

Country Name	Project for Child Health in Department of Quetzaltenango
Republic of Guatemala	

I. Project Outline

Background	Indicators related to mother and child health of Guatemala were low compared to the ones of other Central American countries: the infant mortality ratio: 35 per 1,000 live births and maternal mortality ratio: 240 per 100,000 live births (2005). The Department of Quetzaltenango is located in highlands in the western part of Guatemala at 2,300-2,700m above the sea level. Most population belongs to indigenous ethnics who speak Quiché or Mam Language. One of the most serious health problems for the inhabitants was high infant mortality rate, and the majority of the deaths were caused by respiratory infection and diarrhea.		
Objectives of the Project	Through strengthened health services and management at the health facilities and upgraded parents' knowledge and skills in the target municipalities, the project aimed at decreasing the number of children who get critically ill due to respiratory infection and diarrhea, thereby contributing to decrease in child mortality.		
	Overall Goal: The child mortality (under the age five) decreases in the target municipalities in the Health Area of Quetzaltenango. Project Purpose: The infants under a year do not get critically ill due to respiratory infection and diarrhea.		
Activities of the project	Project site: 6 municipalities (Cabricán, Huitán, Palestina de los Altos, Cajolá, San Miguel Siguilá and Cantel) in Department of Quetzaltenango 1. Main activities: training of the health personnel on respiratory diseases, diarrhea and under-nutrition and communication with patients, development of the infants' medical examination, provision of health education to parents, training of health volunteers, etc. 2. Inputs (to carry out above activities) Japanese Side 1) Experts from Japan: 12 persons 2) Experts from the third countries: 11 persons 3) Training in the third countries: 43 persons 4) Equipment: Vehicles, office equipment, medical equipment, etc. 5) Operation cost for travel expenses, preparation of training materials, etc.. Guatemalan Side 1) Staff allocated: 24 persons 2) Land and facilities: Office space, etc. 3) Operation cost for establishment of new Health Posts, maintenance of vehicle, employment of the project staff, etc.		
Project Period	October 2005 to September 2009	Project Cost	(ex-ante) 190 million yen, (actual) 205 million yen
Implementing Agency	Ministry of Public Health and Social Assistance (MSPAS), Health Area Office (Dirección de Area de Salud) of Quetzaltenango		
Cooperation Agency in Japan	None.		

II. Result of the Evaluation

[Special Perspectives Considered in the Ex-post Evaluation]

- The project aimed at decreasing the number of infants who get critically ill due to respiratory infection and diarrhea (Project Purpose), in order to decrease in the child mortality rate (Overall Goal). In the Project Design Matrix (PDM), the number of mortality was used as an indicator of both objectives. However, it is considered more suitable to verify achievement of the Project Purpose (expected outcome at the project completion as provision of improved services) with the following data: a) consultation cases of the infants (Indicator 1 of the Output 1), b) medical examination for the infants (Indicator 5 of the Output 1), c) mothers' knowledge on the treatment of the infant's respiratory diseases and diarrhea (Indicator 4 of the Output 2), and d) follow-up of low-weight infants (Indicator 3 of the Output 5). At the ex-post evaluation, these data were used as supplemental information.

1 Relevance
<Consistency with the Development Policy of Guatemala at the time of ex-ante evaluation and project completion> The project was consistent with Guatemala's development policies on decrease in the maternal and child mortality as set forth in "Health Policy 2004-2008" and "Health Policy 2008-2012."
<Consistency with the Development Needs of Guatemala at the time of ex-ante evaluation and project completion > The project was consistent with Guatemala's development needs for tackling with respiratory diseases and diarrhea which would result in infants death, especially in the western region, at the times of both the ex-ante evaluation and project completion
<Consistency with Japan's ODA Policy at the time of ex-ante evaluation> Based on the policy dialogue between the Government of Guatemala and the ODA Task Force in July 2004, one of the priority areas for assistance was confirmed as "improvement of the livelihood in the rural areas (with consideration for the indigenous people) which included expansion of the health services ¹ ."
<Evaluation Result> In light of the above, the relevance of the project is high.
2 Effectiveness/Impact
<Status of Achievement for the Project Purpose at the time of Project Completion> It is judged that the Project Purpose was achieved. Although the number of infant mortality decreased (Indicator 1), the project contribution to decrease in respiratory infection and diarrhea could not be confirmed. On the other hand, as supplemental information,

¹ Ministry of Foreign Affairs (2006) "ODA Databook 2005."

services for mothers and children were strengthened, as there was improvement in data such as consultation and medical examination for the infants and mothers' knowledge on treatment of the infant's respiratory diseases and diarrhea.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have partially continued. The number of the infant mortality has decreased (Indicator 1). As death causes, diarrhea decreased from 6.4% (2010) to 0.0% (2017), while respiratory disease increased from 35.1% to 60.0%. As supplemental information, most services strengthened by the project have been sustained (e.g.: antenatal consultation, follow-up of the low-weight infants, case conferences, referral/counter-referral², and so on.), which have contributed to the decrease in the infant mortality, according to the Health Area Office of Quetzaltenango. Medical examination is monthly conducted, but the number has been increasing and decreasing. However, considering the recent decrease in the birth rate and increase in the migration number in the target municipalities, the coverage of medical examination itself has been increasing, according to the Health Area Office of Quetzaltenango. On the other hand, "peer leader" mothers have not been functional, due to limited financial and technical support from the Health Area Office.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

It is judged that the Overall Goal has been achieved. First, the number of the under-five child mortality has much decreased (by 91%) in the target six municipalities from 2004 to 2017, regardless increases in respiratory disease and diarrhea as death cases. Exact reasons for these increases could not be confirmed at the ex-post evaluation survey, as there might be differences among municipalities and years. However, as mentioned above, it can be concluded that improved services of the Health Area Office of Quetzaltenango would contributed to the decrease in the child mortality rate as well as the infant mortality rate. Second, there has been a decrease in the under-five mortality also in other municipalities. The overall improvement in the Department of Quetzaltenango has been attributed to strategies and programs of the Health Area Office including training of the personnel at drug stores and traditional midwives who receive sick infants, improved triage, and strategic assignment of JICA volunteers (nurses, nutritionists and midwives) in each municipality who supported the project activities.

<Other Impacts at the time of Ex-post Evaluation>

First, personnel at most health facilities visited during the survey answered that more mothers have come to the health facilities to bring sick children, receive medical examination or vaccination than before, though the exact data was not available at the ex-post evaluation survey. It can be said that this is a big change, as women were hesitate or not permitted by their husbands to go out for receiving health services by tradition. According to the interviewed personnel, improved health services have won women's trust in health facilities, and mothers have become more conscious about their children's health. Second, the project experience has been utilized in the Project for Maternal and Child Health in Quetzaltenango, Totonicapán and Sololá in the Republic of Guatemala (2011-2015), such as organization of pregnant women's club, referral/counter-referral sheets, and so on.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Achievement of the Project Purpose and Overall Goal

Aim	Indicators	Results																														
(Project Purpose) The infants under a year do not get critically ill due to respiratory infection and diarrhea.	1. The number of the infant mortality (28-day old and up, under 1-year) decreases by 25% in five years in six municipalities.	<p>Status of achievement: <u>Achieved (Continued)</u>. (Project Completion)</p> <p>- The number of the infant mortality (28-day old and up, under 1-year) decreased by 51%, but the Terminal Evaluation team judged that it was difficult to verify how the achievement was attributed to decrease in mortality because of respiratory infection and diarrhea. (Ex-post Evaluation)</p> <p>-The infant mortality has been on a decreasing trend in the target six municipalities. In two municipalities, the number has decreased by more than 30%, while in other municipalities the number has slightly decreased.</p> <table border="1"> <thead> <tr> <th></th> <th>2004</th> <th>2008</th> <th>2010</th> <th>2011</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> </tr> </thead> <tbody> <tr> <td>No. of the infant mortality</td> <td>145</td> <td>72</td> <td>62</td> <td>74</td> <td>82</td> <td>55</td> <td>46</td> <td>46</td> <td>60</td> <td>37</td> </tr> </tbody> </table>		2004	2008	2010	2011	2012	2013	2014	2015	2016	2017	No. of the infant mortality	145	72	62	74	82	55	46	46	60	37								
		2004	2008	2010	2011	2012	2013	2014	2015	2016	2017																					
	No. of the infant mortality	145	72	62	74	82	55	46	46	60	37																					
<Supplemental information> a) consultation cases of the infants		<p>Status of achievement: <u>Achieved (Partially continued)</u>. (Project Completion)</p> <p>- The consultation cases of the infants (28 days under a year) tripled.</p> <table border="1"> <thead> <tr> <th></th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>No. of the consultation cases</td> <td>3,527</td> <td>7,118</td> <td>10,231</td> <td>12,127</td> <td>11,799</td> </tr> </tbody> </table> <p>(Ex-post Evaluation)</p> <p>- The consultation cases of the infants (28 days under a year) has been slightly on a decreasing trend</p> <table border="1"> <thead> <tr> <th></th> <th>2010</th> <th>2011</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> </tr> </thead> <tbody> <tr> <td>No. of the consultation cases</td> <td>9,492</td> <td>5,696</td> <td>8,586</td> <td>8,908</td> <td>8,554</td> <td>8,103</td> <td>8,996</td> <td>8,836</td> </tr> </tbody> </table>		2004	2005	2006	2007	2008	No. of the consultation cases	3,527	7,118	10,231	12,127	11,799		2010	2011	2012	2013	2014	2015	2016	2017	No. of the consultation cases	9,492	5,696	8,586	8,908	8,554	8,103	8,996	8,836
	2004	2005	2006	2007	2008																											
No. of the consultation cases	3,527	7,118	10,231	12,127	11,799																											
	2010	2011	2012	2013	2014	2015	2016	2017																								
No. of the consultation cases	9,492	5,696	8,586	8,908	8,554	8,103	8,996	8,836																								
b) number of medical examinations for the infants		<p>Status of achievement: <u>Achieved (Partially continued)</u>. (Project Completion)</p> <p>- The number of the medical examinations for the infants conducted at the health facilities increased by more than 25% annually in all of the municipalities except one where the project activities started only in 2008. (Ex-post Evaluation)</p> <p>- The number of medical examinations for the infants (28 days under a year) has been</p>																														

² Referral: Referral and transfer from the lower health facilities to the higher health facilities; Counter-referral: Referral and transfer from the higher health facilities to the lower health facilities.

		increasing and decreasing.																		
		<table border="1"> <tr> <td></td> <td>2010</td> <td>2011</td> <td>2012</td> <td>2013</td> <td>2014</td> <td>2015</td> <td>2016</td> <td>2017</td> </tr> <tr> <td>No. of medical examination for infants</td> <td>20,356</td> <td>25,689</td> <td>14,331</td> <td>19,770</td> <td>9,646</td> <td>17,255</td> <td>10,357</td> <td>15,490</td> </tr> </table>		2010	2011	2012	2013	2014	2015	2016	2017	No. of medical examination for infants	20,356	25,689	14,331	19,770	9,646	17,255	10,357	15,490
	2010	2011	2012	2013	2014	2015	2016	2017												
No. of medical examination for infants	20,356	25,689	14,331	19,770	9,646	17,255	10,357	15,490												
	c) mothers' knowledge on the treatment of the infant's respiratory diseases and diarrhea	<p>Status of achievement: <u>Achieved (Mostly continued).</u> (Project Completion)</p> <p>- Mothers who participated in trainings improved their score at the post-test from the pre-test on the use of medical herbs for treatment of respiratory diseases and diarrhea (38% to 88% in 2007, 49% to 72% in 2008). (Ex-post Evaluation)</p> <p>- Nine and four out of the 14 mothers interviewed during the ex-post evaluation survey answered that they understand well and partially, respectively.</p>																		
	d) follow-up of low-weight infants	<p>Status of achievement: <u>Achieved after the project completion (Continued).</u> (Project Completion)</p> <p>- Follow-up activities were just started. (Ex-post Evaluation)</p> <p>- Follow-up of low-weight infants have been conducted as planned.</p>																		
(Overall goal) The child mortality (under the age five) decreases in the target municipalities in the Health Area of Quetzaltenango.	1. The number of the under-five mortality decreases by 25% in six municipalities.	<p>Status of achievement: <u>Achieved.</u> (Ex-post Evaluation)</p> <p>- The number of the under-five mortality decreased by 32% from 2013 to 2017.</p> <table border="1"> <tr> <td></td> <td>2004</td> <td>2013</td> <td>2014</td> <td>2015</td> <td>2016</td> <td>2017</td> </tr> <tr> <td>No. of the child mortality in the six target municipalities</td> <td>145</td> <td>19</td> <td>20</td> <td>11</td> <td>28</td> <td>13</td> </tr> </table> <p>Note: At the Terminal Evaluation in 2009, the number of the child mortality in 2004 was 231. However, a different figure (145) was provided by the Health Area Office of Quetzaltenango at the ex-post evaluation. The latter is used in this report.</p>		2004	2013	2014	2015	2016	2017	No. of the child mortality in the six target municipalities	145	19	20	11	28	13				
	2004	2013	2014	2015	2016	2017														
No. of the child mortality in the six target municipalities	145	19	20	11	28	13														

Source: JICA documents, data provided by MSPAS and Health Area Office of Quetzaltenango.

3 Efficiency

Although the project period was as planned (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan: 108%). Outputs were produced as planned. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

The "National Plan for the Reduction of Maternal and Neonatal Mortality 2015-2020" and "Institutional Strategic Plan 2016-2020" of MSPAS hold policies and programs for reproductive health, strengthening of the health service networks, and so on. Services strengthened by the project are backed up by these policies at least until 2020.

<Institutional Aspect>

The organizational structure for providing health services for mothers and children is appropriate, but some of the Health Centers and Posts do not have a sufficient number of the health personnel. At the Health Area Office of Quetzaltenango, 20 staff are assigned: 3 epidemiologists, 4 staff in charge reproductive health, 2 staff in health promotion, 4 nurses, 2 nutritionists, and 5 administrative and other staff, but the number is not sufficient to cover the extensive territory. At the ex-post evaluation survey, 2 Health Centers were visited. One center says the number of health personnel (1 doctor, 1 nurse, 3 auxiliary nurses, 1 rural health worker and 1 environmental inspector) is sufficient to provide maternal and infant services, while the other has a difficulty in covering all the needs of the increasing population. Also, three Health Posts³ were visited and all of them answered that the personnel number (4 for each post) is sufficient to perform their duties. Services of the Health Centers and Posts are monitored by the Health Area Office every two months. At the community level, Medical Herb Volunteers and Health Volunteers trained by the project have been active in the 3 surveyed communities in the Municipality of Cajolá. The municipality plans to recruit 33 new volunteers for 2018.

<Technical Aspect>

The personnel of the Health Centers and Posts in the target six municipalities answered that they have sufficient skills for providing services for the infants' infectious disease and diarrhea, since they are given training opportunities by MSPAS, Health Area Office or other institutions on the related topics. Materials developed by the project such as explanatory flipcharts on "Five Basic Cares⁴" and medical herbs, referral/counter-referral sheet and DVD on nutrition for mothers, while others including manuals on sick children evaluation and medicine for pediatrics are not referred to any longer due to the frequent personnel change.

<Financial Aspect>

Budgets of the Health Area Office of Quetzaltenango have increased for the last four years (56 million Guatemala Quetzals (GTQ) (2015) to 65 million GTQ (planned, 2018)), but according to the office, they have not been sufficient to cover all necessary programs. Some Health Centers and Posts answered that budget have not been sufficient for necessary clinical laboratories, preventive maintenance of the medical equipment, etc. No prospect for increase in budget distribution was confirmed by MSPAS and no particular solutions were showed by the Health Area Office at the time ex-post evaluation survey.

<Evaluation Result>

Therefore, the sustainability of the effects is fair.

5 Summary of the Evaluation

It is judged that the project partially achieved the Project Purpose and Overall Goal. The number of both infant mortality and under-five mortality decreased. Services strengthened by the project themselves have been mostly sustained, and the Health Area Office

³ Health Posts are the first level facility which provide basic services including maternal and infant care. As the second level facility, Health Centers which have more assigned staff deal with delivery and receive inpatients.

⁴ Five Basic Cares are nutrition, hydration, adjustment of body temperature, keeping clean and rest.

of Quetzaltenango considers the improved services have contributed to the decrease in infant and under-five mortality, though it could not be exactly verified with data. Regarding the sustainability, while the number of the personnel at the Health Centers and budgets are not sufficient to cover all of the health needs of the increasing population, the organizational structure of the Health Area Office itself has been appropriate and volunteers trained by the project have been active. As for the efficiency, the project cost slightly exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- It is recommended to the Health Area Office of Quetzaltenango to give directions to the Health Centers and Posts so that each facility let its new personnel to know materials which were developed by the project and not used any longer and promote their use. In the situation where the personnel turnover cannot be evitable, it is necessary to make sure the project outputs be taken over to the new personnel, by having an opportunity for familiarization.

Lessons learned for JICA:

- It was pointed out by the Health Area Office that one of the promoting factors for achieving the Project Purpose and continuing the effects was JICA volunteers' efforts. Volunteer nurses, midwives and nutritionists were dispatched in each of the six target municipalities to support the project activities such as preparation of training materials, motivation of the health personnel by accompanying them at the facilities and communities, diffusion of the Five Basic Cares to the communities, and so on. Thus, appropriate professionals were strategically assigned in each target municipalities, and this was possible due to clear job description in the recruitment documents. In projects which intend to involve volunteers in the activity implementation, it is important to plan the timely recruitment, clearly explain what kind of professions are needed, and strategically assign them in the target sites.



Medical herb garden at the Health Center



Mother and her child visiting the Health Center