

Country Name	Maternal and Child Health Project at SILAIS Chontales and SILAIS Zelaya Central
Republic of Nicaragua	

I. Project Outline

Background	<p>The maternal mortality ratio of Nicaragua was 100 per 100,000 live births and the under-five mortality ratio per 1,000 live births was 24, higher than the averages for Latin America and the Caribbean countries (85 and 19, respectively) (2014). Reasons identified by the Ministry of Health included the high number of expectant mothers who gave birth at home without recognizing risks such as pregnancy complications, the high percentage of young pregnancies and births under the age of 20, the inadequate emergency obstetric care functions in health facilities, etc. There were many areas where the residents' access to health services was difficult, such as middle and highlands lacking infrastructure and areas which relayed on waterways for transportation. The maternal mortality ratios in SILAIS Chontales and SILAIS Zelaya Central (96 and 142 per 100,000 live births, respectively) were higher than the national average (2013). The average neonatal mortality ratio of the two SILAIS (65 per 1,000 live births) was higher than the national average (2012).</p>				
Objectives of the Project	<p>Through the strengthened capacity of health facilities for service provision, community health activities, and SILAIS health administrative capacity, the project aims at increasing the use of the high-quality health services for pregnant and parturient women and children under two years of age in the jurisdiction of SILAIS Chontales and SILAIS Zelaya Central, thereby contributing to the improvement of the maternal and child health (MCH) situation.</p> <ol style="list-style-type: none"> Overall Goal: Maternal and child health situation is improved in the areas under the jurisdiction of SILAIS Chontales and SILAIS Zelaya Central. Project Purpose: Increased use of high-quality health services for pregnant and parturient women and the children under two years of age in the target areas of the project. 				
Activities of the Project	<ol style="list-style-type: none"> Project site: 10 municipalities in SILAIS Chontales (Acoyapa, Comalapa, Juigalpa, La Libertad, San Francisco de Cuapa, San Pedro de Lóvago, Santo Domingo and Santo Tomas, Villa Sandino, El Ayote), 4 municipalities in SILAIS Zelaya Central (Nueva Guinea, El Rama, Muelle de Los Bueyes and El Coral) Main activities: Assessment of MCH service provision and referral system, development of training manuals and program, training for the health personnel and ESAFC, development of the M&E framework of the health facilities and ESAFC, seminars for dissemination of good practices of MCH services and ESAFC activities to other SILAIS, etc. *ESAF: Family and Community Health Team Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> Japanese Side <ol style="list-style-type: none"> Experts: 10 persons Trainees received in Japan: 9 persons Trainees received in the third countries (Paraguay, Dominican Republic, and Honduras): 10 persons Equipment: PC, projectors, copy machines, etc. Local cost: travel expenses, hiring local consultants, cost for vehicles, etc. </td> <td style="width: 50%;"> Nicaraguan Side <ol style="list-style-type: none"> Staff allocated: 44 persons Facility: Office space, car parking space, etc. Local cost: travel expenses, maintenance cost of vehicles, expenses for health promotion activities, etc. </td> </tr> </table> 			Japanese Side <ol style="list-style-type: none"> Experts: 10 persons Trainees received in Japan: 9 persons Trainees received in the third countries (Paraguay, Dominican Republic, and Honduras): 10 persons Equipment: PC, projectors, copy machines, etc. Local cost: travel expenses, hiring local consultants, cost for vehicles, etc. 	Nicaraguan Side <ol style="list-style-type: none"> Staff allocated: 44 persons Facility: Office space, car parking space, etc. Local cost: travel expenses, maintenance cost of vehicles, expenses for health promotion activities, etc.
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Project Period	(ex-ante) January 2015 to December 2018 (48 months) (actual) July 2015 to August 2019 (50 months)	Project Cost (Japanese side only)	(ex-ante) 526 million yen, (actual) 497 million yen		
Implementing Agency	Ministry of Health, SILAIS Chontales and SILAIS Zelaya Central				
Cooperation Agency in Japan	Estrella Inc.				

II. Result of the Evaluation

1 Relevance/Coherence
<p>[Relevance]</p> <p><Consistency with the Development Policy of (country name) at the Time of Ex-Ante Evaluation></p> <p>MCH was a top priority in the health sector as reflected in the "National Health Policy" (2004-2015). In addition, Community health promotion and medical diagnosis/treatment have been endorsed as the "Family and Community Health Model" (Modelo Salud Familiar y Comunitario: MOSAFC). The project was consistent with the development policy of Nicaragua at the time of ex-ante evaluation.</p> <p><Consistency with the Development Needs of (country name) at the Time of Ex-Ante Evaluation></p> <p>In SILAIS Chontales and SILAIS Zelaya Central, the maternal mortality ratios the neonatal mortality ratios were higher than the national average, although more pregnant women received four or more prenatal checkups and there were more institutional deliveries than the national average (2012). There were needs to improve the quality of health services and service access to remote areas. The project was consistent with such development needs of Nicaragua at the time of ex-ante evaluation.</p> <p><Appropriateness of Project Design/Approach></p> <p>The project was designed in line with MOSAFC which ensured the access of the marginalized and vulnerable families in the rural areas to MCH services through community health promotion and diagnosis/treatment activities. Thus, the project design/approach was</p>

highly appropriate.
<Evaluation Result>

In light of the above, the relevance of the project is [③]¹.

[Coherence]

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

In the "Country Assistance Policy for the Republic of Nicaragua" (2013), one of the priority areas was set as social development for vulnerable groups and areas, which included the program for health and hygiene improvement. Improvement of MCH was one of the objectives. The project was consistent with Japan's ODA policy to Nicaragua at the time of ex-ante evaluation.

<Collaboration/Coordination with JICA's other interventions>

The collaboration/coordination between the project and JICA volunteers' activities in Nicaragua and other JICA MCH projects in nearby countries during the project period was implemented as planned, the positive effects were confirmed at the time of ex-post evaluation. Experiences were shared with the "Project for Strengthening Primary Health Care for Pregnant Women and Newborns in Health Region 3" (2013-2017) in the Dominican Republic and the "Project for Strengthening Primary Health Care System based on the 'National Health Model'" (2013-2018) in Honduras via JICA Offices, and the learnings were reflected on the topics of community participation, referral / counter referral, use of the ultrasound equipment, and so on. In the project sites, JICA volunteers received the technical support from the project experts and implemented MCH activities with the use of the materials developed by the project.

<Cooperation with other institutions/ Coordination with international framework>

The cooperation/coordination with the World Bank and the Pan American Health Organization (PAHO) was planned at the time of ex-ante evaluation and implemented as planned, and the positive effects were confirmed at the time of ex-post evaluation. Some project activities such as community visits and training were covered by the funds from these partners.

<Evaluation Result>

In light of the above, the coherence of the project is ③.

[Evaluation Result of Relevance/Coherence]

In the light above, the relevance/coherence of the project is [③].

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the Time of Project Completion>

At the time of project completion, the Project Purpose was achieved as planned. In both SILAIS, more pregnant women came to receive the first prenatal care in the first 12 weeks of pregnancy than planned (Indicator 1), and more pregnant women from rural areas stayed in the Maternal Home to give births than planned (Indicator 5). Then, more women received intermediate postpartum care than planned (Indicator 3). Children 1-4 years old received the first check of Growth and Development Promotion Monitoring (VPCD) mostly as planned (Indicator 4), and thus health services for pregnant and parturient women and newborns became improved (Indicator 2). At the end of the project, the methodology for strengthening MOSAFC was developed. The project activities got affected by the socio-political crisis of 2018. Although there were some delays, the activities continued and were implemented. The project experience of MOSAFC and ESAFC activities were shared with other 17 SILAIS at the national workshop before the project completion.

<Continuation Status of Project Effects at the Time of Ex-Post Evaluation>

By the time of the ex-post evaluation, the project effects have been continued. The first prenatal care in the first 12 weeks of pregnancy, active management of the third stage of labor (AMTSL), immediate newborn care, and the use of the Maternal Home for rural pregnant women have been expanded since the time of project completion. In addition, efforts strengthened by the project have continued in both SILAIS Chontales and SILAIS Zelaya Central, as follows. Firstly, ESAFC activities have continued such as monthly meetings with the Community Network (RC), follow-up of pregnant, postpartum, and postnatal women, health promotion activities, VPCD, and so on. Secondly, referral and counter-referral have been conducted between hospitals and municipalities, while both SILAIS expressed difficulties in the counter-referral because of turnover of the hospital staff and lack of the doctors' time to write the counter-referral back to the municipality. To tackle this issue, they have organized the referral and counter-referral committees involving other SILAIS of Río San Juan, Boaco, and Bluefields. Thirdly, health posts have continued services including antenatal checkups within the first 12 weeks of pregnancy, checkups for under-6 children on ESAFC activities, and so on. Although the staff rotation has been frequent, the health posts have collaborated with RC to identify pregnant women in the community. Both SILAIS have regularly monitored ESAFC activities, by appointing "godfather/mother" in each municipality to monitor ESAFC activities. On the other hand, both SILAIS expressed difficulties to keep VPCD services due to the health staff rotation and difficult interpretation of VPCD as per MINSA guidelines, and therefore they have continued training in VPCD. It is notable that during the period of the COVID-19 pandemic, people were hesitant to see health staff because were afraid of getting infected. In such situations, RC's support was crucial to continue monitoring MCH activities and situations in the communities and to detect people in need of assistance.

<Status of Achievement of the Overall Goal at the Time of Ex-Post Evaluation>

At the time of ex-post evaluation, the Overall Goal has been partially achieved. The average maternal mortality ratio per 100,000 live births has decreased in both SILAIS Chontales and SILAIS Zelaya Central in the period from 2018 to 2021 (Indicator 1). This improvement was attributed to MOSAFC continuous activities. However, in SILAIS Chontales, it increased in 2022. According to both SILAIS, maternal deaths have increased due to premature births caused mainly by severe preeclampsia. In addition, the figures might include the death of pregnant women from other SILAIS who came to receive care in the target SILAIS. The infant mortality ratio has been on a decreasing trend in SILAIS Chontales except the increase in 2021. In SILAIS Zelaya Central, it decreased until 2021 but increased in 2022, still lower than the baseline in 2014 (Indicator 2). The increasing and decreasing trend of the under-five mortality ratio has been the same in both SILAIS. Regarding the percentage of under-five children who suffer from chronic malnutrition, it has decreased much in SILAIS Zelaya Central, while it has been increasing in SILAIS Chontales (Indicator 3). The malnutrition has been caused by the inadequate eating habits at home.

<Other Impacts at the Time of Ex-Post Evaluation>

First, based on the statistical data on adolescent pregnancies in the target SILAIS, the community-based delivery of contraceptive

¹ ④ : very high, ③ : high, ② : moderately low, ① : low

methods has been diffused nationwide to share contraceptive methods to women and adolescents from rural communities with RC's support and to promote sexual and reproductive health, nutrition, family planning, and healthy lifestyle. Also, the community health and nutrition program, known as PROCOSAN, has been conducted, in collaboration with RC, to screen the size and weight of children and provide counseling to families about nutrition. Second, the project experience of MOSAFC has been utilized to improve health conditions other than MCH, such as non-communicable diseases. By witnessing ESAFC activities, the health staff have become more proactive and come to provide extramural care, interacting with the community.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is ③.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results	Source																																																					
(Project Purpose) Increased use of high-quality health services for pregnant and parturient women and the children under two years of age in the target areas of the project.	1. The percentage of pregnant women who receive the first prenatal care in the first 12 weeks of pregnancy, which was 65.5% in 2014 (baseline) rises in 2018 (end-line) in the target areas of the project.	Status of the Achievement (Status of the Continuation): achieved beyond the plan (continued and further developed) (Project Completion) (Ex-Post Evaluation) Table: Percentage of pregnant women who received first prenatal care in the first 12 weeks <table border="1"> <thead> <tr> <th></th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Chontales</td> <td>74.5%</td> <td>78.2%</td> <td>75.5%</td> <td>76.9%</td> <td>82.6%</td> </tr> <tr> <td>Zelaya Central</td> <td>65.8%</td> <td>77.5%</td> <td>81.0%</td> <td>80.3%</td> <td>82.8%</td> </tr> </tbody> </table>		2018	2019	2020	2021	2022	Chontales	74.5%	78.2%	75.5%	76.9%	82.6%	Zelaya Central	65.8%	77.5%	81.0%	80.3%	82.8%	Project Completion Report, Questionnaire answers from SILAIS Chontales, SILAIS Zelaya Central.																																			
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	5. The percentage of pregnant women who are from rural areas in the project site and stayed in the Maternal home to give births rises from 42.1% in 2015 to 50.0% in 2018.	Status of the Achievement (Status of the Continuation): achieved beyond the plan (continued and further developed) (Project Completion) (Ex-Post Evaluation) Table: Percentage of pregnant women from rural areas who stayed in the Maternal Home to give births <table border="1"> <thead> <tr> <th></th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td colspan="6">Chontales</td> </tr> <tr> <td>No. of women stayed in the Maternal Home</td> <td>955</td> <td>1,098</td> <td>848</td> <td>893</td> <td>1,478</td> </tr> <tr> <td>No. of births</td> <td>1,428</td> <td>1,488</td> <td>1,381</td> <td>1,381</td> <td>1,700</td> </tr> <tr> <td>Percentage</td> <td>66.9%</td> <td>73.8%</td> <td>61.4%</td> <td>64.7%</td> <td>86.9%</td> </tr> <tr> <td colspan="6">Zelaya Central</td> </tr> <tr> <td>No. of women stayed in the Maternal Home</td> <td>2,136</td> <td>1,975</td> <td>1,614</td> <td>2,070</td> <td>2,052</td> </tr> <tr> <td>No. of births</td> <td>2,639</td> <td>2,402</td> <td>1,982</td> <td>2,111</td> <td>2,254</td> </tr> <tr> <td>Percentage</td> <td>80.9%</td> <td>82.2%</td> <td>81.4%</td> <td>98.1%</td> <td>91.0%</td> </tr> </tbody> </table> Note: The number of births is that of births given by the women from rural areas.		2018	2019	2020	2021	2022	Chontales						No. of women stayed in the Maternal Home	955	1,098	848	893	1,478	No. of births	1,428	1,488	1,381	1,381	1,700	Percentage	66.9%	73.8%	61.4%	64.7%	86.9%	Zelaya Central						No. of women stayed in the Maternal Home	2,136	1,975	1,614	2,070	2,052	No. of births	2,639	2,402	1,982	2,111	2,254	Percentage	80.9%	82.2%	81.4%	98.1%	91.0%	Project Completion Report, Questionnaire answers from SILAIS Chontales and SILAIS Zelaya Central.
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Zelaya Central	56.0	27.4	88.0	0	42.9	0																																																			
2. The infant mortality ratio of 14.1 per 1,000 live births in 2014 and under five mortality ratio 15.8 per 1,000 live births in 2014 decline in the target areas of the project.	Status of the Achievement: partially achieved. (Ex-Post Evaluation) Table: Infant mortality ratio per 1,000 live births <table border="1"> <thead> <tr> <th></th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Chontales</td> <td>14.2</td> <td>13.3</td> <td>11.4</td> <td>17.1</td> <td>9.8</td> </tr> <tr> <td>Zelaya Central</td> <td>12.0</td> <td>12.3</td> <td>10.9</td> <td>10.6</td> <td>13.8</td> </tr> </tbody> </table> Table: Under-five mortality ratio per 1,000 live births <table border="1"> <thead> <tr> <th></th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Chontales</td> <td>16.7</td> <td>13.3</td> <td>12.2</td> <td>17.2</td> <td>11.5</td> </tr> <tr> <td>Zelaya Central</td> <td>13.7</td> <td>13.2</td> <td>11.7</td> <td>8.3</td> <td>15.0</td> </tr> </tbody> </table>		2018	2019	2020	2021	2022	Chontales	14.2	13.3	11.4	17.1	9.8	Zelaya Central	12.0	12.3	10.9	10.6	13.8		2018	2019	2020	2021	2022	Chontales	16.7	13.3	12.2	17.2	11.5	Zelaya Central	13.7	13.2	11.7	8.3	15.0	Questionnaire answers from SILAIS Chontales and SILAIS Zelaya Central.																			
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3 Efficiency

The project cost was within the plan (the ratio against the plan: 94%) and the project period slightly exceeded the plan (the ratio against the plan: 104%), due to the combined factors.

	Project Cost (Japanese side only, yen)	Project Period (months)
Plan (ex-ante)	526 million yen	48 months
Actual	497 million yen	50 months
Ratio (%)	94%	104%

Outputs were produced as planned.

In the light above, the efficiency of the project is ③.

4 Sustainability

<Policy Aspect>

Strengthening of MOSAFC has been one of the main priorities of MINSA, as stated in the National Plan to Fight Poverty and for Human Development (2022-2026). As it has been introduced in other SILAIS, it has been presumed that these efforts would continue.

<Institutional/Organizational Aspect>

There has been no change in the organizational structure including MINSA, SILAIS, and ESAFC to promote MOSAFC. MINSA answered that this structure would continue to facilitate communication among related organizations and community participation. The

national committee for MCH has been newly established, and it has been in charge of following up on the training and evaluation of the health staff in the prioritized topics. As per the conceptual framework of MOSAFC, every year new staff has been assigned to secure three staff to oversee ESAFC in all SILAIS. Although one ESAFC should work for one sector² (minimum administrative unit of MOSAFC), actually it has covered multiple sectors due to the staff shortage. In addition, 13 activities of ESAFC have been taught as part of the community diagnosis class in the medical and nursing careers at the University of Chontales.

<Technical Aspect>

According to MINSA, the staff of SILAIS Chontales and Zelaya Central have sustained the necessary skills and knowledge to promote MOSAFC. Training for the existing staff and new staff is implemented in each municipality with the support of the trained staff of SILAIS. All materials developed by the project have been used. Training manuals on MCH have been updated and used for the new staff, especially doctors and nurses from the social services. Promotional materials have been utilized in all of the target 14 municipalities. The materials of ESAFC 13 activities and good practices have been uploaded to MINSA's website, which has substituted materials to be printed and distributed.

<Financial Aspect>

For continuity of activities to strengthen MOSAFC, MINSA has secured the budget from the National General Budget, and it is presumed that this budget allocation would continue because MOSAFC has been institutionalized as the health model to be implemented by MINSA. In addition, each year SILAIS receive an evaluation from PAHO regarding health indicators, accompanied by a financial retribution based on the evaluation result.

<Environmental and Social Aspect>

No issue on environmental and social aspects has been observed, and it has not been necessary to take any countermeasures.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational aspect of the implementing agency. Therefore, the sustainability of the project effects is ③.

5 Summary of the Evaluation

The project achieved the Project Purpose as planned which was to increase the use of high-quality MCH services. The services have been sustained under MOSAFC strengthened by the project, and MCH situations have been mostly improved as planned (Overall Goal). Regarding sustainability, although there has been a slight issue only in the institutional aspect, political, technical, and financial backup has been continuously expected.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is recommended to MINSA, SILAIS Chontales and SILAIS Zelaya Central to strengthen the cascade training system in order to sustain the project effects, considering there has been a high rate of staff rotation specially in the sectors. Besides, it is necessary to conduct monitoring and follow-up, as the training itself is not the ultimate goal.
- It is recommended that SILAIS staff continue technical supervision to municipalities, as well as supervision from municipalities to sectors to monitor evaluations and analyze community people's situations including identifications of difficulties to achieve quality indicators as well as training needs.

Lessons for JICA

- The collaboration between the project and JICA volunteers was smoothly implemented as planned. This was due to the efforts of JICA Nicaragua Office. To promote the collaboration between the technical cooperation project and volunteers, JICA country office should explain JICA's cooperation strategy in the sector to both parties so that they could clearly understand the mutual objective and the difference and roles. Also, JICA country office should convey the same information to the implementing agency.
- The project effects have continued, because the project activities were designed in the framework of the health promotion model which had been already institutionalized by the Ministry of Health. Therefore, no additional burden was needed for the Ministry of Health to implement and continue the activities introduced by the project. It is very important for the responsible department of JICA and the country office to examine not only existing policies but also frameworks and discuss how the project activities can complement them with the implementing agency at the project formulation stage.



List of RC members and the map of the sector in the Lóvago Health Post in Acoyapa.



Training material of the project for consultation in the Zona 3 Health Post in Nueva Guinea.

² A sector consists of 1,000 households in the urban area and 600 households in the rural area.