

**A CASE STUDY ON POST-EVALUATION ANALYSIS  
OF THE INTERNATIONAL OFFICIAL DEVELOPMENT ASSISTANCE  
IN THE FIELD OF TRANSPORTATION**

**- POST-EVALUATION ANALYSIS OF MACTAN (CEBU) INTERNATIONAL  
AIRPORT DEVELOPMENT PROJECT IN THE PHILIPPINES -**

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**Abstract:** This study uses the MACTAN (CEBU) International Airport (MCIA) Development Project implemented with Japanese Official Development Assistance (ODA). As a precedent for a post-project evaluation of future international cooperation projects in the transport field, the formulation of a cost-benefit analysis, the economic impact analysis, employment creating effects and the benefits to the Cebu region, the Philippines and Japan are analyzed.

**Key words:** International cooperation projects in the transport field, Post-project evaluation analysis, cost-benefit analysis, economic impact analysis

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## 1. BACKGROUND OF THE PROJECT STUDY AND ITS OBJECTIVE

### 1.1 Background

Japan has been positively promoting ODA programs for the purpose of supporting the development of the developing countries. In view of the stringent fiscal situation that has prevailed in Japan in recent years, there has been a stronger demand in Japan itself for assuring greater effectiveness, reliability and transparency of ODA projects by conducting quantitative post-project evaluations of the project on the basis of cost-effect analyses and by publishing the results. This applies to the selection of international cooperation projects in the same way as it does to infrastructure development projects in Japan.

### 1.2 Review of the Existing Post-Project Evaluations

With reference to international cooperation projects in the transport field, the practice of evaluating projects at the time of their implementation (preliminary evaluation) using cost-benefit analysis has been in practice for a very long time. Post-project evaluation analysis has been and is being carried out by all organizations concerned and the results also have been made public.

In the same manner, the post project evaluation analyses carried out by the Ministry of Foreign Affairs, Japan International Cooperation Agency (JICA) and Japan Bank for International Cooperation (JBIC) are required in the case of international cooperation projects in the transport field to primarily formulate the following objectives and purposes.

- 1) to prove the effectiveness of the project and to contribute to the future improvement of operation and management
- 2) to contribute to the development of plans for new projects and their appraisal
- 3) to provide assurance of transparency on future projects

These practices has been adopted to carry out evaluations such as for:

- a) the level of target achievement (scope of project, construction period, project costs)
- b) justification of the plans (project execution system, system of operation, maintenance and management operation)
- c) effectiveness of the project
- e) independent development potential

Post-project evaluation for ODA projects are mainly qualitative while quantitative cost-benefit analyses including effects of the assessments on the "direct economic impact in the region," are not being carried out to its fullest extent.

## 2. PURPOSE OF THE STUDY PROJECT

Focusing on quantitative analysis, the purpose of this study is to investigate the direct economic impact such as local company settlement, increase in tourism, and on the creation and promotion of local employment as well as on the settlement of Japanese and other foreign companies in the region. Based on the findings, the study then tries to consider the best way it



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can on how post-project evaluations should be conducted in the future by defining the perspectives and methods of evaluation.

### **3. PROJECT DESCRIPTION AND ITS METHODOLOGY**

#### **3.1 Description of the Project**

MCIA is the second largest international airport of the Philippines. Located in the island of Mactan, Province of Cebu, under Region VII - Central Visayas. It is approximately 600km southwest of the capital of Manila and represents the most important gateway airport in the Southern Philippines. In 1993, a project for the expansion of the airport was initiated under the 17<sup>th</sup> Yen Credit (ODA Loan) Arrangement to meet the problems of congestion and space shortage of the existing airport facilities in the wake of growing air traffic demand and their development stage. Under this project, the runways and aprons were repaired, a new passenger terminal building were constructed and a range of modification and upgrading work were implemented. In 1997, the new facilities were opened up to the public after a total of 73.4 million US dollars (at 1996 prices) had been spent on their construction.

As of 1998, the airport covers a land area of 1,081 hectares and has a total stretch of runways of 3,300m. Approximately 3.1 million passengers utilize the airport in 1998, with international tourism accounting for about 0.5 million people. Adjoining the terminal area of the airport, two vast export processing complexes, the Mactan Economic Zone (MEZ), are home to a total of 129 companies, including foreign corporation and employs roughly 40 thousand people. The export earnings recorded for this zone are in excess of 1.2 billion dollars.

On the eastern coast of Mactan Island there are 25 resort hotels visited by a large number of foreign tourists every year due to its nature's beauty and ambience.

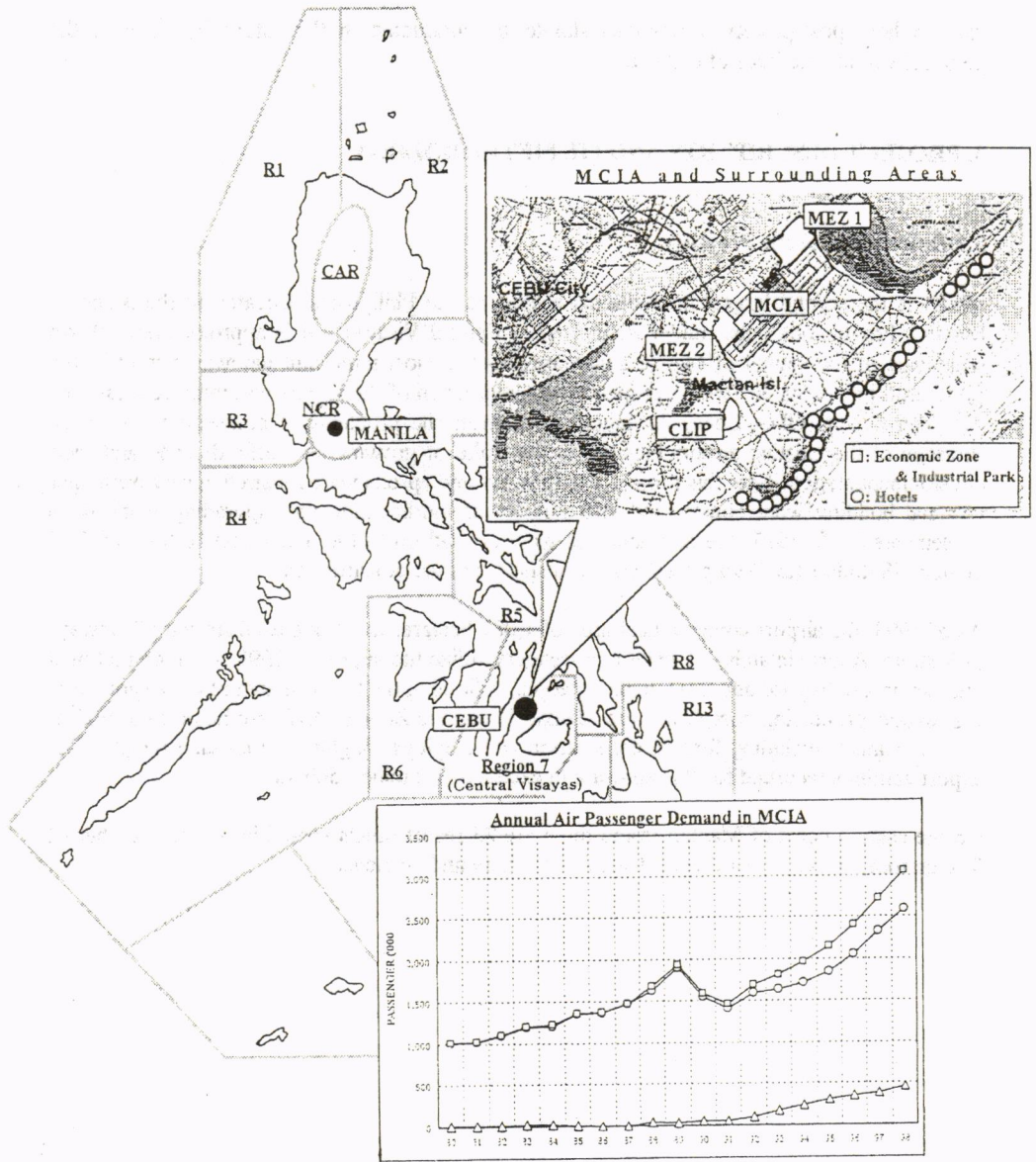


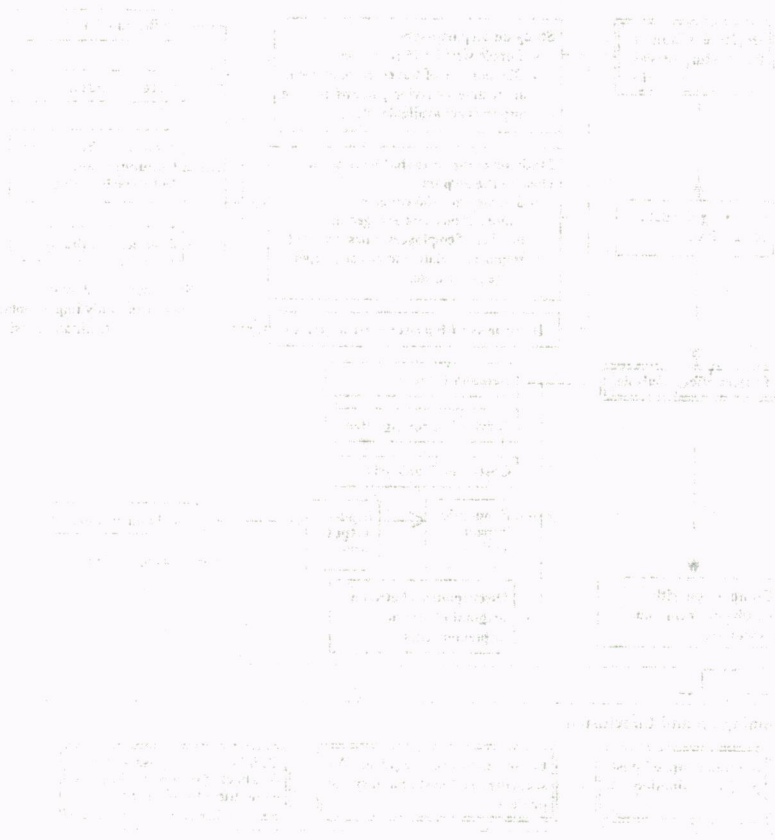
Figure 1. Project Location, Conditions in Surrounding Areas and Annual Air Passenger Demand in MCI A

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### 3.2 Study Process

Figure 2 shows the study process and flow of the organization for its implementation. Post-project evaluation analysis, particularly in the case of ODA projects, requires fact-finding surveys. Aside from the Japanese study teams conducting surveys of the location, inquiries through personal interview were conducted among the airport users and the locator companies within the side areas. Charts showing the expansion of industry were presented, facts and data were collected in cooperation of Philippine Universities and local consulting firms.

In addition, interviews were conducted with the airport managers and other official bodies, including local governments officials. The Japanese Embassy and the Japanese Chamber of Commerce and Industry in Cebu extended their cooperation in carrying out the fact-finding surveys on the Japanese locators/companies.





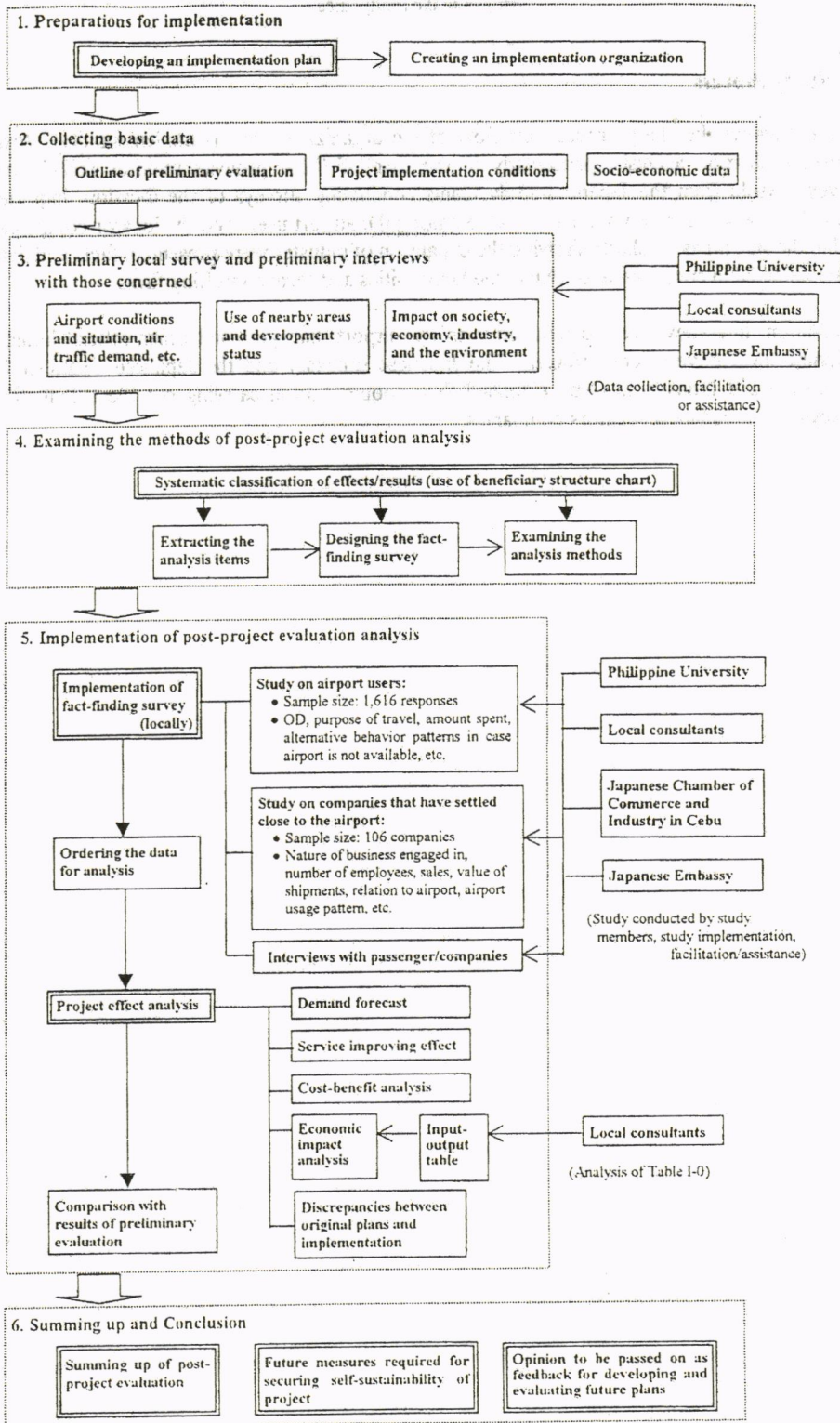


Figure 2. Study Process (Flow of Post-Project Evaluation in This Study)

#### 4. RESULTS OF THE POST-PROJECT EVALUATION ANALYSIS

##### 4.1 Socio-Economic Effect on the Recipient Country

###### (1) Systematic Classification of the Effects

Based on the field survey, the effects arising from the MCIA development project and the relations among the beneficiaries have been systematically classified by using a beneficiary structure. The results and effects can be summarized in the following three (3) points:

- 1) Improvement in convenience of air passengers due to the higher level of service
- 2) Activation of the local industry as a result of the resettled local as well as foreign companies, including manufacturing companies
- 3) Activation of the local industry due to the building of resort hotels and the associated estimated increase in tourism.

It should be noted that the beneficiaries are the domestic and international passengers using MCIA, Cebu region (Mactan Island and Cebu Island), the Philippines as a country and the Japanese companies located in Cebu region.

This study focuses on these effects in conducting cost-benefit analysis and economic impact analysis.

###### (2) Cost-Benefit Analysis

Based on the results of the interview/fact-finding survey to the MCIA users and statistical data, a cost-benefit analysis was carried out using "With and Without" principle. This analysis focuses on the movement of air passengers particularly in the Cebu region on the basis of two (2) case scenarios.

- 1) Assuming that the MCIA project has been carried out "With scenario".
- 2) The other one is supposing that it has not been carried out "Without scenario".

As shown in Table 1, the Cost Benefit Ratio (CBR) focusing on the benefits accruing to the Cebu region is 1.8 and to the Philippines as a whole is 1.1 assuming the Social Discount Rate of 12% is applied. In this case, it can now be concluded based from the evaluation that the MCIA development project has met the fullest efficiency criteria.

As shown in Note 2 of Table 1, the cost-benefit analysis was carried out on the basis of a consumer surplus benefit analysis based on general consumption by calculating the benefit value from the value of local consumption. For this, the changes in air passenger behavior in the "Without scenario" were classed into A, B, and C.



Table 1. Results of Cost-Benefit Analysis

Calculation Period	Evaluation Index	Benefit for the Cebu Region	Benefit for the Philippines as a whole
20 years	Net Present Value (NPV) ('000 US\$)	78.8	12.9
	Cost-Benefit Ratio (CBR)	1.8	1.1
	Economic Internal Rate of Return (EIRR) (%)	18.8	12.4
50 years	Net Present Value (NPV) ('000 US\$)	104.3	24.1
	Cost-Benefit Ratio (CBR)	2.0	1.2
	Economic Internal Rate of Return (EIRR) (%)	19.4	13.4

Note 1: The social discount rate assumed for the calculation of NPV and CBR was 12% by making reference to the long-term prime rate of the Philippines.

Note 2: The changes brought about by the MCIA development project in the behavior of the air passengers had there been without the benefit of the MCIA development, is no direct flight to and from MCIA, and the benefits corresponding to these changes in behavior following the MCIA development project were calculated as follows.

- A: Waiting until the airport is in place. - Assuming that the waiting time does not cause losses, this was excluded from the benefit calculations.
- B: Ceasing to travel or traveling by ship. - Based on the travel conditions (travel time and costs required) in case of using a direct flight, an indirect flight connection and ship, the benefits were calculated on the basis of an analysis of the consumer surplus benefit.
- C: Choice of alternative destinations outside the Cebu region or other than the Philippines. - Based on the average amount spent per visitor to the area, the benefits in terms of the amount of spending by the visitor to the region/country were calculated.

### (3) Economic Impact on the Region

Based on the data obtained from the interview/fact-finding survey to the MCIA user and the questionnaire survey on the companies that have settled in the area close to the airport, I-O analysis for the economic impact of the MCIA after the development project on the Cebu region were carried out.

Even when the direct economic effects associated with the construction investments spent in connection with the airport development and the establishment of industrial settlement, it can be seen that the project has had a considerable upturn effect. The business activities of the industry near to the airport created an added value of 98 million US\$, an income of 34 million US\$ and job opportunities for 67,000 people every year (see Fig. 3.). Furthermore, the amount spent by tourists coming to the area every year generates a value-added worth of 55 million US\$ and income worth 19 million US\$ and creates jobs for 95,000 people (see Fig. 4.).

The Japanese tourists alone visiting the Cebu region and the Japanese companies settling in this region account for a significant share of the above economic impact. Calculations show that the near-airport industrial settlement accounts for an approximately 60% share of this economic effect, while tourism to this area accounts for roughly 20% to this effect. This is a manifesting indication based on these two accounts that there is a large share on the economic ripple effect in the province of Cebu and as well as in Central Visayas region.



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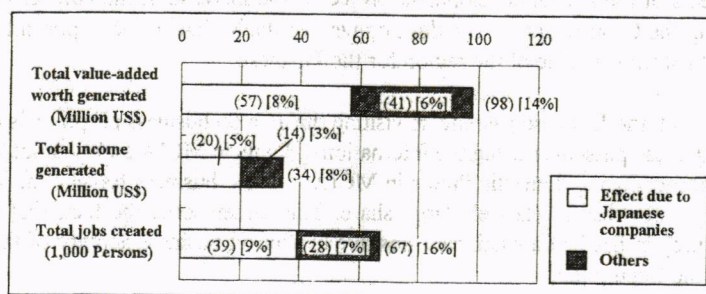


Figure 3. Economic Impact due to Near-Airport Industrial Settlement

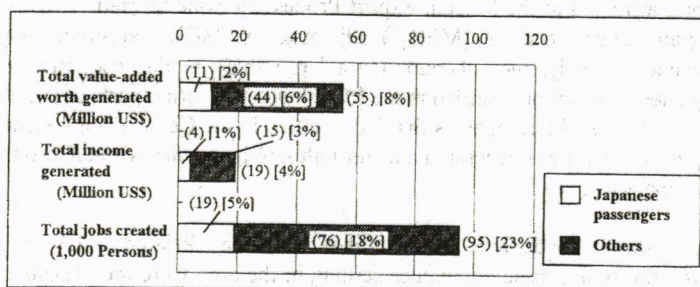


Figure 4. Economic Impact due to Tourists Visiting the Area

Rem. (applicable to Fig. 3 and Fig. 4):

1. Data quoted in round parenthesis ( ) in the figures refer to actual data (income generated or number of jobs created).
2. Data quoted in square parenthesis [ ] are as follows:

Value-added worth generated: Share of gross regional domestic product within the Cebu region.

Income generated: Share of total household income in the Cebu region

Number of jobs created: Share of total number employed in the Cebu region.

#### 4.2 Effect on Japanese Tourists and the Settlement of Japanese Companies

The results and evidence of the fact-finding surveys and interviews are indications that the relation between the MCIA development project and Japan can be summarized as follows from the viewpoint of Japanese tourists and the Japanese companies who settled in the area.

##### (1) Effect on Japanese Tourists

According to the data of the fact-finding surveys to the airport user, approximately 23% of the passengers using the MCIA international airport are Japanese (the number are estimated about 80,000 in 1999). The Japanese tourists have the largest share of all foreign passengers visiting the Cebu region. Of the total domestic air passengers using MCIA, the Japanese account for approximately 40,000 (that is transit passengers from international airlines in Cebu or Manila). And the Japanese passengers visiting the area on sight-seeing is about 66% of the total Japanese passenger.

According to the interviews with local government authorities (Lapu-Lapu City), one of the beneficial effects of the MCIA development project is the increase in the number of Japanese tourists visiting the Cebu region. The development of the MCIA is one important factor that has added to the tourism value of the region for the Japanese.

On the other hand, the Japanese passengers visiting the area on business purposes is about 27% of the total Japanese passenger using the international flights in MCIA and is about 17% of the Japanese passengers using domestic flights in MCIA. Thus, business travel concentrating on the Cebu region also has a relatively large share. This underscores the fact, that the MCIA development project has had a significant positive impact on business activity of the Japanese companies in the Cebu region.

#### (2) Effect on the Settlement of Japanese Companies

Of the companies attracted to the Mactan Export Processing Zone formerly (MEPZ) (which is renamed "Mactan Economic Zone [MEZ]") adjoining the MCIA, approximately 60% are Japanese companies. Clearly, they account for a large share in this economic zone. Many Japanese companies have not only settled in the MEZ but also in other parts of the Cebu region. The total number of Japanese companies that have settled in the Cebu region reaches 165. The MCIA development project has generated a major influx of investment capital into the region in addition to the Japanese ODA loan.

The questionnaire survey conducted and directed at companies' located in the side area shows that the main reason for Japanese companies settling in the area were the availability of cheap labor and of preferential tax incentives measures. The development and proximity of the airport was also considered as a very vital plus factor.

In the "Without scenario" - where the case in which the MCIA development project was not carried out, 41% of the companies replied that they would either discontinue their presence or move to some other place in the Philippines or to some other country instead. All companies that have settled in Cebu, the MCIA have clearly been an important factor to their day to day business operations, locally as well as internationally.

Furthermore, those respondent companies whose replies that their settlement had "no direct relation to the MCIA" in terms of their ordinary business activities accounted only to a mere 7%. In contrast, the companies stating that "the airport is used by employees and customers" accounted to 63% and those with remarks that they "use the airport for shipping products and materials" accounted to 71%. This shows that after the development of the airport, all companies that have settled in this area are preferably using the airport as part of their normal day to day business activities, particularly for business travel purposes and for immediate shipments of their goods and products. There are also a number of companies whose volume of their goods and products air freighted through the airport is steadily increasing year by year.

As cited above, the MCIA airport in its present form functions as a vital traffic artery for the conduct of business among Japanese and other foreign companies. Judging from the studies conducted, it can be concluded that the airport development project has produced a result that fully justifies the expectations of the companies who had been looking considerably a place to meet their overall needs for their business operations.



#### 4.3 Approach for the Post-Project Evaluation in the Future

##### (1) Types of Project Evaluation

- a) Pre-project or preliminary evaluation conducted is to assess whether or not the project should be adopted
- b) Reevaluation conducted is to assess whether or not the project should be continued
- c) Post-project evaluation conducted is to assess the project after it has been put into service or use

Post-project evaluation differs from the preliminary evaluation and the reevaluation. It is carried on a project that has already been made available for use and with the investments already made. This type of evaluation therefore goes beyond the mere assessment of the project's effect and efficiency. Post-project evaluation tries to verify the independent development potential of the project concerned (that is, whether or not the project in question will be able to sustain effect that will meet expectations also in the future) so as to examine what further remedial measures might be necessary in the circumstances. Post-project evaluation thus has an important significance and purpose which also includes the assurance of transparency by making public the findings as well as providing essential feedback for new project as a way of facilitating the development of new project plans and evaluation analysis in the future.

##### (2) Timing for Carrying out Post-Project Evaluation

- a) At the time in which the demand (use) trend has stabilized after operating new facilities
- b) At the time the impact of the project for the region have become apparent
- c) At the time to which it is possible to assess the situation after the corresponding project has been commissioned by collecting and using statistical data

It is therefore essential to carry out a post-project evaluation at a certain time after the project has been finished (generally, 5 - 10 years after operating new facilities).

##### (3) Cautions Concerning the Evaluation Sequence

When a post-project evaluation is carried out, it is necessary to collect basic data, inspect the project locations and conduct interviews with those concerned in order to assess the viable importance of the project facility and to determine the effects or influences on the region, in the area of the facilities, in addition, establish the effects and influences on the nearby industrial parks, housing zone development, social change of population, company settlement, new industrial development and on the surrounding environment. On this basis, it is important to plan or design future evaluation methods, including quantitative analyses.

The data and basic materials required for the post-project evaluation are the performance report and other related data materials. Referring to the time of the preliminary evaluation and its time-course, data gathering subsequent to the commencement of the project up to its commissioning and further to the time of the post-project evaluation are very difficult to collect when it is conducted. For the post-project evaluation, it is therefore of utmost importance to identify the implementation timing and the minimum basic data required at the initial stage of the project to ensure that those concerned are fully aware that the work of data collection must start with the preliminary evaluation so as to collect and pool the data at the early stage of the time.

In order to collect the data and materials required for effective evaluation and to ensure smooth progress in carrying this out, it is important to employ an organization that is closely related to groups or individuals responsible for and familiar with the project location.



## (4) Essential Analysis Items for Post-Project Evaluation (Draft) and Conclusion Criteria

In accordance with the above objectives of the post-project evaluation, attention should be focused by the organizations involved in the international cooperation project whether or not the project conforms to the post-project evaluation items. In this context, the overview of the three analysis items and conclusion criteria shown in Fig. 5 may be presented as a draft proposal for post-project evaluation.

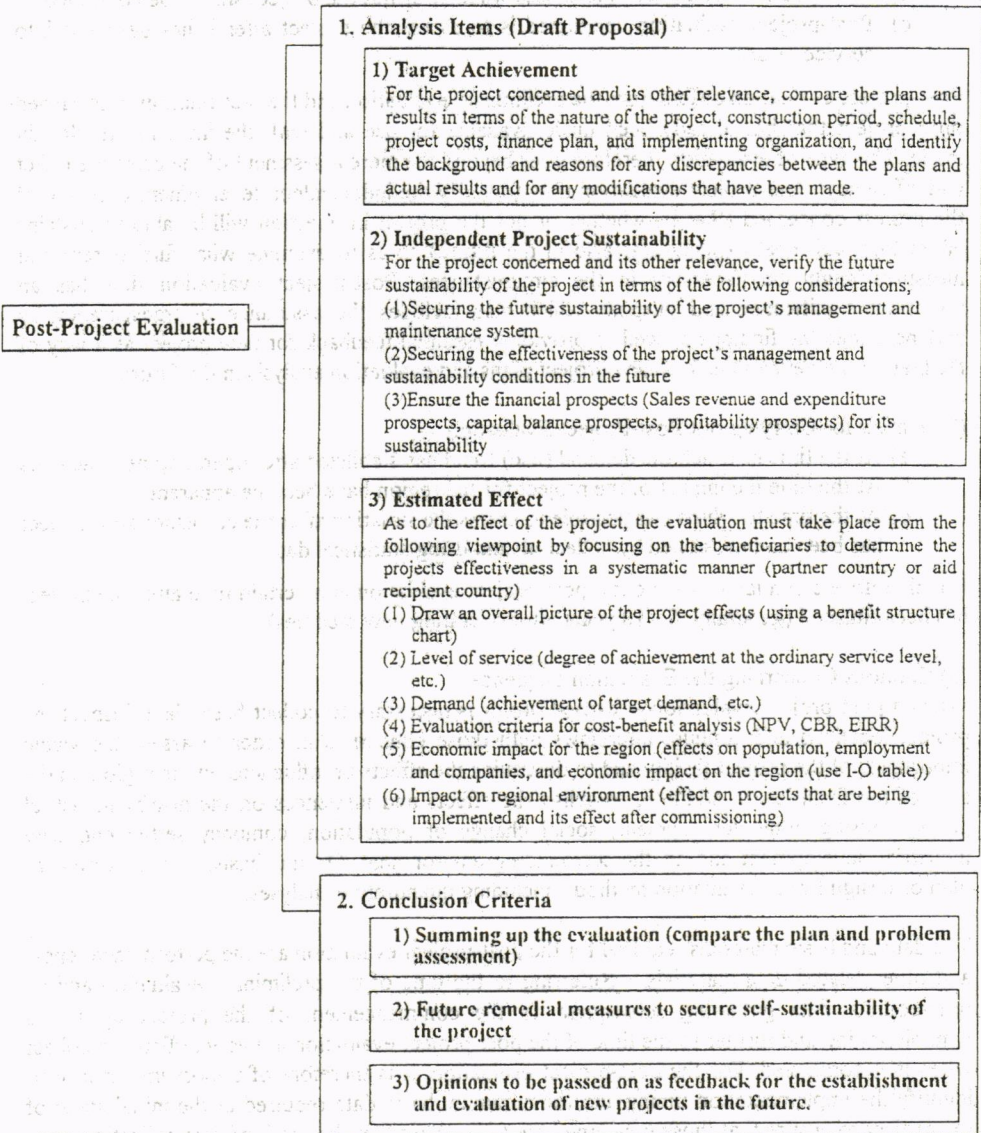


Figure 5. Analysis Items for Post-Project Evaluation (Draft Proposal) and Conclusion Criteria

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## 5. CONCLUSION

This study relates to the MACTAN (CEBU) International Airport (MCIA) Development Project implemented with Japanese Official Development Aid (ODA) and tries to make a post-project evaluation by focusing attention on a quantitative analysis.

The results have demonstrated that the project has not only had economic impact on the region as a direct consequence of the support (project implementation and provision of facilities) but also economic ripple effects associated with the increase in Japanese tourists to the region and the increase in Japanese companies settlement in the region. The project has also been beneficial and effective for Japan for it provided Japanese outbound travelers with a new tourist attraction and gave Japanese companies intent on overseas business operation and expand a new destination for industrial settlement, thereby allowing development and improvements in corporate productivity through overseas operation and expansion.

One of the important factors that have led to the successful conclusion of this study lies in collecting the latest data and in carrying out the fact-finding surveys. And that was made possible through organizing the joint study team consisting of the Japanese research team and the research institute (NCTS) of the Philippine University.

In the future, similar new post-project evaluation analyses will be made on projects carried out in other areas. This will serve as a model approach and application for the post-project evaluation likewise an attempt to establish a post-project evaluation methodology that is more universally applicable and acceptable.

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