

Country Name	The Project for Construction of Market and Jetty in Auki
Solomon Islands	

I. Project Outline

Background	As a result of the ethnic tensions that occurred in the late 1990s, the economy of the Solomon Islands stagnated and its domestic production declined. The cause of the ethnic tensions was a conflict between Malaitans and Guadalcanalians due to migration of Malaitans to Honiara (the Guadalcanal island), the capital of the Solomon Islands. However, the underlying cause of the migration was an underdeveloped rural economy and lack of opportunities to earn cash income, which required promotion of local industries and improvement of living standards of rural people (particularly expansion of opportunities for rural people of Malaita Province to earn cash). On the other hand, the Auki market in Malaita Province was the only place and the center of the rural economy for rural people who lived in a society relying on a subsistence economy to trade the surplus products to earn cash. However, the market facilities were in such a poor condition that goods were exposed to direct sunlight, losing their freshness and their quality deteriorating, and many of the products were also exposed to rain, resulting in a harmful hygienic situation. The old jetty adjacent to the market, the only entrance for everyday sundries and necessities from Honiara, was constructed more than 30 years ago and heavily deteriorated, and in particular, the danger of collapse of the concrete slabs of the superstructure was high.				
Objectives of the Project	To improve transport of people and distribution of goods of Auki and Malaita Province by constructing the Auki market and jetty, thereby contributing to promotion of local industries (particularly the primary industry) of Malaita Province and improvement of living standards of rural people.				
Outputs of the Project	<ol style="list-style-type: none"> 1. Project Site: Auki, Malaita Province 2. Japanese side <ol style="list-style-type: none"> (1) Provision of grant required for construction works (market facilities (market hall, shops, access passage with roof, administrative office, parking lot, public toilet, temporary garbage shed and elevated water tank etc.), jetty and shore protection for the market site), (2) Provision of grant required for consulting service (detailed design and supervision of construction works) 3. Solomon Islands' side: <ol style="list-style-type: none"> (1) Securing of sites for construction, (2) Provision of electricity and water supply, (3) Securing of operation and maintenance (O&M) cost of the constructed facilities 				
Ex-Ante Evaluation	2007	E/N Date	March 12, 2008 (Detailed design) June 19, 2008 (Construction) March 15, 2010 (Construction) ¹	Completion Date	February 24, 2012
Project Cost	E/N Grant Limit: 33 million yen for detailed design (E/N in March 2008), 811 million yen for construction (E/N in June 2008), and 962 million yen for construction (E/N in March 2010) Actual Grant Amount: 4 million yen (E/N in March 2008) and 920 million yen (E/N in March 2010)				
Implementing Agency	Ministry of Infrastructure Development (MID)				
Contracted Agencies	Fisheries Engineering Co., Ltd, Daiho Corporation				

II. Result of the Evaluation

A constraint of this evaluation was difficulties in collecting actual values of the quantitative indicators for judgment of the effectiveness of the project. Major reasons included the followings: (i) in the ex-ante evaluation, collection of the baseline data and setting of the target values of many of such indicators had been done through a market survey, etc. by the JICA mission, meaning that those indicators were not the ones that had been measured by the implementing agency on regular basis; and (ii) in the ex-post evaluation, geographical and time constraints made it impossible to conduct a study in the same manner as the one in the ex-ante evaluation in terms of study period, survey items, the number of market users interviewed, etc.

1 Relevance**Consistency with the Solomon Islands' development policy at the time of ex-ante evaluation and ex-post evaluation**

This project has been highly consistent with the Solomon Islands' development policy, as 'construction and upgrading of economic infrastructures' and 'improvement of access to resources of production and markets' etc. are emphasized in policy documents such as National Economic Recovery, Reform and Development Plan (2003-2006)(at the time of ex-ante evaluation), the National Development Strategy (2016-2035)(under formulation at the time of ex-post evaluation) and the Strategic Plan of the People of Malaita Province (2007-2017)(effective at the times of both ex-ante and ex-post evaluations) etc.

Consistency with the Solomon Islands' development needs at the time of ex-ante evaluation and ex-post evaluation

There have been needs for expansion of opportunities for rural people of Malaita Province to earn cash and efficient transport of people and goods between Malaita Province and Honiara at the time of both ex-ante and ex-post evaluations, and the Auki market and jetty have been very important place of economic activities for people of Malaita Province. These facilities are utilized by people in the eastern and southern parts as well as those in the northern part, where these facilities are located, of Malaita Province at the time of ex-post evaluation. Therefore, the project has been highly consistent with the Solomon Islands' development needs.

Consistency with Japan's ODA policy at the time of ex-ante evaluation

The project was also consistent with Japan's ODA policy as stated in the ODA Country Data Book (2007), which emphasized

¹ While E/N for detailed design and E/N for construction were signed on March 12, 2008 and June 19, 2008, respectively, the project was canceled for FY 2008, as the bidding was unsuccessful. Then the implementation review study was conducted from July 2009 to March 2010 and project cost was revised, and E/N was signed again on March 15, 2010 as a FY2009 project.

'infrastructure (improvement of social and economic infrastructures in rural areas)' as one of priority areas for assistance to the Solomon Islands.

Evaluation result

In light of the above, relevance of this project is high.

2 Effectiveness/Impact

Effectiveness

The Auki market and jetty constructed under the project have been continuously utilized since project completion to the time of ex-post evaluation. At the time of ex-post evaluation, the market is open six days a week (except for Sunday) from 6:00 a.m. to 6:00 p.m., and fresh food, processed food, clothing and daily necessities etc. are sold. While there are frequent schedule changes depending on seasons, at least 12 vessels (six passenger vessels and six cargo vessels) are in regular service per week at Auki jetty (there were seven vessels composed of four passenger vessels and three cargo vessels in 2006). The number of annual passengers is approximately 134,400, which increased from approximately 89,000 of the time of ex-ante evaluation.

The project has partially achieved its objectives, "to improve transport of people and distribution of goods of Auki and Malaita Province", while it is difficult to judge some indicators due to lack of information. Regarding the quantitative performance indicators, information on Indicator 1 'total selling space per vendor on weekends'² was not provided by the Malaita provincial government. However, according to the result of visual confirmation during the project site survey conducted at the time of ex-post evaluation, the number of stores of agricultural products and daily necessities on weekends is approximately 150, that of fishery products is approximately 40 (however, sloping fixed sales tables for fishery products are not used as expected at the time of ex-ante evaluation³), and that of potatoes, dried coconuts, mangrove seeds and shellfish etc., where products are sold on the floor without using sales tables, is approximately 50, and thus the average number of stores in the market constructed under the project is approximately 240 in total a day on weekends. While the average number of vendors a day is unknown, if it is supposed that the number of vendors is two persons per store on average as assumed in the calculation of the target figure, the average number of vendors a day on weekends is approximately 480. When the total selling floor space at the time of ex-post evaluation, which is 1,499m², is divided by 480 vendors, the actual figure of Indicator 1 is obtained as 3.1m² per vendor, which exceeds the target figure. While the actual number of stores within the market per day have decreased compared with that of before project implementation, when including these stores and booths (which are thus not included in the above-mentioned 240 stores), the average number of stores per day becomes approximately 360. This shows that transactions in and around the market became rather active than being inactive⁴. Regarding the Indicator 2 'yearly total number of stores'⁵, it was evident from the visual confirmation that the number of stores on rainy days has increased, however, such data was not available. Regarding the Indicator 3 'required time of passengers' disembarkation and cargo unloading'⁶, the performance of actual figures significantly exceeded the target figures. According to the Malaita provincial government, this was due to the fact that the jetty constructed under the project is wider and it became easier to unload cargos. Moreover, an interview survey was conducted to the market users⁷, as deterioration of the quality/freshness of products and harmful hygienic situation in the old market were serious issues before project implementation. The number of users who replied that hygienic situation in the market and the quality/freshness of products have been improved due to the project was 67% ('significantly improved' was 43%, 'improved' was 23%, 'no change' was 27%, and 'deteriorated' was 7%⁸). However, most of 'no change' and all of 'deteriorated' were given based on a respondents' misunderstanding that they were asked about problems of the new market, which was actually not the intention of the question, i.e., degree of improvement compared with the old market. Later, it was confirmed that all respondents thought the new market was better than the old one. Furthermore, obstacles to commercial activities in the market caused by illegal parking vehicles have been solved due to provision of the parking lot under the project.

Impact

As for the expected impact, "contributing to promotion of local industries (particularly the primary industry) of Malaita Province and improvement of living standards of rural people", it is considered that there has been some impact, though it is difficult to judge some others due to lack of information. While data such as household income and gross regional domestic product (GRDP) by industry of Malaita Province at the time of ex-post evaluation is not available, according to the interview survey to the market users (vendors), 70% of respondents replied that their cash income has increased after project implementation, most of whom replied that the increase rate was approximately 40% to 50%⁹. Most of the respondents who said their income increased mentioned the better facilities as the reason. Specific opinions include "vendors increased after the new market opened, and so did customers," "good facility makes customers not hesitate to pay higher price on the same products, "the vendors became able to sell fresh and hygienic products in any weather after project implementation, which increased buyers' willingness to buy, compared to the situation in which there was no roof and products were sold

² Indicator 1 is to check whether congestion in the Auki market has been eased after project completion, as the market was small and congested before project implementation.

³ Sales tables for fishery products are slope type to drain off the water, however, the surface of the tiled tables is slippery and not suitable for display, and thus these sales tables are not used. Fishery products are sold on the concrete floor outside of the stores of fishery products.

⁴ The stores of beetle nuts (approximately 100) are separated to outside of the market at the time of ex-post evaluation due to reasons pointed out during ex-ante evaluation and defect inspection that beetle nuts are not suitable for hygienic reasons, as the market becomes dirty by spitting nut shells. Moreover, there are approximately 20 booths that sell beetle nuts and cigarettes around the old jetty for the same reason.

⁵ Indicator 2 is to check whether the number of stores on rainy days has increased after project completion, as the number of stores was approximately 20% lower on rainy days than on fine days before project implementation, because there was no roof in the old Auki market.

⁶ Indicator 3 is to check whether the congestion on the jetty has been eased after project completion, as the old Auki jetty was narrow and heavily congested when several ships from Honiara arrived at the same time on weekends.

⁷ The interview was conducted to 30 market users (vendors) (10 males and 20 females).

⁸ The reasons given by those who said "no change" were "improper disposal of wastes" (many similar opinions), "the fish sales tables that are not useful," and "improper water supply." The reason for the answer "deteriorated" was "lack of water supply and electricity." These comments are not actually the answers to the question whether the new market was better than the old ones, as they are the problems of the new market rather than comparison with the old market. The answer "lack of water supply and electricity" shows the situation at the time of our study that the sales table area (not the permanent shop area) was not powered and water for cleaning was manually drawn due to unavailability of pumps. The waste disposal issue mentioned is the problem of the state's dump site that is not related to this project.

⁹ 'Increased' was 70%, 'no change' was 27%, and 'decreased' was 3%. Among those who replied 'increased', those who replied that the increase rate was 'over 50%' was 14%, '40%-50%' was 67%, '30%-40%' was 10%, and '20%-30%' and 'less than 10%' were 5%, respectively.

on banana leaves on the unpaved ground before the project". On the other hand, the respondents who said their income did not increase or decreased explained "income did not change as both customers and shops increased," "competition became harder as vendors increased," and "no change in the number of vendors and price of products," showing different degree of impacts for different vendors.

When the new market opened, vendors voluntarily established the Market Vendors Association (MVA). MVA conducts activities such as (i) holding of a workshop for promotion of good morals in opening up stores in the market, (ii) developing voluntary rules of cleaning (e.g. gathering wastes to one place, which made waste collection easier compared to the situation in the old market where wastes had been left somewhere or other up to the waste collector, and cleaning the vending area by sprinkling water in front of each member's shop), and (iii) organizing a seminar on improvement of states of women by the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women).

Wastes in the market is collected everyday by cleaning personnel as planned in the ex-ante evaluation, and temporarily kept in a temporary garbage shed with doors installed in the market and moved out of the market facilities by an outsourced waste collector twice a week. Wastewater in the market is mostly treated in a combined treatment tank and percolated into the underground after removal of solid matter, as planned in the ex-ante evaluation. However, in the sales lot of fishery products, where products are sold on the concrete floor outside of the stores, vendors are splashing seawater on fishery products to prevent the fish drying, and only half of wastewater from splashing seawater is drained into the drainage in the market. It is not clear whether any hygiene issues are caused by the wastewater that is not drained into the drainage, however, according to the Malaita provincial government, no negative impact on natural environment due to the project has been observed. On the other hand, payment of land use fees by the provincial government to the landowners of the jetty has not been completed yet, and it is planned to be completed by the end of 2015 or early 2016. Land acquisition or resettlement has not occurred under this project.

Evaluation result

Regarding actual figures of performance indicators, improvements have been observed in 'total selling space per vendor on weekends' and 'required time of passengers' disembarkation and cargo unloading', and it was visually confirmed that 'yearly total number of stores' has increased, though it was not verified quantitatively due to lack of data. Regarding the expected impact, while it was not verified quantitatively due to lack of data whether local industries in Malaita Province have been promoted, income of the majority of the vendors interviewed at the time of ex-post evaluation has increased after project implementation, and thus this project is considered to have contributed to the improvement of living standards of rural people.

In light of the above, effectiveness/impact of the project is fair.

Quantitative Effects

Indicator	Before the project (2007)	Target (2013) ⁽¹⁾	Actual result (2012)	Actual result (2013)	Actual result (2014)
Indicator 1: Total selling space per vendor on weekends (m ² /person)	1.8	2.4	Not available	Not available	(2015) 3.1 ⁽⁷⁾
(Supplemental Information for Indicator 1) Average number of stores per day on weekends	313	313	Not available	Not available	(2015) 240 ⁽⁷⁾
(Supplemental Information for Indicator 1) Average number of vendors per day on weekends (person)	626 ⁽²⁾	626 ⁽²⁾	Not available	Not available	(2015) 480 ⁽⁷⁾
(Supplemental Information for Indicator 1) Total selling floor space (m ²)	1,155	1,499 ⁽³⁾	1,499	1,499	1,499
Indicator 2: Yearly total number of stores	86,505 ⁽⁴⁾	89,025 ⁽⁵⁾	Not available	Not available	Not available
Indicator 3: Required time of passengers' disembarkation (minute/time)	160	122	60	60	60
Required time of cargo unloading (minute/time) ⁽⁶⁾	240	222	120	120	120

Note : (1) While the target year was set as 2011 at the time of ex-ante evaluation, it is revised as 2013, which is one year after completion of the construction works, in the ex-post evaluation based on assumptions in project reports. (2) The figure was calculated by average number of stores per day on weekends (the most crowded) x two persons on average. (3) The area of the market hall constructed under the project (market hall (208 sales tables of agricultural products and daily necessities and 16 sales tables of fishery products) + access passage with roof (100 lots of agricultural products)). (4) The figure was calculated by 237 (average number of stores per day including Sundays when the market is closed) x 365 days. (5) The number of stores in the old Auki market was 18% lower on rainy days than on fine days, as the selling space was in the open air and unpaved. It is presumed that 120 days per year are rainy in the daytime in Auki. Thus, it is assumed that 237 x 18% x 50% = 21 shops will increase per rainy day after project completion, and 21 x 120 days = 2,520 shops will increase annually (2,520 + 86,505 = 89,025). (6) These figures are averages of the main vessels that come to Auki jetty every week, which are Temotu, Bikoi and Tomoko (at the time of ex-ante evaluation). Required time of passengers' disembarkation is the time from preparation for disembarkation to all passengers' leaving the jetty. (7) These figures are according to the result of visual confirmation during the project site survey.

Source : Basic Design Study Report, Ex-Ante Evaluation Sheet, questionnaire survey to the Malaita provincial government, project site survey by the evaluator (September 9 to 12, 2015)

3 Efficiency

The project cost was higher than planned (ratio against the plan: 109%), as project cost was revised and E/N was signed again resulting from unsuccessful bidding due to price fluctuation etc., and project period was significantly longer than planned (ratio against the plan: 198%). Therefore, efficiency of this project is low¹⁰.

4 Sustainability

Institutional aspect

At the time of ex-post evaluation, the Malaita provincial government is responsible for O&M of Auki market and jetty constructed

¹⁰ This is a comparison with project cost of ex-ante evaluation. If the actual cost and period are compared with those planned after the second E/N, both project cost and period are within the plan (96% each). It was a good decision to revise construction methods and project cost in the light of local situations, taking into account the changing situation around the project, procurement conditions, and price fluctuations during the implementation review study after the first E/N.

under the project. Guard duties in the market and collection, transportation and disposal of garbage are contracted to respective private companies. Maintenance of public toilet and collection of toilet usage fees are contracted to a private company (lease agreement). Required number of O&M staff was estimated as 13 persons in total (one market/jetty master, one jetty supervisor, three fee collectors, three market cleaners, three guards and two toilet custodians) at the time of ex-ante evaluation. At the time of ex-post evaluation, there are 14 to 16 staff (one market master¹¹, one jetty supervisor, one accountant, six fee collectors, one toilet custodian (lease agreement), two to three cleaners and garbage collectors (outsourcing agreement) and two to three guards (outsourcing agreement)), and the number of allocated staff is sufficient. Moreover, a committee (MVA) has been organized by several vendors after project completion, which voluntarily conducts tasks such as negotiation and solving troubles among vendors regarding allocation of sales tables, etc. and negotiation with the provincial government, which is responsible for O&M of the market.

Technical Aspect

Technical level of O&M staff of Auki market and jetty is sufficient to conduct O&M of these facilities properly. Trainings and operation guidance are provided from those who have experiences of O&M of Honiara Central Market, which was constructed in 1994 with Japan's grant aid, to O&M staff of Auki market, while information on frequencies and contents of such trainings was not available. Moreover, a Japan Overseas Cooperation Volunteer, who was assigned to Auki market until July 2014, provided assistance to O&M of the new market as a whole (management and accounting, contracting, cleaning and hygiene management, shops management, product development, awareness-raising among vendors, etc.), the contents of which are utilized at the time of ex-post evaluation¹². Furthermore, UN Women conducted awareness-raising trainings (techniques required for vendors such as accounting, quality, freshness and hygiene etc. and management of the market that is a public entity) in August 2015 for female vendors, who account for approximately 80% of the selling space as a whole.

Financial Aspect

It was found out in the defect inspection, which was conducted after project completion, that rents of permanent shops (retailers' booths, canteens, butchery and chest freezers) were set twice or three times of the rates expected before project implementation to ensure market revenue, and rents and electricity bills had not been paid on time in almost all permanent shops. This was because the rent was billed in lump-sum including electricity and water charges. Actions have been taken against this problem: at the time of ex-post evaluation, rents of shops have been lowered, electric wirings have been laid in each shop and electricity is provided to each shop on advance payment. Through these efforts, while arrears of rents have still been accumulated in some shops, payment has been urged by accepting payment in installments, and as a result, the amount of uncollected rents has been decreasing. Thus, it is considered that collection of fees from the market users has recently been improved, compared with the situation immediately after project completion. Also, besides rental fees, the market has revenue from usage fees, on which no problem has been reported. Indeed, the arrears problem has not been serious enough to force the market to close. However, it could not be verified due to lack of sufficient information whether jetty usage fees are collected sufficiently and revenues required for O&M of the market and jetty are secured.

Current Status of O&M

O&M works are conducted mostly as anticipated in the ex-ante evaluation, however, there is no maintenance plan of the facilities constructed under the project, and maintenance is conducted as needed bases. It was pointed out in the defect inspection that the wooden door in the market facing outside needs to be periodically (particularly before the rainy season) re-painted, an inspection of the amount of sludge accumulated in the septic tank needs to be conducted once a month and sludge needs to be removed at least once a year. However, the wooden door has never been re-painted so far. Sludge has been removed twice between project completion and ex-post evaluation. There is no particular problem regarding the facilities constructed under the project at the time of ex-post evaluation.

Evaluation result

In light of the above, sustainability of project effects is fair, as there is no problem in institutional and technical aspects, and some notable efforts have been observed such as voluntary organization among vendors, however, there are some problems in financial aspect and current status of O&M.

5 Summary of the Evaluation

The project has partially achieved its objectives: regarding actual figures of performance indicators, improvements have been observed in 'total selling space per vendor on weekends' and 'required time of passengers' disembarkation and cargo unloading', however, 'yearly total number of stores' was not verified quantitatively due to lack of data. Regarding the expected impact, while it was not verified quantitatively due to lack of data whether local industries in Malaita Province have been promoted, income of the majority of the vendors interviewed has increased after project implementation, and thus this project is considered to have contributed to the improvement of living standards of rural people. As for sustainability, while there is no problem in institutional and technical aspects, there are some problems in financial aspect and current status of O&M. While it was observed in the project site survey that the market and jetty have been utilized, maintained despite of some issues, and useful for local residents, data to objectively support these points was not sufficiently obtained. As for efficiency, both the project cost and period exceeded the plan compared with the plan at the time of ex-ante evaluation, as the project cost was revised and E/N was signed again due to unsuccessful bidding.

In light of the above, this project is evaluated to be unsatisfactory.

III. Recommendations & Lessons Learned

Recommendations to implementing agency:

It should be acknowledged that the Malaita provincial government has been making efforts to establish O&M system of the market and reduce arrears of rents and electricity bills. Further improvements should be made, so that the market can be continuously managed financially independently. In order to do so, to properly manage data including utilization of the market and revenues and expenditures in the market that were not available in the ex-post evaluation will be effective.

Lessons learned for JICA:

1) It is important to design a facility and equipment from the users' point of view. In case of this project, the sales tables for fishery

¹¹ This post is currently vacant, as the market master passed away in December 2014, and the market master who assumed the post in April 2015 also passed away in September in the same year. Thus, an accountant manages Auki market as a whole at the time of ex-post evaluation.

¹² A successor started his/her activities in October 2015.

products were tiled based on the natural conditions of the area, but the sloped-design made the tables slippery and thus difficult to use. A sales table for fresh fish is sloped (angled) mainly for (i) draining (to protect fish from deterioration due to water retained underneath) and (ii) presentation (to make fish clearly visible to customers). It is a common practice in Japan and some other countries, but only when fish is arranged over ice. In a country like Solomon Islands, where ice is not used for displaying fish, the sales tables should have been flat (leveled) so that fish would not slip off. In future projects, therefore, fish selling tables should be (i) tiled from a hygienic viewpoint and (ii) horizontally flat, if the products are arranged without ice, to avoid slip drop.

2) When setting an operation/effect indicator that is not routinely measured by the implementing agency at the time of ex-ante evaluation, data availability for that indicator should be fully discussed. Alternatively, if such an indicator is considered to be useful in operations of the implementing agency, JICA could encourage the implementing agency to start to measure the indicator for themselves.

3) It is important for future infrastructure projects to ensure that land issues have been sorted out properly by the partner country before making agreement between JICA and the partner government.



Inside of the Auki Market



The New Jetty