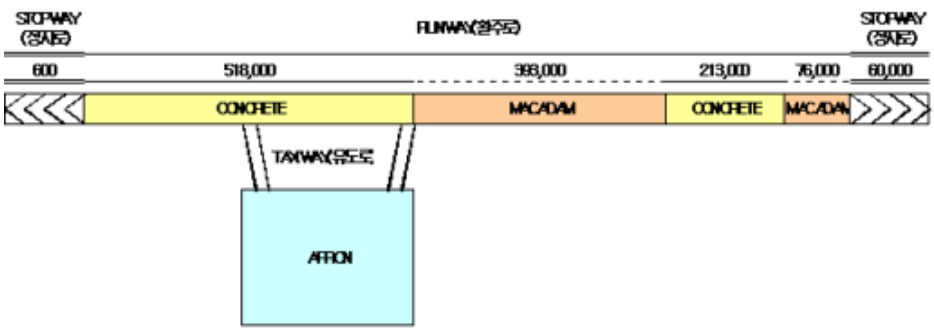
Complete one Administration Building with an area of one hundred square meters; ten meters in width by ten meters in length, for which construction is underway

c) Firefighting Capture Building

Renovate the office space within the existing firefighting building with an area of twelve thousand square meters; two hundred forty meters in width by fifty meters in length.

b. Civil Engineering

<Figure 1-2> Civil Engineering Works



a) Repair and Pave Runway

o Repair the existing runway paved with concrete, seven hundred thirty one meters.

o Rearrange the existing runway made of macadam, four hundred sixty nine meters, and pave with the concrete material.

b) Develop two stop ways at the Northern and Southern ends of the runway, spanning sixty meters each, with macadam material.

c) Expand apron area

According to Philippine DOTC's request during the record and discussion, the apron ground area was expanded from its initial size of ten thousand square meters to fourteen thousand square meters, then twelve thousand square meters was paved with concrete, while the other two thousand square meters was done with macadam.

d) Innovate the existing parking lot

Expand the access road to the airport to two lanes, and expand the parking lot area by two thousand five hundred square meters; fifty meters in width by fifty meters in length.

e) Innovate drainage system

Transfer the drainage for the runway canal to nearby perimeter

fence with one meter's depth and one meter's width

f) Set up the perimeter fence

Transfer the existing perimeter fence and set up barbed wire fence extending four thousand four hundred fifty meters along the perimeter in accordance with the expansion of the runway.

g) Rearrange the ground condition of runway strips and apron area

Rearrange the runway strips twenty-five meters right and left from the runway line and two hundred meters at the southern end of the runway, then the runway strips is one thousand four hundred meters long. Rearrange the twenty-five meter apron strips around the apron area.

(2) Provide with equipment and Materials

a. One firefighting truck for chemical firefighting
b. One tractor weeder for weeding
c. Two spot lights for apron area
d. One administration vehicle

(3) Invitational Training Program to bring Philippine officials to Korea

Invite two officials during two weeks for the purpose of airport development planning and design to Korea led by SeoKwang Development Co.

4) Expected Performances

The project will make a great contribution to dealing with the increasing number of tourist visitors and in developing the regional economy by improving the capacity of Busuanga Airport to process passengers and cargo.

Meanwhile, the project will provide an opportunity to promote Korea's airport development and maintenance ability.

5) Major Steps in Implementation

- o January 2006: Project approved by KOICA in Korea
- o February 2006: Preliminary research conducted
- o May 2006: SunJin Engineering Co Um & Lee chosen as Construction Manager (CM)
- o June 19th2006: Records and Discussions between two sides exchanged
- o November 2006: Agreement between Two countries officially signed via a note verbale
- o December 2006: Project design initiated by Daewoo Engineering Co. in Korea and Schema Konsult in the Philippines
- o March 2007: KOICA held ground breaking ceremony, officially started construction
- o September 2008: KOICA held project dedication ceremony.

Ⅱ. Method and Procedure of Evaluation

Chapter

Ⅱ Method and Procedure of Evaluation

1. Criteria and Method of Evaluation

1) Criteria and Focus of Evaluation

(1) Evaluation Criteria

Evaluation Criteria recommended by Development Aid Committee (DAC) under the Organization of Economic Cooperation and Development and that are designated as evaluation standards, and that comply with the evaluation guideline publicized by KOICA, as shown in the <table 2-1>.

<Table 2-1> Basic Evaluation Criteria

Criteria	Definition
Relevance	How was the project aligned with Philippine Development plan and Korea's ODA policy, the United Nations Millennium Development Goals? Was the project relevant in every process of execution?
Efficiency	Was the output efficient compared with similar cases or alternatives?
Effectiveness	How is the level of attainment of the objective and goal of the Project?
Impact	How does the outcome of the project currently and in the future have economic, social and environmental ripple effects, including positive and negative effects?
Sustainability	In the future, does the project enable the attainment of a longer term objective, on the basis of self-reliance?

In order to enhance the effectiveness of aid, Ownership and Mutual Accountability, which are included in the five standards listed in the Paris promulgation, are used for evaluation criteria.

As a cross-cutting issue, environmental impact is considered in the criteria as well.

(2) Evaluation Focus

a. Performance and Sustainability

During the end-of-the project evaluation in January 2011, criteria of relevance, efficiency and short term effectiveness were appraised, and then those criteria will be just reviewed, and mid-to-longer-term effectiveness and impact and sustainability shall be focused on.

b. Consideration of Characteristic of Airport Development

Even if the target project is a small-scale regional airport, in consideration of the airport project characteristics, improvement of aviation safety and passenger convenience is so important that it will be evaluated to determine if ICAO safety guideline and international standards of aviation have been followed.

c. Financial and Economic Viability

Even though it is hard for a regional Airport to achieve viability, the Philippines has adopted the market-oriented Civil Aviation System in recent years, and to predict the possible exit time from KOICA aid, the evaluation team attempted to determine whether free enterprise management principles have been adopted successfully.

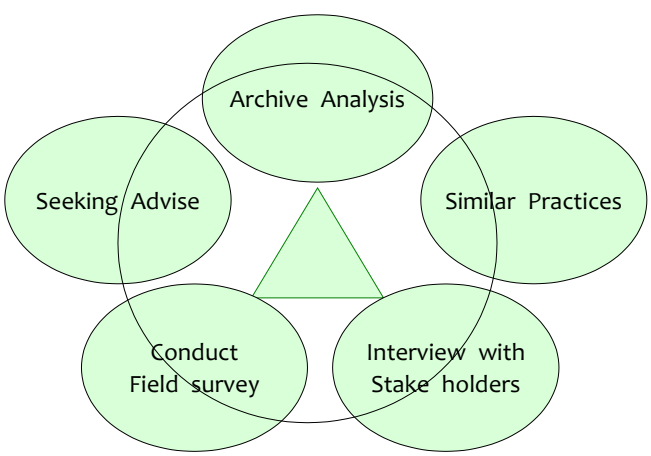
2) Research and Evaluation Method

(1) Basic Research Method

In terms of the research methods, archive analysis related to the airport development, both direct and indirect, looking into similar practices, interviewing stake-holders, seeking for specialists' advice, conducting surveys and other techniques were used, but if necessary, mixed multi methods are carried out.

At least three or more multi-layered methods are mobilized to ensure the reliability of the results of an evaluation, as shown in <Figure 2-3> Basic Research Tools.

<Figure 2-3> Basic Research Tools



(2) Research Technique

a. Archive Analysis and Similar Practices

Archive Analysis and Similar Practices were studied as follows:

A variety of document reports were prepared and studied on the implementation process of the project, from project planning to completion, such as prior research papers to exchange of records and discussions (R&D) between KOICA and

Philippine DOTC, contents of R&D, interim evaluation report and termination appraisal, and Korea's ODA policy papers and the professional literature related with airport development and management.

b. Survey and Interview

Surveys were conducted through interviews and proceeded as follows: Before conducting the survey and interview, the team set items and questionnaires and identified interviewees, and then sent mail to individuals and collected answers when visiting the site.

Survey and interviews are conducted via on-line/Off-line complementary ways so as to collect the questionnaire within the schedule.

c. Visiting Interview

The main key personnel interviews were carried out in-depth by paying a courtesy call focused on important research topic, clarifying the prior survey results, and determining the necessity of a high level official's assessment.

d. Advisory Committee

The evaluation team asked for professional consultants to Advisory Committee members in order to pay attention to research activities before on-site research, and then upon handing in an interim report to KOICA, the team again requested the advisory members for kind suggestions.

3) Evaluation Procedures

The major evaluation reporting and meetings have been implemented as follows:

The major reporting is being done in four steps: first, the initial evaluation plan including overall research methods and evaluation matrix; secondly, the service implementation plan focusing on home and overseas site investigation activities

specified as scheduled; thirdly the interim assessment report followed by overseas site research; and finally the comprehensive report complemented by additional research for the issues being raised during the interim report.

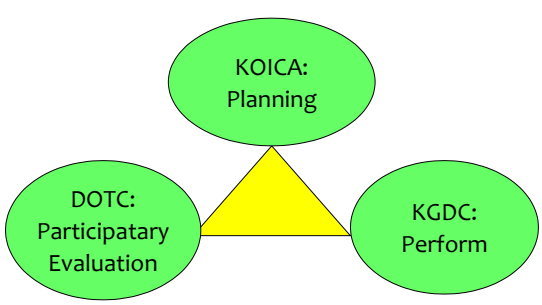
Each step research report and meeting has been discussed by documentation report and presentation style.

2. The Services Implementation System and Input of Manpower

1) The Services Implementation System

The Korea International Cooperation Agency (KOICA) Evaluation Office leads evaluation planning and management of the evaluation task, and entrusted the task on the Busuanga Airport Project to the Korea Global Development Consulting Center (KGDC), and expects that the Philippines authorities who joined in the project as key stake-holders will play a participatory role in the task as well as shown in <Figure 2-4>.

<Figure 2-4> The Institutional Relationship for the Evaluation



2) Input of Man Power

(1) Participants in the KGDC

A total of ten members from KGDC participate in the services:

Two Domestic Experts and one domestic researcher, one local consultant and one local researcher joined in the services.

The Evaluation Consultation Committee consists of four higher-ranking experts with rich experience in the ODA Project evaluation, transportation and aviation sectors.

KGDC management office provides the task team's Evaluation activities with administrative support.

(2) Evaluation Consultation Committee Function

The Committee provides the evaluation team with consultation in advance for each major evaluation step, such as the overseas spot research activity, interim report and final report.

3) Major Schedule of Evaluation Activities

Implementation task	2013											
	Jun.		Jul.		Aug.		Sep.		Oct.		Nov.	
Evaluation design												
Implementation Reporting												
Domestic research												
Set up Detailed Evaluation Plan												
Consultation from Advisory Committee												
The Overseas Site research												
Hand in the interim Report												
Supplement to the interim report												
Hand in the final report draft												
Hand in the final report via correction												

Ⅲ. Analysis of the Object Project

1. Analysis of the Object Area
2. Analysis of the Domestic and Overseas Stake-holders
3. Composition of Evaluation Matrix

Chapter

Ⅲ Analysis of the Object Project

1. Analysis of the Object Area

1) Profile of Palawan Province

The Province is the south-western island of the Philippines located between Mindoro Island and Borneo island, and it belongs in the administrative jurisdiction of the Mimaropa Region. Measuring 450 kilometers long and 50 kilometers wide, it covers an area of 14,149Km^2, making it the largest province in the Country.

The total coastal line is 2000km long. The total population of the province is estimated as 755,000 as of 2010, and the population is increasing at a rate of 3.64 percent per year. The island depends mostly on agriculture, fishery and the tourism industry.

It holds a few minerals, such as copper, silicon, and non-ferrous metals, etc.

Its capital is Puerto Princesa City. The Calamian Islands to the northwest include Busuanga Island, Culion Island, and Coron Island.

Palawan's nickname is the 'Land of Promise,' a quote from Megallan Sub General.

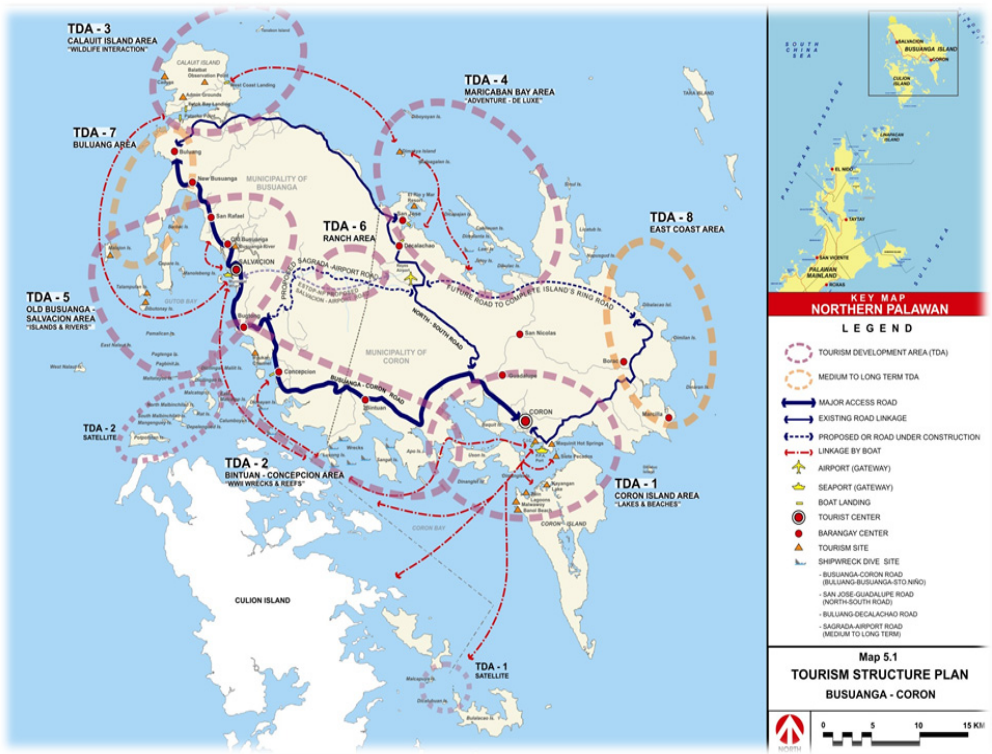
2) Calamian Major Islands

Item	Coron	Busuanga	Culion
General Profile	Covers an area of 94,952 ha. in the southeast of Bususanga island, and 45% of it can be cultivated for farming. It is composed of	Covers an area of 46,065 ha., 85% of this area is grass and mountain area, arable land, while 13% still	Covers an area of 115,000 ha, sometimes Hasenite lived, now none of them

Item	Coron	Busuanga	Culion
	50 small islets. It is the first port of call of Palawan from Manila, then considered the gateway to the Province and the hub of Calamian islands.	holds a military safety zone. The airport is located within a wild animal protection zone.	appear.
Population (2010)	47,957 (3.2%)	16,287 (7.5%)	15,156
Topography	14 rivers, 7 lakes, 1 hot spring	5 rivers, 2 waterfalls	
Barangay	First class 23	Third class 14	14
Rainy season	June to October	July to October, rainfall with typhoon.	June to October
Products& Industry	Rice, Cashewnut, Mango, 234 Sari Sari store, 254 Fish dealers, Pearl culture, Furniture.	Bamboo and rattan furniture, Pearl culture,	Rice, Cashew nut, fruits, Sawali Manufacturing
Tourist Attractions	15 sites: Dimaquia beach, Makinit hot spring, Limestone cliff, Kayangan lake, Sangat Japanese shipwreck. etc.	13 sites: National Park, Falls, Calauit Safari Club, Resorts, etc.	Culion Museum, Concepcion, Catholic Church, etc.
School, Social Welfare Services	22 Primary schools, 2 Middle school, 1 High School, 1 College, 1 Hospital with a dental clinic 1 Private Clinic.	15 Primary schools, 3 High Schools, I Public Health Center	22 Nurseries, 3 Kindergartens, 16 Primary schools, 2 Middle & High Schools, 1 College, 1 Hospital
SOC	Electricity supply rate: 35% 2 IT services, Pavement rate: 50%	Busuanga airport, 1 Private airport, 4 Ports, 3 IT services Pavement rate: 50%	1 km Airstrip, A few IT Service Centers

Source: DOTC, Prior Research Reference paper, June 2006.

<Figure 3-5> Calamian Islands Tourist Attractions



Source: DOTC in the Philippines

<Photo 3-1> Coron Island Tourist Attractions

<Photo 3-2> Calauit Island Safari Garden and Coral reef

2. Analysis of the Domestic and Overseas Stake-holders

With regard to stakeholders' relationship with the Project, the team analyzed the stakeholders at home and abroad, and classified the role each played in the project, from the planning to the completion of the target work as shown in each of the tables below.

1) Analysis of the Domestic Stakeholders

Project Procedural		Major Stakeholders
Project Formation and Planning	Project Formation and Record and Discussion	■ Prior Research (Simple Feasibility Study) HanSol Engineering, Ceo Hanyoung Kim Sinwha Engineering, Director Jaein Choi ■ Records and Discussions KOICA Representative in the Philippines, Seongho Choi HanSol Engineering, Ceo Hanyoung Kim SenJin Engineering Mr. YongJun Cheong SenJin Engineering Mr. Hyeongmu Kim
Project Implementation and After service	Project Implementation and supervision	■ Design DaeWoo Engineering Co. ■ Project Management and Cooperation SeoKwang Development Co. Ltd. ■ Construction Management SenJin Engineering (Civil Engineering) Mr. YongJun Cheong SenJin Engineering (Construction) Mr. Hyeongmu Kim ■ Invitational Training at SeoKwang Development Co. Ltd.
	Maintenance and After services	■ The End of Project Appraisal KOICA Mid-long term Consultant Mr. Jae Hoon Lee

2) Analysis of the Overseas Stakeholders

Project procedural	Major Stakeholders
Planning stage	■ Project Host Organization: DOTC Deputy Minister of Planning and Coordination RR Castanares, Traffic Planning Director General, IT Patdu, Airport Traffic Development Director FC Pangilinan ■ Project Execution Institution: CAAT - CAAP, Director of Busuanga Airport Antonio Alfonso
Project Implementation Stage: End Evaluation stage	■ Involved Companies - Civil Engineering Company - Construction Company
	■ NEDA, Susan A. Sumbeling ■ DOTC, Airport Manager, Roy G. Gamosa ■ CAAP, Director of Busuanga Airport Antonio Alfonso ■ KOICA office in the Philippines Francis C. Afable
Other Public Stakeholders	■ Palawan Provincial Government - Palawan Senator in region 1 AC Alvarez - Mayor of Coron MT Reyes - Mayor of Busuanga Evat T de Jesus - Director of Busuanga Airport in the Palawan Provincial Government
Airport residents	■ Resident Airlines ■ Airport management, Ground workers Airport management officials: 2 persons from the short-term training program Control Tower manager
Representatives from Regional Economy	■ Major industries in Coron and Busuanga ■ Local Representatives from hotels, restaurants, firms and residents

3) Major Questionnaires for the Stake-holders

Criterion	Questionnaire Details	Stakeholders
<From planning to implementation of the project> Relevance and efficiency on the process of the Project,	■ As the Bussuanga Airport was just completed in 1991, why was it necessary to pursue such a major remodeling so soon? ■ Setting up risk management for the construction project during rainy season ■ Considerations on ways to alleviate the bottleneck effect during peak hour in the terminal building to alleviate inconvenience to passengers. ■ Preemptive measures (examples) taken by other regional airports to prevent inhabitation of wild birds in the air terminal building ■ The background to the estimation that the number of passengers will reach 400,000 by 2010 ■ Efficiency in comparison with similar airport projects	■ DOTC Assistant Secretary in Planning RR Castanares ■ DOTC Director General of Traffic Planning & Coordination, IT Patdu ■ DOTC Director of Air Traffic FC Pangilinan ■ CAAP Director of Busuanga Airport Antonio Alfonso
Outcome, Impact and Sustainability of the Project	■ Outcome and impact of Busuanga Airport's development on the local economy ■ Necessity of additional terminal and extension of flight runway initiated by Coron city ■ The perspectives of Palawan environment protection commissioners on the 2ndplantoexpandtheairportbyCoroncity ■ Any adverse effects caused by the airport development project ■ Building up a comprehensive development plan of SOC, tourism, airport and environmental protection on Calamian Islands in the northern boundaries of Palawan ■ Comprehensive status of the regional airport infrastructure in the Philippines * Airport statistics from 2003 to 2012	
<End-Project Evaluation stage>	■ The construction supervision manuals provided by Korea CM company for the local construction company	<End-Project Evaluation Participants> ■ NEDA

Criterion	Questionnaire Details	Stakeholders
Relevance and efficiency for the process of the project	■ Airport business management and facilities design manual provided to trainees ■ Impact of airport on the growth of the regional tourism industry in Coron and Palawan ■ Estimated passengers and cargo (in tons) in 5 years (2013~2017)	Susan A. Sumbeling ■ DOTC Chief of Airport Management Roy G. Gamosa ■ Director of Busuanga Airport Antonio Alfonso ■ KOICA Office in the Philippines Francis C. Afab ■ Local construction company ■ Two trainees being trained in Korea
Short and mid-term impact and sustainability of the airport development	■ Identifying peak hour occurrence cycle (in days, time), number of passengers waiting and their waiting time ■ Dispersion of the bottleneck effect during the peak hour ■ Necessity of additional terminal and extended flight runway ■ Future development plans of public facilities in Coron such as electricity, gas, waterway, pollution treatment, machinery, and communications	
<Other public stakeholders> Impact and Sustainability	■ Impact of the airport's development on regional industrial growth related with resorts, hotels ■ Changes in local tax revenue, employment, population and enrollment in elementary and middle schools from 2006 to 2012 ■ Dispersion of the bottleneck effect during the peak hour ■ Necessity of additional terminal and extension of flight runway ■ The comprehensive development plan for the public facilities in Coron, such as electricity, gas, waterway, pollution handling, machinery, and communications ■ Sustainable development plan of Palawan Council ■ Busuanga airport capacity adequate for protection of the Palawan environment ■ The perspectives of Palawan environment protection commissioner on the second upgrading plot of Busuanga Airport	■ Palawan provincial government ■ National Assembly member from Palawan region 1 A.C Alvarez ■ Mayor of Coron MT Reyes ■ Mayor of Busuanga Evat T. de Jesus ■ Director of Busuanga Airport in the Palawan provincial government

Criterion	Questionnaire Details	Stakeholders
<Economic Beneficiaries> Impact of the airport project to local industries	■ Impact of airport development on regional industrial growth related with resorts, hotels, tourist companies, employment rate: (Retrieve data from 2003 to 2012)	■ 10 local business representatives: hotels, resorts, restaurants ■ 10 local residents

3. Composition of Evaluation Matrix

Based on the five criteria recommended by OECD's Development Aid Committee, the Evaluation Matrix is made, reflecting the evaluation methods stated in the first clause of the second Chapter, and the role of domestic and overseas stake-holders, major considerations and more detailed items in each phase, from planning to the project completion, are evaluated as specified in the second clause of the third Chapter.

The comprehensive Matrix is given in <Table 3-2>

<Table 3-2> The Evaluation Matrix

Higher classification	Evaluation item	Sub items or index	Data Source	Evaluation Method
Evaluation Criteria ① - Relevance				
Korea and KOICA ODA Policy	Korea Country Partnership Strategy of the Philippines	Contributions for Setting up a Sustainable Economy	Related Ministries Related Department in KOICA	Literature Study

Higher classification	Evaluation item	Sub items or index	Data Source	Evaluation Method
The Philippine Development Plan	Relevance to Mid-term National Development Plan (2004~20101)	Coincidence with the Philippine Airport Development Policy	DOTC, NEDA Coron city, Palawan Pro. in the philippines	Literature Study
International Development Goals	Relationship with MDGs	Contributions to Poverty reduction, Health care enhancement of MDGs	DOTC, NEDA in the Philippines	Literature Study
Project Implementation Process	Relevancy on the Input Activities by phase	Demand Forecasting, Prior Research to Exchange R&D, Design, After Service	DOTC, CAAP Stakeholders and Participants	Literature Study & On-Site Research
Evaluation Criteria ② -Efficiency				
Output compared to Input	Efficient budget investment	Research similar practices, Output/Input analysis	DOTC in the Philippines, Korea's PMC	Literature Study and Interview
Efficiency on process of Project implementation	Efficient Project Management	Project and Construction Management in Consideration of Project Features.	Korea's Design, PM and CM company	

Higher classification	Evaluation item	Sub items or index	Data Source	Evaluation Method
Evaluation Criteria ③ - Effectiveness				
Attainment of Project and Policy Objective	Contribution to the short &mid term project objectives Short: Creation of Effective Airport Demand Mid: Regional Economy	The Changes in Airport user and cargo increase trend before and after the project.	Airport statistics in the Philippines, Tourist visit trends in Coron and Busuanga.	Analysis of Data, Survey, Interview
Aviation Safety	Safety of Airport facilities.	Adequacy of ICAO Standards, Safety related to 70~80 seater flying.	Airport Authority, ICAO Annex14	Survey, Literature Study, Interview.
Passenger Satisfaction	Passenger Convenience	Passengers, Airlines,	Airport Authority	On-Site Field Survey
Evaluation Criteria ④ - Impact				
Contributions to Regional Economic Development	Effect on Northern Palawan Regions industry. Cooperation with Regional society.	Effect on tourist-related industries such as hotels, restaurants, retail, transportation etc. Impact on Coron city fiscal revenue, employment.	Coron, Busuanga, Airport Authority	Analysis of data and Interview
Evaluation Criteria ⑤ - Sustainability				
Aviation safety	Sustainable aviation safety	Risk management practice for safety	Airport Authority, ICAO Annex14	Literature study on Design Report, Survey

Higher classification	Evaluation item	Sub items or index	Data Source	Evaluation Method
Airport maintenance	Sustainable maintenance and ownership	Research on airport management if civil aviation management principles adopted. Research on the management capacity of the related officials.	Airport Authority, CAAP	Interview
The New Development plan	The necessity and background of the new Development plan by DOTC	Comparison of the new plan with the current runway system.	DOTC, CAAP	Literature study, Interview
Evaluation Criteria ⑥ - Cross Cutting Issue- Environment Impact				
Impact to Environment	Sustainable environmentally	Research on how a rise in tourism increases impact on environment factors via the business site visits.	Coron City, Business representatives.	Interview Survey.

Ⅳ. Evaluation Results

1. Relevance
2. Efficiency
3. Effectiveness
4. Impact
5. Sustainability
6. Environmental Impact as a Cross-Cutting Issue

Chapter

Ⅳ Evaluation Results

1. Relevance

1) Appraisal Outline

Major evaluation items related with the relevant criteria in the evaluation Matrix in the third clause of the third Chapter must first comply with Philippine development policy priority, must secondly coincide with Korea's Official Development Aid policy, must thirdly correspond with the United Nations Millennium Development Goals and finally must be relevant to the whole implementation process of the project.

The three parts; Philippine development policy priority, Korea's Official Development Aid policy and the United Nations Millennium Development Goals among the above four parts were checked out at the end of project evaluation in January 2011, then were complemented by the wider and deeper archive research, the possible issues from implementation process were more precisely examined during the on-site research from the 26th to 31st of August 2013.

2) Research and Appraisal by Item

(1) Compliance with Philippine Development Policy Priority

The Philippine Government designated Palawan Province as one of the major tourist potential destinations by the year 2004 to the year 2010 Medium-Term Philippine Development Plan/MTPDP.

As is well known, the Philippines consists of about seven-thousand, one

hundred islands, which means that the development of transportation infra, including the aviation sector, is much more essential for sustainable economic development than in other countries. But in practice, of the eighty-four regional airports in the Philippines most facilities lag behind the international standards, with the exception of some major airports in the regional center.

Meanwhile, the Northern Palawan Calamian Islands are blessed with beautiful natural landscapes and hold huge tourist potentials, but are not yet well accustomed to domestic and foreign tourists.

In particular, Busuanga airport was originally designed only for agricultural aviation in 1991, but the project was redesigned to rehabilitate the old facilities for the purpose of commercial flight so that it could be upgraded from the 19-seaters up to 50 seater airlines.

According to the World Economic Forum report, as shown in <Table 4-3>, infrastructure quality in the Philippines ranked lower on average, one-hundred-thirteenth out of one-hundred-forty-two countries. In particular, it was ranked one-hundred-twenty-third for its ports, and one-hundred-fifteenth for its aviation part.

<Table 4-3> The Global Competitiveness Report 2011-2012

Index	Points	Ranks
Quality of overall infrastructure	3.4	113
Quality of roads	3.1	100
Quality of railroad infrastructure	1.7	101
Quality of port infrastructure	3.0	123
Quality of air transport infrastructure	3.6	115
Available airline seat kms/week, millions	867.0	28
Quality of electricity supply	3.4	104
Fixed telephone lines/100 pop.	7.3	103
Mobile phone subscriptions/100 pop.	85.7	92

Source: The Global Competitiveness Report 2011-2012, World Economic Forum.

(2) Coincidence with Korea's Official Development Aid Policy

The Project was adopted and executed by KOICA in consideration of the proposal of Philippine DOTC in 2005 following Presidential Candidate Arryo's electoral commitment, as well as the tourist attractions development plan by the abovementioned MTPDP.

Meanwhile, Korea included the Republic of the Philippines in its Country Partnership Strategy (CPS) as it worked to promote its Official Development Aid Policy in November 2012. In consideration of the Philippine's development demand and Korea's comparative advantages, three sectors were emphasized: transportation infrastructure, agriculture and health care. And thus Korea will allocated 70% of total ODA volume in the Philippines to the above three sectors..

As a part of the transportation infrastructure should be well harmonized with Korea's future ODA policy, the airport development project and the Busuanga airport project as the first attempt of the 84 regional airports in the Philippines can be meaningful touchstones for Korean image management.

(3) Alignment with UN MDGs

Per capita GDP per annum in the Philippines reached two thousand two hundred fifty dollars as of 2011, so it is classified as one of the Low Middle Income Countries(LMIC). 18.4% of the population lives on $ 1.25 per day as of 2009, and 75% of the impoverished population resides in rural areas.

Poverty rate per annum in the Mimaropa region in which Palawan Province is located, placed it third or fourth among the fourteen regions in the Philippines, as shown in <table 4-4>, so the project should contribute to reducing the poverty rate of the area surrounding Coron city.

<Table 4-4> Poverty Rate per annum in the Philippines

Region	2003(%)	2006(%)	2009(%)
total	24.9	26.4	26.5
NCR (Metro Manila)	3.2	5.4	4.0
Region Ⅰ (Ilocos)	22.8	26.6	23.3
Region Ⅱ (Cagayan Vally)	19.6	20.0	18.8
Region Ⅲ (Central Luzon)	12.4	15.2	15.3
Region Ⅳ-A (Calabarzon)	12.1	12.3	13.9
Region Ⅳ-B (Mimaropa)	37.5	42.2	35.0
Region Ⅴ (Bicol)	45.8	45.2	45.1
Region Ⅵ (Western Visayas)	30.6	28.6	31.2
Region Ⅶ (Central Visayas)	37.2	38.8	35.5
Region Ⅷ (Eastern Visayas)	37.6	39.0	41.4
Region Ⅸ (Western Mindanao)	45.7	39.8	43.1
Region Ⅹ (Northern Mindanao)	38.8	39.7	39.6
Region Ⅺ (Sourthern Mindanao)	31.0	31.7	31.3
Region Ⅻ (Central Mindanao)	33.1	33.1	35.7
CAR (Dordillera Admin Region)	21.7	23.0	22.9
ARMM Mindanao Autonomy Region	31.4	42.8	45.9
CARAGA	44.7	44.0	47.8

Source : National Statistical Coordination Board, 2009

(4) Relevancy of Process of Project Implementation

a. Little Interest in Forecasting of Airport Users Trend

Forecasting data of airport passengers and cargo demand is important information that can affect the project size and the possibility of future expansion.

However, passenger data in 2010 will be estimated as 400,000 by the Project Design Matrix (PDM).

Considering that there were only 33,200 passengers in 2005, and 28,900

passengers in 2006, as shown in <Table 4-7>, the data in 2010 are regarded as an unrealistic estimation.

In this regard, the evaluation team raised the above issue to General Director Patdu in DOTC on 27th of August, and he commented at that time that in the midst of the situation to emphasize the project's justifiability, he could not be recognized about an excessive estimation over the real trend.

The team raised the same issue to President of HanSol Engineering Co. Hanyoung Kim, who participated in the prior research to Record and Discussion in May 2006.

He explained at that time that the Philippine's main interest was simply to extend an effective runway to 1,200m by paving macadam parts to concrete, and develop a new terminal building. Therefore, DOTC, as the project host, paid little interest to the demand trend of airport users.

b. Less Consideration in the Natural Environment Features in Prior Research and Designing Stages

a) Research Stages prior to Record and Discussion(A Simple Feasibility Study)

On 23rd of August, in an interview with President of HanSol Engineering Co. Hanyoung Kim, who participated as an airport expert in "Research prior to Record and Discussion of the project", the evaluation team asked if there was a need to clarify an international safety criteria for the airport. It was then determined how the criteria would be improved before and after the project was completed.

In this context, he explained that the previously usable runway was only 618 meters long, which is just the length that at most 19-seaters enable to operate. But if the macadam runway part was transferred to concrete material, the runway could then be extended to 12,000 meters long, which would enable at

most 50-seaters to operate. Thus, the safety issue was simply regarded as runway extension.

He added that in relation to the strength of concrete, he had dug out the three places around the runway strip, and confirmed that the depths of the concrete and macadam were at a consistent level (around 25cm) for the operation of 50-seaters.

In the regard with weather impact and the inhabitation of wild birds, due to the working limitation at that time under the given budget and time, the in-depth research on the natural environment impact should be restricted, and he hoped that in a future similar airport project, sufficient budget and time for research activities should be reflected appropriately.

b) The Designing Stages

On August 29th, the evaluation team, in an interview with Ms. Helen, president of Schema Konsult Inc., a local partner of prime contractor Daewoo Engineering co., asked what Schema Konsult provided in terms of consultations to DaeWoo Engineering, who are not accustomed to local situations, including the natural environment.

She replied that as the Philippines is a tropical area, it has much rain and the temperature is high, and in this context recommended DaeWoo pay more attention to setting up the drainage system and natural ventilation system in the terminal building with reduced electricity.

The team next asked her if possibility of inhabitation of wild birds was examined in the design, and she stated that the issues that have been significant at Manila airport during recent years should be reflected, but she is not sure that this will be followed in the process of implementation.

In connection with this, the team later confirmed that the feasibility and master planning study of Bususanga airport development written by Schema Konsult in August 2008 neglected the possibility of inhabitation by wild birds, using the words

"low prevalence of fauna and bird species."

C. Negligence of Contracts for After Service

In general, KOICA conducts a step-by-step evaluation process via the evaluation office in an after service management framework, and this may include an interim appraisal, an end appraisal and the ex-post appraisal and feedback.

In this context, during the site visits to Busuanga airport on the 27th and 29th of August the team checked whether the after service contract between stake-holders would have been signed and respected.

The team tried to determine the basic contract between KOICA and DOTC on the registration to DOTC of the output of the project, equipment and materials and maintenance responsibility of the products, equipment and materials, as well as the detailed subcontract for after service among Korea's prime contractors and local contractors, including construction, civil engineering and design.

However, the team failed to find any contract for after service. Contracts for implementation were found. There was an Exchange of Record of Discussion between KOICA and DOTC, and it was followed by an exchange of the diplomatic Note Verbal between Two countries, and further contracts between the prime contractors and local sub-contractors were agreed well enough.

The team concluded that the concrete parts damage of the parking lot already raised during the end- appraisal in January 2011, could not be pursued due to the lack of a proper after-service contract

d. The Drainage system should have been designed to reflect the Geographical Features

According to the design report, the drainage development system abided by the guideline for civil aviation of the Department of Public Works and Highways and ICAO standards, meaning that it was designed to handle a storm whose

probability of occurrence is once in 10 years.

However, the Director of Busuanga airport, Mr. Galasi, confirmed that during rainy season in 2011, the runway and apron area were flooded for several hours.

This airport as well known to the public, is located in a small basin surrounded by high degree slope mountains, the drainage system in addition should have been designed to reflect the geographic features.

Moreover, the maintenance of the drainage canal, including the regular dredging up of the mud from the canal, is necessary.

Mr. Galasi, director of the airport, appealed to the evaluation team that the clogged drainage canal was left as it was due to a lack of funds, and civil complaints were raised, as shown in <Attachment 6-1>.

3) Observance and Appraisal

In comprehensively considering the above studies, the project must be relevant for the Philippine Midterm Development Plan(2004~2010), KOICA ODA policy, Korea Country Development Strategy for the Philippines, and further must contribute to poverty reduction according to the UN Millennium development goals.

However, the target project's character was not by a new development, but by a rehabilitation. Therefore in the process of planning and implementa- tion, there were a few items lacking, such as a prediction of airport usage demand, an in-depth study on the impact on the natural environment of the project, and after service contracts.

The lack of forecasting capacity and its impact may affect the forward looking positioning of airport facilities. The terminal building and apron, if possible, must move closer to the Eastern end than the current position to secure the landing runway for larger seater airline in the future.

Negligence of the natural environment impact must have resulted in trial and errors in the works of terminal building, as manifested in the incomplete natural ventilation system and the lack of measures to prevent wild bird inhabitation.

The improper drainage system that did not reflect geographic features may

affect the life cycle of the runway and aviation safety.

The lack of after service contracts will negatively affect the proper maintenance.

2. Efficiency

To determine efficiency, the output is compared to the input for the project, but as the project was basically a rehabilitation project, it is in fact difficult to find similar projects for comparison.

Furthermore, as of the time of this writing in June 2013, four and half years has passed since the project was completed, and the construction management (CM) report and project management company (PMC) working report, which were supposed to hold basic data to appraise the quantitative analysis, cannot be secured due to a loss of human linkage with participating experts and the negligence of the systematic archive management by the participating companies.

However, the research results evaluating the project's effectiveness and impact clearly showed remarkable performance, as will be described later. Thus, it can be evaluated that the project in general attained outstanding efficiency.

On the other hand, if the budget supposedly would be financed to resolve the issues (e.g. wild birds inhabitation, a incomplete natural ventilation system, etc.) raised in the process of the project implementation, the technical efficiency of the process of implementation cannot be satisfactory.

By the way, it should be noted that if too much emphasis is placed on efficiency in an airport project, there is the possibility that safety responsibilities will be neglected.

3. Effectiveness

1) Effectiveness Associated with Aviation Safety and Passenger Convenience

(1) Aviation Safety Research through the Airlines

a. Research Overview

Before the on-site study, an overview of this project and a survey sheet that mainly dealt with the safety issue was sent via e-mail to crew members of Cebu Pacific and PAL airlines servicing Busuanga airport. The survey was conducted during the trip to the Philippines, and the main results of the answer sheets are introduced below, with details attached in <Attachment 2-1>.

b. The analysis results

The survey participants responded that since the project was developed in 2008, aviation safety level in general has been improved, however the current safety situation is not satisfactory, and further improvements are necessary.

When it comes to safety concerns related to operating a 70-80 seater aircraft, some answers included "refuse to answer" and "Thank God," from which it can be interpreted that there are safety risks related to the service of a 70-80 seater aircraft.

After the airport was rehabilitated, the number of passengers has increased rapidly, and passenger terminal at peak hour used to be overcrowded. It is necessary to extend check-in counters, and to introduce an X-ray visualizer, which suggests that a terminal building extension is required ultimately.

(2) Research Survey of Ground Workers on the safety and efficiency of airport management

a. Research Overview

The questionnaire in <Attachment 2-2> was distributed to ground workers of control tower, baggage checkpoints, and immigration control officials from the Civil Aviation Authority in the Philippines on August 27, and the responses were collected on August 29 and analyzed afterwards.

b. The Analysis Results

In terms of the safety improvement of aircraft after the airport was developed, the ground officials mostly showed a positive reaction. However, to alleviate the terminal and aircraft congestion issue, Apron and terminal extension were suggested.

The wild bird issue was recognized as a problem that may affect the safety of aviation. Thus, it is suggested that some measures are required to block the birds.

Regarding the improvement of airport management, overall innovation of the current CAAP integrated management system is required, and the need for privatization is raised.

As the new development of the runway being planned by DOTC is regarded as being accompanied by a number of challenges once the geographical conditions are taken into consideration, the respondents had a tendency to make comments cautiously. An alternative option that was suggested was the extension of the existing runway.

(3) Survey on Improvement of Busuanga Airport's Convenience for Passengers

a. Research Overview

On August29th, 61passengers in the waiting room of Busuanga airport participated in a 4multiple choices survey consisting of 10questions. 40 respondents of them have visited the airport over two more times. For this

report, 40 respondents are classified, who are eligible to evaluate the airport in a perspective of a passenger with a complete experience of the airport functions, and runway.

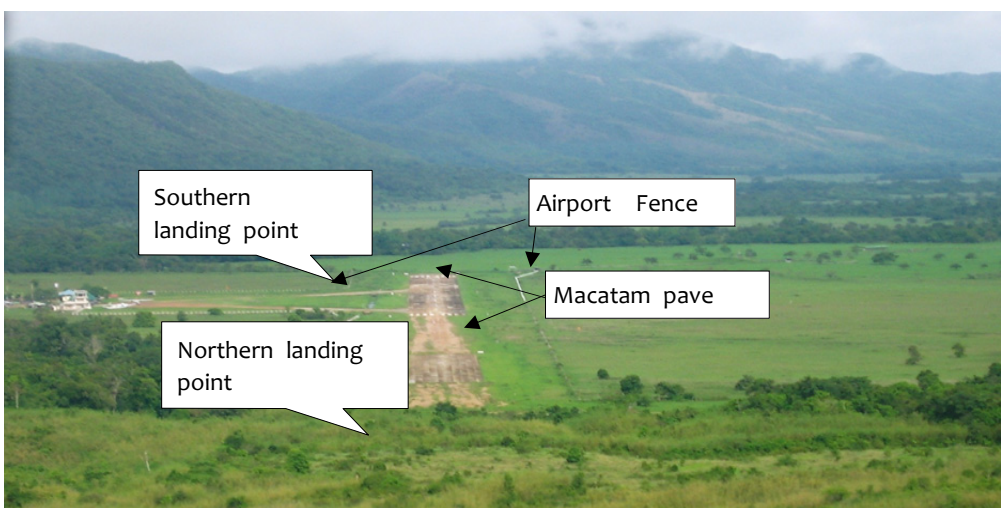
b. The Features of the Analysis

In terms of the satisfaction level with Busuanga airport as a local airport, the survey showed that 72.5 percent were satisfied with the airport. Also, 67.5 percent of passengers answered that their anxiety about the airport including take-off and landing bumps was tolerable.

However, when asked to identify a matter of grave concern in Busuanga airport, "change in flight schedule, flying back" accounted for the highest ratio at 32.5 percent, rather than matters related to safety or convenience.

While waiting for the flight in the airport terminal, 67.5 percent of passengers said that the humid and hot environment was the most inconvenient factor, but it could be tolerable for one or two hours, and 80 percent answered that the wild birds in the terminal were not important. The detailed survey results are shown in <Attachment 2-3> "The Results of the Passenger Survey"

<Photo 4-3> The Airport and its Surroundings before Development



Source: DOTC in the Philippines

<Photo 4-4> Inhabitation of Wild Birds

Source: Taken by the evaluation team on Aug.29th, 2013

<Photo 4-5> Korea-the Philippines Commemorative Structure

Source: Taken by the evaluation team on Aug.29th, 2013

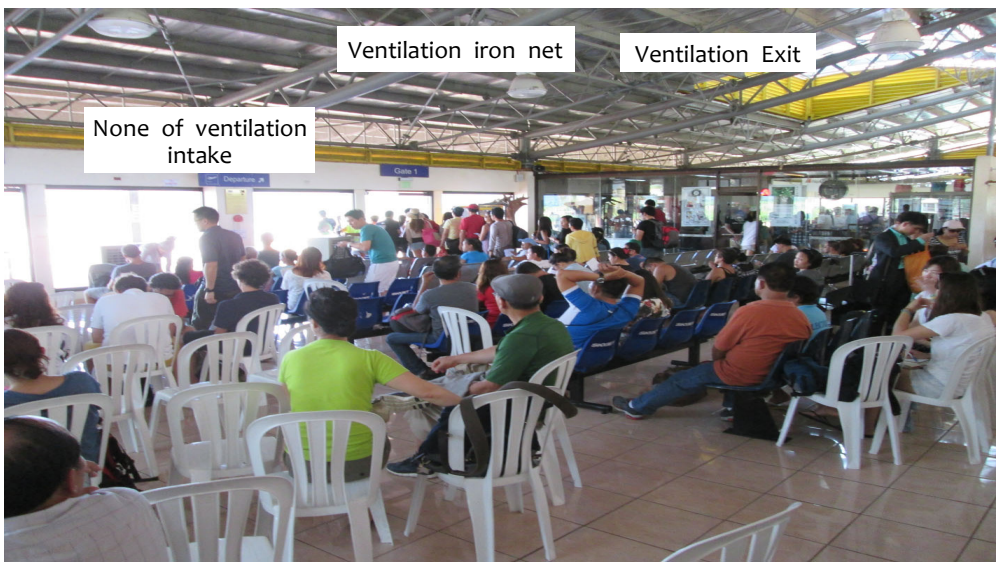
<Photo 4-6> Paved Runway before the Rehabilitation
(Repaired during the Recovery Development Period)

source: Taken by the evaluation team on Aug.29th, 2013

<Photo 4-7> The Newly Paved Runway

Source: Taken by the evaluation team on Aug.29th, 2013

<Photo 4-8> Passenger Waiting Room in Terminal



Source: Taken by the evaluation team on Aug.29th, 2013

(4) Observation and Evaluation of Aviation Safety and Passenger Convenience

Through the above surveys of airline crews and ground workers, it was confirmed that aviation safety has been improved, but when it comes to safety concerns related to operating a 70-80 seater aircraft, it was found that there are safety risks, and furthermore it was recognized that investment priority issues are runway extension, runway lighting installation, expansion of baggage inspection area and installation of Xray Visualizer.

On the other hand, the inhabitation of birds in the terminal must be recognized as a threat to the safety measures, and therefore it is necessary to take countermeasures to block their habitation as soon as possible.

In terms of improving passenger convenience through the passenger survey, with regard to the overall appraisal of Busuanga airport as a local airport, the survey showed that 72.5 percent were satisfied with the current airport situation. Also, 67.5 percent of passengers answered that their anxiety about the

airport including take-off and landing bumps was tolerable.

While waiting for the flight in the airport terminal, 67.5 percent of passengers said that the humid and hot environment was the most inconvenient factor, but could be tolerated for one or two hours; however, the highest concern (32.5%) was the frequency of flight schedule changes rather than matters of convenience and safety issues.

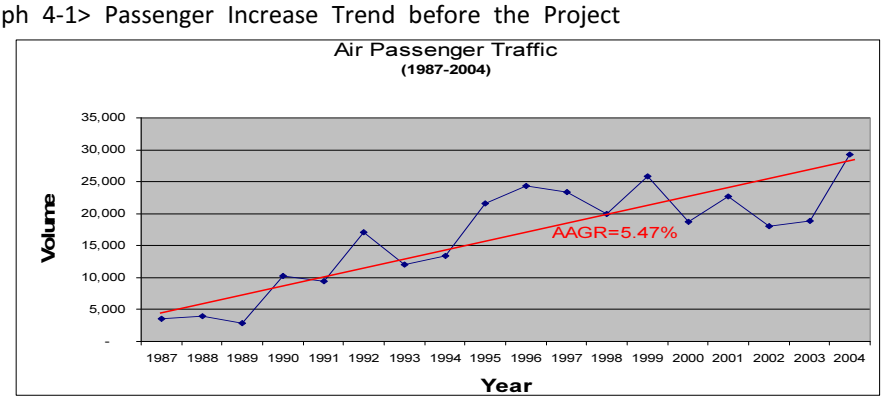
2) Effectiveness Associated with Economic Aspects

(1) Research outlines

The evaluation team organized a meeting with Mr. Pangilinan, the Ministry of Transportation (DOTC) Airport Development Planning Deputy Director, and Mr. Gamosa, Airport manager of the Civil Aviation Authority in the Philippines (CAAP) on August 30th. The Deputy Director of the DOTC explained the increase trend of passenger since the airport was developed.

From 1987 to 2004, the number of airport passengers climbed steadily, with an average annual increase of 5.47 percent despite the poor airport conditions, which is shown in <Graph 4-1>. Since the KOICA funded development, the average annual increase has skyrocketed to 58.1 percent for the last four years from 2009 to 2012.

<Graph 4-1> Passenger Increase Trend before the Project



Source: DOTC in the Philippines

The reasons why the number of passengers has increased so rapidly, can basically be attributed to the upgrade in aviation safety through the project funded by KOICA. Under these circumstance the airlines' aviation capacity was improved from 19-seaters to 50~70~80-seaters and even to 90-seaters in peak season, as is shown in <Table 4-5>.

In addition, more airlines than before have provided service to the airport since 2009. As of June 2013, a total of five airlines are providing service to the airport, as shown in <Table 4-6>.

<Table 4-5> Airlines flying at the Busuanga Airport as of June 2013

Airlines	Aircraft	Seats	Flights No. per week	Seats per weeks	Ratio of share(%)	Route
PAL, Express/Air Phil	DH4	76	10	760	89.2	MNL
Cebu Pacific	ATR72	72	18	1,296		
Zest Air	MA60	60	11	660		
PAL Express/Air Phil	DH3	56	2	112	3.7	PPS
Cebu Pacific	ATR72	72	3	216	7.1	CEB

Source: DOTC in the Philippines

<Table 4-6> Annual Status of Airlines flying at the Busuanga Airport

Airlines	2006	2007	2008	2009	2010	'11	'12	'13	notes
SeaAir	2times/day	2times/day	2times/day						19~50 seater
Asian Spirit	2/MWF	2/MWF	2/MWF						
Cebu Pacific				2/day	2/day	2/day	2/day	2/day	50~70~90 seater
Air Phil				2/day	2/day	2/day	2/day	2/day	
Zest Air				2/day	2/day	2/day	2/day	2/day	
Pal Express				2/day	2/day	2/day	2/day	2/day	
SkyJet								2/MW	

Source: Busuanga airport in the Philippines

(2) Passengers and Air Cargo increase trend for 2001-2012

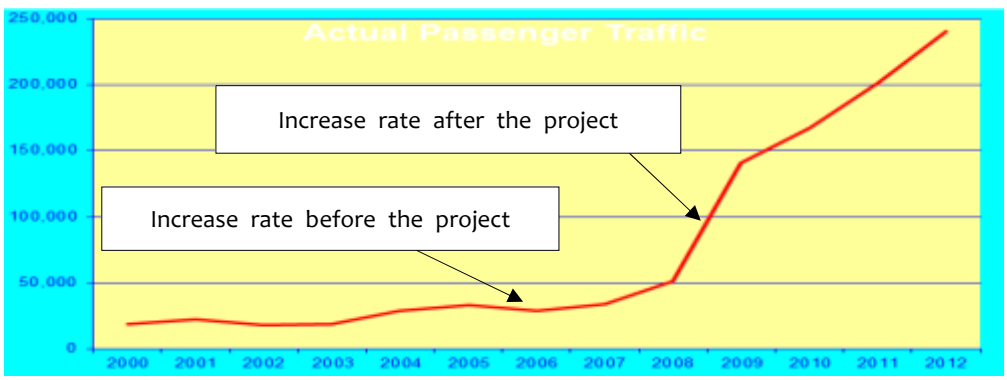
<Table 4-7> noted that the number of passengers increased by 9.6 times, and cargo to 19.3 times during 2001 to 2012. Before the period from 2001 to 2007, the project was completed, while the number of passengers increased by 16.2 percent annually, but in 2009 the number of passengers jumped up by 174.3 percent in the next year after the airport was completed. Furthermore, since the airport was completed in September 2008, the passenger increase from 2009 to 2012 was an average of 58.1 percent per annum as shown on <Graph 4-2>.

<Table 4-7> Passengers, Cargo increase trend of the Airport, 2001~12

Year	Passenger (people)	increase rate %	Cargo(kg)	increase rate%	operation frequency	increase rate%
2001	22,704		146,179		3,590	
2002	18,037	-20.6	160,963	10.1	2,310	-35.7
2003	18,878	4.7	74,976	-53.4	1,124	-51.3
2004	29,246	54.9	120,269	60.4	2,108	87.5
2005	33,213	13.6	741,368	516.4	4,496	113.3
2006	28,867	-13.1	850,291	14.7	3,804	-15.4
2007	33,673	16.6	792,505	-6.8	4,278	12.5
2001~2007		16.2		90.2		18.5
2008	51,431	52.7	1,235,274	55.9	3,376	-21.1
2009	141,093	174.3	1,656,966	34.1	3,690	9.3
2010	167,785	18.9	1,544,706	-6.8	3,670	-0.5
2011	201,550	20.1	2,469,255	59.9	5,652	54.0
2012	240,347	19.2	2,972,884	20.4	5,688	0.6
2009~2012		58.1		26.9		15.9
average rate		31.1		64.1		13.9
rate 2001~2012		958.6		1933.7		58.4

Source: DOTC in the Philippines

<Graph 4-2> Passenger Increase Trend in the Airport, 2001-2012



Source: DOTC in the Philippines

According to the data from 2003 to 2012 from the Civil Aviation Authority (CAAP), before the project was completed, the airport used to stop flight operations in the rainy season, as shown in <Table 4-8>, since the project was completed, the airport has been able to be operated throughout the whole year, and this has caused one of the sharp increase of passengers as well as air cargo movements.

In this regard, the evaluation team requested the City of Coron and CAAP for the monthly data on the marine transportation logistics during the rainy season when the airport used to be closed before the airport was developed, but could not get the data.

On the other hand, the number of operating months in the airport in 2008 was 10 months, but in 2009, was 12 months, if taking into account this fact in statistics, the figure of passengers may be adjusted from 52,431 to 61,717, and then the passenger increase rate in 2009 might be adjusted from 174.5% to 128.6%, and then consecutively the average rate of increase during 2009 to 2012 would be calculated as 46.7%, which is lower than the DOTC level of 58.1%.

<Table 4-8> Annual Increase rate and Flying Months in 2003-2012

Year	Passengers	Rate of increase%	Cargo	Rate of increase%	Fight Months	Duration (Month)
2003	9,352		74,975		1, 2, 3, 10	4
2004	17,422	86.3	111,989	49.3	1, 2, 6, 8, 10, 11	6
2005	33,213	90.6	741,368	562	2-12	11
2006	28,867	-13.1	850,291	14.7	1, 4, 5, 7-12	9
2007	33,673	16.6	829,650	-2.0	1-7, 10-12	10
2008	51,431	52.7	1,235,274	48.9	1, 3-7, 9-12	10
2009	141,093	174.3	1,656,966	34.1	1-12	12
2010	167,785	18.9	1,544,885	-6.8	1-12	12
2011	201,550	20.1	2,469,434	59.9	1-12	12
2012	240,347	19.2	2,972,884	20.4	1-12	12

Source: CAAP in the Philippines

(3) Prospects of Mid and Long-Term Effects

In August 2008, DOTC in the Philippines entrusted Schema Konsult Inc. to forecast the long-term demand as part of the comprehensive Busuanga airport development plan shown in <Table 4-9>, and the result was recently complemented.

<Table 4-9> Mid Long Term Passenger and Cargo Increase trend of the Airport

Period	GRDP growth rate %	Passengers (people)	Increase rate%	Cargo weight(kg)	Increase rate%
2010-2012	3.56	227,298		2,972,884	
2013-2017	4.00	279,731	4.61	3,433,410	3.09
2018-2022	3.80	453,670	12.40	5,467,239	11.84
2023-2027	3.60	699,251	10.83	8,338,764	10.50
2028-2032	3.40	978,482	7.99	11,603,758	7.83
2033-2037	3.20	1,291,957	6.41	15,269,158	6.31
Average			8.45		7.91

Source: DOTC, F.S. Update of Busuanga Airport Development Project 6~8p, 2013

According to the data, the number of airport users for 25 years from the year 2013 to the year 2037 will be expected to increase by about 8.45% per annum, while cargo movement will increase by 7.91% per annum. Then, the number of airport users will be one million people in 2030.

However, considering that after the project was completed, the number of airport users increased much more sharply than had previously been forecasted, this prospect seems to be rather conservative.

The potential tourist attractions could exceed the prospect, however, the real increase rate will depend not only on the airport development but also on the hotel, resort and social and environment infrastructure development, etc..

(4) Observation and Evaluation regarding the Effectiveness

Even though the aircraft could not be operated in the rainy season, from 1987 to 2004 the average increase rate of passengers marked a moderate annual increase rate of 5.5 percent. However, after the airport development by KOICA from 2009 to 2012, the rate of increase skyrocketed to 58.1 percent and is expected to increase steadily at over 8 percent annually during next 25 years. This can be interpreted as an accomplishment of mid-term goals and further will affect local economic development and bilateral interactions between the two countries from the long-term point of view.

4. Impact

1) Research and Appraisal Outline

The survey about impact assessment originating from the development of the airport was focused on identifying the ripple effects on industry in Coron and

Busuanga through interviews and meetings with mayors and 12 local business representatives, including hotels, restaurants, resorts etc..

2) The Survey Results

(1) A Ripple Effect on Local Industry

While the evaluation team meeting the mayor of Coron Ms. Fems Reyes on the 29th of August, she asserted clearly that the development of the airport contributed to local development, because the number of tourists became relatively sustainable even during the rainy season.

According to <Table 4-10>, the number of inbound tourists in 2006 was only 2,580, but in 2012 the number jumped up to 84,649, a 32-fold increase. Accordingly, accommodations, guest rooms, and the number of employees related with tourists as described in <Table 4-11> increased by 1.5 times, 1.8 times, and 1.6 times, respectively.

<Table 4-10> Trend in Increase of Tourists through the Busuanga Airport

Year	2006	2007	2008	2009	2010	2011	2012
Tourists (ppl)	2,580	6,260	13,849	38,489	50,134	65,901	84,649
Rate of increase %		142.6	121.2	177.9	30.3	31.5	28.5

Source: Ministry of Tourism in the Philippines, August 2013

<Table 4-11> Increase Trend of Accommodations in Coron City, 2010~2012

Year	2010(A)	2011	2012(B)	Increase of Multiple(B/A)
Number of accomodations	42	55	64	1.5
Number of room	499	655	922	1.8
Number of employee	281	354	450	1.6

Source: Coron city, Palawn province in the Philippines, August 2013

(2) Status Improvement of Coron

Coron's revenue, as shown in <Table 4-12>, was 3 million pesos in 2006 before the airport was developed, and increased to 7.3 million pesos, a 2.3-fold increase, by 2012.

Owing to the improved fiscal balance of the city of Coron, the city's status in Palawan province was upgraded firmly to first grade, and moreover as shown in <Table 4-13> the city has won the first rank in tourist attractions in the Philippines for three consecutive years, 2008 to 2010.

<Table 4-12> Increase Trend of Revenues in Coron City

	2006	2007	2008	2009	2010	2011	2012
Revenues (1,000php)	3,040	2,650	4,827	4,493	7,373	5,524	7,300
Increase rate %		-12.8	82.2	-6.9	64.1	-25.1	32.2

Source: Coron city, Palawn province in the Philippines, August 2013

<Table 4-13> Increase Trend of Tourists in the Philippines in 2008~2010

(Unit: %)

Ranking	Region	2008	2009	2010	Average
1	Coron City	123.8	179.2	30.2	111.1
2	Cam Sur	57.8	117.3	20.3	47.7
3	Palawan Prov.	24.1	32.9	45.3	34.1
4	Pto. Princesa	25.7	21.3	55.3	34.1
5	Zambales	106.4	4.8	-23.4	29.3
6	Metro Manila	28.9	6.8	17.0	17.6
7	Ilocos Norte	-0.6	5.4	-27.5	7.6
8	Bohol	15.4	10.9	-20.2	2.0
9	Boracay	6.3	2.4	-6.5	0.7
10	Negros Oriental	15.1	8.7	-27.0	-1.1

Source: The Philippines Ministry of Tourism, 2010 data based on Jan~Sep rate of increase

(3) Natural Environmental Features become Tourist Attractions

The Mayor of Coron emphasized in the meeting mentioned previously on the 29th of August that the remarkable increase in the number of tourists was basically due to the blessings of the natural environmental features, as the area is surrounded by four mountains, and is not affected by typhoons, tidal waves or earthquakes.

She predicted this region will be developed as a tourism hub in Asia, and that tourism-related industry will thrive as well.

From the perspective of the evaluation team, the region looks like a crystal clear inland lake because there are none of the visible rises and falls of the daily tide, and typhoons used to bypass the area due to the blockage effect of mountains.

Typhoon Haiyan, which made world weather records on the 10th of November, did hit this area, but the damages were relatively lower than in other areas.

3) Responses from the Regional Business Representatives

Among 20 businessmen in the Coron region, seven responded to the request for an interview and five people sent back answers to the questionnaire. The major information gained from interviews with nine people are as follows:

There was no tourism in the rainy season before the airport was developed, but tourists now steadily come even in the rainy season due to the airport's development, and this enables them to manage the business all the year around, and thus tourist related hotels, restaurants and resorts are increasing rapidly.

Regarding tourist resort patterns, in the early days, tourists mostly came for sightseeing and hospitality, but now are inclined to transfer to enjoy activities such as swimming and diving. Most visitors have come from Europe and China, but Japanese and Korean visitors are so rare.

In terms of environmental protection, residents in Coron seem to be participating

in a self-purification movement by organizing a variety of environmental associations.

Taking into consideration the response from the business representatives, they are worrying about the cancellation of accommodations due to changes in the flight schedule.

4) Observation and Appraisal Related to Impact

According to the Mayor of Coron, the number of hotels, restaurants and resorts in Coron increased by about 1.5 times from 2010 to 2012, and tax revenues in 2012 were up by 2.3 times compared to 2006.

On the other hand, Coron has won the first rank in attracting tourist on average of 111 percents for the consecutive 3 years from 2008 to 2010.

Affected by those results, the overall status of Coron in Palawan province was upgraded from a third level to a first level municipality.

During the interview, the businessmen responded that consistent business management all year around even in the rainy season was a great ripple effect of the airport's development.

In terms of accounting for these items comprehensively, it can be confirmed that the effects of the airport's development are now rippling over the nearby regions.

However, Coron is just 28km away from the airport, and it takes more than one hour to get to the airport, and 3 hours and 30 minutes to Calauit Safari Park by boat. This means that there is a restriction in terms of connecting tourist attractions under the current road system, and it was also not easy to access the internet, even in the evaluation team's lodging hotel. In this sense, to encourage a greater impact, the development of social infrastructures such as road construction, electricity supply, and upgrading of the communication system, is essential.

5. Sustainability

1) Research and Appraisal Outline

Evaluation of the sustainability criteria was focused on the obstacles to the future sustainability of the airport. Currently, the potential obstacles gotten through the evaluation team's research activities are aviation safety risk, lack of sustainable maintenance capacity, necessity to review the new master development plan and considerations of intermediate priority works before the master plan will be completed.

2) In-depth Analysis of an Aviation Safety Risk

(1) The Issues Raised

In conjunction with the expansion of aircraft types, from 50-seater at most in the airport design to 70 to 80-seaters, on the survey question related to safety, one company responded 'refuse to answer' and the other 'thank God.' For passengers responding to the questionnaire on Busuanga airport, their highest interest was in 'frequent changes of flight schedule' rather than safety and convenience, which in other words, can be understood as being related with the safety issue eventually.

Upon putting together the responses, it is perceived that aviation safety risk exist potentially.

(2) An Analysis of Airline Movement Route on the Current Runway during Landing

In terms of the practical airline movement on the runway, the usable landing runway length is only about 650 meters from "the touchdown point to the apron entrance," as shown in <Figure 4-6>.

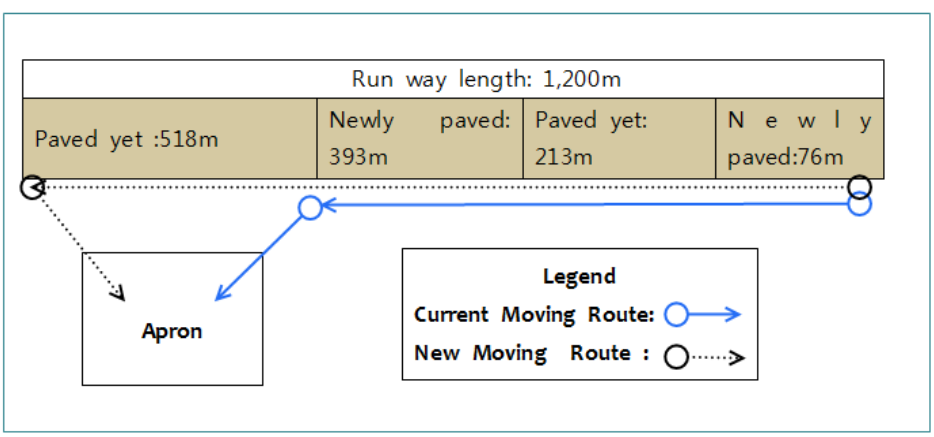
Meanwhile, according to data of the airline manufacturing company, the aircraft landing runway lengths required by the 50-70-80-seaters are 1,040m, 1,067m, and 1,287m, respectively, and thus the runways for the 50-70-80-seaters are shorter than the required length by 390 meters, 417 meters, and 637 meters respectively.

To achieve a safe landing on a shorter runway, the airlines first should take a few measures to minimize the aircraft's gross weight.

To this end, Airlines should weigh all passengers and luggage in the process of ticketing, and upon landing the aircraft navigator must control the brake system in a shorter period of time. This will cause passengers to feel bumps and vibrations, and may lead to runway concrete fatigue.

In order to solve the problem of a short usable landing runway, first of all the following aircraft moving route adjustment on the runway is recommended:

<Figure 4-6> Aircraft Moving Route on the Runway



Even if aircraft movement is adjusted to the route shown in <Figure 4-6>, sufficient landing runway length is not secured for all aircraft, but the significant safety risks will be mitigated.

(3) An Analysis of the Takeoff Runway

As shown in <Table 4-14>, the take-off runway length of the 50-seater is 20 meters longer than the requirement, but for the 70-seater and 80-seater it is 90 meters and 202 meters shorter than the requirement, respectively.

<Table 4-14> Criteria(constraints) of the Runway Design

	Aircraft type	Takeoff runway(m)	Landing runway(m)	Takeoff weight(kg)	Criteria of runway concrete
Design criteria (A)	Bombardier Dash7-Q300 (50 seater)	1,200	1,200 (Real:650m)	20,000	Strength: 650psi Depth: 25cm takeoff/year: 1,040 times
Type of operating aircraft (B1~3)	Dash7-Q300 (50 seater:B1)	1,180	1,040	19,958	Real No. of take-off: 2,246 times
	ATR72-500 (72 seater:B2)	1,290	1,067	22,800	
	Dash8-Q400 (76 seater:B3)	1,402	1,287	29,260	
	A-B1	+20	+160 (-390)	+42	No. of excess: 1,206 times
	A-B2	-90	+133 (-417)	-2,800	
	A-B3	-202	-87 (-637)	-9,260	

Source: Design Report on Busuanga airport by Daewoo Engineering and Schema Konsult, page 4-2, 5-1, 6-4 March 2007, ATR and Bombardier Company Homepage.

(4) An Analysis on the Possibility of Runway Concrete Fatigue

On the other hand, the takeoff gross weight of the design criteria for the 50-seater is limited to less than 20,000 kg, and the number of annual takeoffs is limited to 1040. It is judged that the limitation of gross weight and the takeoff number are set to prevent premature fatigue of the runway concrete.

However, standards of take-off gross weight for 50-70-80-seaters, as shown in <Table 4-14>, are 19,958kg, 22,800kg, and 29,260kg, respectively, which means

that the 70-seater and 80-seater exceed by 2,800kg and 9,260kg respectively over the limit 20,000 kg.

Meanwhile, the number of take-offs are limited to 1040, but at the end of 2012, the annual number of flights was marked as 5688, as shown in <Table 4-7>. Since the number of commercial flights is calculated as 4,493 times which is equivalent to 78.9% of the 5,688 total flights, then the number of takeoffs is 2,246 times. This is 2.2 times higher than the designed number, so it is a concern that the runway concrete fatigue phenomena will occur sooner or later.

(5) Fatigue signs on runway concrete

It was not entirely predicted that concrete fatigue would be raised as an issue before starting the site research in the Philippines on 26th of August.

Before the airport development, the runway status as shown in the <Photo 4-8> was deemed to need additional repair.

Meanwhile, according to the Busuanga airport budget proposal to CAAP given in <Table 4-15>, 40 million php (equivalent to $95 million) is allocated for the runway repair sector, which is the amount required for overall recovery works, so it is doubtful that the runway concrete fatigue phenomena is occurring now.

<Table 4-15> Busuanga Airport 2013-14 Budget Proposal

	Item	Sum(1,000php)	($1,000)
Investment in airport infrastructure	Repair runway	40,000	952.4
	Repair airport access road	3,000	71.4
	Repair parking lot	3,000	71.4
Subtotal		46,000	1,095.2
Administration of facility	Facilities waterworks	1,000	23.8
	Safety Fence	1,000	23.8
	Guard Fence	1,000	23.8

	Item	Sum(1,000php)	($1,000)
	Repair Terminal B/D	1,000	23.8
	Repair fire extinguisher	500	11.9
	Administration center	350	8.3
	Airport director office	350	8.3
	Paint runway signpost	350	8.3
Subtotal		5,550	132
Total		51,550	1,227.2

Source: Busuanga airport

(6) Observation and Appraisal related to the Aviation Safety Risk

As mentioned in the above clauses, it was recognized that the Busuanga airport design strictly regulates the take-off and landing runway length, the maximum takeoff weight and the annual numbers of take-off.

However, in practice the landing runway length is 1,200 meters, though the usable runway length is just 650 meters. Even the 50-seater must land on a runway that is 390 meters shorter than the required lengths.

In this context, during the process of developing the airport in 2006, the apron and the terminal building should have been relocated, if possible, so as to secure a long enough distance for the landing runway nearby the southern end of the current runway.

In regard to the takeoff runway, the current one is 202 meters shorter than the required takeoff runway length for the 80-seater, and it is judged that the excess 202 meters of the takeoff runway length cannot be ignored in terms of continuity for the safer airport operation of the 80-seater airlines. The takeoff gross weight level for the 80-seat aircraft exceeds the required level by as much as 9,000kg.

The evaluation team checked the reasons why the DOTC or CAAP in the Philippines authorized the 70~80-seaters to provide service to the Bususanga

airport.

In the design report, Busuanga airport is classified as code '3-C', in which the runway length is defined from 1,200m to 1,800m, and the wingspan width is defined from 24m to 36m, as shown in <table 4-16>.

The evaluation team found that the design report might have made the mistake of over-classifying the code for the Busuanga airport.

If the maximum runway length is 1,200m or less, then the runway code number should be classified as code 2, and the wingspan can be classified as type C. The integrated code should be corrected as code '2-c.'

Therefore, it is construed to the evaluation team that DOTC and CAAP might have abided by code '3-c' for Busuanga airport without adopting the specification required for the aircraft.

Accordingly, if all risk factors mentioned in the above are integrated, the evaluation team concluded that aviation safety risk cannot be overlooked without failure, and that it is necessary eventually to make a technical diagnosis on the overall aviation safety system.

<Table 4-16> Runway and Wingspan Length by Aerodrom code

Aerodrom Code Number	Reference Runway Length(m)	Aerodrom code Letter	Wingspan width (m)
1	<800	A	<15
2	800<1200	B	15<24
3	1200<1800	C	24<36
4	≧1800	D	36<52
		E	52<65

Source: ICAO Aerodrom Code, Design Report of Busuanga Airport, March 2007

3) An Analysis of the Airport Maintenance

(1) Research Overview

The airport maintenance and management issues are key factors for the sustainability of the airport, and one of the elements of the evaluation related to the exit strategy as well. Therefore, the evaluation team tried to make an effort to confirm the related information through multiple interviews with the director of Busuanga airport, the mayor of Coron, and the central airport management manager from the Civil Aviation Authority (CAAP), and the confirmed practices were identified as follows.

(2) The Results of the Interview with the Airport Director

a. First interview

Upon arrival at the Busuanga airport in Coron on August 27, the Evaluation team had an interview with Airport Director Mr. Alejandro Galasi Jr. First of all, the team asked for the airport maintenance and financial statements, and income sources, including the airport passenger usage fees. Mr. Galaci replied that all incomes and expenditures of the airport were managed by the Central Civil Aviation Authority, so they were not able to independently manage their airport facility maintenance and financial statement.

On a monthly basis, twenty thousand pesos is supplied from the CAAP, however much more money should be allocated for operating the generator with capacity 30kva, so the Busuanga airport's financial situation is getting worse.

Meanwhile, an airport usage fee of 50 pesos is being charged to outbound passengers, an increase from the previous level of 20 pesos that was implemented in July 2013.

Due to the scarcity of operating funds, the Starex automobile donated by

KOICA in 2008 was out of order by the end of 2012, and up to now has been left as it was. The surface concrete at the parking lot was worn down less than a year after the project was completed. However, no repair service has been provided by the contracting companies, because no repair service contract between the airport and the participating companies was made at the end of the project.

The team checked the registration and maintenance status of equipment such as fire engine and weeder; however, all airport facilities and equipment were not registered and could not be managed as the assets of DOTC or CAAP; in practice, the operating fund for unlisted assets cannot be supported by the national budget according to fiscal regulations.

b. Second interview

Before leaving for Manila on August 29, the evaluation team, accompanied by KOICA's Vice Representative in the Philippines Mr. Dong-gil Oh, had 2nd interview with Mr. Galasi, Airport Director.

First, the team took over the documents recommended by the Director to the CAAP related with airport maintenance, administration and passengers' complaints, major documents are listed in the <Attachment 6-1,6-2>.

On the other hand, the team attempted to investigate the runway status but it was hard to do that on foot without any means of transportation.

Before leaving the airport, the team examined the toilet environment, baggage check point, immigration inspection process and passenger waiting space in the terminal.

The toilet water flushed quite well but had a foul odor, the baggage check and immigration area looked narrow and the passenger waiting room, which had about 150-seats including additional chair arrangement, was crowded with about 130 passengers for Cebu line and Manila line, which were scheduled to take off every half hour.

(3) Results of the Interview with Mayor of the City of Coron

The Evaluation team had a small meeting with Coron Mayor Fems Reyes and Busuanga Mayor Samuel A. De Jesus on August 28th.

At the meeting, Mayor Fems explained the passenger complaints re: the airport toilet as presented in <Attachment 6-1>, and said that she could not remain indifferent about the situation, and ultimately provided soap and tissues at her own expense and set up a cleaning day once a month, and the city introduced a monthly survey of outbound passengers called "Exit Card System".

She explained next that Busuanga airport did not pay its electricity fee and the city had to cut off the electricity supply according to the city regulation, which resulted in a conflict with the Busuanga airport director.

However, she added that the drinking water pumping system was complete, and the drinking water and toilet flushing issues of the airport have been resolved.

(4) Interview with the Central Airport Manager

On August 30th, the evaluation team had a meeting with Airport Manager Mr. Gamosa of CAAP, who worked as the first director of Busuanga airport, and asked him many more fundamental solutions on the airport maintenance issues.

He explained to the team that CAAP implemented policy measures to improve the maintenance level of regional airports by increasing the airport fee from 20 pesos to 50 pesos starting July first, and that this is expected to improve the quality of each airport's financial affairs.

The team reminded him that if the airport maintenance issues such as the toilet problem in Busuanga Airport and the wild birds inhabitation in the terminal building remain unresolved, those issues might negatively affect perceptions of Korea, because the airport development project was supported by the Korean Government through KOICA.

Regarding the financing for sustainable management, the team raised several ideas, such as to create an independent fund with additional charges for foreign tourists.

(5) Observation and Evaluation on the Maintenance

The airport has been being revitalized since the project was completed in 2008, and it is expected that ways to promote its sustainable maintenance will be found as well.

On the other hand, Schema Konsult Ltd. proposed in the Busuanga airport master development plan in August 2008 that the airport fee should be raised to 240 pesos for long-term self-reliant management.

However, the capital required for sustainable management cannot be funded through an airport usage fee alone.

The beneficiaries of the airport development are potentially numerous enough to secure the capital funding necessary for self-reliant management, and these can be categorized into individual passengers, airline companies, regional tourist business representatives, and Coron and Busuanga city administrations.

Therefore, in the context of the user pays principle and the civil aviation management system criteria, an establishment of independent management fund for Busuanga airport seems to be necessary.

With regard to the airport management capacity building for officials working in the airport and in the CAAP, it is recommendable that KOICA, through close cooperation with DOTC, can consider providing spot advisory or longer-term invitational training programs for related officials.

4) An Analysis of the Master Development Plan of the Busuanga airport

(1) Background of the Master Development Plan

The DOTC in the Philippines recognized the Busuanga airport development project as an interim rehabilitation project, and entrusted Schema Konsult Inc. to study the "Feasibility and Master Plan of Bususanga Airport Development," and the service result was submitted to DOTC in August 2008.

According to the report, the current runway is problematic for aviation control because the mountains on both sides may hinder the aviation communication and the aircraft's landing and takeoff. Considering the potential for a continuous increase in the number of passengers in the future, jet aircraft flight should be prepared for as well.

(2) The Outline of the initial Master Development Plan

a. Implementation in 3 phases

The aviation demand trend from 1987 to 2004 was moderate, at a rate of 5.47%, and therefore the master development plan was subject to be planned in 3 phases from 2015 to 2020, and to 2030 as presented in <Table 4-17>.

b. The Current Runway System Effective until 2020

The main development work was scheduled to be implemented after 2020; in other words, the current runway system including direction would be effective until at least 2020.

<Table 4-17> Major Elements of the Master Development Plan of Busuanga airport

	Clause	Prospect		
		2015	2020	2030
1.Air logistics	passenger(1,000ppl)	67.8	88.7	151.4
	cargo(year, ton)	1,818	2,228	3,381
	Frequency of flight (Commercial)	3,873 (3,070)	2,966 (2,036)	2,263 (1,014)
2.Peak hour passengers		116	151	258
3. Runway	length	1,200	1,200	2,100
	width	30	30	45
4. Terminal	M2	1,200	1,600	2,600
4. Necessary funds	million pesos ($1,000)$:42Php	273.6 (6,510)	430.1 (10,241)	2,558.6 (60,919)

Source: Schema Konsult Inc. Feasibility and Master Planning Study of Bususanga Airport Development, August 2008

c. Main project was focused on reorienting the runway direction

The main project was focused on reorienting the runway direction from the current N84° 49′ 56″ E to N95° 36′ 06″ E, then rotating it to east 10° 48′ 10″, and extending its length and width from the current 1,200m by 30m to 2,100m by 45m.

(3) The Outline of the Updated Master Development Plan

a. Background of the updated master development plan

The evaluation team had a luncheon meeting with Deputy Director Mr. Pangilinan of DOTC in the Philippines on August 30th at Manila Hotel. On the background for updating the initial master development plan, he explained that the previous master plan was prepared on the basis of a mid-term airport users demand trend of 5.47% from 1987 to 2004, per annum; however the trend from 2001 to 2007 went up by 16.2% per annum than the front trend; more over, after the airport was developed in 2008, the number of airport passengers from 2009 to 2012 jumped by 58.1%.

He added, on the other hand, that Busuanga airport's processing volume including passengers and cargo as of 2012 had already reached the level of the top three airports in the Philippines, as shown in <Table 4-18>, and considering that the runway lengths at these airports are over 1900 meters and flying airlines are jet engine 150-seaters, in this context the Busuanga airport development plan must be accelerated, and the development period updated from 2013 to 2017, which was already advanced from the initial development time after 2020.

<Table 4-18> Comparison between Busuanga airport and the first class regional airports in terms of the traffic capacity

Annual base	Busuanga airport		The first class airports		
	2012	2017	Cotabato	Tuguegarao	Roxas
Passengers	240,347	453,670	246,209	223,907	217,552
Flights	5,688	5,688	3,174	3,680	2,038
Cargo(kg)	2,972,884	5,467,239	1,747,866	1,613,718	2,601,241
The aircraft	T.Propeller (ATR72,Q400)	Jet A319,B737)	Jet (A319,B737)	Jet (A319, 737)	Jet (A319,B737)
Runway length(m)	1,200 x 30	2,000 x 45	1,913 x 45	1,966 x 45	1,890 x 45
Apron(m2)	16,405	17,000	25,600	17,316	12,320
Terminal (m2)	1,350	1,650	1,152	960	896

Source: Busuanga Airport Development Project, DOTC in the Philippines Aug. 2013

b. An outline of the updated master development plan

The current runway axis was also adjusted, from the existing N84 ° 49'56 ″ E to the N99 ° 36 '06 ″ E; that is, rotated from North to East 14 ° 46 '46 ″ .

The runway by the first phase will be developed to 1,500m in length, and extended to 2,100m in length by the second phase.

Terminal building will be relocated from the existing passenger terminal building to the southern area. The final required investment amount is estimated as $70 million, including direct costs of $56 million as described below <Table 4-19>.

<Table 4-19> Cost Estimation of Busuanga airport Master Development

	Sum	Note
Direct cost (million pesos), ($ million)	2,348.6 (55.9)	1$/php: 1/42
Indirect cot (million pesos), ($ million)	619.0 (14.7)	
Total	2,967,6 (70.7)	

Source: DOTC in the Philippines

(5) Observation and Appraisal related to the Master Development Plan of Busuanga airport

Considering the increasing number of passengers and cargo amount in short and long term trend as shown in <Table 4-7> and <Table 4-9>, it seems inevitably necessary to adjust the scale of the Busuanga airport facility.

But based on the preliminary study made by the evaluation team, which is shown in <Table 4-20>, it is judged that the geographic obstacle posed by the neighboring mountains to an extra extension of the current runway, under the condition that the airport can keep the current one-way pattern of landing at the northern end and takeoff from the southern end, seems not to be problematic, and that in addition, the radio communication barrier issue of the flying aircraft with the airport control tower being raised by the Schema as well, can be resolved if the relay antenna system will be installed at the proper site as shown in the <Graphic 4-1>.

Under the proposed new runway, the direction of landing and takeoff of the aircraft can be usable for two ways. But in terms of the designed runway and position of apron and terminal building as shown in <Graphic 4-2>, the landing and takeoff of the aircraft is structured mostly in one way; that is, landing through the southern end, taking off from the northern end of the runway opposite to the current direction.

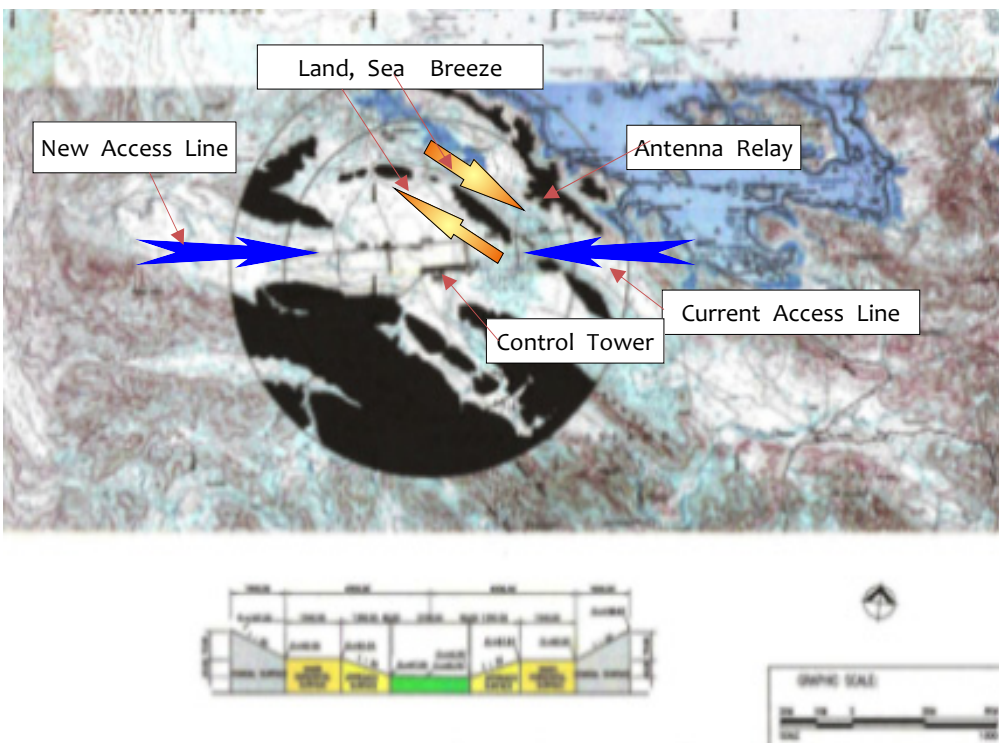
In terms of visibility due to heavy fog, the proposed new runway seems to be worse than the current one, in terms of the wind direction, the new runway offers advantages compared to the current one, but considering that the wind direction of Busuanga airport usually depends on the land breeze in the morning and sea breeze in the afternoon, the wind speed is mostly mild, and does not affect the direction of aircraft landing and takeoff.

In the context of the complex relationship between weather conditions and topographic features, the airport is located in the basin in the island, which

usually brings about frequent foggy days in the morning, even if it usually does not take long due to the qualities of the maritime climate.

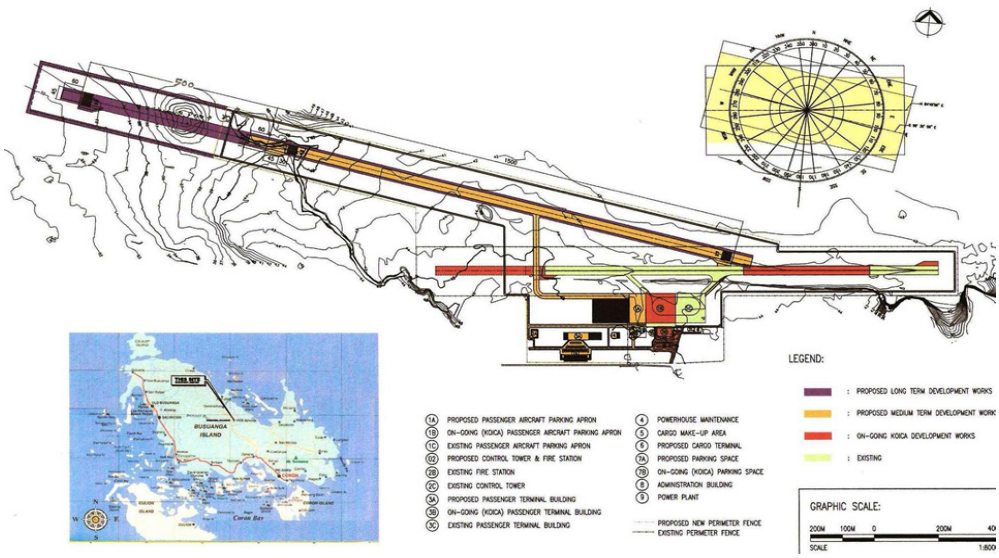
Therefore, it is judged that it is necessary to perform a comparative technical feasibility review on the new development and the sustainability of the current runway including the impact of topographic obstacle, fog, wind.

<Graphic 4-1> Obstacle Limitation Surface(OLS) of Busuanga Airport



Source: The Philippines CAAP and DOTC

<Graphic 4-2> The New Master Development Plan Drawing of Busuanga Airport



Source: The Philippines DOTC

<Table 4-20> Simple Analysis of the Current Runway & the New Runway

	Topographic constraint	Communi-cation Barrier	Wind Direction Impact	Visibility impact	Invest-ment cost
The Current Runway (Landing through N. point, Taking off from S. point)	No problems if current direction maintained.	To be solved by installing a relay antenna	Land & sea breeze, low impact	Better	$ 50 million
The new runway (Mostly Landing through South point, Taking off from North point)	Two ways of flight available, but not freely.	To be solved by installing a relay antenna	Better	Frequent fog	$70 million

5) Observance and Appraisal related to Sustainability

If summing up the above analysis on the three factors such as the aviation safety, maintenance and the new master development plan, it is judged that the airport can hardly sustain by itself because of the potential risk for the aviation safety, the poor maintenance conditions, and relatively long lasting development period for the new master development plan of the airport.

Therefore it is essential to take complementary measures for securing sustainability of the airport. The specific supplementary measurements will be suggested in conclusion.

6. Environmental Impact as a Cross-Cutting Issue

1) Research Overview

As described in section 3 of Chapter 1, during the President Arroyo regime, under the Medium Term Philippine Development Plan (2004-2010), Palawan Province was designated as a major tourist destination, and in this context the Northern Palawan region, a longer-term prospect, has been developed as an environmentally and socially sustainable high-value tourist area.

In this regard, during the onsite research the evaluation team checked whether the environmental measures were well executed through interviews with the Coron Mayor and business representatives.

2) Observation and evaluation

The airport is far from the residential regions, and thus noise impact on residents seems not to be a problem, but it is located within the vicinity of a national cattle ranch and an animal protection area, and thus may affect the pregnancy and birth

of cattle and wild animals.

This area is surrounded by mountain layers, and thus is not greatly affected by sea waves and tidal ebb and flow, so there are less natural self-purification movements.

This means that once contaminated, it is difficult to purify the polluted water, which will eventually discourage tourist visits.

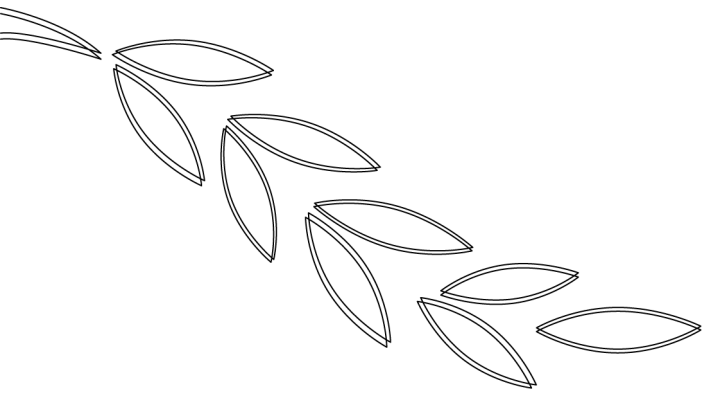
Through interviews with the Coron Mayor and entrepreneurs in the region, it was confirmed that the municipal government has been making efforts to minimize the water pollution, such as by regulating illegal immigration, setting up a garbage dump and studying the introduction of a separated garbage collection system, and most entrepreneurs are participating in the various self purification movements.

But during the on-site research the evaluation team saw that life sewage water from the floating houses was discharged into the coastal sea without processing purification, making the green algae phenomena more serious, as shown in <Photo 4-9>.

The Ministry of Culture and Natural Resources Management is placing regulation officers on the site to prevent water pollution, but the regulative administration seems to be limited in terms of its capacity to enforce the policy. The most urgent thing is constructing a waste water treatment system for the whole city.

<Photo 4-9> The Green Tide Phenomena along the Busuanga Island Coastline

Source: Taken by the evaluation team on Aug. 29th



Ⅴ. Conclusion and Suggestions

Chapter

V Conclusion and Suggestions

1. The Comprehensive Conclusion

If integrating the above evaluations by criteria, the airport users in the Busuanga airport increased moderately from 1987 to 2004 by annual average rate of 5.5%, the increase trend went up from 2001 to 2007 by annual average rate 16.2%, but since the project was completed in 2008, the increase rate from the year 2009 to 2012 skyrocketed to 58.1% per annum.

Taking into account the tourist industry-related development indices such as hotels, restaurants and resorts, and fiscal revenue data provided by the city of Coron, combined with the result of interviews with business representatives, a positive impact on the region's economic development is recognized definitely.

Even longer term, the number of airport users is predicted to increase by 8.5% annually for 25 years until 2037, and therefore a sustainable business foundation seems to be established.

In brief, it can be concluded that as of the time of this evaluation, the project objective, "airport revitalization and creation of an effective airport demand" has been mostly attained, and thus the higher development objective of "contribution to the regional economy" will be the focus and the direction. It is inferred that this remarkable outcome should be attributed to the fact that the abundant tourist potential of the Calamian Islands has gradually become known to the public, and after the airport was developed with KOICA's funding, the aviation operating capacity was increased from the 19-seaters to the 70-, 80-seaters, even the 90-seater airlines in the high season; moreover, during the rainy season the airport

used to be closed at certain times, but now can be operated all year around, which will promote the tourist industry's development.

Meanwhile, in relation to the effects related to higher-seater airlines' services, contrary to the sizable performance, it was confirmed in the process of the site research activities of the evaluation team that the current terminal congestions should be attributed mainly to flying the 70~80-seater airlines, and further, those services may be further affected for aviation safety.

For reference, the airport runway and the terminal building was designed for 50-seater airlines at most even though the airport is classified as a code 3 type airport.

According to the ICAO standards, the runway length of a code 3 type airport is defined from 1,200 meters to 1,800 meters.

To deal with increasing airport user demand, the Philippine Department of Transportation and Communication (DOTC) is setting up a new master development plan that does not extend the current runway, but involves the adjustment of runway direction and construction of a new terminal building that is different from the current one.

The new master plan may take five or ten years to fulfill. In the evaluation team's judgment, until that time it is not certain that the current airport facilities are sustainable in terms of aviation safety and maintenance system.

In this context, it is judged that an aviation expert technical safety diagnosis is necessary as a preemptive measure, and that a reliable maintenance system must be prepared, and furthermore, the technical feasibility study on the new master plan shall be reviewed again by referring to the skeptical opinions being raised in the process of the site survey and the evaluation team's different views on the topographic obstacles, which cannot be aligned with an extension of the current runway, that is the main reason why the runway of the new master plan must be reoriented.

For the sustainability of Busuanga airport to be guaranteed, the new master plan must be integrated with a social infrastructure development plan that supports the

airport's operation, including an electricity supply, construction of Busuanga Island Ring Road and measures preventing water contamination and the upgrading and development of ports and marine transportation system, etc.

It is estimated that the priority works for the sustainability of the airport prior to the implementation of the new master plan, which may depend on the result of the safety diagnosis, are recovery work on the current runway and the minimum extension to the 340 meter macadam part, the establishment of runway lighting, the upgrading of the generator, expansion of the current terminal and remodeling of drainage capacity.

Meanwhile Airport development sector in the Philippines can be considered as one of the emphases of the ODA policy as presented for the Country Partnership Strategy (2012~2016) in 2012 through Korea's related ministries.

Busuanga Airport is the first trial project among 84 regional airports in the Philippines.

In this context, it seems to be necessary for KOICA to maintain a interest in the sustainability of Busuanga airport, and the matters of works resulting from a lack of in-depth study on the natural environment impact shall be complemented in a short period of time, such as the measures to block the wild birds inhabit, complementary measures of natural ventilation in the terminal building, the installation of more electric fans, the dredging work and expansion of drainage if necessary, minimum upgrading of generator and recovery of parking lot.

In addition, it is believed that effective user demand will increase steadily as mentioned above, and in terms of commercial purposes, EDCF loans and Private Partnership Projects can be considered.

2. Suggestions

1) Common Suggestions for Both Two Countries

(1) Diagnosis on Aviation Safety and Technical Review on the Master Plan

A diagnosis of aviation safety shall be necessary as a preemptive measure, and a reliable maintenance system shall be prepared. Further technical review on the new master plan will be needed, because if it would be provided that the airport would keep the current one-way pattern landing at the northern end and takeoff from the southern end, the topographic obstacle to an extra extension of the current runway posed by the neighboring mountains seems not to be problematic on the basis of the evaluation team's observations, and other opinions on the same issue were also raised during the site survey.

(2) Priority Works prior to the Implementation of the new Master Plan

Priority works for the sustainability of the airport prior to the implementation of the new master plan, which may depend on the result of the safety diagnosis, include recovery work of the current runway and the minimum extension to the macadam-covered 340 meter airstrip, the establishment of runway lighting, the upgrading of the generator, the expansion of the current terminal and the expansion of drainage capacity.

(3) Sustainable Management of the Airport

The airport has been revitalized since the project was completed in 2008, and it is expected that approaches to sustainable maintenance will be found as well. The groups that will benefit from the airport's development are potentially

large. Considering the user pays principle and the civil aviation management system criteria, participatory cooperation from beneficiary groups such as the individual airport passengers, the airline companies, the regional tourist business representatives and regional municipalities may play a role in establishing independent fund as a fund raiser.

With regard to the airport management capacity building of officials in the airport and in the CAAP or DOCT, if necessary, the spot advisory and invitational training programs can be considered.

(4) In the Major Implementation phases, Create an Opportunity for Common Discussions between the Experts on both sides.

In order to minimize trials and errors in the future such as the incomplete natural ventilation system, the lack of measures against wild bird inhabit in the terminal building, and the drainage system that doe not well reflect geographic features, it will be necessary to create an opportunity for in-depth discussions between Korean and local experts in the process of the feasibility and design phase

In particular, it should be considered that Korean experts are not accustomed to the local culture and natural environment.

(5) In terms of Mutual Accountability, Put the Real Name Plate of Participating Agencies and Companies at a Accessible point

In terms of mutual accountability and after service system, it is recommended to put the actual name plate of all participating agencies and companies at the accessible point such as the passenger waiting room, instead of making the Korea-Philippine Commemorative Structure shown in <Photo 4-7>.

2) Lessons and Recommendations for Korea

(1) Trial and Errors resulting from the lack of Study in Feasibility and Designing shall be complemented

The target project scale is not large enough to support the implementation of incidental software processes such as feasibility study, design, evaluations, etc.

The trials and errors in the process of implementation, such as the incomplete natural ventilation system and the lack of measures against wild bird inhabit in the terminal building, the drainage system not reflecting natural features in the region were eventually attributed to a lack of in-depth study of Feasibility and Designing due to budget and time constraints.

For the purpose of maintaining the sustainability of the airport and the Korean National Identity, the items related to trials and errors shall be complemented sooner or later.

(2) In consideration of Airport Project Features, Enforce the Project Precisely and with Alternatives for Future Development.

The airport project, as a kind of social overhead capital, is directly related to safety, so it takes a lot of precision to secure safety and long term sustainability as an infrastructure facility.

In the ICAO standards, there were no specific regulations on runway concrete strength. It was necessary to reveal the concrete strength of a runway and then to provide basic information for the airlines service in order to prepare for an extension of the runway.

In terms of the longer-term airport traffic demand, the target project should be implemented with alternatives for future development by phase; for this project, the future oriented layout of apron and terminal building, and extension alternatives of the runway by phase should be prepared at that time.

(3) Make clear the mutual accountability principle on Maintenance and Management in the Annex of Records and Discussions

After the airport's development, the maintenance and management of the airport must be carried out basically by the Philippines; however, if the maintenance is neglected, it might affect the identity of Korea as well.

In relation to this, in the future it may be considered to include the mutual accountability on maintenance and after service scheme in the annex of "Record and Discussion" between the two countries.

Even now, it is necessary for KOICA's Representative office in the Philippines to monitor the registration to DOTC in the Philippines, of all airport facilities, equipment and materials funded by KOICA upon completion of the project in September 2008.

(4) Attempt to discover another similar instance

The target project can be considered a rehabilitation project, and therefore it is hard to find similar precedents.

But considering the visible performance at the expense of $3 million, it will be valuable to discover similar instances among the regional airports in the Philippines.

3) Suggestions for the Philippines

(1) Adjustment of Aircraft Moving Route on the Landing Runway

If the length of aircraft moving route from the touch down point of landing moment at the northern end of the runway to the entrance of apron area is considered to be about 650 meters, the practical usable landing runway lengths for 50-seaters, 70-seaters, and 80-seaters are 390m, 417m and 637m short, respectively, of the required runway length.

To address this problem, with the current runway it is necessary to adjust the

aircraft moving route after landing from the current touchdown- apron entrance route to touchdown-the southern end of the runway route.

(2) Establishment of Independent fund as a basis for Sustainable Maintenance

It is expected that in revitalizing airport traffic, it will not be hard to enable to find various ways of promoting sustainable maintenance as well.

In particular, the beneficiaries of Busuanga airport development, which can be categorized to individual passengers, airline companies, regional tourist business representatives, Coron and Busuanga city administrations, are large enough in number to contribute for airport capital funding directly and indirectly.

In considerations of three criteria for capital funding such as the user pays principle, capital allocation priority principle for Coron and Busuanga regions with comparative advantages to other areas in tourist attractions, a modeling practice of the civil aviation management system in the Philippines, an establishment of the independent management fund for the Busuanga airport is recommendable.

(3) Setting up a Responsible Management System for Equipment & Materials

All airport facilities including the runway, the terminal building, equipment and materials funded by KOICA must be registered and managed as assets of the national property in the Philippines.

The responsible positions in DOTC or CAAP will be designated for management and maintenance of all assets.

(4) Setting up the Comprehensive Management System of Municipal Streams and the Airport Drainage Net Work.

The airport drainage network is linked with the nearby municipal stream flow,

and if possible, it is necessary to regularly maintain the nearby stream and drainage network simultaneously, and to establish an on-off common monitoring system in preparation for possible flooding during the rainy season.

(5) Establishing a Comprehensive Data Management System on Airport Operation

It is recommendable to maintain airport operation data based on the on-off management system including traffic flow, weather data such as rainfall, fog density, wind direction and speed, temperature, flying back incidents, changes of flight schedule, etc.

(6) Transition from Single Project to Cluster Program Base backed up by SOC

The Busuanga airport development was implemented as a single project, as has been the approach thus far, but in order to encourage ripple effects of the new master development plan, it seems essential for being upgraded to a cluster program backed up by social infrastructures such as electrical power supply, road construction and life sewage disposal system for environmental protection, and the development of marine ports and coastal transportation.

4) The Matters of Interest in the process of Development and Management of the Regional Airports

The matters of interest and precaution to be taken as lessons for development and management of the regional airports similar airport projects to Bususanga airport in future, including the above suggestions, can be summarized as follows:

<Table 5-21> The Matters of Interest in the process of Development and Management of the Regional Airports

Stage	The matters of interest	Notes
Planning, Feasibility study and Designing Stage	① Safety is the highest priority for airport projects, thus examine the relevancy with ICAO safety code categorization, put up a publication panel of airport facility safety standards including ICAO code category, runway length, width and strength, and airline specifications in flight, at the accessible spot to customers such as passenger waiting areas or directors office. ② Need to establish layout concepts of airport facilities: Determine the layout of the terminal, apron and stopway, which may depend on whether the runway is usable for one-direction or two-directions. ③ Categorize alternatives of the airport users' demand forecast: Establish future-oriented facility expansion alternatives in preparation for increased demand by stages. ④ In-depth and width study on the natural environmental impact : In particular, drainage facility installation by considering the basin-type topography, natural ventilation system, diagnosis of safety hazards due to birds or animal movement, visibility analysis due to fog, conversion time and strength of land and sea breeze of airport near the coastline, impacts due to typhoon paths, etc ⑤ Make an opportunity to exchange mutual consultations between experts of donor and recipient countries in particular in feasibility study and design stages. ⑥ Determine construction periods by avoiding monsoon season during construction in tropical areas	
On the way construction and after completion of the Project	⑦ Register the donated facilities as national assets of the recipient country and construct management system to share information with donor countries. ⑧ Establish basic principles for follow-up management between two countries: Annex the minutes on the maintenance and management in the Record and Discussion between two countries, and Let private participants sign "the after service and management contract" between prime contractors and sub contractors in the project. ⑨ Set up general data management for airport operation, maintain daily operation activities containing general weather conditions, logistics, flying back and schedule changes by on-off lines.	

Stage	The matters of interest	Notes
	⑩ Provincial airport development in island areas must be to land and marine transportation in the area, while also being accompanied with SOC development such as power supply. Furthermore, a virtuous circulation structure of airport development- tourism-environment must be constructed. ⑪ Drainage of airports are connected to nearby rivers so It is necessary to construct a common management system with municipalities. ⑫ Establish construction supervision principles and sum up corrective measures during construction period and file up the CM report at the project site (directors' office) and refer them later for airport maintenance and management.	

Attachment

Attachment

<Attachment 1> The Overseas Site Research Activities

1. An Outline of the Plan

1) The Team Composition

The team consists of five members, including three Korean specialists and two researchers in the Philippines.

They are senior researcher Dr. Doo-ho Lee in charge as Team Leader, Aviation Expert Dr. Jong Hur and Assistant Researcher Ja-won Suh, and Local consultant Mr. Archie Caoli and Local Researcher Mr. Miguel De Castro Angelo A.

2) Duration of the Site Research

The on-site study will start on Monday, August 26th and end on Saturday, August 31st, 2013 including departure and returning date.

3) Work Scope of the Site Research

In terms of the work scope of the on-site research in the Philippines, the team first will had interviews with local and central government officials that were involved in the project from the beginning to the end, and then will conduct a field survey of passengers and flight companies regarding the convenience and safety of airport use after the project was completed in 2008, and then will examine the airport site facilities including runway, terminal building and equipment and materials provided by KOICA, and finally will investigate the practical situation of maintenance and management of the airport based on the principles of the civil aviation system.

2. The Team's Activity Schedule in the Philippines

Date	Activities	Note
Monday August 26th	• To leave Incheon Int'l Airport OZ701 (08:15) -> Manila Int'l Airport (11:05)	Terminal 1
	• Held a meeting with local consultants on future activities during staying in Manila and Coron city.	P.M
Tuesday August 27th	• Paid a courtesy call to Korean Embassy. • Paid a courtesy call to Director-General Patdu in DOTC and made an interview with him. (10:30~11:30)	A.M
	• Left Manila via 5j539 (16:30) → Arrived in Busuanga (17:30) • To have a meeting with Director of Busuanga airport, Galasi and conduct a site survey in short. (17:40~19:50)	P.M Terminal 3
Wednesday August 28th	• Paid a courtesy call to officials of Coron and Busanga city Mayor and had a meeting with them together, exchange views on the renovation impact of Busuanga Airport (10:30~11:30) • Made a field survey to 50 passengers and airport staffs led by local consultants.	A.M
	• Visited three business representatives in Coron city to exchange views on the impact of Busuanga Airport development, accompanied by KOICA Manila Deputy Representative Mr. Oh.	P.M
Thursday August 29th	• Held a breakfast meeting with four local Business Representatives at the lodgeing hotel.(07:30~09:00) • Had a meeting with Director of Busuanga Airport and conduct a site survey.(11:30~12:30)	A.M
	• Left Busuanga via 5j532(13:40) -> Arrived in Manila (14:40) • Had a meeting with Ms. Helen G. Ramirez, Ceo of Schema Konsult(17:00~18:00) • Had a meeting with Ms. Susan Sumbeling Chief Economist, and Mr. Juan Angelo G. Development Specialist, NEDA(19:00~20:30)	P.M Terminal 3

Date	Activities	Note
Friday August 30th	• Had a meeting with Mr. Pangilinan Deputy Deirector in Planning, DOTC, and Mr. Gamosa Airport Manager, CAAP (11:00~13:00) and share with them at Luncheon table.	
	• Paid a courtesy call to KOICA	P.M
Saturday August 31st	• Held a farewell meeting with local members. • Left Manila via OZ702(12:15) -> Arrivee in Incheon Int'l Airport (17:15)	A.M Terminal 1

3. Results of the On-Site Research Activities

The on-site research was conducted through interviews with stakeholders, the distribution and collection of a survey questionnaire and a field survey of passengers, as shown in below table.

The team sent questionnaires to 20 stakeholders for interviews one week before the team visited Manila on the 26th of August, and seven stake holders responded to the interview, and four stake-holders answered the questions by mail.

In terms of interviews with business representatives in Coron, seven stake-holders participated in the interview activity and five sent back their answers by mail.

Meanwhile, Cebu Pacific and PAL responded to the survey request. Six ground workers from CAAP including the Aviation Control Tower Manager, two staff with Passenger Belongings Check, and three Immigration Control staff participated in the questionnaire survey.

Fifty passengers joined in the field survey, but the thirty-eight passengers that had been to Busuanga airport more than once were selected as the appropriate participants for analysis.

<Overseas On-Site Research Activities>

Items		Plan	Result	Institution
Interview with Stakeholders		20	11	DOTC(2), NEDA(2), CAAP(3),Mayor(2), Schema
Interview with beneficial Business Representatives		20	12	Interview 7, Email 5
Questionnaire Survey	Airline	3	2	Cebu Pacific, PAL
	Ground staff	7	6	Control Tower, Immigration Office, Check Point of Passenger Belongings
Passenger Field Survey		61	40	Select 40 among 61 respondents
total		111	71	

<Attachment 2-1> The Results of the Survey of Airlines

Question	Airline	
	A(Cebu)	B(PAL)
Satisfaction with safety	• Not satisfactory, needed additional improvements	• Average level, runway extension required
70-80 seater aircraft's service and safety	• Refused to answer	• Thank God
Solutions to congestion	• Terminal extension, installation of X-ray visualizer	• Extension of Check-in counter (Baggage checkpoints)
Experience of collision with wild birds	• Several times	• Never
Measures to prevent wild birds inhabiting	• Urgent	• Immediately required
Comments about the runway extension being planned by DOTC	• Installation of runway lighting must be prioritized before runway extension	• Currently the runway landing weight is limited, so there is the need to extend the runway

<Attachment 2-1-1>. Answer from Airline A

Survey Sheet for the Airline Officers and Attendants on Ex-Post Evaluation of Busuanga Airport Development in Coron City, Palawan

Survey Conductor:
An Aviation Expert Dr. Jong Hur

Date: Aug 28, 2013

Respondent's company name, business sector:

PAL Express: Eric Villanueva,
Officer-in-Charge, Busuanga Station

Tel: +63 9175278382

1. Korean Evaluation Team's Greetings to the Airline Officers and Attendants

This survey is being conducted for the purpose of evaluating the outcome and impact to regional industry growth due to the Busuanga Airport Development Project completed in 2008, by the Korea Global Development Consulting Center (KGDC), entrusted by the Korea International Cooperation Agency (KOICA). Respondents' opinions on the respective article of this survey paper should be a good consultation for further improvement of the Busuanga Airport and development of the regional economy. The Korean Aviation Expert Dr. Jong Hur would like to thank you for your sincere response

2. Background of Survey to the Airlines which are opening services at the Busuanga Airport.

According to the End-Project Appraisal Report in January 2011, the airlines opening the services at the airport are being increased remarkably not only in numbers and but also in seat capacity.

In particular, seat capacity increased from 19 seats to 70 and 80 seats, which

surpassed over an initial object 50 seats.

This represents well that the remarkable outcome has been realized in a short period due to the completion of the airport project.

Meanwhile, some unexpected effects like wild birds habitation in the terminal building and processing congestion of passengers are happening.

In this context, the Korean evaluation team would like to confirm how the navigating officers and airline attendants have been felt about usage of the airport.

Q1. Since the project has been completed in 2008, do you satisfy the ground condition of the flight runways?
If there were anything to be innovated, please don't hesitate to write down details here.

Answer: So far, it's doing good, but it would be better if our runway can still be augmented in terms of length.

Q2. Now even the airlines with 80seats are providing services.
Didn't you as navigating officers of the 70 or 80 seat-airlines, experience any risks related with safety?
If you'd ever have, please write down the details.

Answer: Thank GOD, for PAL Express we have not experienced any risks related to safety.

Q3. It was informed that congestions on passenger processing sometimes are happening.
Can you suggest smart ideas the Korean evaluation team to mitigate the congestions on process of passengers?

Answer: Sometimes, it happens to avoid from happening again, I would suggest to have a renovation to augment check-in counter and entrance way.

Q4. **Busuanga Island is a kind of protection area for wild animals including wild birds, so wild birds are inhabiting even in terminal building. Didn't you have ever experienced any collision incidents against wild birds?**

Answer: None so far.

Q5. **In this regard, do you think any measures preventing from wild birds inhabitation in terminal building must be necessary and urgent?**

Answer: Although I have not experienced any incidents against wild birds, preventing wild birds from inhabiting in terminal building is necessary and urgent, let us not wait for any incidents to happen.

Q6. **It was informed that Coron city are plotting a plan to extend the flight runways to deal with increasing tourist.**
Can you agree to this idea? If agree to the idea, please suggest which considerations may be studied together.

Answer: Yes, I agree to this idea, landing weight here at Busuanga Airport may vary depending on the weather condition, but if we have enough length often our runway, landing weight will not be any more a problem.

<2-1-2>. Answer from Airline B

Survey Sheet for the Airline Officers and Attendants on Ex-Post Evaluation of Busuanga Airport Development in Coron City, Palawan

Survey Conductor: **An Aviation Expert Dr. Jong Hur**	**Date:**	**Aug 29, 2013**
Respondent's company name, business sector:		
Cebu Pacific: Maria Luisa Astor, Station Officer, Busuanga Airport	**Tel:**	**+63 932856521411**

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In particular, seat capacity increased from 19 seats to 70 and 80 seats, which surpassed over an initial object 50 seats.

This represents well that the remarkable outcome has been realized in a short period due to the completion of the airport project.

Meanwhile, some unexpected effects like wild birds habitation in the terminal building and processing congestion of passengers are happening.

In this context, the Korean evaluation team would like to confirm how the navigating officers and airline attendants have been felt about usage of the airport.

Q1. Since the project has been completed in 2008, do you satisfy the ground condition of the flight runways?

Answer: No, it needs additional improvement

If there were anything to be innovated, please don't hesitate to write down details here.

Answer: Flooded runway during rainy days, no ramp markings, slippery apron, drainage system, rehabilitation and or relocation of septic tank.

Q2. Now even the airlines with 80seats are providing services. Didn't you as navigating officers of the 70 or 80 seat-airlines, experience any risks related with safety? If you'd ever have, please write down the details.

REFUSED TO ANSWER

Q3. It was informed that congestions on passenger processing sometimes are happening. Can you suggest smart ideas the Korean evaluation team to mitigate the congestions on process of passengers?

Answer: Expansion of the terminal building itself, additional equipment such as x-ray machines.

Q4. Busuanga Island is a kind of protection area for wild animals including wild birds, so wild birds are inhabiting even in terminal building. Didn't you have ever experienced any collision incidents against wild birds?

Answer: We had several experiences of bird strike incidents

Q5. In this regard, do you think any measures preventing from wild birds inhabitation in terminal building must be necessary and urgent?

Answer: Yes

Q6. It was informed that Coron city are plotting a plan to extend the flight runways to deal with increasing tourist.
Can you agree to this idea? If agree to the idea, please suggest which considerations may be studied together.

Answer: Yes, but we should prioritize putting runway lights that would help our operation. Other than extending, can we take a look at expanding as well?

<Attachment 2-2> The Results of the Survey of Ground Workers

Question	The control tower	Baggage check (2)	Immigration control(3)
• After the airport's development, has the aviation safety improved	• Since 2008 the control tower has provided the services, safety has been improved.	• Safety has been improved up to a satisfactory level	• Not satisfied with the improved level of safety • Requires periodic management
• Airport Congestion	• Terminal extension is critical	• Aircraft waiting area (Apron) needs to be expanded	• The overall airport terminal facilities need to be improved
• Wild birds	• This airport is located within a wildlife sanctuary	• Also affects other airports, needs a preemptive response	• Also affects other airports, needs a preemptive response
• Cause of damage of the front parking lot's concrete	• Poor quality of materials (ex-cement, etc)	• A thin layer of cement	• Poor quality of materials and lack of periodic maintenance
Question	The control tower	Baggage checkpoints	Immigration control(3)
• Possibility of economic independence of the airport • Financial viability	• Privatization of the airport • Privatization of the airport management	• No possibility of independence under the current system • Aircraft apron expansion and iron screen installation inside the terminal building	• When the overall improvement project is completed, it will enable independence. • Improvement is needed in the overall area from administration to technology
• Opinions about the airport expansion plan being planned by DOTC	• JICA's survey showed that the new runway development seems to have difficulties due to geographic conditions	• Before the new runway development, extend the current runway to macadam 340m segment part.	• Extension of the existing runway is inappropriate because the extension part must pass over the terminal building • When considering the wind direction, it is doubtful that the new runway would work properly.

<Attachment 2-2-1> Answer from Ground Officers from CAAP

Survey Sheet for the Ground staff on Ex-Post Evaluation of Busuanga Airport Development in Coron City, Palawan

Survey Conductor: Team Leader Prof. Doo-ho Lee	**Date:**	**Aug 29, 2013**
Respondent's company name, business sector:		**Patrick Fayloga CAAP, Busuanga FSS/Tower**
	Tel:	**+63 9182142944**

1. Korean Evaluation Team's Greetings to the Ground staff in the Busuanga Airport

This survey is being conducted for the purpose of evaluating the outcome and impact to regional industry growth due to the Busuanga Airport Development Project completed in 2008, by the Korea Global Development Consulting Center (KGDC), entrusted by the Korea International Cooperation Agency (KOICA). Respondents' opinions on the respective article of this survey paper should be a good consultation for further improvement of the Busuanga Airport and development of the regional economy. The Korean evaluation team would like to appreciate for respondent's sincere cooperation.

2. Background of Survey to the Ground Staff at the Busuanga Airport

According to the End-Project Appraisal Report in January 2011, the airlines opening the services at the airport are being increased remarkably not only in numbers and but also in seat capacity.

In particular, seat capacity increased from 19 seats to 70 and 80 seats, which surpassed over an initial object 50 seats.

This represents well that the remarkable outcome has been realized in a short period due to the completion of the airport project.

Meanwhile some unexpected effects like wild birds habitation in the terminal building and processing congestions for passengers are happening.

In this context, the Korean evaluation team would like to confirm how the airline officers and ground staffs have been felt about usage of the airport.

Q1. Since the project has been completed in 2008, do you believe that the ground conditions of the flight runways, apron and flight control tower are maintaining satisfied level?
If there were anything to be innovated, please don't hesitate to write down details here.

The increase in flight speaks for itself, we at the air traffic service provides orderly and efficient flow of air traffic. Since 2008 the control tower is providing aerodrome advisory service which led to the increase in safety and efficiency.

Q2. It was informed that during the peak hour, processing congestions for passengers used to happen.
Can you suggest a good idea to alleviate the congestion?
The peak hour congestion is handled by the airline staff in an efficient manner. The only solution I can suggest is the reconstruction of the terminal itself. The increase in flight leads to increase in passenger movement which at the present terminal conditions may not able to handle such volume passengers.

Q3. Busuanga Island is a kind of protection area for wild animals including wild birds, so wild birds inhabit even in the terminal

building. Did you have ever heard about the similar phenomena in the other airports in the Philippines?

Busuanga Island is already declared by National Government as a protected area, birds as well as animals indigenous to the area are thriving with the help of the people living within the island. There are airports that are located within a protected area that experienced this phenomenon.

Q4. Do you think their inhabitation may affect airplanes' safety and ground work?

Can you suggest a smart measure to block off their inhabitation?

It greatly affects the safety of the aircraft as well as the passengers on board but we at the control tower has safety procedures to mitigate as well as alleviate these conditions. There are equipment available in the market that help drive away or decrease the presence of birds within the vicinity of the airport. Since these birds are indigenous to the area the best solution is to redesign the terminal in order to prevent the entry of these birds within the terminal building.

Q5. It was informed that the surface concrete at the front parking lot was deformed within one year since the project was completed in 2008.

What do you think is the main reason of the damage?

Obviously the substandard materials used for its construction.

Q6. When will this Busuanga Airport enable to attain financially self-reliant management structure?

Privatization is the best solution to attain financial self-reliance in the management of the airport.

Q7. In order to reach a self-reliant management goal, which parts of airport management do you think should be innovated?

Since the CAAP has the sole mandate to provide air traffic service, air navigation services and crash fire rescue. The administrative functions are then taken over by the private entity.

Q8. It was informed that Coron city are plotting a plan to extend the flight runways to deal with increasing tourists.

Can you agree to this idea? If agree to the idea, please suggest which considerations may be studied together.

Extension of the runway is not feasible because of limitations and terrain within the airport. There is already a feasibility study by JICA (Japan International Cooperation Agency) of an intersecting runway which can accommodate larger aircraft. The CAAP in under the DOTC while the local government in under the DILG, considering the different mandate of said agencies it would wiser to let the agencies do their job as mandated by the National Government

<Attachment 2-3> The Result of the Survey for Passengers

Forty respondents of the total sixty one are classified as a survey sampling who are eligible to evaluate the airport in a perspective of the airport functions, and runway with two more times visits.

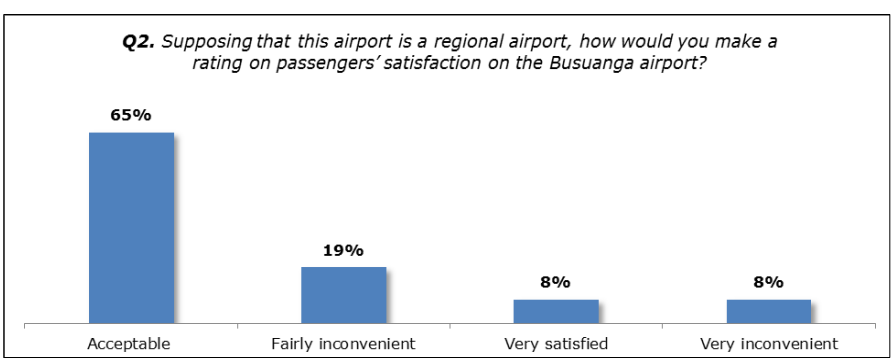
Q1-1. No. of Visits in Busuanga Airport	Count	Percentage
1	21	35%
2	5	8%
3	5	8%
4 more	30	49%

Total Respondents: 61

Q1-2. Purpose of Visit in Coron	Count	Percentage
Only for a Tour	4	10%
Both Tour and Business	7	18%
Only for Business	9	23%
Other	20	50%

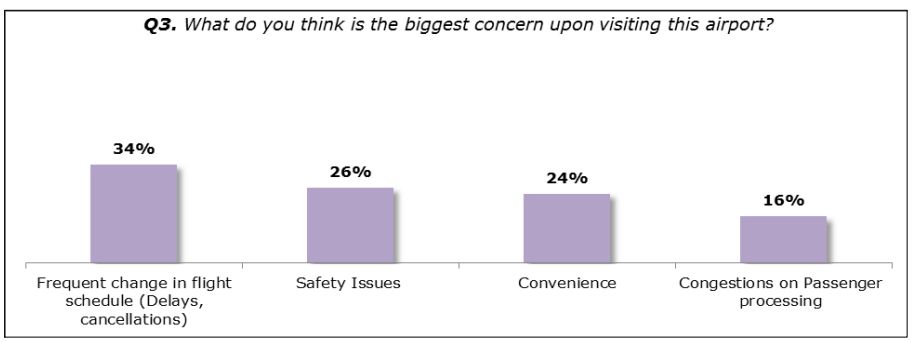
<Satisfaction to Busuanga Airport>

Combining the 'Very Satisfied' and the 'Acceptable' raters, a total of 73% of the respondents shows positive response on how they perceive the airport.



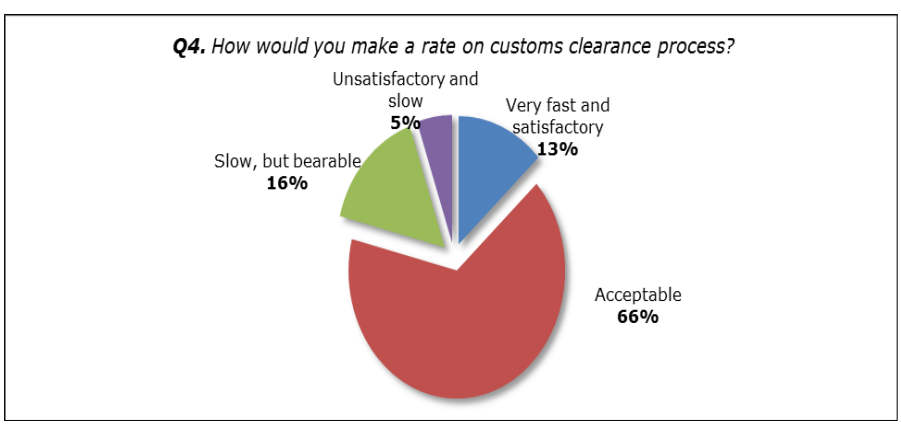
<Biggest Concern in Airport>

Most passengers think that frequent changes in flight schedule are the biggest concern upon visiting the airport.



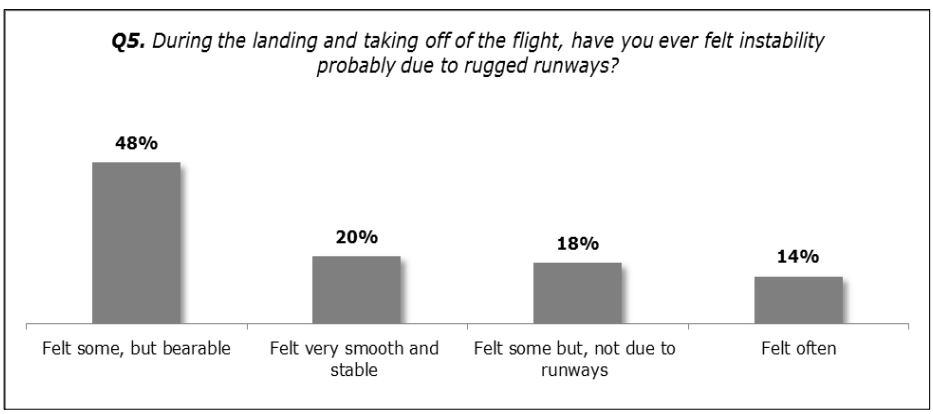
<Customs Clearance Process>

The positive responses total to 79%, combining 'acceptable' and 'very fast and satisfactory'. This means that the clearance processing is within expectation of most passengers.



<Flight Take-off Instability>

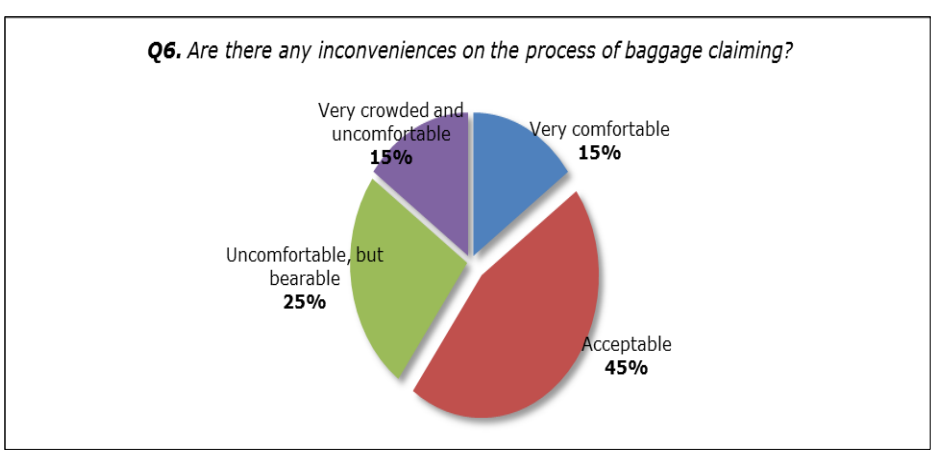
Almost half of the respondents experienced take-off instability to some extent, but bearable (48%). Only 18% said that they felt some but was not due to runways.



<Baggage Claiming>

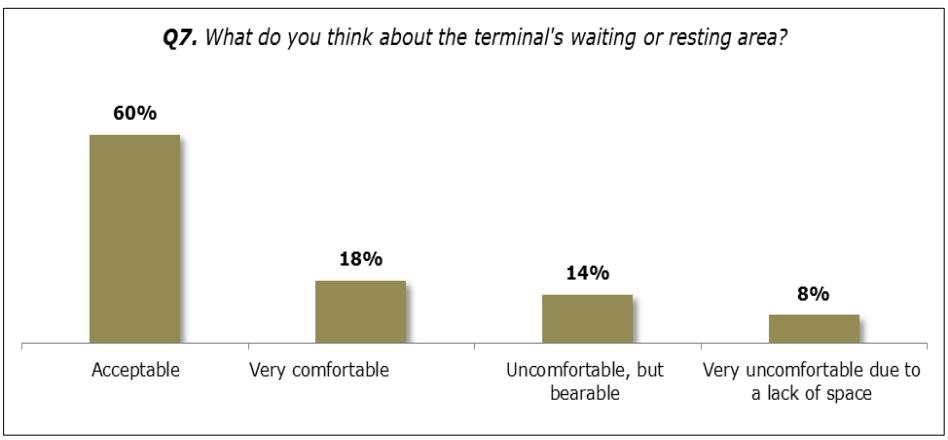
In terms of the baggage claiming process,

Combining those who said that it is 'very comfortable' gives a total of 60%, a figure to sum up the positive responses.



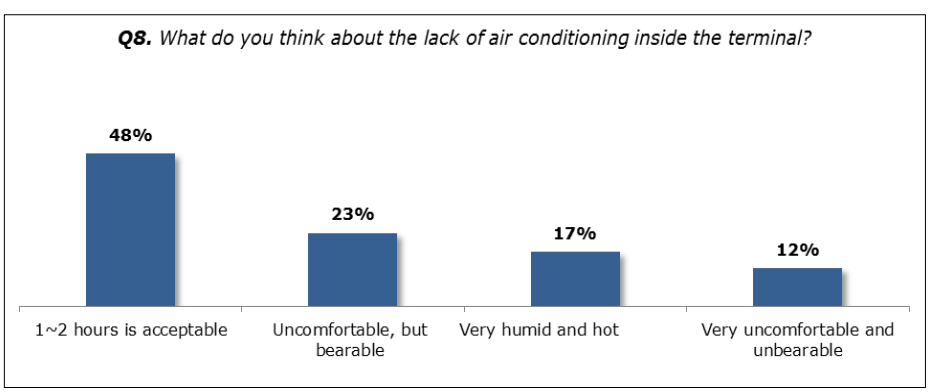
<Terminal Waiting Area>

Still, most of the passengers rated the terminal waiting area to be at 'acceptable' level at 60%. This makes the total positive perception about the terminal waiting area at 78%.



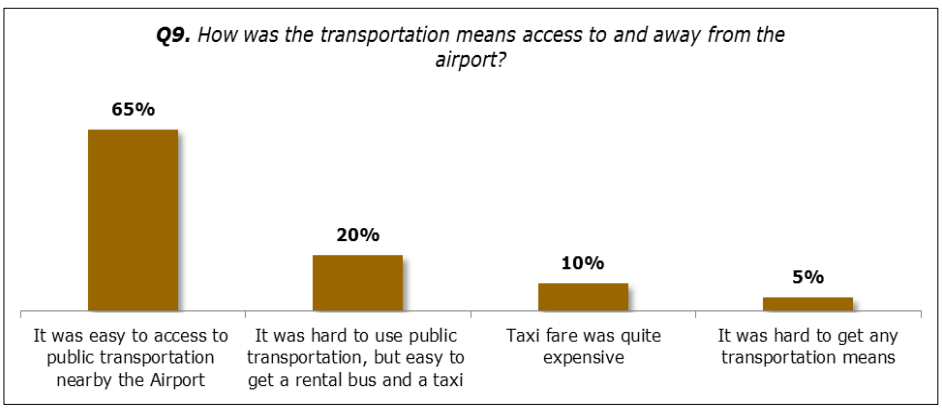
<Lack of Air Conditioning>

The lack of air conditioning in the terminal area is said to be acceptable in 1-2 hours time of waiting or experience. This is the response of almost half of the respondents.



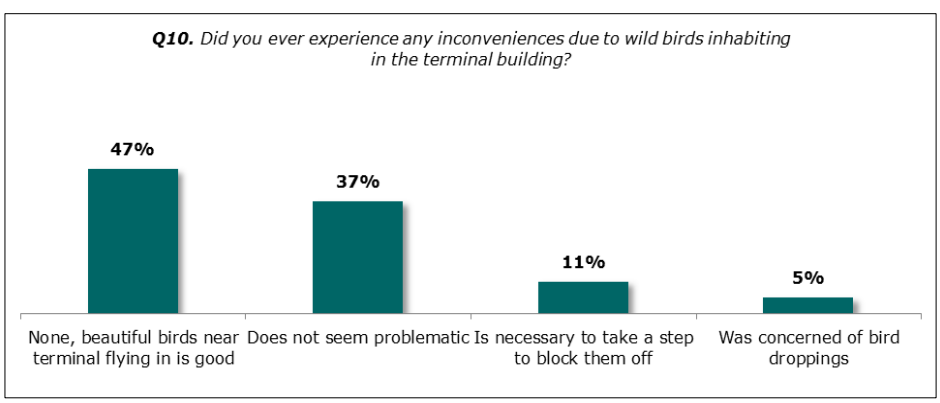
<Transportation Access>

Most of the respondents (65%) did not experience a hard time accessing public transportation to and away the airport.



<Wild Birds in Terminal Building>

Almost half of the respondents did not experience any inconvenience due to wild birds inhabiting the terminal building, and felt that it was even 'good'.



<Attachment 2-3-1> Passenger Survey Questionnaire

Survey Sheet for Airport Passengers on Ex-Post Evaluation of the Busuanga Airport Development in Coron City, Palawan

This survey is being conducted for the purpose of evaluating the performance and lessons of Busuanga Airport Development Project completed in 2008, by the Korea Global Development Consulting Center (KGDC), entrusted by the Korea International Cooperation Agency (KOICA).

Respondent's opinions and response of this questionnaire should be a good consultation for further improvement of the Busuanga airport and development of regional economy. The Korean evaluation team would like to appreciate for the respondents' sincere cooperation.

Questionnaire

1. Visiting Background of Passengers to the Busuanga Airport

1-1. How many times have you visited Busuanga airport?

① 1 ② 2 ③ 3 ④ More than 3

1-2. What is your main purpose of visiting Coron city?)

① Only for a tour ② Both for tour and business

③ Only for business ④ For others

1-3. Have you ever visited any country regions elsewhere in the Philippines (If not, please skip over Q. 3)

**2. Supposing that this airport is a regional airport, how would you make a rating on passengers' satisfaction on the Busuanga airport? **

① Very satisfied ② Acceptable

③ Fairly inconvenient ④ Very inconvenient

3. What do you think is the biggest worrisome upon visiting this airport? Please choose one
   ① Safety Issues
   ② Frequent change in flight schedule (Delays, cancellations)
   ③ Convenience
   ④ Congestions on Passenger processing

4. How would you make a rate on customs clearance process?
   ① Very fast and satisfactory ② Acceptable
   ③ Slow, but bearable ④ Unsatisfactory and slow

5. During the landing and taking off of the flight, did you ever feel instability probably due to the rugged runways?
   ① Felt very smooth and stable
   ② Felt some, but bearable
   ③ Felt some but, not due to runways
   ④ Felt often

6. Are there any inconveniences on the process of baggage claiming?
   ① Very comfortable
   ② Acceptable
   ② Uncomfortable, but bearable
   ④ Very crowded and uncomfortable

7. What do you think about the terminal's waiting or resting area?
   ① Very comfortable
   ② Acceptable
   ③ Uncomfortable, but bearable
   ④ Very uncomfortable due to a lack of space

8. What do you think about the lack of air conditioning inside the terminal?
   ① Very humid and hot
   ② Acceptable in 1~2 hours
   ③ Uncomfortable, but bearable
   ④ Very uncomfortable and unbearable

9. How was the linked transportation means access to and away from the airport?

① It is easy to access to the public transportation nearby the Airport
② It is hard to use public transportation, but easy to get a rental bus and a taxi
③ Taxi fare is quite expensive
④ It is hard to get any transportation means

10. Did you ever experience any inconveniences due to wild birds inhabiting in the terminal building?

① none, feel good due to flying-in of beautiful birds near terminal
② it was learned, but not problematic
③ Being afraid of possible birds dirty droppings
④ Necessary to take a step to block them off

11. If you have any other recommendations related with improvement for passengers' conveniences, please write them down here:

<Attachment 3-1> The Result of the Survey of Regional Business Representatives

Group 1: Visit and Interview with them

Overview name, representative, scale, invested amount	Amphibi-Ko Manager: Ben Cruz • Restaurant, Accommodations: 9 in 2008 • Invested $250 million in scuba diving business in 2010	Cortodel Mar Resort Manager: Patrick Torres • Invested $ 2million in 2012, hotel with 80 rooms and restaurant with 84 tables	Tameta House Manager: Richard Tayag • A few guest rooms in the early 1990s • Expanded to 12 rooms in 2011
The number of tourists	• Most of China, Europe, some Spanish, Korean	• The tourists are sustainable during August. • Most of Europe, USA, China	• The tourists are sustainable after airport was developed. • Recently, we have begun to cooperate with the Danish

Future investment plans	• None	• Plan to start scuba diving business soon.	• None
Environment protection	• Food waste is collected and disposed by farmers every other day • Diving business is involved with water quality, so organize the unions and work for self-purification	• The swimming pool water is used again by the recycling system	• Collaborating with Calamian Association of Tourism Establishment • Participating in 3R city (Reuse, Reduce, Recycle)
Airport related proposals	• Need to expand the airport, because it is frequent full of people booking.	• First impression of airport toilet was dirty • Flight cancellation frequently linked to hotel booking cancellation.	• Local industry being revitalized because of the improved airport.

Group 2 : Group meeting

Overview of enterprise Overview name, representative, scale, invest amount	Micasa Lodge Manager: Jusel Uypico • Invested in the hotel at 38 million pesos with 26 rooms, a swimming pool, June 2010	Busuanga Seadive Resort Inc. Manager: Jenyson Sialanda • Restaurant 1997 • Invested $800,000 in 35 rooms & restaurant with 20 tables, 2009	Coron Hilltop View Resort Manager: Rene Valiente • Villas with 19 buildings and a restaurant with 25 tables, May 2012
The number of tourists	• Average of 20per day	• Average of 30 per day	• Peak season: 300~350 per day • Off season:100~150 per day
Future investment plans	• Upgrade soon from 3 star to 4 star hotel	• Start diving business • Upgrade soon from 3 star to 4 star hotel.	• Expand the facilities by 20%; meeting room restaurant, garden, swimming pool, etc.

Environmental protection	• Participating in hotel industry partner business.	• Participating in hotel industry partner business.	• Participating in Environment and Resource Management Movement in Palawan and the Zero Carbon Resort in Coron
Airport related proposals	No response	Extra development of the airport will be necessary	No response

Group 3 : Collect the Questionnaires by mail

Overview of enterprise name, representative, scale, invest amount	Coron Eco Lodge Manager: Howard Bunque • Hotel with 22 rooms, restaurant with 18 tables • 18 employees, May, 2012	Mt. Tapyas Hotel Manager: Hannah Villegas • Hotel with 22 rooms, restaurant with 80 seats. • 18 employees, 2008	Centro Coron Bed and Breakfast Hotel: Owner Kim dela Torre 6 lodging rooms for family, restaurant with 70 tables • 20 employees, 2011
Number of tourists	• 10~20 per day	• 30~35 per day	• average 5 per day
Future investment plans	• None related to investment, Plan to hire additional 8 employees to improve services	No investment plan	• To open 24-hours soon for shopping convenience, day care center. • Hire additional 40 employees
Environmental protection	• Participating in handling food and hard waste separately	• Reuse rainwater for toilet	• Working with partners to preserve environmental sustainability
Airport related proposals	Drop the subject	Drop the subject	Drop the subject

<Attachment 3-2> Information of 20 Regional Business Representatives: Hotels, Restaurants, Tourist Resort

Hotel A: Coron Village Lodge	Ivan Fernandez	M.+639164260252	134 National Highway, Barangay 1, 5316 Coron, Palawan
Hotel B: Apartelle de Gabrielle	MarylinPanopio, Hotel Manager	M.+639195903031; (02) 788-2468 (Manila)	231 National Highway BrgyPoblacion 5, Coron Palawan
Hotel C: Coron Gateway Hotel	Rochel San Juan, Sales and Marketing Officer (Manila); Nicholas Gutierrez, Hotel Manager (Coron)	(02) 887-7107 (Manila)	Brgy 3 PoblacionCoron, Palawan
Hotel D: Sunz En Coron Resort	-	M.+639062060048 M.+63929 2176945 M.+639178944533	Barangay Poblacion6, Coron Town, Coron, The Philippines
Hotel E: Asia Grandview Hotel	Rhoammn E. Bolahabo Hotel Manager	(02) 695-3078 (Manila Office) , (02) 400-6261 (Coron), 0920-914-3585, 0917-550-7373, 0917-550-7375, 0917-965-3360	Unit 504, Richmonde Plaza, San Miguel Ave. Ortigas Center, Pasig City; Jolo, Barangay 5, Coron, Palawan, The Philippines
Hotel F: Corto del Mar	Patrick Torres, General Manager	M.+639175268381	Corto Del Mar Comiseria Street Barangay 1 Coron Palawan
Hotel G: Coron Eco Lodge	Jose Gil C. Perez,	815 3737 loc 3853;	Calle Real Poblacion

	President of My HomeTel Charlette Anne Pua	M.09228225796(Mr.Perez) M. 0922 845 0837	2, Coron Palawan
Hotel H: Darayonan Lodge	Francisco P. Fernandez Jr.	M:0917-881-1151 788-3585	132 National Highway, Bgy. Poblacion 1, Coron, Palawan
Hotel I: Centro Coron Bed and Breakfast Hotel	Kim de la Torre	0927-745-4625 0949-1414-177	NationalHigway Barangay 4, Coron Palawan
Hotel J: Micasa Lodge	Joselle April Uypico Operations Supervisor	0919-9101010	National Highway, Poblacion 1, 5316 Coron, Palawan
Tourist Resort A: El Rio Y Mar Resort	Eric Martinez; Resort OIC	(02) 668-3929; M.+639209515009	33rdFloor,Lot55,FTIAdminBldg,FTIAvenue, FTIComplex,TaguigCity,MetroManila; Brgy. San Jose, Coron, Busuanga, Palawan 5316
Tourist Resort B: Busuanga Island Paradise	Fernando Narciso, Operations Manager	M.+639209500360; (02) 724-3070	Kilometer 12 Coron - Busuanga Highway Coron, Palawan
Tourist Resort C: Coron Hilltop View Resort	Mr. Rene Valiente Operations Manager	(02) 775-4517; M.+639053629927	Level 3, #105 Amang Rodriguez Ave. BaranggayDela Paz, Pasig City; SitioDipulao, Brgy. Poblacion 6, Coron, Island of Busuanga, Palawan
Tourist Resort D: La Natura Resort	Jillian Mosaner; Hotel Manager	M.+639999956016	Brgy 6, Kapayas, Coron, Palawan
Tourist Resort E: Sophia's Garden Resort	FroilanBatacan; Hotel Manger	(048) 723-1871; M.+639175435775	SitioJolo, Brgy. Poblacion 5, Coron Palawan

Tourist Resort F: KokosNuss Garden Resort	Judy Rodriguez; Resort Representative	M.+639197769544; M.+639194487879	National Road, Barangay 6 RP-5316 Coron, Palawan The Philippines
Tourist Resort G: Cashew Grove Beach Resort	Melody Banayog, Resort Manager	+639398351752	North Eastern Coast, Busuanga
Restaurant A: La Sirenetta Restaurant	Myra Triproca Restaurant Manager	M.+639189087063	Reef Pier | Nr Central Market, Palawan 5316, The Philippines
Restaurant B:Seadive Resort Restaurant	JenysonSialana, Resort Manager	M.+639209458714	
Restaurant C: Mt. Tapyas Hotel	Shannah Villegas Hotel Manager	M.+639202373304	Calle Nueva Street, Barangay Poblacion 5, Coron, 5316 Palawan The Philippines
Hotel (Others): Balaibinda Lodge	Ms. LiaDelasLlagas Reservations and Booking Officer GeenaCayetano-Santos Hotel Manager	+63.929.322.1776	22 Don Pedro St., Barangay 3 Coron, Palawan
Hotel (Others): Tameta Pension House	Mario Tameta Flordeliza G. Tayag	+63928-946-2811; 09293807020/09168823624	Brgy. 5, Lower Bancuang, 5316 Coron, Palawan

<Attachment 4-1> Questionnaire (Sample)

Interview Sheet for Director-General of Traffic Planning on Ex-Post Evaluation of the Busuanga Airport Development in Coron City, Palawan

Interview Conductor:	**Senior Researcher Prof. Doo-ho ee**			**Date:**	
Name:	**Ildefonso T. Patdu, Jr.**	**Institution :**	**DOTC**	**Position:**	**Director-General of TrafficPlanning & Coordination**
Contact Number:		**E-Mail:**			

Activity: Participating in the project Implementation Process
This interview is being conducted for the purpose of estimating the performance and lessons of the Busuanga Airport Development Project completed in 2008, by the Korea Global Development Consult Center (KGDC), entrusted by the Korea International Cooperation Agency (KOICA). Respondent's opinion and response of this questionnaire should be a good consultation for further improvement of the Busuanga Airport and development of regional economy. Korean evaluation team would like to appreciate for respondent's sincere cooperation.

Questionnaire

I. **Part 1: In this part, there are questions related with the whole process of the project. The issues will be evaluated in relevance, efficiency criteria.**

1. **The Busuanga Airport previously was completed in 1991. Please**

statemain reasons for the airport remodeling necessity in such a short period, if the presupposition was that an airport acted as a kind of SOC, which shall be built in the longer term base?

2. In the Philippines, it usually rains much from June to September, are there any technical risk management controls in general construction projects in the DOTC ? If there is, please present it.

3. Please provide us with some information about the background of estimating that a number of passengers per annum will reach 400 thousand in 2010.
Since the data of passengers and flight frequency could affect the designing of airport capacity including size of passenger terminal and scale of flight runway.

4. When requesting the project to KOICA, it would rather simplify the project object on basis of "annual processing capacity" than "to let the airport active due to increase of passengers and flight frequency"
Can you introduce a classification principle of regional airport capacity in the Philippines?

5. If available, please provide us with any input-output data of the similar project to the Busuanga Airport.

II. Part 2: In this part, there are questions related with the performance of the project. The issues will be evaluated in effectiveness, impact and sustainability criteria.

1. Please provide us withany documents to evaluate the outcome and impact to the local economy due to the Busuanga Airport Development Project.
2. Please make any comments if an extension of flight runway being raised by Coron city will be necessary

3. Considerations for some adverse effects caused by the airport development project.(e.g.)

3-1.It was informed that bottleneck effects occur in passenger processing. Are there any effective solutions for the dispersion on the bottleneck phenomenon during the peak hour in terminal building?

3-2. As you are well aware of, wild birds' inhabitation issues in the other regional airport terminal buildings could be a problematic. Which do you think is the best measurement for preventing from the wild birds' inhabitation in the air terminal building?

4. If possible, please provide us with some information if the DOTC or NEDA would prepare a comprehensive development plan encompassing electricity, tourism, airport, environmental protection and including preferential development concept designating Coron city as a hub of Calamian Islands in northern boundaries of Palawan?

* Background of the Question:

Currently electricity supply rate for households in Coron city marks only 35%, other marine transportation system including harbors and passenger boats and coastal linersare poor for linking the Coron city with neighboring islands, in this context it may be necessary to develop the airport in a balanced way with other SOC and environment protection as well.

<Attachment 4-2> A Statistics Format of Airport Usage

Classification		2003~12
Flight company name, No.s of flights per week	17 Passengers	
	19 Passengers:	
	50 Passengers:	
	70 Passengers:	
	80 Passengers:	
	Subtotal:	
Tourists (persons)	Residents	
	Foreigners	
	Subtotal	
	(growth rate,%)	
Passengers (Persons)	Residents	
	Foreigners	
	Subtotal	
	(growth rate,%)	
Quantityof Goods Transported (Tons)	Subtotal	
	(growth rate,%)	
Routes	Manila~Busuanga	
	Other	
	Subtotal	

<Attachment 4-3> A Simple Format for Airport Management Analysis

Classification		2006~12
Ordinary Earnings	Airlines Fare	
	Flight companies & Passenger airport Fee	
	Facility rental Fee	
	Misc.	
	Subtotal	
Ordinary Expenditure	Investment to new facilities	
	Facility Management Cost	
	Misc.	
	Subtotal	
Balance	Subtotal	
Management Cost	Labor Cost	
	Depreciation	
	Electricity	
	Misc.	
	Subtotal	
Business profit	Subtotal	
Make up loss	Coron	
	Busuanga	
	Misc.	
	Subtotal	

<Attachment 4-4> A Format of Contribution level for Regional Economy

(Unit in 1000 Pesos)

Classification		2006~12
Numbers and capacity change in Tourist Hotels and other accommodations	Hotel (Numbers/Capacity)	
	Non-Hotel(numbers/Capacity)	
	Other	
	Subtotal (Numbers/Capacity)	
	(growth rate,%)	
Increase in Tourist Resort	Scuba Diving (Capacity/Day)	
	Safari garden (Capacity/Day)	
	Other	
	Subtotal	
Level of Employment (numbers)	Coron	
	Busuanga	
	Other	
	Subtotal	
Population (persons)	Coron	
	Busuanga	
	Other	
	Subtotal (growth rate,%)	
Growth of primary~ high school enrollment (persons)	Coron	
	Busuanga	
	Other	
	Subtotal (growth rate,%)	
Growth on regional tax revenue (in 1000 pesos)	Coron	
	Busuanga	
	Other	
	Subtotal (growth rate,%)	

<Attachment 5> Answer from Mayor of Coron City

Mayor of Coron

1. We are looking for evidences of how the airport has influenced the local economy. Please provide us with the economic data that indicates any improvement of city fiscal finance including local tax revenue and industrial development such as tourist resorts, hotels and restaurants from 2006 to 2012 by the attached format?

   Attach are the following:

   a. Comparative report of tourist arrival (2006-2012) base on airport arrival only

   b. List of accommodations (2010 – 2012)

   d. Comparative No. of Plane trips per day

   c. Comparative Local Tax Revenue Report (2006-2012)

2. Please give us some details on 'the necessity of an extension of flight runway' being initiated by Coron city?

   With the tourist arrival data and Coron being consider as the next tourism hub in Southeast Asia it is high time that the runway be extended with lighting system to cater bigger planes in the future. This will also be beneficial for the smooth and safety landing and take-off of the planes.

3. It was informed that there used to be bottlenecks in processing passengers. Are there any effective solutions for the dispersion on the bottleneck phenomenon during the peak hour in terminal building?

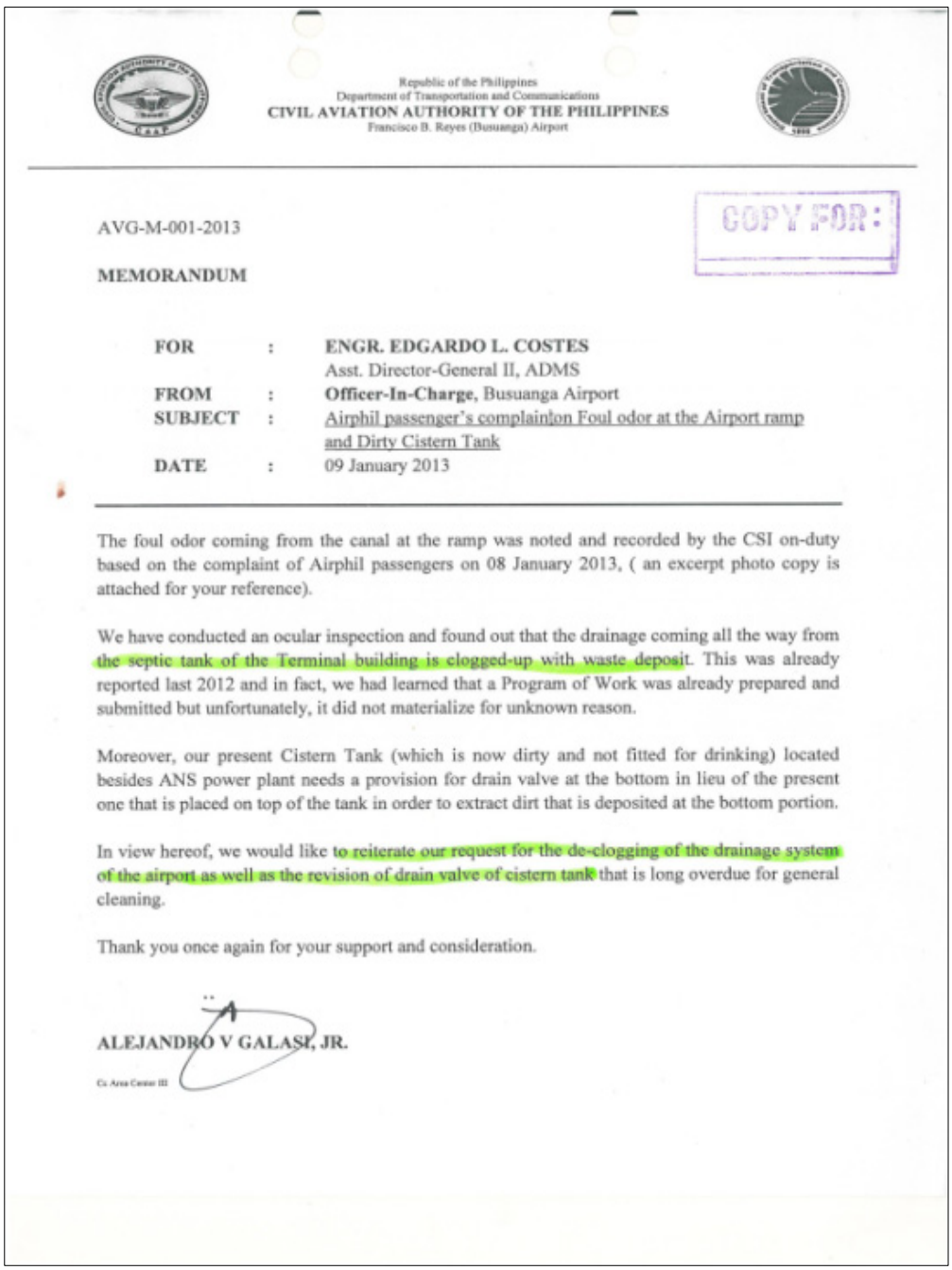
   One solution that we see is to utilize the old terminal building or construct a new fully-air-condition building for the receiving area with complete facilities such as X-ray machine and conveyor for the check-in baggage. Another suggestion also is to construct extension building for the arrival area with conveyor for the check-out baggage and leave the whole present building as the departure area.

5. Which do you think is the measurement for preventing from the wild birds' inhabitation in the air terminal building?

   The best solution for it is to close the whole ceiling of the terminal and put-up air-conditioning system.

C. Answer from Coron City Mayor

<Attachment 6-1> Recommendation paper of Director of the Busuanga airport



Republic of the Philippines
Department of Transportation and Communications
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES
Francisco B. Reyes (Busuanga) Airport

AVG-M-001-2013

COPY FOR:

MEMORANDUM

FOR	:	**ENGR. EDGARDO L. COSTES** Asst. Director-General II, ADMS
FROM	:	**Officer-In-Charge**, Busuanga Airport
SUBJECT	:	Airphil passenger's complainton Foul odor at the Airport ramp and Dirty Cistern Tank
DATE	:	09 January 2013

The foul odor coming from the canal at the ramp was noted and recorded by the CSI on-duty based on the complaint of Airphil passengers on 08 January 2013, (an excerpt photo copy is attached for your reference).

We have conducted an ocular inspection and found out that the drainage coming all the way from the septic tank of the Terminal building is clogged-up with waste deposit. This was already reported last 2012 and in fact, we had learned that a Program of Work was already prepared and submitted but unfortunately, it did not materialize for unknown reason.

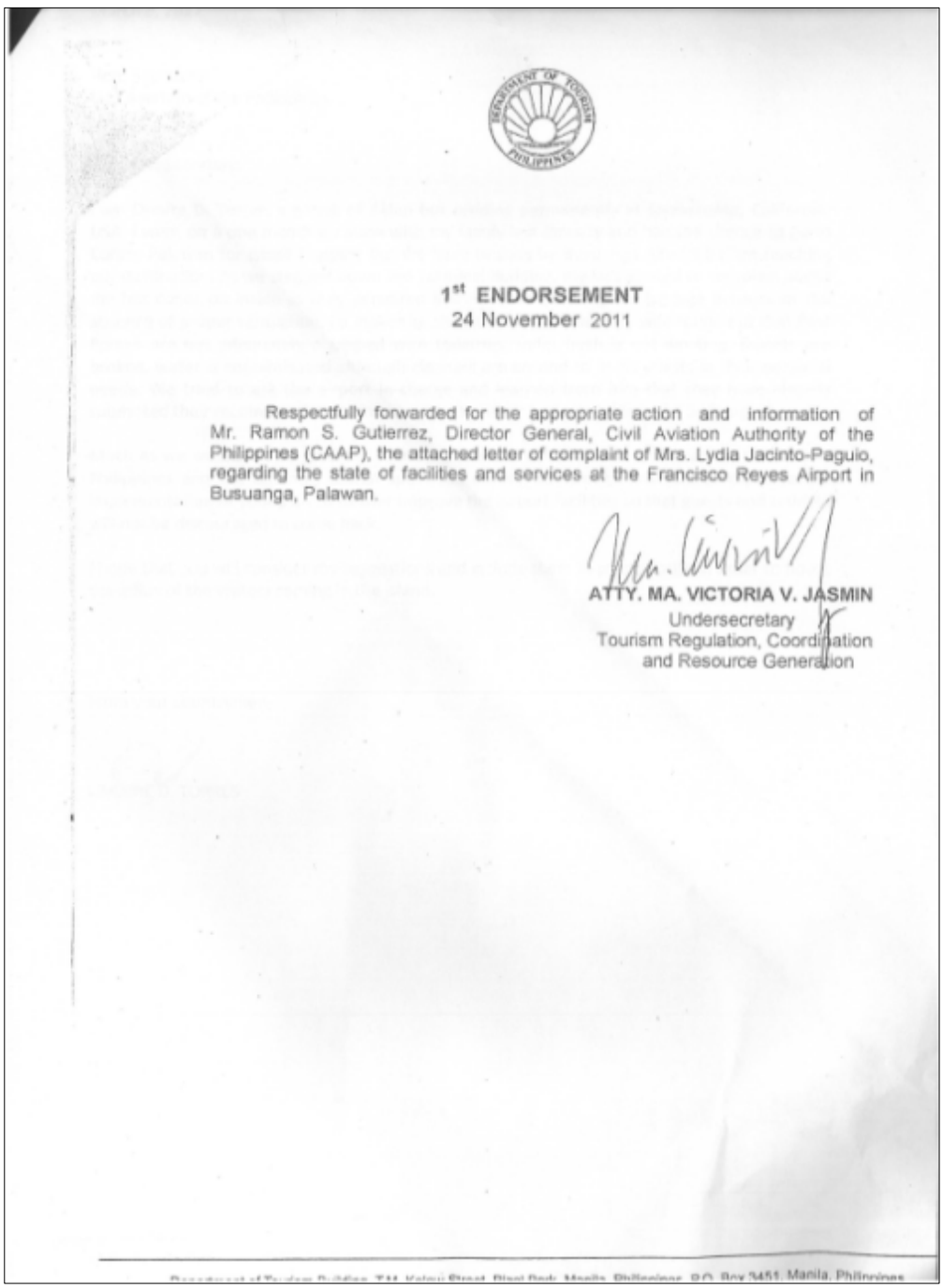
Moreover, our present Cistern Tank (which is now dirty and not fitted for drinking) located besides ANS power plant needs a provision for drain valve at the bottom in lieu of the present one that is placed on top of the tank in order to extract dirt that is deposited at the bottom portion.

In view hereof, we would like to reiterate our request for the de-clogging of the drainage system of the airport as well as the revision of drain valve of cistern tank that is long overdue for general cleaning.

Thank you once again for your support and consideration.

ALEJANDRO V GALASI, JR.
Cv Ava Center III

<Attachment 6-2> Client Complaint on the Toilet and Passenger Corner in Terminal Building



1st ENDORSEMENT
24 November 2011

Respectfully forwarded for the appropriate action and information of Mr. Ramon S. Gutierrez, Director General, Civil Aviation Authority of the Philippines (CAAP), the attached letter of complaint of Mrs. Lydia Jacinto-Paguio, regarding the state of facilities and services at the Francisco Reyes Airport in Busuanga, Palawan.

ATTY. MA. VICTORIA V. JASMIN
Undersecretary
Tourism Regulation, Coordination
and Resource Generation

March 8, 2012

Hon. Secretary
Civil Aviation of the Philippines

Dear Mr. Secretary,

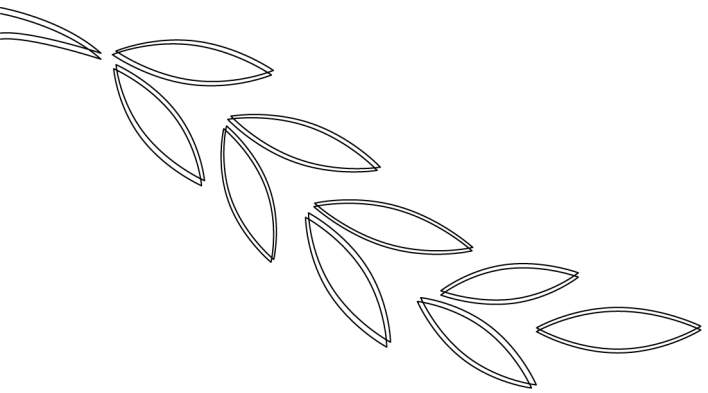
I am Onofre D. Torres, a native of Aklan but residing permanently at Sacramento, California, USA. I went on a one month vacation with my family last January and had the chance to go to Coron, Palawan for island hopping but we have to pass by Busuanga Airport before reaching our destination. As we stepped down the Terminal Building, my kids started to complain about the hot condition inside as they perspired heavily while claiming our luggage because of the absence of proper ventilation. To make the situation worse, when my wife found out that Rest Rooms are not adequately equipped with toiletries, toilet flush is not working, faucets are broken, water is contaminated although cleaners are around to assist guests in their personal needs. We tried to ask the airport In-charge and learned from him that they have already submitted their recommendation since January to repair and rehabilitate the building.

Much as we would like to promote tourism and invite other friends and relatives to visit the Philippines and see different tourist spots like Coron, we strongly ask you to expedite the implementation of your plan to further improve the airport facilities so that guests and tourists will not be discouraged to come back.

I hope that you will consider my suggestions and include them in your priority in order to boost the influx of the visitors coming in the island.

From your countrymen,

ONOFRE D. TORRES



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