

**Ministry of Health and Medical Services
The Republic of Fiji**

**PROJECT FOR IMPROVEMENT
OF HEALTH SERVICES THROUGH
5S-KAIZEN-TQM IN FIJI**

Work Completion Report

April 2023

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

FUJITA PLANNING CO., LTD.

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JR
23-017

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Abbreviation

COVID-19	Coronavirus Disease 2019
C/P	Counter Part
CV	Consultation Visit
CWMH	Colonial War Memorial Hospital
DMO	Divisional Medical Officer
DON	Director of Nursing
FEFO	First Expiry First Out
FPBS	Fiji Pharmaceutical Biomedical Services Centre
GOPD	General Outpatient Department
IMCI	Integrated Management of Childhood Illness
IPC	Infection Prevention and Control
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
M/M	Minutes of Meeting
MoHMS	Ministry of Health and Medical Services
NTQM	National Total Quality Management
PS	Permanent Secretary
QI	Quality Improvement
QIT	Quality Improvement Team
QC	Quality Control
QM	Quality Management
R/D	Record of Discussions
SOPD	Special Outpatient Department
TQM	Total Quality Management
WHO	World Health Organization
WIT	Work Improvement Team

Pictures of Activities



TQM seminar (May 2019)



5S Training for NTQM facilitators (May 2019)



5S Training of Trainers for the pilot health facilities (June 2019)



KAIZEN Training of Trainers for the pilot health facilities (April 2022)



Consultation Visit



Final Seminar (March 2023)

1. Basic Information of the Project

1.1. Country

Noncommunicable diseases (NCDs), prominently including cardiovascular disease, diabetes, chronic respiratory diseases and cancer, are the leading cause of death in the Republic of Fiji (Fiji). More than 70% of all deaths recorded in the country are attributed to NCDs. Under these circumstances, there is an increasing need to build up the health system to improve the quality of health services in the region. The government has especially highlighted the following areas of focus: reduction of NCD risk factors, emphasis on the improvement of service quality and safety, and health system strengthening.

Through the Ministry of Health and Medical Services (MoHMS), the government regionalizes its health care into central, eastern, northern and western divisions. There were three essential national (divisional) hospitals for tertiary care: Colonial War Memorial Hospital (CWMH), the largest referral hospital in Fiji, which is situated in the central division; Labasa Hospital, in the northern division; and Lautoka Hospital¹, in the western division. The divisional health services supervise public health facilities, including sub-divisional hospitals, health centres and nursing stations. The specialized hospitals, including Tamavua Twomey Hospital and St Giles Hospital, are all located in the central division.

1.2. Title of the Project

Project for Improvement of Health Services through 5S-KAIZEN-TQM in Fiji

1.3. Duration of the Project

The dispatch of Japanese experts was from April 2019 to March 2023 (total 48 months). However, the duration of the Project is extended until 31 March 2026 to allow sufficient time to construct a pharmaceutical warehouse in the Northern Division.

1.4. Background of the Project

In 2012, the MoHMS introduced the 5S-KAIZEN-Total Quality Management (TQM) approach and organized national 5S-KAIZEN-TQM team. This team implemented a training program for nursing staff responsible for health care, and it was observed that the program did not fully disseminate 5S-KAIZEN-TQM activities due to the lack of human resources personnel with special knowledge and experience and the absence of motivation in trainees. MoHMS learned from this challenge and reinitiated another 5S-KAIZEN-TQM program in 2015 for the health care facilities in the country, mainly with the same national members. A manual was developed with the financial support of the WHO, which formed the foundation of the 5S-KAIZEN-TQM; however, it was still necessary to provide assistance with and monitoring of these activities at the on-site level. Therefore, the Government of Fiji requested a technical cooperation project to ensure efficient and effective management of 5S-KAIZEN-TQM activities.

¹ Operation of the hospital was transferred to a public-private-partnership project before the project started, which is fully privatized at this moment.

1.5. Outline of the Project

The outline of project was based on the amended Record of Discussions (R/D) and the Project Design Matrix (PDM) signed on 12th November 2019. In addition, the duration of the Project was extended until 31st March 2026 based on the signed Minutes of Meeting (M/M) on 19th August 2021².

(1) Purpose of the Project

The project aims to contribute to improving the quality of health services provided in the following six health facilities; namely CWM Hospital, Nausori Maternity Hospital and Nausori Health Center, Sigatoka Hospital, Labasa Hospital, Valelevu Health Center, and Fiji Pharmaceutical and Biomedical Services Centre, by strengthening the capacity of hospital managers, the monitoring and evaluation component, the activities for work improvement, and the governance system.

(2) Overall Goal

5S-KAIZEN-TQM is extended beyond the pilot health facilities.

Indicator: National Quality Improvement committee is well established to ensure implementation and sustainability of 5S-KAIZEN-TQM activities in the country.

(3) Project Purpose

Quality of health services is improved in the pilot health facilities.

Indicator 1: Staff satisfaction is improved.

Indicator 2: Customer satisfaction is improved.

(4) Outputs

Output 1: The capacity of national TQM (NTQM) facilitators is strengthened.

Output 2: Model activity for 5S-KAIZEN-TQM at the pilot health facilities is established.

Output 3: Organizational capacity of 5S-KAIZEN-TQM is strengthened at the pilot health facilities.

(5) Activities

<Activities for Output 1>

- 1-1 To select and establish NTQM facilitators
- 1-2 To agree on Roles and Responsibilities of NTQM facilitators
- 1-3 To review and develop the training program for NTQM facilitators
- 1-4 To conduct training on 5S-KAIZEN-TQM to NTQM facilitators
- 1-5 To assess the level of skills and understanding on 5S-KAIZEN-TQM of NTQM facilitators
- 1-6 To share the experiences of the pilot health facilities with other pilot health facilities
- 1-7 To share the experiences of the pilot health facilities with non-pilot health facilities
- 1-8 To review and develop the 5S-KAIZEN-TQM implementation guidelines to roll out 5S-KAIZEN-TQM nationwide

<Activities for Output 2>

- 2-1 To review and reselect the pilot health facilities
- 2-2 To visit the selected pilot health facilities for introduction of the project and selection of the

² The duration of the Project is extended to allow sufficient time to construct a warehouse in the Northern Division. However, Japanese experts are not dispatched after April 2023.

- pilot units
- 2-3 To introduce project outline and concept of 5S-KAIZEN-TQM approach to the Ministry leaders and the institutional heads
 - 2-4 To provide technical support for 5S-KAIZEN training of staff of pilot units by QIT
 - 2-4-1 To provide technical support on 5S training conducted by QIT
 - 2-4-2 To provide technical support on KAIZEN training conducted by QIT
 - 2-5 To provide technical support to the pilot health facilities through the consultation visits
 - 2-6 To oversee the progress of 5S-KAIZEN-TQM activities in the pilot health facilities through quarterly and annual reports

<Activities for Output 3>

- 3-1 To guide the selection of members of QIT and WITs and establishment of QIT and WITs in the pilot health facilities
- 3-2 To conduct training of 5S-KAIZEN-TQM for QIT of the pilot health facilities
 - 3-2-1 To conduct 5S training.
 - 3-2-2 To conduct KAIZEN training
- 3-3 To orient the development of roles and responsibilities of QIT and WITs
- 3-4 To develop the QI planning and reporting templates
- 3-5 To disseminate the QI planning and reporting templates during the 5S and KAIZEN training
- 3-6 To provide technical support to the pilot health facilities through the consultation visits
- 3-7 To provide the technical support to develop the QI annual plan from the pilot health facilities
- 3-8 To conduct a mid-term review meeting to share good practices from the pilot health facilities
- 3-9 To conduct a final seminar to share experience of the pilot health facilities to the Ministry leaders and the institutional heads (divisional level and selected sub-divisional)

(6) Pilot Health Facilities

- Colonial War Memorial Hospital (hereinafter referred to as “CWMH”)
- Nausori Maternity Hospital and Nausori Health Center
- Sigatoka Hospital
- Labasa Hospital
- Valelevu Health Center
- Fiji Pharmaceutical and Biomedical Services Centre (hereinafter referred to as “FPBS”)

The pilot health facilities of the project were changed based on the request of MoHMS at the beginning of the project. Lautoka Hospital was replaced to Sigatoka Hospital because Lautoka Hospital is currently managed by the private sector under a public–private partnership. FPBS was included as one of the pilot facilities to strengthen commodity management in the health sector. In addition, Valelevu Health Center was included as a pilot health facility because MoHMS has adopted the strategy of strengthening hospital management in the Suva-Nausori corridor, the most populated area in Fiji.

(7) Beneficiaries

<Direct Beneficiaries>

Staff members of the following Organization: MoHMS, CWMH, Nausori Maternity Hospital and Nausori Health Center, Sigatoka Hospital, Labasa Hospital, Valelevu Health Center, and FPBS

< Indirect Beneficiaries >

Patients of pilot units in the pilot health facilities.

1.6. Implement Agency

Counterpart Personnel (C/P) is as follows. The following list originates from the R/D signed in August 2017.

Ministry of Health and Medical Services, Fiji

- Permanent Secretary (Project Director)
- National Manager, Patient Safety (Project Manager)
*Due to the reform of the MoHMS, as of March 2023, this position was renamed to "National Manager, Clinical Governance."
- Head of Research & Innovation
- Chief Nursing & Midwifery Officer
- Chief Health Inspector
- Director of Fiji Pharmaceutical and Biomedical Services Centre
- Medical Superintendent of CWMH
- Medical Superintendent of Labasa Hospital
- Medical Superintendent of Lautoka Hospital
- Divisional Medical Officer Central
- Divisional Medical Officer East
- Divisional Medical Officer North
- Divisional Medical Officer West
- Learning & Development Unit
- Policy and Planning Unit

2. Results of the Project

2.1. Inputs

2.1.1. Input by the Japanese Side (Planned and Actual)

(1) Dispatch of Experts

Dispatch of experts is shown in Table 2-1.

Table 2-1: Dispatch of Experts (planned and actual)

Planned	Actual	
	Name	Number of days of dispatch
Chief Advisor/ 5S-KAIZEN-TQM 1	Hisahiro Ishijima	132 days
5S-KAIZEN-TQM 2	Kaori Nishikido	391 days
Project Coordinator / Baseline Survey/ End-line Survey	(Predecessor) Masashi Teshima (Successor) Mizuki Takegata	237 days

(2) Procurement of Equipmen and Material

Equipment and Material which were procured for the project activity are shown in Table 2-2. A printer was procured as a consumable item taking into account the price under JPY50,000. One laptop computer broke down during the project period, and it was demolished. One additional laptop computer was procured.

Table 2-2: Procured Equipment (planned and actual)

Planned	Actual			
	Item	Standard / Model Number	Qty	Status
Projector 1 Multi-function machine 1 Printer 1 Laptop computer 2	Projector	Acer P1150	1	Good (Handed over)
	Multi-function machine	TOSHIBA EST2518A	1	Good (Handed over)
	Laptop computer	Lenovo V130 etc.	2	One is good (Handed over) One is demolished.
	Laptop computer	Acer Aspire 5 A515-56-59L5	1	Good (Handed over)

(3) Training in Japan

The following officials shown in Table 2-3 participated in the training course in Japan “Quality Improvement of Health Services through KAIZEN approach”.

Table 2-3: Participants of the training course in Japan

Name	Title	Month/Year
Ms. Sereima Vatuvatu	National Manager, Patient Safety and Quality	August and September 2019 (1 st Year)
Dr. Jaoji Vulibeci	Medical Superintendent, Labasa Hospital	December 2020 (2 nd Year)
Dr. Amos Zibrán	Sub-divisional Medical Officer, Sigatoka	
Mr. Varamasi Fasala	National Manager, Clinical Governance	August 2022 (Final Year)

(4) Local Expenses

The following local costs shown in Table 2-4 were expended by the Japanese side.

Table 2-4: Local Expenses (planned and actual)

Planned	Actual
Cost for training and workshops	All costs for the private facility venue, lunch and refreshments were expended by the Japanese side. A part of expenses of travel and accommodation for the participants of training, workshops, and seminars were expended by the Japanese side.
Cost for Material development	All costs were expended by the Japanese side.
Other necessary cost for the execution of the Project's activities	A part of costs of travel and accommodation for the NTQM facilitators during the consultation visits were expended by the Japanese side.

2.1.2. Input from Fiji Side (Planned and Actual)

The input from Fiji side is shown in Table 2-5.

Table 2-5: Input from Fiji Side (planned and actual)

Planned	Actual
Counterpart	
Project Director	Permanent Secretary, MoHMS
Project Manager	National Manager Clinical Governance, MoHMS
Other personnel mutually agreed upon as needed	N/A
Facilities and Equipment	
Office space for the Japanese Experts in MHMS,	Assigned
Temporary office space for Project in each health facilities	Assigned
Facilities and equipment for training	Facilities of FPBS and Sigatoka Hospital were provided (some trainings were conducted in the private facility).
Necessary equipment and materials for the project activities	Desks, chairs, and furniture were provided.
Cost of Operation	
Utility cost for the Project offices	Expended by Fiji side.
Personnel cost for C/P	
Meeting cost	Part of costs of training such as travel and accommodation of the participants for NTQM facilitators and the pilot health facilities were expended by Fiji side. Part of costs of consultation visits such as travel and accommodation of the facilitators were expended by Fiji side.
Transportation Fee	
Part of cost for training and workshops	

2.2. Activities

2.2.1. Project Management Activities

(1) TQM Seminar

A TQM seminar was conducted on May 7, 2019 in Novotel, Lami with the participation of the Embassy of Japan, Japan International Cooperation Agency (JICA) Fiji Office, Honourable Minister and Acting Permanent Secretary for Health and Medical Services of the MoHMS, and MoHMS senior management and officials, including medical superintendents, hospital administrators and Divisional Medical Officers (DMOs). The purpose of the seminar was to share an outline of the project and disseminate the basic concepts of the 5S-KAIZEN-TQM approach in the Fijian health sector for quality and safety improvement. During the seminar, strong leadership and commitment to the improvement of quality and safety through the 5S-KAIZEN-TQM approach was shown by the Hon Minister for Health and Medical Services. Additionally, the Japanese Ambassador to Fiji showed his willingness to support the project activities. A project outline was introduced to the stakeholders in this TQM seminar.

(2) Establishment of Project Office

MoHMS arranged a room on Level 3 of the MoHMS headquarters for the project, and basic office furniture was provided. Office automation equipment, computers and other necessary equipment and furniture were procured and installed by the project for functionalization of the project office.

(3) Development of 1st Year Work Plan

The work plans for each year were formulated and endorsed by the project director and then submitted to MoHMS and JICA after the endorsement. In terms of the final year, a work plan was formulated for the activities from May 2021 to March 2023.

(4) Public Relations

Newsletters for Volumes 1 to 4 were developed and uploaded to the website of the MoHMS (<http://www.health.gov.fj/publications/>). The main topics for each newsletter were as follows:

- Volume 1 (November 2019): Introduction to the 5S-KAIZEN-TQM approach and the pilot health facilities
- Volume 2 (March 2020): Progress of 5S activities at the pilot health facilities
- Volume 3 (March 2022): Report on the problem analysis workshop and KAIZEN training
- Volume 4 (February 2023): Report on the 2nd JCC meeting, 5S-KAIZEN progress report meeting and results of endline survey

In addition, posters on the 5S-KAIZEN-TQM approach were produced and distributed to the relevant facilities and organizations. A homepage for the project was set up on the JICA website, and information on the project activities was provided.

(5) Baseline Survey

A baseline survey was conducted to determine the situation of health sector before the intervention from May to June 2019 to verify the effectiveness of activities in the project at the endline survey point and identify the factors contributing to the successful introduction and dissemination of the 5S-KAIZEN-TQM approach. The methodologies and schedule are described below.

1) Methodologies

The cross-sectional survey, which employed quantitative research methods and documentation review, was conducted with the following methods, and the items for data collection is shown in Table 2-6.

- Confirmation of existing documents
- Monitoring and evaluation of each facility by interviews and observations
- Questionnaire surveys of hospital personnel and patients

Table 2-6: Items for Data Collection

Method	Item
Confirmation of existing documents	<ul style="list-style-type: none">• Population transition• Transition of health-related index• National development plan• Transition of budget allocation to MoHMS• Health policy and strategy• Organization chart of MoHMS• Health service and referral system• Monitoring evaluation system by MoHMS• Health information system• Health finance• Existing project
Monitoring and Evaluation by interviews and observations	<ul style="list-style-type: none">• Facility basic information (number of staffs, number of beds, etc.)• QI activity implementation system• Current QI (5S-KAIZEN) activity status
Questionnaire surveys	<ul style="list-style-type: none">• Staff satisfaction• Customer satisfaction

2) Schedule

Schedule for each facility is in Table 2-7.

Table 2-7: Implementation schedule of Baseline Survey

Name of Facility	Date
CWM Hospital	16 th – 20 th May, and 25 th June 2019
FPBS	21 st – 22 nd May 2019
Nausori Maternity HP/Nausori HC	23 rd – 28 th May 2019
Sigatoka Hospital	29 th – 31 st May 2019
Labasa Hospital	3 rd – 5 th June 2019
Valelevu HC	6 th – 7 th June 2019

3) Results

The results of the following indicators at the Baseline Survey are shown in Table 2-8, Table 2-9, Table 2-10.

- Score with monitoring and evaluation check sheet
- Staff satisfaction
- Customer satisfaction

Table 2-8: Results of Score with Monitoring and Evaluation Check Sheet (Each Facility, Baseline Survey)

Facility	Leadership	Sort	Set	Shine	Standardize	Sustain	Productivity	Quality
CWMH	23	40	23	41	23	20	26	20
Labasa Hospital	33	66	43	51	30	26	28	24
Sigatoka Hospital	26	33	26	55	23	20	22	20
Nausori MH/HC	23	26	23	42	30	20	31	33
Valelevu HC	20	20	40	46	20	20	26	33
FPBS	30	35	30	50	32	20	23	20
Facility	Cost	Safety	Delivery	Morale	WIT	HR	Average	
CWMH	20	64	26	20	20	20	<u>27</u>	
Labasa Hospital	23	73	33	20	20	20	<u>35</u>	
Sigatoka Hospital	20	64	40	20	20	20	<u>29</u>	
Nausori MH/HC	23	60	40	20	20	20	<u>29</u>	
Valelevu HC	20	20	40	20	20	20	<u>26</u>	
FPBS	20	26	60	20	20	20	<u>29</u>	

Table 2-9: Staff satisfaction

	Range	Score	
		Mean	(SD)
General satisfaction	20-100	77.4	(9.4)
Intrinsic staff satisfaction	12-60	48.4	(5.7)
Extrinsic staff satisfaction	6-30	21.7	(3.8)

Table 2-10: Customer satisfaction

	Range	Score	
		Mean	(SD)
1) General satisfaction	1-5	3.3	(1.2)
2) Technical quality	1-5	3.3	(1.2)
3) Interpersonal manner	1-5	3.8	(1.0)
4) Communication	1-5	3.6	(1.2)
5) Financial aspect	1-5	3.8	(1.2)
6) Time spent with doctor	1-5	3.1	(1.2)
7) Accessibility and convenience	1-5	3.4	(1.1)

4) Report

The report of baseline survey was submitted in October 2019.

(6) Project Progress Monitoring Survey

A major gap in implementing 5S activities at the six pilot health facilities had been observed during regular consultation visits (CVs) and grown wider compared to the results of the baseline survey. Therefore, it was decided to conduct a project progress monitoring survey to assess the positive and negative factors associated with the progress of the 5S approach and other QI management activities in each pilot health facility.

The aims and objectives of this survey were to identify improvements in QI management activities through the fourth CV (Study 1) and positive and negative factors related to implementing 5S activities in each pilot health facility qualitatively (Study 2).

For Study 1, since the fourth CV has not been conducted for CWMH, the results could not be compared among the six pilot health facilities. For the other five pilot health facilities confirmed in the fourth CV, quality improvement team (QIT) were established in multiple professions at each facility. However, the establishment statuses of the work improvement teams (WITs) and dissemination of 5S approach varied among the five facilities. As for the qualitative study (Study 2), a focus group interview was conducted with 2–4 WIT members per pilot health facility between November 2020 and January 2021. The schedule is in Table 2-11.

Table 2-11: Schedule of focus-group interview

SN	Facility	Month/Year	Number of participants
1	Valelevu Health Center	12 th November, 2020	2 WIT
2	Sigatoka Hospital	19 th November, 2020	4 WIT
3	Labasa Hospital	27 th November, 2020	3 WIT
4	FPBS	10 th November, 2020	3 WIT
5	Nausori Maternity Hospital/Health Center	14 th January, 2021	3 WIT
6	CWMH	21 st January, 2021	3 WIT

According to the WIT members of the pilot health facilities, the major cause of delay in 5S activities was that in-house training on the 5S approach could not be conducted due to the COVID-19 pandemic. Many staff members in each pilot unit had no knowledge of 5S activities, and cooperation could not be established with them. Based on these findings, the participating WIT members suggested the importance of providing training on 5S activities to all staff in the pilot unit. In addition, it was noted that the fact that many WIT members were nurses rather than doctors or other professions made it difficult to maintain 5S activities.

(7) Endline Survey

From November to December 2022, an endline survey was conducted to confirm the progress status of the activities and the effects after the implementation of project activities compared to when the baseline survey was conducted. The first objective was to review the current situation of health policies and health systems in Fiji and evaluate the progress status of 5S-KAIZEN-TQM activities at the pilot health facilities within the context of the negative impact of the COVID-19 pandemic. The second objective was to compare the results of reported staff satisfaction and patient satisfaction in the pilot health facilities with those collected through the baseline survey in 2019.

The methodologies and schedule of the survey are described in the following;

1) Methodologies

Consistent with the baseline survey, the endline survey was conducted following the three methods: 1) confirmation of existing documents, 2) monitoring and evaluation of each facility (the sixth CV) and 3) questionnaire surveys on satisfaction among both hospital personnel and patients. Regarding the confirmation of existing policies, the information on the current situation, which was collected in the baseline survey (see Table 2-6), was updated. Regarding patient satisfaction and staff satisfaction, a survey was conducted using a structured questionnaire, and the results were analyzed.

2) Schedule

Schedule for each facility is in Table 2-12.

Table 2-12: Implementation schedule of Endline Survey

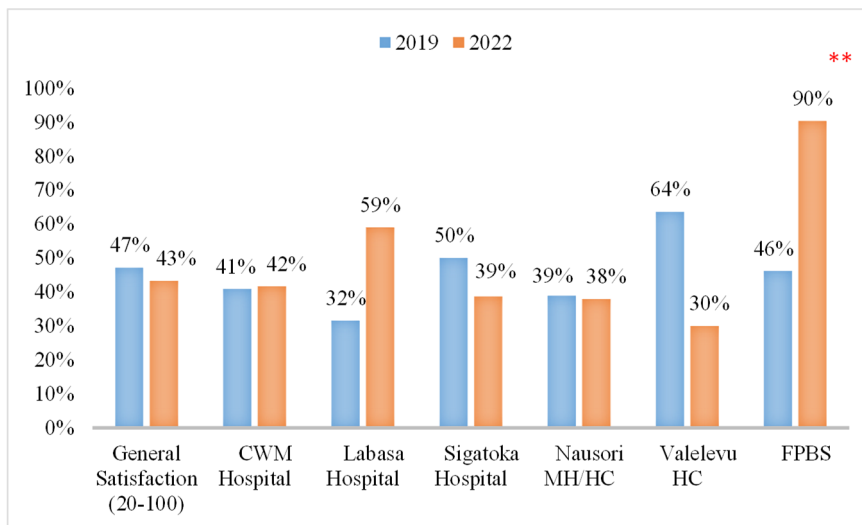
Name of Facility	Date
Labasa Hospital	26 th – 28 th October 2022
Sigatoka Hospital	2 nd – 4 th November 2022
FPBS	8 th – 10 th November 2022
CWMH	8 th – 10 th November 2022
Nausori Maternity HP/Nausori HC	15 th – 17 th November 2022
Valelevu HC	22 nd – 24 th November 2022

3) Results

First, the latest versions of the existing policy documents were reviewed and the information updated in the report. There were no major changes in health policies or current health issues compared to the baseline survey. As a result of the sixth CV, the score results for each facility based on a monitoring and evaluation check sheet at the time of the endline survey are shown in Table 2-13. A summary comparing the results of staff satisfaction and patient satisfaction with those in the baseline survey is shown in Figure 2-1, Figure 2-2.

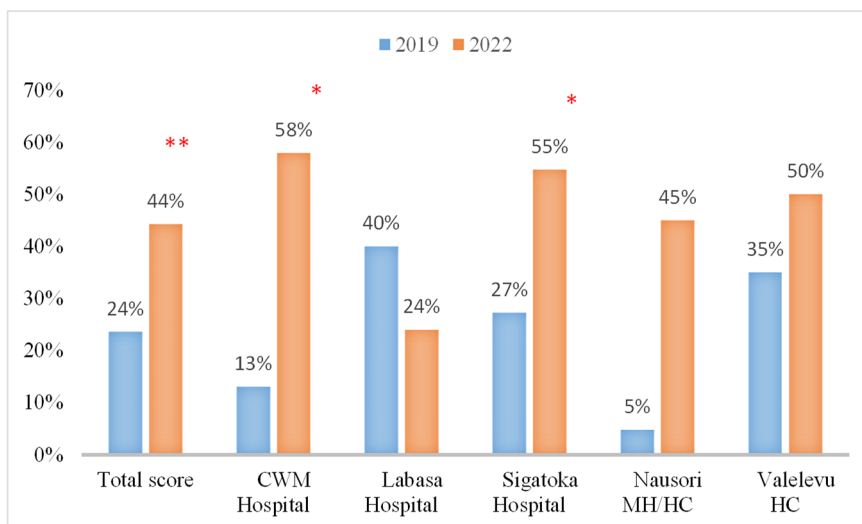
Table 2-13: Results of Score with Monitoring and Evaluation Check Sheet (Each Facility, Endline Survey)

Facility	Leadership	Sort	Set	Shine	Standardize	Sustain	Productivity	Quality
CWMH	56	40	50	57	43	26	55	44
Labasa Hospital	90	80	90	86	78	70	91	96
Sigatoka Hospital	82	75	82	76	66	90	68	73
Nausori MH/HC	67	67	60	60	48	20	69	69
Valelevu HC	80	70	80	73	55	60	66	60
FPBS	65	85	80	65	55	100	90	80
Facility	Cost	Safety	Delivery	Morale	WIT	HR	Average	
CWMH	46	73	60	46	20	26	<u>46</u>	
Labasa Hospital	80	80	90	87	60	60	<u>81</u>	
Sigatoka Hospital	72	80	67	45	48	60	<u>69</u>	
Nausori MH/HC	50	64	73	53	33	30	<u>55</u>	
Valelevu HC	60	66	70	80	60	70	<u>68</u>	
FPBS	75	53	90	50	53	40	<u>72</u>	



** : p < 0.001, * : p < 0.05

Figure 2-1: Comparisons of the MSQ scores with the baseline time (2019) in total, and each pilot health facilities



** : p < 0.001, * : p < 0.05

Figure 2-2: Comparisons of percentages of high satisfaction group in PSQ-18 with the baseline time (2019) among six pilot health facilities.

The reported level of staff satisfaction was not significantly different from the level found in the baseline survey and decreased only at Labasa Hospital and FPBS. Patient satisfaction increased, except at Labasa Hospital.

As a background that staff satisfaction did not improve, it was reported that there were a large number of resignations of staff and increased workload at the health facilities in Fiji during the COVID-19 pandemic. Under these circumstances, as of November 2022, when the endline survey was conducted, it was observed that insufficient staff allocation and weak management of the pilot

health facilities had persisted. It was presumed that this kind of situation had a negative impact on staff satisfaction. In addition, since this survey did not cover all departments of each facility, and the number of staff and patients who participated in the survey was limited, it might be unable to capture the real situation of each facility, and some cautions are required in interpreting the results. Based on the interviews from each pilot health facility and observation of the situation during the consultation visits, it is assumed that not only the intervention of this project but also multiple factors had a complex impact on both patient and staff satisfaction. This survey did not include qualitative survey method, and therefore the detailed factors related to both staff and patient satisfaction could not be clarified. It is recommended that MoHMS periodically conduct satisfaction surveys at the health facilities to confirm trends and analyze the factors involving a qualitative approach.

4) Report

The report of endline survey was submitted in January 2023.

(8) Joint Coordinating Committee Meetings

1) 1st Year

On November 12, 2019, the first Joint Coordinating Committee (JCC) meeting was held in the main conference room at MoHMS. Ten members, including two observers from MoHMS and eight members from the Japanese side, attended the meeting. The permanent secretary of MoHMS, who was also the project director, chaired the meeting, which had the following agenda:

- Official appointments of JCC members
- Outline of the project
- Progress of project activities (from April 2019 to October 2019)
- Report on an amendment to the record of discussions (R/D) and project design matrix (PDM) of the project, signed on August 24, 2017
- Signing of the minutes of the meeting (M/M) on the amendment to the R/D
- Discussion of way forward

The M/M for amendment of the R/D were signed by the permanent secretary of MoHMS and resident representative of the JICA Fiji Office.

Through the review of progress of project activities implemented by October 2019, it was found that the participation of certified NTQM facilitators in the relevant activities was limited and it was raised as a challenge. Specifically, the NTQM facilitators were required to play a role to conduct a 5S training and consultation visits to the pilot health facilities as the facilitators/assessors; however, number of participated NTQM facilitators, which participated in the 5S training and monitoring activities for the pilot health facilities, was very limited at that time. In the background, all the initial selected and trained NTQM facilitators were at the management level considering the influential position to the pilot facilities. However, these facilitators were overwhelmed with their designated

work and could not fulfill their role as NTQM facilitators. It is also conceivable that there was no mechanism to mobilize the NTQM facilitators. This issue was raised as a challenge by the project team. The project explained the need to increase the number of NTQM facilitators who can conduct trainings and consultation visits, and made proposals such as appointing more practical personnel who met the accreditation criteria for NTQM facilitators.

2) 2nd Year

Due to the COVID-19 pandemic, the dispatch of Japanese experts to Fiji were suspended, and project activities were limited. Therefore, the JCC meetings this year were also postponed.

3) Final Year

On October 12, 2022, the second JCC Meeting was held at the main conference room at MoHMS. The chief medical advisor acted as the chair because the permanent secretary, who was also the project director, was out of the country on business. From the Fijian side, a total of seven people participated in the meeting, including the chief medical advisor and the project manager (national manager, clinical governance). In addition, from the Japanese side, a total of five officials from JICA and three project team members participated in the meeting. At the meeting, the following topics were discussed among the participants:

- The progress of project activities (from November 2019 to September 2022)
- An extension of the project duration (M/M on amendment of R/D, signed on August 19, 2021)
- The way forward

On March 9, 2023, the third JCC Meeting was held in the main conference room at MoHMS. From the Fijian side, a total of five people participated in the meeting, including the permanent secretary and the project manager (national manager, clinical governance). From the Japanese side, a total of five officials from JICA (two officials from the headquarters through online and three officials from JICA's Fiji Office), one official from the Embassy of Japan and five project team members (three experts and two local staff) participated. A total of 16 people attended the meeting. At the meeting, the following topics were discussed:

- The results of the endline survey
- The achievements of the projectThe way forward (MoHMS)

2.2.2. Output 1 (The Capacity of National TQM (NTQM) Facilitators is Strengthened)

(1) Review and Development of Training Materials

1st Year

The existing materials for 5S training were reviewed, and they were revised to improve the quality of training in the Fijian context.

2nd Year

The KAIZEN training for NTQM facilitators, which was initially scheduled to be conducted in July 2020, was rescheduled to be held when the Japanese experts return.

Prior to the training for NTQM facilitators, the KAIZEN Training was conducted for Labasa Hospital and Sigatoka Hospital. Specifically, the top management personal from these two facilities were invited to the training course ‘Quality improvement of health services through KAIZEN’, which was organized by JICA Tokyo and held online from December 7 to 12, 2020. This training opportunity was also offered to the QIT members of these two pilot health facilities.

The existing training program and materials were used in the training course organized by JICA Tokyo³.

Final Year

The training program and materials used in the KAIZEN training for the second year were reviewed and revised, taking into account the Fijian context. Eventually, the training materials on 5S and KAIZEN were handed over to the project manager, as were the training materials used by the NTQM facilitators.

(2) 5S training for NTQM facilitators

1st Year

5S training for NTQM facilitators was conducted on 9, 10, and 13 May 2019 at the conference room at CWM Hospital and FPBS. The contents of the training are listed in Table 2-14.

Table 2-14: Contents of training for NTQM facilitators

Topic	Lecture	Practical session
Outline of the TQM project and R&R of NTQM facilitators	✓	
Basic concept of Quality and Safety	✓	
Positive attitude	✓	
Basic concept of 5S-KAIZEN-TQM approach	✓	
Video on 5S (JICA multi training materials)	✓	✓
5S Implementation and R&R of NTQMF, QIT, WITs	✓	
Useful tools for 5S activities	✓	
5S Practice	✓	✓
Monitoring and Evaluation of 5S activities	✓	
How to conduct external M&E activities	✓	
Understanding of M&E tools for 5S-KAIZEN activities	✓	✓
Feedback of the M&E results to the facilities	✓	✓
Factors that influencing the 5S implementation	✓	
National rollout of 5S-KAIZEN-TQM approach	✓	

³ Fujita Planning Co., Ltd. was entrusted with the operation of the training, and these training program and materials were developed.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	21.4	2.1			
Post	24.6	2.2		1.52	Large

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$|.20| \leq \text{small} <|.50|$ **Small effect**

$|.50| < \text{medium} <|.80|$ **Medium effect**

$|.80| \leq \text{large}$ **Large effect**

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. *ARELE (Annual Review of English Language Education in Japan)*, 18, 81–90.

Figure 2-3: Results of the pre and post course assessment (training for NTQM facilitators)

Pre- and post-course assessment were designed to identify the gap in the participants’ knowledge of the 5S approach before and after the training. The full assessment score was 30. An improvement in average score was observed from 21.4 before the training to 24.6 after the training. It can thus be assumed that the participants’ basic knowledge of the 5S approach increased. Based on the results of the pre- and post-course assessments, the effect size (Grass’s Δ) was calculated to measure the effectiveness of the training^{4,5}. There was an increase in the scores of post course test rather than those of the pre-course test ($p < 0.01$). The effect size (Δ) was 1.52, indicating ‘large effect’ as shown in Figure 2-3.

It was agreed with the MoHMS that those who scored 75% or above on the post-assessment would be certified as Level “B” NTQM facilitators. Based on the results of the post-assessment, 14 participants out of 16 passed the cutoff point (75% and above) set in the selection criteria for NTQM facilitators (5S). Unfortunately, two participants did not reach the cutoff point. Therefore, we gave them a chance to repeat the post-assessment the following morning, resulting in both participants passing the cutoff point and becoming Level “B” NTQM facilitator.

(3) Selection of National TQM (NTQM) facilitators

1st Year

Based on the results of the post-assessment of the 5S training mentioned above and the selection criteria in Table 2-15, all 16 participants were certified as Level "B" TQM facilitators.

⁴ Lakens D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Front Psychol*. doi: 10.3389/fpsyg.2013.00863.

⁵ Enzmann D. (2015). Notes on Effect Size Measures for the difference of means from two independent groups: The case of Cohen's d and Hedges'G (Technical report). doi:10.13140/2.1.1578.2725.

Table 2-15: Selection criteria for NTQM facilitators⁶

Level of facilitator	Description	Requirement
Level “A” TQM facilitator	Have good knowledge and skills on both the 5S approach and the KAIZEN approach, and be able to train health managers and workers.	<ul style="list-style-type: none"> • Completion of TQM facilitator training on 5S and KAIZEN approach • Need to obtain 75% of score in post training assessment in both training program
Level “B” TQM facilitator	Have good knowledge and skills on the 5S approach only, and possible to train health workers.	<ul style="list-style-type: none"> • Completion of TQM facilitator training on 5S approach • Need to obtain 75% of score in post training assessment in 5S training program assessment

Final Year

As mentioned above, many of the NTQM facilitators selected in the first year were at the senior management level, and due to overwhelming management duties, their participation in the relevant activities for the pilot health facilities, such as facilitating the training and conducting the CVs, was limited. In addition, it became difficult to mobilise certified facilitators because of resignations and transfers following from the expiration of their positions.

For these reasons, according to the criteria of the NTQM facilitators, 11 people who completed the 5S Training of Trainers (ToT), including the 5S refresher training in April 2021 and KAIZEN ToT for the pilot health facilities, were certified as NTQM facilitators (Level A). In addition, four officials (the former project manager, medical superintendent at Labasa Hospital, sub-divisional medical officer at Sigatoka Hospital and current project manager) who completed the training course organized by JICA Tokyo described above were certified master trainers in 5S-KAIZEN-TQM. Furthermore, the 34 people who completed 5S training, which was conducted from February 28 to March 2, 2023, were certified as NTQM facilitators (Level B).

(4) Review and development of the National 5S-KAIZEN-TQM Implementation Guidelines to roll out 5S-KAIZEN-TQM nationwide and development of Roles & Responsibilities of NTQM facilitators

1st Year

After the three-day training on 5S described above, newly selected NTQM facilitators drafted a ‘National implementation guideline for the 5S-KAIZEN-TQM approach in Fiji’ on May 14 and 15, 2019. The guideline is composed of seven chapters. Chapters 3 to 6 are written to instruct readers in implementing 5S-KAIZEN-TQM activities in a practical manner. However, Chapter 1 (Current Situation of QI Activities in Fiji), Chapter 2 (5S-KAIZEN-TQM Approach in Fiji) and Chapter 7 (M&E of 5S-KAIZEN-TQM activities) needed to be described according to the Fijian context. Therefore, these three chapters were drafted in accordance with the expertise of the NTQM facilitators.

⁶ It is also described in the “Implementation Guideline for 5S-KAIZEN-TQM approach in Fiji (MoHMS, 2022).

2nd Year

Regarding the QI implementation structure in Fiji, the MoHMS realized that the existing terms of reference (TOR) of the National Quality/Clinical Improvement Committee needed to be reviewed. Prior to consideration by the MoHMS, Japanese experts were consulted for advice. The experts proposed that the current committee formation needed to be separated into two: one half would form the Safety and Quality Management (QM) Subcommittee (which is proactive) and the other the Clinical Investigation Subcommittee related to incidents and accidents. In accordance with this structure and its TOR at the national level, the overall QI implementation structure and its TOR were also proposed.

The revision of the draft, which included the proposed implementation structure, was reviewed by the senior management members, and there were no objections. In accordance with this amendment, the chapter on monitoring and evaluation was also revised, and the final draft was prepared for endorsement.

Final Year

The final draft of the guideline was endorsed by the permanent secretary of MoHMS and printed. A publication ceremony was held on April 13, 2022 with the participation of the minister of health and medical services, the resident representative of the JICA Fiji Office and the representative of the Embassy of Japan in Fiji. The guideline was then distributed to the pilot health facilities and Divisional Medical Offices. After the final seminar of the project, it was distributed to participants beyond the pilot health facilities.

(5) Midterm Review Meeting (this is also related to Output 3)

A midterm review meeting was held on August 19, 2020 to discuss the effectiveness and challenges of implementing 5S in the pilot health facilities to promote mutual learning and further improvement. At this time, the dispatch of Japanese experts had been suspended due to COVID-19 pandemic. Even under this circumstance, the meeting was conducted to promote and support the activities at the pilot health facilities as a hybrid meeting as a result of discussion between the project manager and the Japanese experts. The Japanese experts attended the meeting through virtual link meeting online.

Taking into account the preventive measures against COVID-19, the number of participants in the meeting was limited, and those who could not be invited to the venue were invited to attend online. In addition to the representatives from the pilot health facilities, the honorable minister and acting permanent secretary for health and medical services, and senior management officials including medical superintendents and DMOs, and the officials from the JICA Fiji Office, attended the meeting at the venue, while 19 people, including officials from the WHO and Fiji National University, attended online.

The minister emphasized the importance of project activities in their opening remarks, and the achievements of the pilot health facilities so far were also announced to the media, such as the reduction in complaints from patients at the Valelevu Health Center. Representative from the pilot health facilities discussed best practices, effects toward 5S activity and tips for successful implementation, and an opportunity was provided to share each experience among the pilot health facilities for further improvement. The meeting was closed by the resident representative of the JICA Fiji Office, and respect was expressed for the achievements in 5S activity implementation and efforts of personnel.

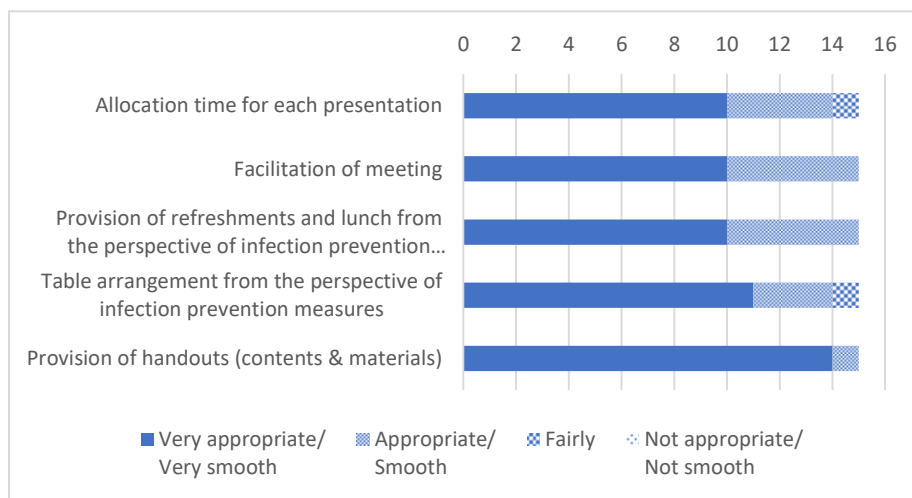


Figure 2-4: Evaluation on the arrangement of meeting

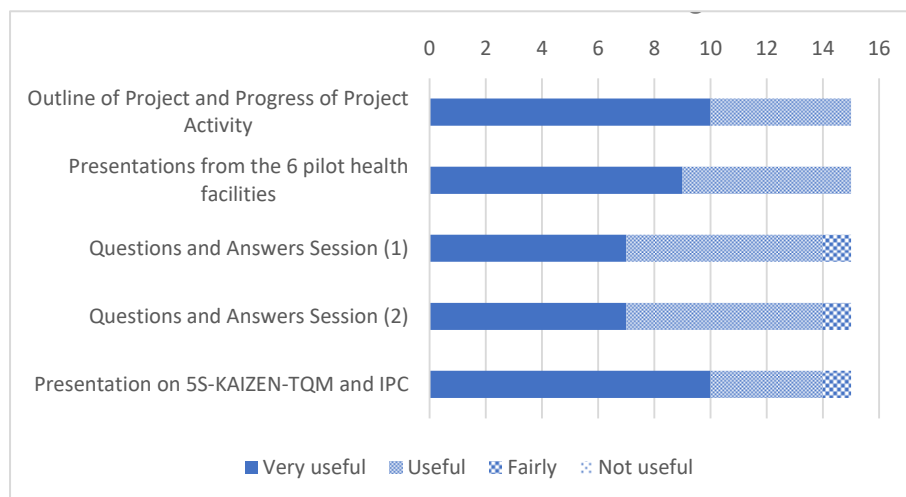


Figure 2-5: Evaluation on the contents of meeting

According to the results of the evaluation held at the end of the meeting, most participants were satisfied with the arrangement of the meeting and contents of the presentations (see Figure 2-4, Figure 2-5).

Some examples of comments made at the meeting include the following:

- The meeting was very informative, as we were able to see our strengths and our weaknesses. We learned that we have room for improvement and that we can learn from each other by sharing ideas and good practices.
- We were able to identify areas for improvement and how we can use feedback to improve our plan for 5S implementation.
- It is expected that the summary of best practices and evidence of improvement in outcomes such as decreases in complaints will be presented in the final seminar.
- In the final seminar, the positive outcomes, lessons learned and innovative ideas that contributed to these outcomes need to be confirmed.

While the four participating facilities reported on the expected progress of activities, CWM Hospital and Nausori Maternity Hospital/Health Centre unfortunately could not participate in the meeting. There was concern that activities seemed delayed at these two facilities.

(6) Final Seminar (Final year, this is also related to Output 3)

On 16th and 17th March, 2023, the final seminar was held with the aim of sharing the experiences and achievements of 5S-KAIZEN activities at the pilot health facilities. It was held in a hybrid way so that the stakeholders can participate remotely.

There were 52 officials from the MoHMS headquarters, Divisional and Sub-divisional Medical Offices, and the pilot health facilities. Taking into account the sustainability of activities after the project, invitations were sent to the educational institutions of the human resource for health, and two people participated. In addition, invitations were also sent to the neighboring countries in the Pacific region through JICA Fiji Office. From the Japanese side, ten people participated in such as the Embassy of Japan, JICA Fiji Office, and the project team.

On the first day, the progress of 5S-KAIZEN activities at each pilot health facility was presented. In addition, the dissemination status was reported by the Divisional Medical Offices. On the second day, the participants had a discussion on how to enhance the sustainability in implementing QI activities. In the seminar, the participants actively exchanged opinions, which was a good opportunity to share knowledge and experiences.

The MoHMS has acknowledged the cooperation of JICA and showed commitment to continuity by the Fijian side.

(7) Development and Distribution of Good Practice Handbook

A booklet was developed that includes good practices of the 5S and KAIZEN activities from the pilot health facilities. Through sixth CV, several Quick KAIZEN cases were confirmed; however, there were only few cases of KAIZEN steps with QC story which was completed all seven steps.

Therefore, the cases of KAIZEN steps with QC story on the booklet are limited and there are some reasons. One of the reasons is that the KAIZEN training organized through online was possibly insufficient to transfer knowledge and skills to the participants who play a role as master trainers. Second, following up the KAIZEN activities on site through the consultation visit was limited after the KAIZEN training because the dispatches of Japanese experts had been suspended or amended from the initial plan due to COVID-19 pandemic. Third, the in-house training or activities were stagnant due to the resignation of trained staff.

This booklet was distributed to the participants at the final seminar, which was held in March 2023.

2.2.3. Output 2 (Model Activity for 5S-KAIZEN-TQM at the Pilot Health Facilities is Established) and Output 3 (Organizational Capacity of 5S-KAIZEN-TQM is Strengthened at the Pilot Health Facilities)

1st Year

(1) Review and Reselection of the Pilot Health Facilities

Based on the current situation and issues with the MoHMS, the pilot health facilities of the project were reviewed and reselected as follows:

- CWM Hospital
- Nausori Maternity Hospital and Nausori Health Center
- Sigatoka Hospital
- Labasa Hospital
- Valelevu Health Center
- FPBS

(2) Visits of the Selected Pilot Health Facilities and Selection of the Pilot Units

The project team visited the selected pilot health facilities before starting the project interventions. During the visits, meetings with the facility management and focal persons of QI at each facility were held to explain about the outline of the project. In addition, the facility representatives were guided during the meeting in how to establish QITs and WITs. The project requested each pilot facility to identify or select pilot units. The dates of visits and selected pilot units of each facility are shown in Table 2-16.

Table 2-16: Date of visit and the selected pilot units of each facility

Date of visit	Name of Facility	Pilot Units
26 th April, 2019	FPBS	- Issue store ⁷ - Purchasing
29 th April, 2019	CWM Hospital	- Surgical Ward (NSW) - Medical Record - Post Natal Ward
30 th April, 2019	Nausori Maternity Hospital /Nausori Health Center	- Maternity - Dental - General OPD (GOPD)
1 st May, 2019	Labasa Hospital	- Female Medical Ward - Dental - Store
2 nd May 2019	Sigatoka Hospital	- GOPD ⁸ - Emergency Department (ED) - Special OPD - Maternity
3 rd May 2019	Valelevu Health Center	- IMCI ⁹

(3) Guide the Selection of Members of QIT and WITs and Orient the Development of Roles and Responsibilities of QIT and WITs

During the observation visits to the pilot health facilities, the method of 5S ToT, the selection of members of QIT and WITs, and the roles and responsibilities of QIT and WITs were indicated based on the draft implementation guidelines for the 5S-KAIZEN-TQM approach. In addition, the roles and responsibilities of QIT and WITs were explained during the 5S ToT conducted in June 2019.

(4) Training for the Pilot Health Facilities

1) Training of Trainers (ToT) on 5S

5S TOT was implemented to enable the focal personnel from each pilot health facility to conduct in-house training on the 5S approach and the implementation and management of 5S activity. The training was conducted in the conference room at FPBS on June 10 to 12, 2019.

There were 33 participants, and the members of the QITs or focal personnel of the WITs from each facility were present. The numbers of participants from each facility are shown in Table 2-17.

Table 2-17: Number of participants of each facility (5S ToT)

Name of Facility	Number of participants
CWM Hospital	3 people
Labasa Hospital	6 people
Sigatoka Hospital	6 people (including acting divisional Risk Manager, Western)
Nausori Maternity Hospital/Nausori Health Center	6 people
Valelevu Health Center	6 people

⁷ A unit that unboxes pharmaceuticals procured from suppliers and temporarily stores them for distribution to health facilities nationwide.

⁸ At first, GOPD and ED were regarded as one department. However, it was decided to treat them as separate departments after confirming that the WIT was established separately from the hospital.

⁹ Integrated Management of Childhood Illness.

Name of Facility	Number of participants
FPBS	4 people
Lautoka Hospital	1 person (Risk Manager)
Tamavua/ Twomey HP	1 person (acting Director of Nursing (DON))

Pre- and post-course assessments were designed to identify the gaps in the participants' knowledge of the 5S approach before and after the training. The full assessment score was 30. An improvement in average score was observed from 19.9 before the training to 23.5 after the training. It can thus be assumed that the participants' basic knowledge of the 5S approach increased. Based on the results of the pre- and post-course assessments, the effect size (Grass's Δ) was calculated to measure the effectiveness of the training. There was an increase in the scores of post-course assessment rather than those of the pre-course assessment ($p < 0.01$). The effect size (Δ) was 1.49, indicating a large effect as shown in Figure 2-6.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	19.9	2.4			
Post	23.5	3.0			

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$|.20| \leq \text{small} <|.50|$ **Small effect**

$|.50| < \text{medium} <|.80|$ **Medium effect**

$|.80| \leq \text{large}$ **Large effect**

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. (2nd ed.). Hillsdale, NJ. Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. ARELE (Annual Review of English Language Education in Japan), 18, 81–90.

Figure 2-6: Results of the pre and post course assessment (5S ToT)

2) In-house training at CWM Hospital

The Japanese expert supported the in-house training as follows.

- Date: 9th, 10th, and 11th July 2019
- Participants (all three day): 3 people (New Surgical Ward), 3 people (Post Natal Ward), 2 people (medical record), 1 IPC officer, 1 Clinical Nurse Educator, and other five people participated in for one or two days.
- Facilitators: Japanese expert and IPC officer who had participated in the 5S TOT in June 2019.
- Score gaps of the pre and post course assessment and effect size of the training:

The pre and post course assessment were designed to identify the gap in the participants' knowledge on 5S Approach between before and after the training.

The full assessment score was 30. An improvement in average score was observed from 20.2 before the training to 22.0 after the training. It can thus be assumed that the participants' basic knowledge

of 5S approach increased. Based on the results of pre- and post-course assessments, the effect size (Grass's Δ) was calculated to measure the effectiveness of the training. There was an increase in the scores of post-course assessment rather than those of the pre-course assessment ($p < 0.01$). The effect size (Δ) was 0.712, indicating a medium effect as shown in Figure 2-7.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	20.2	2.6			
Post	22.0	2.9	0.712	Medium	

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$|\Delta| \leq 0.2$ small $< |\Delta| \leq 0.5$ **Small effect**

$|\Delta| \leq 0.5$ medium $< |\Delta| \leq 0.8$ **Medium effect**

$|\Delta| \geq 0.8$ large **Large effect**

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.). Hillsdale, NJ. Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. *ARELE (Annual Review of English Language Education in Japan)*, 18, 81–90.

Figure 2-7: Results of the pre and post course assessment (In-house training at CWMH)

Regarding the reason why the effect size was medium, as mentioned above, there were 10 out of 15 full-day participants, and even those 10 had to skip parts of the lectures due to their work. This means that some participants could not fully concentrate on all the lectures, and this might have affected this result.

2nd Year

3) KAIZEN ToT for Labasa Hospital and Sigatoka Hospital

In the first year of the three-year project, 5S ToT was conducted for all six pilot health facilities.

In the second year, it was initially planned to introduce the KAIZEN approach to these pilot health facilities all at once in August 2020. However, the unavailability of Japanese experts due to COVID-19 pandemic prompted the reconsideration of the schedule and methodology; for example, the practical session was included in the online training.

After discussion between the project manager and Japanese experts, the methodology and participants were determined as follows:

- In terms of the implementation methodology, an online training course organized by JICA Tokyo, ‘Quality improvement of health services through KAIZEN’, was held from December 7–12, 2020, and the participants supported by the project additionally joined this training.
- The number of participants had to be limited due to restrictions on the online training. The participants supported by the project were selected as follows:
 - The participants were selected from the facilities that showed good progress in the implementation of 5S activities.

- Since the Medical Superintendent of Labasa Hospital and the Sub-divisional Medical Officer of Sigatoka, who are the top management personnel of the pilot health facilities demonstrating the greatest progress among the pilot health facilities, were nominated as the trainees, it was optimal that the QIT members from Labasa Hospital and Sigatoka Hospital were additionally invited and trained together.
- Taking into account the optimal number of participants for the online training, three participants from each facility were selected.

The total number of participants were 8 people as Table 2-18 shows.

Table 2-18: Number of participants of each facility (KAIZEN ToT, 2020)

Name of Facility	Number of participants
Labasa Hospital	4 people (Medical Superintendent of Labasa is the official participant for the training course organized by JICA Tokyo. The other three participants are members of QIT)
Sigatoka Hospital	4 people (Sub-divisional Medical Officer of Sigatoka is the official participant for the training course organized by JICA Tokyo. The other three participants are members of QIT)

The contents of the training are listed in Table 2-19.

Table 2-19: Contents of ToT on KAIZEN approach (2020)

Topic	Lecture	Practical session
Positive mindset, and quality and safety culture in a hospital	✓	
Quality and Safety in healthcare service provision	✓	
Concept of Total Quality Management (TQM)	✓	
Establishment of and strengthening an implementation structure for quality and safety management in a hospital	✓	
Basic concept of KAIZEN Approach	✓	✓
Step 1 of KAIZEN with QC story (Theme selection)	✓	✓
Step 2 of KAIZEN with QC story (Situation analysis)	✓	✓
Step 3 of KAIZEN with QC story (Root cause analysis)	✓	✓
Step 4 of KAIZEN with QC story (Countermeasure identification)	✓	✓
Step 5 of KAIZEN with QC story (Implementation of countermeasures)	✓	✓
Step 6 of KAIZEN with QC story (Effectiveness check)		✓
Step 7 of KAIZEN with QC story (Standardization)	✓	✓
5S-KAIZEN-TQM Approach for strengthening infection prevention and control, and safety management		
Monitoring and evaluation of 5S-KAIZEN-TQM Approach		✓

Pre- and post-course assessments were designed to identify the gaps in the participants' knowledge of the KAIZEN approach before and after the training. The full assessment score was 100. An improvement in average score was observed from 77.6 before the training to 88.8 after the training. It can thus be assumed that the participants' basic knowledge of the KAIZEN approach increased. Based on the results of the pre- and post-course assessments, the effect size (Grass's Δ) was calculated to measure the effectiveness of the training. There was an increase in the scores of post-course assessment rather than those of the pre-course assessment ($p < 0.01$). The effect size (Δ) is 1.17, indicating a large effect as shown in Figure 2-8.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	77.6	9.5			
Post	88.8	12.3			

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$|\Delta| \leq 0.2$ small $< |\Delta| \leq 0.5$ **Small effect**

$|\Delta| \leq 0.5$ medium $< |\Delta| \leq 0.8$ **Medium effect**

$|\Delta| \leq 0.8$ large **Large effect**

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.). Hillsdale, NJ. Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. *ARELE (Annual Review of English Language Education in Japan)*, 18, 81–90.

Figure 2-8: Results of the pre and post course assessment (KAIZEN ToT, 2020)

Most participants earned at least 80%, and three participants achieved 100%. Only one participant did not attain over 70%, which was the expected score for the post-assessment. The project manager shared this person's weak points with him so that he could review and strengthen his knowledge after the training, and it was then determined that the certificates should be handed over to all participants. In general, the terms of quality were likely to be difficult for many of the participants; however, improvement was observed on the post-course assessment.

In addition, course evaluation was held at the end of the training. Most participants responded that the training program design was appropriate and they were satisfied with the training materials and lecturers' facilitation.

4) 5S Refresher Training

Focal personnel trained in 5S in 2019, including QIT or WIT members, were found to have left from four health facilities, including CWM Hospital, Nausori Maternity Hospital/Health Center, Valelevu Health Center and FPBS. Moreover, some delays in the progress of 5S activities were observed at these facilities based on the results of the consultation visits. Therefore, 5S refresher training was conducted on April 14 and 15, 2021 for the new focal staff, who were expected to take over the responsibility for QI activities in each facility, to attain the necessary knowledge and skills for the 5S approach.

There were 17 participants from the four pilot health facilities. However, three could not participate in the full training sessions and only completed the pre- or post-assessments due to work obligations. Therefore, certificates in the completion of the training were given to 14 participants who participated in the full training sessions and took both the pre- and post-assessments. For the three participants who participated in only part of the training, certificates for attendance at the training were given.

Table 2-20: Number of participants of each facility (5S Refresher)

Name of Facility	Number of participants
CWM Hospital	9 people (1 from Administration, 1 from the Clinical Governance Hub, 2 from Medical Record and New Surgical Ward, and 3 from Postnatal Ward)
Nausori Maternity Hospital/Health Center	1 person (Dental department. Only attendance on the second day)
Valelevu Health Center	1 person (Dental department)
FPBS	6 people (2 people attended only on the first day)

The contents of the training are listed in Table 2-21.

Table 2-21: Contents of 5S Refresher Training

Topic	Lecture	Practical session
Basic concept of 5S-KAIZEN-TQM approach	✓	
5S Implementation	✓	
Useful tools for 5S activities	✓	
5S Practice	✓	✓
Positive attitude	✓	
Monitoring and Evaluation of 5S activities	✓	
Understanding of M&E tools for 5S-KAIZEN activities	✓	
Practice of M&E for 5S activity		✓
Feedback of the M&E results to the facilities	✓	✓

Pre- and post-course assessments were designed to identify the gap in the participants' knowledge before and after the training. The full assessment score was 25. An improvement in average score was observed from 17.9 before the training to 20.6 after the training. It can be assumed that the participants' basic knowledge of the 5S approach increased. Based on the results of pre- and post-course assessments, the effect size (Grass's Δ) was calculated to measure the effectiveness of the training. There was an increase in the scores of post-course assessment rather than those of the pre-course assessment ($p < 0.01$). The effect size (Δ) was 1.02, indicating a large effect as shown in Figure 2-9.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	17.9	2.7			
Post	20.6	1.7	1.02	Large	

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$|.20| \leq \text{small} <|.50|$ **Small effect**

$|.50| < \text{medium} <|.80|$ **Medium effect**

$|.80| \leq \text{large}$ **Large effect**

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. (2nd ed.). Hillsdale, NJ. Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. ARELE (Annual Review of English Language Education in Japan), 18, 81–90.

Figure 2-9: Results of the pre and post course assessment (5S Refresher)

In addition, the course evaluation was held in the end of the training. Most participants responded that the training program design was appropriate and they were satisfied with the training materials, lectures and practical session.

Final Year

5) Problem Analysis Workshop

In the first year of the project, 5S ToT was conducted for the six pilot health facilities; the 5S approach was introduced and 5S activities commenced at each facility. However, it was confirmed that there were some gaps in implementation among the pilot health facilities through the consultation visits.

Therefore, a problem analysis workshop was conducted on March 10 and 11, 2022, prior to the KAIZEN ToT, targeting the pilot health facilities and Divisional Medical Offices. The purpose of this workshop was for QIT members and facility managers from each pilot health facility to obtain sufficient skills to identify problems related to quality improvement at each facility and formulate optimal countermeasures against the core problems. Total sixteen people (13 from the six pilot health facilities and 3 from the western, northern, and central Divisional Medical Offices) participated in the workshop.

In the workshop, many of the pilot health facility representatives realized that the functioning of QIT and development of the action plans for QI activities were insufficient. Each facility identified countermeasures against these problems and developed an action plan to implement these identified countermeasures. During the sixth consultation visit (July to September 2022), which was carried out after the workshop, it was confirmed whether a QI action plan had been formulated. There were many facilities, most of which were under formulation or scheduled to be formulated, and only Valelevu Health Center had formulated a simple activity plan. At the time of the seventh consultation visit (February to March 2023), three out of six facilities had formulated a QI action plan.

6) KAIZEN ToT for the All-Pilot Health Facilities

As noted above, among the pilot health facilities, Sigatoka Hospital and Labasa Hospital, which have made good progress on 5S activities, received KAIZEN training in 2020. However, findings from the CV identified that there was no implementation of KAIZEN activities at either hospital, and therefore, the project decided to conduct KAIZEN training for all six pilot health facilities from March 28 to April 2, 2022 (six days).

It would have been ideal to invite the QIT and WIT members who participated in the 5S ToT; however, many were away from their facilities, such as those transferring to other facilities. Therefore, those who had not been trained on 5S before participated in this training. Hence, this training program included a session on the 5S approach.

A total of 25 participants from the six pilot health facilities and 10 from the western, northern and central Divisional Medical Offices and MoHMS participated in this training. One participant in the project (5S assessor)¹⁰ also enrolled in this training. Hence, total of 36 participants fulfilled the requirements for certificates of completion. The contents of the training are listed in Table 2-22.

Table 2-22: Contents of KAIZEN ToT (2022)

Topic	Lecture	Practical session
Positive mindset, and quality and safety culture in a hospital	✓	
Quality and Safety in healthcare service provision	✓	
Positive mindset, and quality and safety culture in a hospital	✓	
Quality and Safety in healthcare service provision	✓	
Establishment and strengthening an implementation structure for quality and safety management	✓	
Concept of Total Quality Management	✓	
Basic concept of 5S-KAIZEN-TQM	✓	
5S approach	✓	
Basic Concept of KAIZEN approach	✓	
KAIZEN Step 1	✓	✓
KAIZEN Step 2 (Lecture)	✓	✓
KAIZEN Step 3 (Lecture)	✓	✓
KAIZEN Step 4 (Lecture)	✓	✓
KAIZEN Step 5 (Lecture)	✓	✓
KAIZEN Step 6 (Lecture)	✓	✓
KAIZEN Step 7 (Lecture)	✓	✓
Monitoring of 5S-KAIZEN activities	✓	✓
Monitoring of 5S-KAIZEN activities (Practice)	✓	✓

Pre- and post-course assessment were designed to identify the gaps in the participants' knowledge before and after the training. The full assessment score was 100. The average score was compared among 36 participants who took both pre and post assessment. An improvement in average score

¹⁰ He is one of the NTQM facilitators. After his resignation from MoHMS, he was temporarily contracted by the project to support certain activities.

was observed from 68.9 before the training to 79.9 after the training. It can thus be assumed that the participants' basic knowledge of the KAIZEN approach increased. The effect size (*Glass's Δ*) was calculated to measure the effectiveness of the training. There was an increase in the scores of post-course assessment rather than those of the pre-course assessment ($p < 0.01$). The effect size (Δ) was 1.00, indicating a large effect as shown in Figure 2-10.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	68.9	11.0			
Post	79.9	7.9	1.00	Large	

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$0.20 \leq \text{small} < 0.50$ **Small effect**

$0.50 < \text{medium} < 0.80$ **Medium effect**

$0.80 \leq \text{large}$ **Large effect**

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.). Hillsdale, NJ. Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. *ARELE (Annual Review of English Language Education in Japan)*, 18, 81–90.

Figure 2-10: Results of the pre and post course assessment (KAIZEN ToT, 2022)

7) Study Tour to Sigatoka Hospital

On April 27, 2022, to further promote 5S-KAIZEN activities at each pilot facility through the observation of activities, a study tour was conducted at Sigatoka Hospital, where 5S activities have been making good progress, to share these practices with other facilities. In addition to two people from each of the pilot health facilities other than Sigatoka Hospital, three additional people from CWMH volunteered to participate in the tour. Three staff members from the western Divisional Medical Office also participated. Participants reported that it was very informative to actually see the case of Sigatoka Hospital and exchange opinions with the staff.

8) Progress Report Meeting on 5S-KAIZEN

On October 18, 2022, a hybrid face-to-face and online progress report meeting was held with the aim of sharing progress and challenges regarding 5S-KAIZEN activities among pilot health facilities and promoting activities based on mutual experience sharing. Attending the meeting were three QIT members from each of the six pilot health facilities, as well as DMOs, risk managers and DONs from Divisional Medical Offices.

Each facility reported on its own QI implementation structure, in-house training for implementation and dissemination of 5S-KAIZEN, results of internal monitoring and evaluation, implementation and progress of 5S-KAIZEN cases. At the meeting, it was confirmed that there was a gap in the implementation status of 5S-KAIZEN among the pilot health facilities. It was also revealed that the progress in KAIZEN steps with QC story, which has seven steps and uses QC tools, was delayed, such as in Step 2 (situation analysis) and Step 3 (root cause analysis), or the number of

implementing units was limited. This suggested a need for further technical support during the consultation visit.

In addition to the pilot health facilities, some Divisional Medical Offices reported on the dissemination status of the 5S approach in their divisions. In particular, in the western division, it was reported that 5S activities had been disseminated throughout the division under the initiative of the Divisional Medical Office using the activities of Sigatoka Hospital as a model. Specifically, in May 2022, a study tour to Sigatoka Hospital was held for sub-division officials in the division, and then in July 2022, 5S training (orientation) was conducted at each facility for about two hours. After that, 5S activities began at each facility.

(4) Provide Technical Support to the Pilot Health Facilities through the Consultation Visits

CVs are conducted by the team formulated by the NTQM facilitators for the pilot health facilities to monitor and evaluate progress activity and to provide technical support. In the CVs, the following things are conducted: a) interviews with QITs to evaluate the function and activity of QITs using a check sheet and b) observational visits to the pilot units (to observe the progress of activities, interview the staff, provide technical support and evaluate the status using a monitoring and evaluation checklist). In the National 5S-KAIZEN-TQM Implementation Guidelines, the CV is generally conducted bi-annually. However, it was agreed that the CVs would be conducted more frequently, such as on a quarterly basis during the project period, to establish model activity at the pilot health facilities with more technical support. However, due to the COVID-19 pandemic, it was difficult to conduct the CVs as originally planned. The results of the CVs conducted throughout the project period are described below.

1) Schedule

The schedule of CVs conducted throughout the project period is shown in Table 2-23.

Table 2-23: Schedule of Consultation Visits

No	Date	Name of Facility
1	November and December 2019	Five pilot health facilities *CV for Valelevu Health Center could not be conducted due to the outbreak of measles.
2	February and March 2020	All six pilot health facilities
3	June and July 2020	All six pilot health facilities
4	November and December 2020	Five pilot health facilities *CV for CWMH could not be conducted due to the inevitable issue at the hospital.
5	November and December 2021	All six pilot health facilities
6	July to September 2022	All six pilot health facilities
7	February to March 2023	All six pilot health facilities

2) Establishment of QIT & WITs and its function

The results of score of QIT function is shown in Figure 2-11 and Table 2-24.

QITs were established at all pilot health facilities, whose functioning improved compared to the time of the baseline survey in 2019. However, there were still gaps in the implementation of QIT activities among the pilot health facilities, such as the development of a QI plan, regular meetings, internal monitoring and evaluation, and in-house training. According to the results of scoring with the check sheet during the seventh CV, Sigatoka Hospital showed the best performance, followed by Labasa Hospital. The scores on training and follow-up were lower compared to those in other categories, partially due to the implementation status of in-house training on KAIZEN and its related activities. It takes some time to conduct in-house training in KAIZEN and its dissemination.

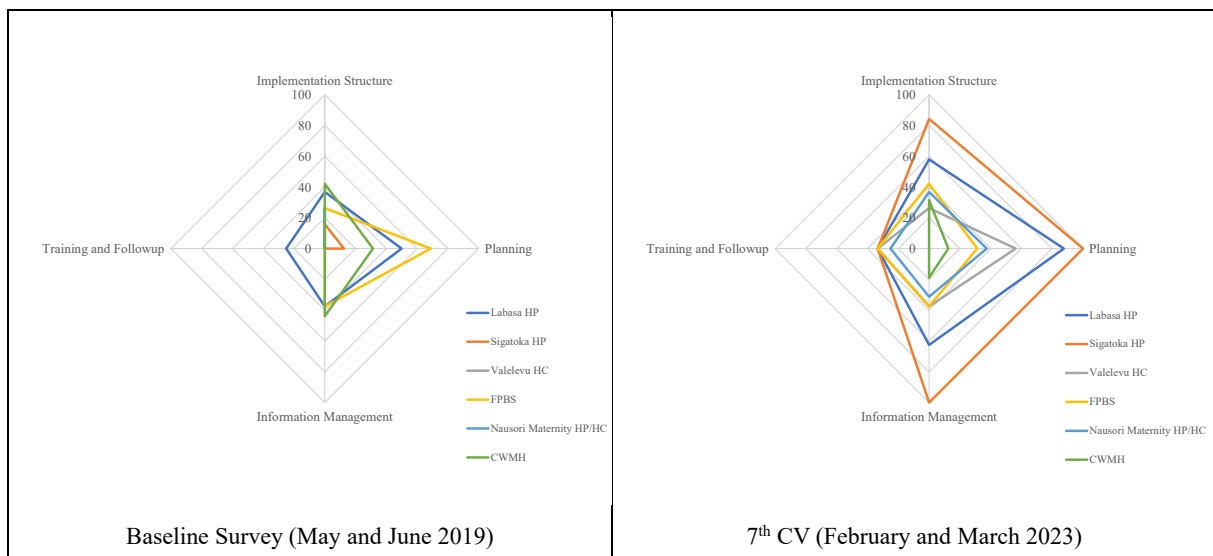


Figure 2-11: Comparison of Scores of QIT Function

Table 2-24: Score of QIT Function

Facility	M/Y	Implementation Structure	Planning	Information Management	Training and Followup	Average
CWMH	February 2023	31.6	12.5	18.8	0.0	15.7
	August 2022	0.0	0.0	0.0	0.0	0.0
	November 2021	10.5	0	0	0.0	2.6
	June 2020	21.1	25.0	18.8	0.0	16.2
	March 2020	Not scoring this time				
	November 2019	Not scoring this time				
	Baseline (May 19)	42.1	31.3	43.8	0.0	29.3
Labasa Hospital	February 2023	57.9	87.5	62.5	33.3	60.3
	August 2022	42.1	56.3	43.8	25.0	41.8
	December 2021	42.1	43.8	68.8	0.0	38.7
	November 2020	68.4	100.0	93.8	25.0	71.8
	June 2020	47.4	93.8	87.5	25.0	63.4
	March 2020	31.6	31.3	18.8	33.3	28.7
	December 2019	31.6	43.8	37.5	33.3	36.5
	Baseline (Jun 19)	36.8	50.0	37.5	25.0	37.3
Sigatoka Hospital	February 2023	84.2	100.0	100.0	33.3	79.4
	August 2022	63.2	81.3	68.8	25.0	59.5
	November 2021	73.7	93.8	87.5	33.3	72.1
	November 2020	63.2	75.0	68.8	0.0	51.7
	June 2020	31.6	50.0	62.5	16.7	40.2
	February 2020	26.3	31.3	50.0	0.0	26.9
	November 2019	26.3	25.0	25.0	0.0	19.1
	Baseline (May 19)	15.8	12.5	0.0	0.0	7.1
Nausori Maternity Hospital/Health Center	February 2023	36.8	37.5	31.3	25.0	32.6
	August 2022	15.8	18.8	31.3	8.3	18.5
	November 2021	26.3	18.8	12.5	0.0	14.4
	January 2021	21.1	18.8	25.0	0.0	16.2
	June 2020	31.6	18.8	6.3	0.0	14.1
	February 2020	21.1	12.5	12.5	0.0	11.5
	November 2019	5.3	12.5	6.3	0.0	6.0
Baseline (May 19)	26.3	0.0	0.0	0.0	6.6	
Valelevu Health Center	February 2023	26.3	56.3	37.5	33.3	38.3
	August 2022	21.1	50.0	31.3	16.7	29.7
	November 2021	15.8	6.3	0.0	0.0	5.5
	January 2021	21.1	12.5	0.0	0.0	8.4
	June 2020	31.6	43.8	37.5	0.0	28.2
	February 2020	15.8	31.3	12.5	0.0	14.9
	Baseline (Jun 19)	5.3	0.0	0.0	0.0	1.3
FPBS	February 2023	42.1	31.3	37.5	33.3	36.0
	July 2022	36.8	37.5	31.3	16.7	30.6
	November 2021	10.5	25.0	31.3	0.0	16.7
	March 2021	47.4	93.8	18.8	33.3	48.3
	June 2020	47.4	62.5	43.8	16.7	42.6
	March 2020	21.1	31.3	43.8	33.3	32.3
	November 2019	21.1	75.0	75.0	33.3	51.1
	Baseline (Jun 19)	26.3	68.8	37.5	0.0	33.2

3) Implementation Status of 5S Activity Based on a Monitoring and Evaluation Check Sheet

The chronological change in average score of each facility based on the Monitoring and Evaluation Check Sheet is shown in Figure 2-12, Figure 2-13, and Table 2-25.

- As the average scores on the monitoring and evaluation check sheet showed, all facilities' average scores increased compared to those at the time of the baseline survey in 2019. According to the results of the seventh (final) CV, Sigatoka Hospital showed the highest score, followed by Labasa Hospital. It was confirmed that these two facilities are sustaining 5S activities well at their pilot units. This implies that facilities with better QIT functioning also made good progress in 5S activities.
- In particular, at Sigatoka Hospital, the coverage of 5S implementation areas in the hospital was 85.7%, and 5S was well disseminated within the facility and to peripheral health facilities within their sub-division. At Labasa Hospital, the progress of activities of the pilot units was good; however, the coverage of 5S implementation areas was still less than 50%, and dissemination to other departments was a challenge.
- Three out of six pilot health facilities decreased their scores compared to the previous CV. During the CV, many facilities responded that there were a large number of resignations, especially nurses who were trained in 5S. These massive resignations of trained staff may have affected the 5S activities at the facilities and led to the decline of score.
- In terms of KAIZEN steps with QC story, one unit each from Sigatoka Hospital and FPBS completed all KAIZEN steps and confirmed the effectiveness of countermeasures during the CV (see Table 2-27 for the details). However, the other pilot units had not completed all steps, and there was no report on new ongoing KAIZEN themes. It takes some time for trained staff to thoroughly understand how to practice KAIZEN with QC tools. Since in-house training on KAIZEN has not been conducted at most pilot health facilities, it is necessary to increase the number of staff who can practice KAIZEN with the QC story through additional training.

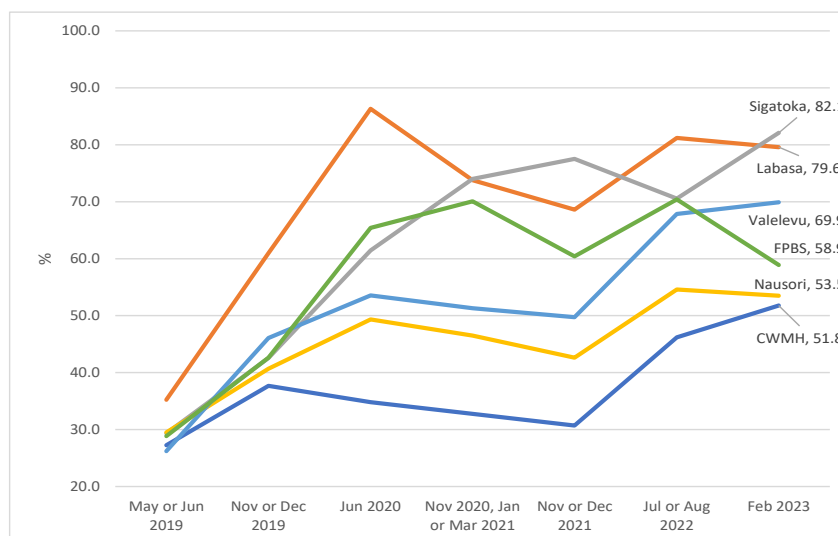


Figure 2-12: Chronological Change of Average score of each facility by Monitoring and Evaluation Check Sheet

Table 2-25: Average score of each facility by Monitoring and Evaluation Check Sheet

Facility	M/Y	Leadership	Sort	Set	Shine	Standardize	Sustain	Productivity	Quality	
CWM Hospital	Feb-23	66.7	73.3	53.3	64.4	41.7	23.3	60.0	48.9	
	Aug-22	56.7	40.0	50.0	57.8	43.3	26.7	55.6	44.4	
	Nov-21	40.0	40.0	43.3	47.8	26.7	20.0	28.9	26.7	
	Jun-20	35.0	40.0	40.0	51.7	37.5	20.0	36.7	33.3	
	Nov-19	46.7	56.7	43.3	65.6	30.0	26.7	31.1	28.9	
May-19	20.0	36.7	23.3	40.0	21.7	20.0	26.7	20.0		
Labasa Hospital	Feb-23	86.7	86.7	86.7	76.7	95.0	80.0	80.0	86.7	
	Aug-22	90.0	80.0	90.0	84.4	78.3	70.0	91.1	95.6	
	Dec-21	63.3	63.3	90.0	83.3	85.0	63.3	73.3	80.0	
	Nov-20	83.3	73.3	93.3	84.4	85.0	60.0	91.1	82.2	
	Jun-20	90.0	80.0	90.0	84.4	85.0	100.0	93.3	93.3	
	Dec-19	80.0	83.3	66.7	75.6	51.7	43.3	66.7	53.3	
Jun-19	33.3	66.7	43.3	50.0	30.0	26.7	28.9	24.5		
Sigatoka Hospital	Feb-23	95.0	87.5	70.0	88.3	83.8	85.0	85.0	83.3	
	Aug-22	82.5	75.0	82.5	76.7	66.3	90.0	68.3	73.3	
	Nov-21	90.0	82.5	87.5	76.7	76.3	72.5	88.3	76.7	
	Nov-20	90.0	77.5	87.5	80.0	80.0	72.5	86.7	75.0	
	Jun-20	80.0	80.0	72.5	76.7	45.0	40.0	73.3	80.0	
Nov-19	42.5	57.5	65.0	61.7	38.8	40.0	51.7	48.3		
May-19	25.0	32.5	27.5	54.9	22.5	20.0	23.4	20.0		
Nausori Maternity Hospital/Health Center	Feb-23	66.7	70.0	60.0	62.2	45.0	30.0	68.9	46.7	
	Aug-22	66.7	66.7	60.0	60.0	48.3	20.0	68.9	68.9	
	Nov-21	53.3	30.0	40.0	60.0	33.3	40.0	62.2	37.8	
	Jan-21	53.3	40.0	60.0	57.8	51.7	46.7	57.8	40.0	
	Jun-20	50.0	63.3	56.7	71.1	53.3	30.0	57.8	53.3	
	Nov-19	50.0	70.0	56.7	60.0	31.7	30.0	40.0	33.3	
May-19	23.3	26.7	23.3	42.2	30.0	20.0	31.1	33.3		
Valelevu Health Center	Feb-23	90.0	80.0	90.0	73.3	85.0	60.0	73.3	66.7	
	Aug-22	80.0	70.0	70.0	73.3	50.0	60.0	66.7	73.3	
	Nov-21	50.0	50.0	50.0	66.7	40.0	40.0	73.3	66.7	
	Jan-21	90.0	40.0	60.0	60.0	45.0	50.0	53.3	53.3	
	Jun-20	80.0	80.0	70.0	53.3	50.0	40.0	60.0	66.7	
	Feb-20	70.0	80.0	60.0	60.0	25.0	30.0	66.7	40.0	
Jun-19	20.0	20.0	40.0	46.7	20.0	20.0	26.7	33.3		
FPBS	Feb-23	80.0	70.0	55.0	65.0	50.0	55.0	60.0	60.0	
	Jul-22	65.0	85.0	80.0	65.0	55.0	100.0	90.0	80.0	
	Nov-21	60.0	40.0	65.0	70.0	80.0	75.0	80.0	73.3	
	Mar-21	80.0	80.0	100.0	80.0	65.0	100.0	86.7	53.3	
	Jun-20	80.0	80.0	85.0	70.0	62.5	85.0	60.0	66.7	
	Nov-19	50.0	60.0	50.0	60.0	30.0	60.0	40.0	36.7	
Jun-19	30.0	35.0	30.0	50.0	32.5	20.0	23.4	20.0		
CWM Hospital	Feb-23	30.0	67.8	63.3	46.7	28.9	56.7	51.8		
	Aug-22	46.7	72.2	60.0	46.7	20.0	26.7	46.2		
	Nov-21	26.7	40.0	30.0	20.0	20.0	20.0	30.7		
	Jun-20	20.0	50.0	40.0	30.0	23.3	30.0	34.8		
	Nov-19	30.0	51.1	40.0	20.0	24.4	33.3	37.7		
	May-19	20.0	63.3	30.0	20.0	20.0	20.0	27.3		
	Labasa Hospital	Feb-23	83.3	73.3	83.3	66.7	60.0	70.0	79.6	
		Aug-22	80.0	80.0	90.0	86.7	60.0	60.0	81.2	
		Dec-21	70.0	66.7	73.3	60.0	48.9	40.0	68.6	
		Nov-20	76.7	53.3	66.7	60.0	66.7	56.7	73.8	
		Jun-20	86.7	66.7	80.0	80.0	95.6	83.3	86.3	
		Dec-19	60.0	66.7	53.3	46.7	46.7	60.0	61.0	
	Jun-19	23.3	73.3	33.3	20.0	20.0	20.0	35.2		
Sigatoka Hospital	Feb-23	80.0	91.7	82.5	75.0	61.7	80.0	82.1		
	Aug-22	72.5	80.0	67.5	45.0	48.3	60.0	70.6		
	Nov-21	70.0	86.7	87.5	45.0	68.3	77.5	77.5		
	Nov-20	72.5	75.0	87.5	55.0	66.7	30.0	74.0		
	Jun-20	52.5	66.7	50.0	40.0	33.3	70.0	61.4		
	Nov-19	45.0	33.3	47.5	20.0	20.0	25.0	42.6		
May-19	20.0	65.0	40.0	20.0	20.0	20.0	29.3			
Nausori Maternity Hospital/Health Center	Feb-23	36.7	66.7	66.7	53.3	26.7	50.0	53.5		
	Aug-22	50.0	64.4	73.3	53.3	33.3	30.0	54.6		
	Nov-21	33.3	66.7	53.3	33.3	20.0	33.3	42.6		
	Jan-21	40.0	46.7	46.7	66.7	20.0	23.3	46.5		
	Jun-20	36.7	68.9	70.0	20.0	20.0	40.0	49.4		
	Nov-19	30.0	51.1	40.0	20.0	20.0	36.7	40.7		
May-19	23.3	60.0	40.0	20.0	20.0	20.0	29.5			
Valelevu Health Center	Feb-23	70.0	66.7	70.0	60.0	53.3	40.0	69.9		
	Aug-22	80.0	73.3	80.0	60.0	53.3	60.0	67.9		
	Nov-21	50.0	60.0	60.0	40.0	20.0	30.0	49.8		
	Jan-21	40.0	46.7	80.0	60.0	20.0	20.0	51.3		
	Jun-20	30.0	60.0	60.0	40.0	20.0	40.0	53.6		
	Feb-20	20.0	33.3	60.0	40.0	20.0	40.0	46.1		
Jun-19	20.0	20.0	40.0	20.0	20.0	20.0	26.2			
FPBS	Feb-23	60.0	60.0	80.0	60.0	40.0	30.0	58.9		
	Jul-22	75.0	56.7	90.0	50.0	53.3	40.0	70.4		
	Nov-21	55.0	66.7	80.0	40.0	40.0	20.0	60.4		
	Mar-21	80.0	73.3	50.0	60.0	33.3	40.0	70.1		
	Jun-20	90.0	53.3	70.0	40.0	33.3	40.0	65.4		
	Nov-19	30.0	40.0	60.0	20.0	20.0	40.0	42.6		
Jun-19	20.0	23.4	60.0	20.0	20.0	20.0	28.9			

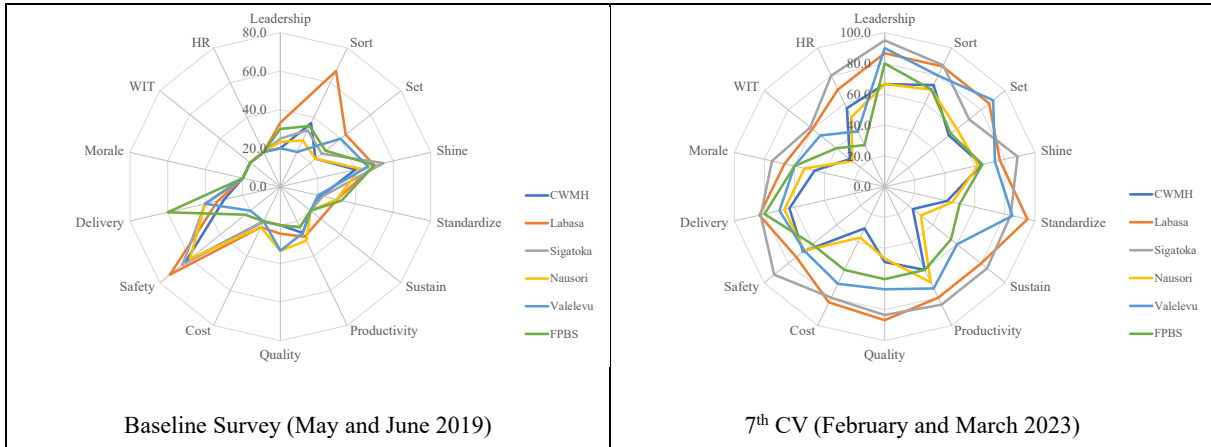
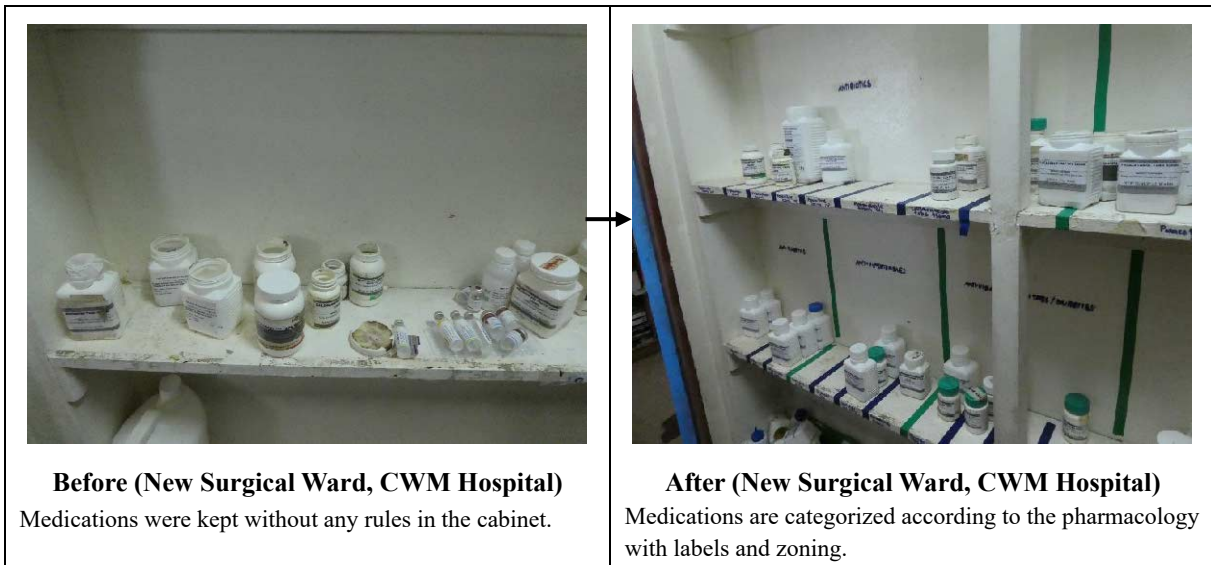


Figure 2-13: Average score of each facility by Monitoring and Evaluation Check Sheet (Comparison between Baseline Survey and 7th CV)

Example cases of 5S practice are shown in Table 2-26, example cases of Quick KAIZEN are shown in Figure 2-14, Figure 2-15, and the cases of KAIZEN steps with QC story¹¹ are shown in Table 2-27.

Table 2-26: Pictures of examples of 5S activity at each pilot health facility



¹¹ KAIZEN activities utilizing with QC tools such as pareto chart and fishbone diagram.



Before (Medical Record, Labasa Hospital)

Shelves were overflowing with patient medical records, and some folders were put on the floor.



After (Medical Record, Labasa Hospital)

Old patients' folders were moved to the archives, and some spaces were created for the current used folders. To make it easier to identify the location of the folders, the indexes of alphabet were put on the shelves. Also, stickers of the color specified for each department were pasted on the folders to classify them easily.



Before (OPD, Sigatoka Hospital)

Ampules were kept in the containers without consideration "First in First out"



After (OPD, Sigatoka Hospital)

Ampules are kept in the vacutainers' containers considering stock amount and "First in First out".



Before (Dental, Nausori Health Center)

There were unnecessary items in the store.



After (Dental, Nausori Health Center)

Unnecessary items are removed, and the layout of desk was changed. The documents are well arranged on the desk.



Before (IMCI, Valelevu Health Center)

The drawers that store medicines were cluttered. There were no rules for stock control such as identification of the location and first expiry first out (FEFO).



After (IMCI, Valelevu Health Center)

Fixed locations and numbers for stock were defined. And stock levels were indicated by colors, and restoring timing was known. FEFO was also applied.



Before (Issue store, FPBS)

Some carton boxes blocking access to the fire extinguisher.



After (Issue store, FPBS)

Carton boxes started to be sorted out on the corridors, and it is easy to access to the fire extinguisher.



Name of Department: Medical Record Department		
Before Quick KAIZEN	After Quick KAIZEN	
		
<p>Description of the situation before: At the reception was very messy with unnecessary items. When the staff from the other departments brought the requisition forms for the items, the staff of store need to come to the reception to receive them.</p>	<p>What did you do?</p> <ul style="list-style-type: none"> • Unnecessary items were removed and the space was created. • The boxes are set at the reception to put the requisition forms according to the categories of items. • The submission system utilizing these boxes was introduced. 	<p>Description of the situation after: The staff of store can concentrate on the other works because they do not have to come to the reception to receive the requisition forms directly. For the staff from the other departments, they could also reduce their time because they do not have to wait at the reception, Efficiency was improved by this new system.</p>

Figure 2-14: An example of Quick KAIZEN at Store, Labasa Hospital



Name of Department: Dental		
Before Quick KAIZEN	After Quick KAIZEN	
		
<p>Description of the situation before: There were no information about the chair number in the corridor for the consultation room. The patients do not know where to go, and the staff need to call a patient from each chair. It cause time wasting for both patients and staff.</p>	<p>What did you do?</p> <ul style="list-style-type: none"> • Discuss the solutions among the WIT members. • The direction board to indicate the chair number was introduced. • A patient is called with a chair number at the reception. 	<p>Description of the situation after: The patient can know the chair number, and the direction board can help the patients to know where to go. It led time reduction for the patients to start their consultation.</p>

Figure 2-15: An example of Quick KAIZEN at Dental, Labasa Hospital

Table 2-27: Cases of KAIZEN Step with QC Story (Completed Cases Only¹²)

Facility	Unit	KAIZEN Theme	Results
Sigatoka Hospital	General OPD	Waiting time at GOPD is reduced.	Completion of all 7 steps *Patients' waiting time was reduced from 105 minutes to 45 minutes during the period of data collection.
	Womens' Ward	Waste Segregation Audit in Women's ward is improved.	Completion of all 7 steps *Confirmed inappropriate cases of waste segregation was reduced from 49 times to 9 times during the period of data collection.
FPBS	Issue Store	All expired medications are removed from the shelf of documented.	Completion of all 7 steps *Number of expired medications was reduced from 53 to 6, and number of discrepancies on expired medication from facilities was also reduced from 7 to 2 during the period of data collection.
Valelevu Health Center	Maternal and Child Health (MCH)	Workflow process at MCH is improved.	Completion of all 7 steps *Patients' waiting time was reduced from about 35 minutes to 21 minutes during the period of data collection.

(5) Development of the QI Planning and Reporting Templates and Dissemination

At the beginning of the project, it was proposed by the MoHMS that the development of an annual QI plan and quarterly report system on QI activities are necessary to strengthen quality and safety activities at the health facilities. Based on the proposal, templates for an annual QI plan and quarterly QI report were developed, and they were introduced into the pilot health facilities during the 5S ToT held in June 2019. In addition, the status of the development of an annual plan and quarterly reports on QI have been periodically followed up through the CVs, and the CV team has asked the facilities to give feedback on the templates.

According to the review during the seventh CV, annual QI plans were developed at three out of six health facilities, and QI reports were produced at two out of six pilot health facilities. During the project implementation period, the National Quality/Clinical Improvement Committee went on hiatus, so it was difficult to functionalize the national implementation structure for QM. Once this Committee resumes, the development of an annual QI plan and reporting system on QI activities should be carried out in accordance with the national QM implementation structure.

2.2.4. Additional Notes

(1) 5S Orientation at Ministry of Health and Medical Services

On September 9, 2022, a 5S orientation was conducted for 20 administrative staff from the Human Resource Department and Executive Support Unit based on the request of the MoHMS. After lectures on the basic concepts of the 5S-KAIZEN-TQM approach, 5S concepts and 5S tools, group exercises were conducted. It is expected that the working environment of these department/units

¹² Total four cases were confirmed in the final seminar held on March 16 and 17, 2023.

will improve through the implementation of 5S activities.

(2) 5S Training for Non-Pilot Health Facilities

Based on a request by the MoHMS, additional 5S training for the non-pilot health facilities was conducted from February 8 to March 2, 2023. The targets for participation were northern, central and eastern Divisional Medical Offices or selected health facilities them, excluding the western division, where the 5S approach has been disseminated to the facilities under the initiative of the Western Divisional Medical Office.

A total of 34 people participated: 22 people from two sub-divisions each of the northern and eastern divisions and four subdivisions of the central division, three from the northern and central Divisional Medical Offices, two each from Labasa Hospital and CWMH, and five from Sigatoka Hospital.

The contents of the training are listed in Table 2-28.

Table 2-28: Contents of 5S Training to the Non-Pilot Health Facilities (2023)

Topic	Lecture	Practical session
Positive mindset, and quality and safety culture in a hospital	✓	
Quality and Safety in healthcare service provision	✓	
Establishment and strengthening an implementation structure for quality and safety management	✓	
Concept of Total Quality Management	✓	
Basic concept of 5S-KAIZEN-TQM	✓	
5S approach	✓	
S4 (Standardize) and S5 (Sustain)	✓	
5S tools	✓	
5S Practice		✓
Introduction 5S into a facility	✓	
Monitoring of 5S-KAIZEN activities	✓	✓

Pre- and post-course assessment were designed to identify the gaps in the participants’ knowledge before and after the training. The full assessment score was 100. The average score was compared among 34 participants who took both pre and post assessment. An improvement in average score was observed from 71.8 before the training to 89.5 after the training. It can thus be assumed that the participants’ basic knowledge of the 5S approach increased. The effect size (*Glass’s Δ*) was calculated to measure the effectiveness of the training. There was an increase in the scores of post-course assessment rather than those of the pre-course assessment ($p < 0.01$). The effect size (Δ) was 1.92, indicating a large effect as shown in Figure 2-16.

Effect size (Δ) of the pre and post course assessment

	Mean	Standard Deviation	Effect size (Δ)	Effect size report	Level of effect size
Pre	71.8	9.3		1.92	Large
Post	89.5	6.7			

If Δ is over 0.5, it has meaning "effective" (Koizumi & Katagiri, 2007)

$|\Delta| \leq 0.2$ small $< |\Delta| \leq 0.5$ **Small effect**

$|\Delta| \leq 0.5$ medium $< |\Delta| \leq 0.8$ **Medium effect**

$|\Delta| \leq 0.8$ large **Large effect**

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. (2nd ed.). Hillsdale, NJ. Lawrence Erlbaum Associates.

Koizumi, R., & Katagiri, K. (2007). Changes in speaking performance of Japanese high school students: The case of an English course at a SELHi. ARELE (Annual Review of English Language Education in Japan), 18, 81–90.

Figure 2-16: Results of the pre and post course assessment (5S Training to the Non-Pilot Health Facilities, 2023)

2.3. Achievement of Output

Achievement of each output is described in below.

(1) Output 1: The capacity of national TQM (NTQM) facilitators is strengthened.

Indicator	Achievement
1) Roles and Responsibilities of NTQM facilitators is developed.	Roles and Responsibilities of NTQM facilitators is developed and mentioned in “The implementation guideline for 5S-KAIZEN-TQM approach in Fiji” on page 6, section 1.3.4.
2) The implementation guideline for 5S-KAIZEN-TQM approach is developed.	“The implementation guideline for 5S-KAIZEN-TQM approach in Fiji” is developed and launched in April 2022.
3) All the participants in the NTQM facilitators' training obtain over 75% of score in the post assessment.	All 16 participants attended 5S Training for National facilitators obtained more than 75% of score in the post assessment and Level B certificate was issued to them.
4) Consultation visits are conducted by the NTQM facilitators bi-annually to the pilot health facilities.	The consultation visit (CV) by the NTQM facilitators were conducted seven times for four years (one time in 2019 (The first CV: November-December, 2019), 3 times in 2020 (the second CV: February-March 2020, the third CV: June-July 2020, the fourth CV: November 2020 and January-March 2021), 1 time in 2021 (the fifth CV: November and December 2021), 1 time in 2022 (the sixth: July-September 2022), and 1 time in 2023 (the seventh: February 2023). Excepting for CVs in 2021 which was affected by the pandemic of COVID-19 in Fiji, CVs were conducted bi-annually.

(2) Output 2: Model activity for 5S-KAIZEN-TQM at the pilot health facilities is established.

Indicator	Achievement
1) In-house training mechanism is established in all pilot health facilities.	In-house training mechanism on 5S approach is established in all pilot health facilities. Some pilot health facilities included “5S briefing” in new staff orientation. However, In-house training mechanism on KAIZEN approach is not yet established.
2) All selected pilot units at the pilot health facilities obtain more than 70% of evaluation score on 5S activities.	4 out of 6 pilot health facilities could not meet the target. Only Sigatoka Hospital and Labasa Hospital achieved the target.

3) At least one KAIZEN case at each pilot health facility	After completion of KAIZEN ToT, all pilot health facilities tried to start one or two KAIZEN cases with QC story. Only Sigatoka Hospital, FPBS, and Valelevu Health Center completed at least one KAIZEN case. Unfortunately, the other three facilities stagnated on the way of KAIZEN steps or incomplete within the project implementation period.
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(3) Output 3: Organizational capacity of 5S-KAIZEN-TQM is strengthened at the pilot health facilities.

Indicator	Achievement
1) Establishment of relevant committee, unit and teams for quality improvement (hereinafter referred to as “Quality Improvement Team (QIT)”) and Work Improvement Teams (WITs) in all pilot health facilities.	All pilot health facilities established QIT, and WITs were established in the pilot units. However, level of function and activities are different among pilot health facilities.
2) Roles and Responsibilities of QIT and WITs are developed in all pilot health facilities.	Roles and Responsibilities of QIT and WIT are developed and mentioned in “The implementation guideline for 5S-KAIZEN-TQM approach in Fiji” In page 8, section 1.3.5.2, iii)
3) Annual QI plan and quarterly QI reports are produced and submitted to the relevant authorities.	For the QI plan, 50% of the pilot health facilities develop the plan annually, 17% of them develop the plan irregularly, and 33% of them have not develop the QI plan. For the QI report, 33% of the pilot health facilities develop the report regularly, and 67% of them are not developing the report.
4) Internal Monitoring and Evaluation of 5S-KAIZEN-TQM activities are conducted quarterly.	For the monitoring, 33% of the pilot health facilities conducted internal monitoring regularly and 67% of them are conducted internal monitoring irregularly. For the evaluation, 33% of the pilot health facilities conducted internal evaluation regularly, and rest of them never conducted internal evaluation.
5) All pilot health facilities obtain more than 70% of average evaluation score on 5S activities.	Only Sigatoka Hospital (82.1%) and Labasa Hospital (79.6%) achieved the target.

2.4. Achievement of the Project Purpose

Achievement of the Project purpose is described in the following.

Project Purpose: Quality of health services is improved in the pilot health facilities.

Indicator	Achievement
1) Staff satisfaction is improved.	Increase of staff satisfaction is observed only in Labasa Hospital and FPBS.
2) Customer satisfaction is improved.	Increase of customer satisfaction is observed in 5 out of 6 facilities.

2.5. Prospects to Achieve Overall Goal

Prospects to achieve overall goal is described in the following.

Overall Goal: 5S-KAIZEN-TQM is extended beyond the pilot health facilities.

Indicator	Achievement
National Quality Improvement committee is well established to ensure implementation and sustainability of 5S-KAIZEN-TQM activities in the country.	For the purpose of improving the sustainability of all QM activities including 5S-KAIZEN-TQM activities, the Ministry of Health and Medical Services is planning to reestablish the National Quality Improvement Committee, which will be held twice a year with core members such as DMOs and managers of tertiary hospitals. Disseminating QM activities under the initiatives of Divisional Medical Offices is active, and it was confirmed that 5S activities are expanding rapidly to the non-pilot health facilities. Therefore, the overall goal is highly likely to be achieved.

3. Results of Joint Review

3.1. Results of Review based on DAC Evaluation Criteria

The results of the review based on each evaluation item are described in the table below.

DAC Evaluation Criteria	Result
Relevance	<p>The purpose of this project is consistent with one of the national health strategies of the MoHMS in Fiji, which is to improve the quality of health and medical services.</p> <p>In the National Strategic Plan, in recent years, many Pacific countries, including Fiji, have adopted a "one system approach" that includes public health, high-quality medical services, and continuity of care in light of the impact of climate change, and consist of the following three strategic priorities; Priority 1 “Reform public health services to provide a population-based approach for diseases and the climate crisis”, Priority 2 “Increase access to quality, safe and patient-focused clinical services”, and Priority 3 “Drive efficient and effective management of the health system”. The interventions of this project will contribute to the achievement of Priority 2, especially Priority 2 Item 3 “Continuously improve patient safety, and the quality and value of services. Therefore, it is considered appropriate to introduce and disseminate the 5S-KAIZEN-TQM approach to the Fiji health sector through this project. In addition, before the start of this project, the Ministry of Health and Medical Services attempted to introduce 5S activities on its own initiative, but failed to disseminate it, so that this project was requested. Therefore, the relevance of this project is considered to be high.</p>
Coherence	<p>Since the start of this project, the project has been working to collaborate with Clinical Governance, which has been introduced to health care facilities with the support of the Department of Foreign Affairs and Trade (DFAT) of the Australian Government. However, at some pilot health facilities, a ‘quality culture’ has not been sufficiently fostered among the facility managers and healthcare workers.</p> <p>5S-KAIZEN-TQM activities are an useful approach to implement and enhance clinical governance; however, it is thought as a competing quality improvement programs, and caused a stagnation of 5S-KAIZEN-TQM activities in one of the pilot health facilities. In the final stage of the project, through exchanges of opinions with consultants newly appointed to DFAT, it was agreed that this approach is effective for achieving Clinical Governance and the importance of collaboration such as establishment of mechanism of managing the QI implementation structure and internal monitoring. Therefore, it is critical to</p>

DAC Evaluation Criteria	Result
	<p>emphasize that the 5S-KAIZEN-TQM approach does not compete with but is complementary to quality improvement programs in situations where different quality improvement programs are introduced with donor assistance.</p>
<p>Effectiveness</p>	<p>A series of activities including ‘National facilitator training’, ‘Dissemination of knowledge and skills to the pilot health facilities through training using the trained facilitators’, ‘Technical advice through consultation visits’, ‘promoting the implementation of 5S-KAIZEN activities at each facility’, and ‘appropriate evaluation of progress of the activities’ were appropriately conducted, and the 5S-KAIZEN-TQM approach was introduced and disseminated at the pilot health facilities. Although there are differences between the pilot health facilities, the 5S approach in Outputs 2 and 3 of the project was generally achieved, as indicated by the results of the consultation visits to the pilot health facilities. By contrast, in terms of the KAIZEN step with QC tools for problem solving, the outputs were achieved in only around half of the facilities owing to the delay in introduction due to the impact of the COVID-19 pandemic and the limited implementation of consultation visits after introduction.</p> <p>Several challenges were faced for Output 1. In particular, the expected quality management implementation structure of the MoHMS was not organized by the end of the project. In addition, it was difficult to mobilize the national facilitators trained at the beginning of the project because some of them resigned from the Ministry, and others were busy with their regular management work. Under these circumstances, trained personnel who belonged to the pilot health facilities and met the criteria were acknowledged as national facilitators. As a result, the number of national facilitators from the MoHMS remains small.</p> <p>This project educates and trains 5S-KAIZEN-TQM facilitators and establishes a systematic mechanism for implementing 5S-KAIZEN activities through Output 1, the trained personnel are utilized to train facility level for introduction of the 5S-KAIZEN approach through Output 2, and finally we are also promoting the establishment and functionalization of a quality implementation structure at the facility level through Output 3.</p> <p>As a result, in the progress reports from the pilot health facilities at the final seminar, facilities such as Sigatoka Hospital and Labasa Hospital improved operational efficiency and inventory management by improving the working environment through 5S-KAIZEN activities. Cost reduction, patient waiting time</p>

DAC Evaluation Criteria	Result
	<p>reduction, and all avoiding congestion, etc. have been reported. Based on these reports, it is considered that progress has been made in achieving the project purpose of improving the quality of services at pilot health facilities.</p>
<p>Impact</p>	<p>It is believed that this project has had a positive impact on the promotion of quality management activities in the health sector in Fiji. The project activities have been covered by the media in Fiji many times, and the top management of the Ministry of Health and Medical Services was also interested. In addition, the project was able to build a model of quality management system at the health facility level, which did not exist before the project, and have created good examples of improving the work environment using 5S-KAIZEN activities at each pilot health facility. Triggered by these quality management activities, it became clear that Divisional Medical Offices are promoting 5S activities in a wide range of areas and levels, from district hospitals to the nurse station level. This trend is particularly evident in the western division, where 101 health workers have attended 5S trainings conducted by the Western Divisional Medical Office. Through these trained staff, dissemination of the knowledge to 47 health facilities in the division has started. The dissemination progress shows that 5S activities have been introduced in all 5 sub-divisional hospitals (100%) in the division, in 16 out of 30 (63%) at the health center level and in 9 out of 26 (34%) at the nursing station level. According to the reports on each Divisional Medical Office delivered during the final seminar held in March 2023, similar movements were seen in other divisions, although the degree of progress in the dissemination efforts differs.</p> <p>In addition to the above, in light of the experience in Fiji, Vanuatu’s Ministry of Health is now also interested in the 5S-KAIZEN-TQM approach. The final seminar was conducted using a hybrid approach. In addition to Vanuatu’s Ministry of Health, invitations were extended to the ministries of health in the neighboring countries in the Pacific region through the JICA’s country offices. It is expected to have a ripple effect in terms of its role as a model for neighboring countries in the Pacific region.</p> <p>Furthermore, although the project did not involve direct interventions, the 5S-KAIZEN-TQM approach was disseminated to the medical and nursing officials of the Republic of Fiji Military Forces through the Ministry of Defense of Japan. This might have had a positive impact that exceeded the scope of this project.</p>

DAC Evaluation Criteria	Result
Efficiency	Even when the Japanese experts were unable to travel owing to the COVID-19 pandemic and therefore could not conduct the activities on site in Fiji, some activities such as training and progress report meetings were effectively and efficiently conducted online. This approach was also cost-effective. As a result, 5S-KAIZEN-TQM activities continued at most pilot health facilities, even though many of them were affected by COVID-19. In addition, to reduce variations in the progress of 5S-KAIZEN-TQM activities, additional activities such as a study tour were planned and implemented for facilitating mutual learning among the pilot health facilities. Therefore, this project is considered to have been implemented with a sufficient emphasis on efficiency. In addition, ‘improvement of work efficiency’, which is one of the aims of 5S-KAIZEN-TQM activities, was confirmed at the pilot health facilities through the endline survey.
Sustainability	Some Divisional Medical Offices have initiated their own initiatives to disseminate the 5S approach to other non-pilot health facilities within their divisions. In addition, at the end of the project, additional 5S training was conducted for non-pilot health facilities at the sub-divisional hospital level that had not introduced the 5S approach based on the request of the MoHMS. These efforts are believed to have laid the foundations for the nationwide roll-out of the 5S-KAIZEN-TQM approach, which is the overall goal of this project. In the future, the establishment of the department and the functioning of mechanisms for managing the quality of healthcare services in the MoHMS should sustain the results of this project, and the sustainability should increase.

3.2. Key Factors Affecting Implementation and Outcomes

It is a well-known fact that the COVID-19 pandemic had the greatest negative impact on implementation and outcomes during the project period. In addition, in the case of Fiji, there is no department that oversees quality management programs in the Ministry of Health and Medical Services. Also, the National Manager, Patient Safety and Quality was dealing with the project work alone as a counterpart. Under such circumstances, the counterpart, who had extensive experience in quality and patient safety, and had very good working relations with divisional medical offices resigned from MoHMS. Her successor has not been appointed yet for a long time. Furthermore, at the end of the project implementation period, the massive resignation of nurses from the MoHMS was identified as a significant problem. This was also likely to have affected the implementation and sustainability of 5S-KAIZEN activities at the pilot health facilities.

During the COVID-19 pandemic, the project activities on the ground could not be implemented. Further, the pilot health facilities had required and utilized considerable healthcare resources to respond to the

pandemic. Some pilot health facilities had to suspend 5S-KAIZEN activities because their priorities changed during this time, and the quality improvement activities that could be done during normal times could not be implemented.

Furthermore, the timing of the KAIZEN training was significantly delayed owing to the inability to dispatch the Japanese experts during the COVID-19 pandemic. Because KAIZEN training involves many practical sessions, face-to-face training increases its effectiveness. Therefore, although KAIZEN training was remotely provided to Labasa Hospital and Sigatoka Hospital during the pandemic, participants may have gained an insufficient understanding of how to practice with QC tools. Further, the time for following up of KAIZEN activities at the facilities and obtaining the desired effects of these activities was undeniably insufficient.

Owing to the absence of a counterpart for a certain period, it took time to make various decisions because no one was available to smoothly coordinate the project activities in consideration of the decision-making process of the MoHMS. After the dispatch of Japanese experts and the project activities resumed, the Chief Medical Advisor facilitated the project activities in the absence of the counterpart. The cooperation of MoHMS in successfully carrying out the planned activities was once again greatly appreciated.

In terms of this massive resignation of nurses and midwives, it was reported that 807 nurses resigned last year from the MoHMS (which has 3,056 nursing positions)¹³. In many of the pilot health facilities, it was claimed that many trained staff members who had led 5S activities had resigned. It was observed that 5S activities had stagnated in some pilot units.

3.3. Evaluation on the results of the Project Risk Management

Owing to the COVID-19 pandemic, the activities on site in Fiji were suspended for around two years from March 2020. During this time, to achieve each project output, on-site activities were promptly switched from face-to-face to remote and implemented as far as possible. Through the remotely conducted KAIZEN training and progress report meetings, we endeavored to keep the management and staff of the pilot health facilities aware of quality improvement and to continue activities without any stagnation.

The fifth consultation visit conducted from November to December 2021 revealed that the implementation progress score was temporarily decreased at all pilot health facilities. However, the 6th consultation visit conducted from July to September 2022 revealed that the score was increased; consequently, project risk management was considered to have been properly implemented.

¹³ <https://fjijisun.com.fj/2023/02/17/807-nurses-resigned-last-year/> (25th February, 2023)

3.4. Lessons Learnt

The lessons learned through the implementation of this project are as follows:

- Although most of the indicators were achieved for Output 1 of this project purpose, the project recognize that it was insufficient from the viewpoint of “ensuring the sustainability of quality management activities”. MoHMS did not establish quality management structure in place, and the decision-making body, the National Quality and Safety Improvement Committee, was virtually non-functional. The intervention for Output 1, which was intended to strengthen the QM structure at the national level was insufficient. The submission of annual quality plans and quarterly quality improvement activity reports, which the project tried to introduce and disseminate, could not be implemented because the country's quality management structure was not sufficiently developed. Based on these reflection points, regarding the dissemination and establishment of quality management activities, all Divisional Medical Offices should be involved from the beginning of the project, and strengthen the ability to support health care facilities through enhancement of monitoring and evaluation activities.
- Under the human resources employment system of MoHMS in Fiji, the degree of dissemination and establishment of quality improvement methods tends to be influenced by an individual and not by an organization. There might have been insufficient discussions with the MoHMS and Divisional Medical Offices on how to systematically disseminate and sustain the approach and its activities. Therefore, it was necessary to involve divisional medical office and cooperate with them to come up with a better solution for HRH development in terms of sustainability of quality management activities.
- One of the reasons why the introduction and dissemination of the 5S-KAIZEN-TQM approach at CWM hospital has not progressed sufficiently was that the Clinical Governance mechanism was introduced to CWM hospital by DFAT before the Project. Regarding the collaboration with the 5S-KAIZEN-TQM approach, the information was shared with the Australian consultant who were promoting Clinical Governance at the beginning of the project. However, it was difficult to have an opportunity to discuss for collaboration with the people concerned after the new consultants were appointed from the DFAT. More in-depth discussions should have been necessary with the Australian project consultants from the DFAT and the person in charge in the hospital to share information and seek collaborations through regular meetings.

4. For the Achievement of Overall Goals after the Project Completion

4.1. Prospects to Achieve Overall Goal

Regarding the overall goal of this project, “5S-KAIZEN-TQM is extended beyond the pilot health facilities.”, the National Quality Improvement committee has not yet resumed. However, according to the National Manager Clinical Governance, a request for budget allocation for the activities of the committee has been submitted to the management of MoHMS, and preparing to organize a committee meeting bi-annually. In addition, active dissemination of 5S activities to the non-pilot health facilities in each division is progressing, and therefore it is believed that the overall goal is highly likely achieved.

As the MoHMS and Divisional Medical Offices recognized the effectiveness of the 5S-KAIZEN activities and its achievements in the pilot health facilities in this project, and they have received requests for the introduction of the 5S-KAIZEN-TQM approach from many health facilities. In particular, the 5S approach was most actively disseminated under the initiative of the Western Divisional Medical Office. The introduction of the 5S approach to other non-pilot health facilities commenced after 5S training was organized by the Divisional Medical Office in cooperation with Sigatoka Hospital, which is one of the pilot health facilities. In addition, the Eastern Divisional Medical Office, which was not the target division of this project, requested the introduction of the 5S-KAIZEN-TQM approach. Accordingly, additional 5S training was conducted for the non-pilot health facilities in the Eastern, Central, and Northern divisions from 28 February to 2 March, 2023. Based on these trends, the overall goal is highly likely to be achieved.

4.2. Plan of Operation and Implementation Structure of the Fiji Side to Achieve Overall Goal

Since the 5S-KAIZEN-TQM approach has been introduced and disseminated to other non-pilot health facilities, the MoHMS and Divisional Medical Offices need to carefully manage the following issues.

4.2.1. Reformulation and Strengthening of Implementation Structure for Quality Management within MoHMS and Health Facilities

At the MoHMS level, it will be necessary to establish a dedicated department or section to oversee the quality improvement activities carried out at the health facilities, manage relevant information, and evaluate the activities based on the establishment of standards. That department or section also need to be the secretariat of National Quality/Safety Improvement Committee. At the health facility level, it is essential to establish an implementation structure to plan, implement, and sustain the quality improvement activities under the top management of the facility.

4.2.2. Development of Facilitators and Assessors

As mentioned above, at the MoHMS level, it is essential to develop facilitators who can disseminate quality improvement activities and assessors who can conduct monitoring and evaluation activities to provide technical inputs for quality improvement activities after dissemination. In addition to the utilisation of personnel in the pilot health facilities trained in this project, the MoHMS will have to develop training/education programs and train personnel who can facilitate and supervise hospital

management and quality management in cooperation with the educational and training institutions for human resources in Fiji. Critically, this program must not only train national facilitators and external supervisors but also be open to health facilities so that personnel working in the quality improvement team/unit within the facilities can use this program for capacity building.

4.3. Recommendations for the Fiji Side

(1) Establishment and Functioning of Dedicated Department of Quality Management

The MoHMS must complete several tasks for realizing quality management at the national level, such as standardisation, monitoring and evaluation of health facilities, infection prevention and control, and patient safety. Therefore, the ministries of health in many countries have established departments/sections for quality management and have adopted a team approach. By contrast, in Fiji, the MoHMS has assigned a national manager, who is in charge of patient safety and quality, to work with officials at the Divisional Medical Offices and Divisional Hospitals (tertiary level hospitals) to improve the quality improvement/management and patient safety of healthcare services in the country.

In Fiji, officials who are working for quality management are replaced in a relatively short period of time (2–3 years). This might make it difficult to accumulate institutional memory and foster a quality and safety culture in the organization. Many studies have identified the development of a culture of quality and safety in an organization as an important factor in conducting quality management activities¹⁴. In addition to the National Quality and Safety Improvement Committee, which was revived at the end of the project, it has been proposed that dedicated department and dedicated personnel for quality management be established to strengthen quality management activities in Fiji.

(2) Introduction to 5S-KAIZEN-TQM Approach into Pre-services Institutions

There is a high possibility that 5S-KAIZEN activities in healthcare facilities are also being carried out dependent on individual expertise in Fiji. In other words, there is a high possibility that the quality management activities may have stagnated or failed after the transfer or resignation of those who are actively implementing 5S-KAIZEN activities. Therefore, while it is important to provide service training to healthcare workers, introducing the 5S-KAIZEN-TQM approach into pre-service training has been proposed to enable students to acquire basic knowledge on the 5S-KAIZEN approach. The students learn actual 5S-KAIZEN activities in the health facilities during clinical practice, and they are able to continuously implement 5S-KAIZEN activities at the facilities even if they are assigned or transferred to health facilities with different levels.

¹⁴ Michael A. West (2013), “Creating a culture of high-quality care in health services”, *Global Economics and Management Review*, Vol.18, Issue 2, pp40-44

(3) Introduction of 5S-KAIZEN-TQM Approach into Orientation to Hospital Managers Before their Assignment

In many academic papers, ‘leadership and commitment of managers of health facilities’ is cited as one of the key factors promoting the introduction, dissemination, and sustaining of quality management activities in health facilities. In Fiji, this promoting factor is evident from the situation of 5S-KAIZEN activities at Sigatoka Hospital and Labasa Hospital.

In the future, it is proposed that an orientation program on facility operation management and quality management, including the 5S-KAIZEN-TQM approach, be provided to newly appointed and assigned health facility managers.

(4) Enhancement of Monitoring and Evaluation

(4)-1: Continuous Dissemination of 5S-KAIZEN-TQM Approach and Consultation Visits to Health Facilities by Divisional Medical Offices

Quality improvement activities are carried out in day-to-day work at the health facilities, and it is difficult for the MoHMS to oversee and supervise all the activities from the central level. Therefore, it is recommended that the Divisional Medical Offices, which are close to the health facilities, disseminate and supervise quality management programs within their divisions. However, to make this system work, the capabilities of the relevant officials of the Divisional Medical Offices must be developed.

- Development of 5S-KAIZEN-TQM master trainers by the MoHMS using the relevant JICA group training course
- Development of national facilitators targeting the officials of Divisional Medical Offices by the 5S-KAIZEN-TQM master trainers
- Development of personnel who are in charge of quality management at each health facility by the national facilitators
- Implementation of consultation visits within their divisions by the national facilitators
- Report and share the results of the consultation visits from the Divisional Medical Office to the MoHMS

(4)-2: Enhancement of Internal Monitoring

In the future, if the number of facilities that introduce the 5S-KAIZEN-TQM approach increases, the burden in terms of both budget and human resource for the MoHMS and Divisional Medical Offices to continue ‘external evaluations activities at each facility will increase. Further, entrusting the quality management of the healthcare services provided by the health facilities only to external evaluations hinders the foster of a culture of quality. Therefore, the facilities must enhance their internal monitoring so that all of them are responsible for their own work and quality.

(4)-3: Satisfaction Survey

In order to continue "improving the working environment through 5S activities" and "problem solving through the implementation and continuation of KAIZEN activities" at health facilities, and to achieve TQM, the three pillars of quality management, 'Patient Satisfaction', 'Staff Satisfaction' and 'Community/Society Satisfaction' should be measured regularly. Therefore, it is proposed that the MoHMS develop standardised tools for satisfaction surveys and conduct the surveys periodically. In addition, it is recommended to build a mechanism to fully analyze the results of the satisfaction survey and to use them to provide feedback to the service provider.

(5) Assignment of Dedicated Personnel for Quality Management within Health Facilities

As described in (4)-1, quality management work in health facilities is wide-ranging and cannot be done in one's spare time. As the cases in other countries show, when establishing a quality management system in a health facility, if staff are incorporated into the quality management team/unit on a part-time basis, the sustainability of the quality management work may be low, and effects cannot be expected. Therefore, when establishing a quality management system in a health facility, it is proposed to allocate dedicated staff.

ANNEX

ANNEX 1: Results of the Project

ANNEX 2: List of Products Produced by the Project

ANNEX 3: PDM (All versions of PDM)

ANNEX 1: Results of the Project

(1) List of Dispatched Experts

Experts	Actual Dispatch Period
Chief Advisor/ 5S-KAIZEN-TQM1: Hisahiro ISHIJIMA	1 st Dispatch: 9 th April to 17 th May 2019 2 nd Dispatch: 16 th March to 23 rd April 2022 3 rd Dispatch: 7 th February to 1 st April 2023
5S-KAIZEN-TQM2: Kaori NISHIKIDO	1 st Dispatch: 26 th April to 23 rd July 2019 2 nd Dispatch: 22 nd October to 13 rd December 2019 3 rd Dispatch: 31 st January to 21 st March 2020 4 th Dispatch: 16 th March to 6 th June 2021 5 th Dispatch: 14 th July to 15 th September 2022 6 th Dispatch: 3 rd February to 25 th March 2023
Project Coordinator / Baseline Survey/ End-line Survey: (Predecessor) Masashi TESHIMA (Successor) Mizuki TAKEGATA	1 st Dispatch: 9 th April to 30 th June 2019 2 nd Dispatch: 3 rd March to 9 th April 2022 3 rd Dispatch: 30 th September to 10 th December 2022 4 th Dispatch: 22 nd January to 25 th March 2023

(2) List of Counterparts

Plan	Actual
Project Director	Permanent Secretary, Ministry of Health and Medical Services
Project Manager	Clinical Governance, National Manager, Ministry of Health and Medical Services *The former title was Patient Safety and Quality

(3) Procurement of Equipment

The following equipment was procured for the office, and the equipment was handed over to the Ministry of Health and Medical Services except for one laptop computer which was broken down and demolished.

Equipment	Standard, Part Number	Quantity	Purchase Price	Remarks
Projector	Acer P1150	1	FJD999.00	Good (Handed over)
Multifunction photocopier	TOSHIBA EST2518A	1	FJD5,500.00	Good (Handed over)
Laptop computer	Lenovo V130 etc.	2	FJD4,420.00	1: Good (Handed over) 1: Broken down (Demolished)
	Acer Aspire 5 A515-56-59L5	1	FJD1,949.00	Good (Handed over)

(4) List of Trainings

Training	Period	Target	Number of Participants
5S Training for NTQM facilitators	9 th to 13 th May 2019	NTQM facilitators	16
5S Training for pilot health facilities	10 th to 12 th June 2019	Pilot health facility management and staff	33
KAIZEN Training	7 th to 12 th December 2020	QIT members of Labasa Hospital and Sigatoka Hospital	8
5S Refresher Training	14 th to 15 th April 2021	Pilot health facility management and staff	17
KAIZEN Training of Trainers	28 th March to 2 nd April 2022	Pilot health facility management and staff, DMO officers	36
5S Orientation	9 th September 2022	Staff of Ministry of Health and Medical Services	20
5S Training for non-pilot health facilities and DMO	28 th February to 2 nd March 2023	Non-pilot health facilities and DMO officers	34
Total			164

ANNEX 2: List of Products Produced by the Project

- Training Materials for NTQM facilitators
- 5S Training Materials
- Implementation Guideline for 5S-KAIZEN-TQM approach in Fiji
- Good Practices of 5S-KAIZEN Activities Booklet
- Posters
- Public Relations (Newsletter)

ANNEX 3: Project Design Matrix (All versions of PDM)

(1) Version 0

Version 0

Project Design Matrix (Draft)

Project Title: Project for Improvement of health services through 5S-KAIZEN-TQM

Implementing Agency: Ministry of Health and Medical Services

Target Group: CWM Hospital, Lautoka Hospital, Labasa Hospital, Nausori Maternity Hospital, Nausori Health Center

Pilot Health Facilities: CWM Hospital, Nausori Maternity Hospital, Nausori Health Center

Period of Project: 2017 - 2019

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
5S-KAIZEN-TQM is extended beyond target health facilities .		At least 5S is implemented at all health facilities.	Audit reports / External Monitoring and evaluation (M&E) Reports / Internal M&E Reports	
Project Purpose		1) Staff satisfaction / motivation are improved 2) Customer satisfaction is improved 3) Other performance Indicators to be fixed at baseline survey	Baseline survey End line survey	There are no major changes in the national health policy and strategies to affect implementation of the project activities.
Outputs		1) Developed Terms of Reference of national 5S-KAIZEN-TQM team 2) Developed supplementary training program for national 5S-KAIZEN-TQM team 3) XX staff of national 5S-KAIZEN-TQM team members were trained 4) Workshop/ Seminar/ Forum / Visit for sharing experience 5) Developed guidelines	1) Terms of Reference 2) Supplementary training program 3) Record of training 4) Report of workshop/Seminar/ Forum / Visit 5) Guidelines	1. Transfer and retirement of the staff of the Ministry and the target health facilities do not affect the project activities. 2. Budget for the project and 5S-KAIZEN-TQM activities are secured in the Ministry and the target health facilities.
Output 1: The capacity of national 5S-KAIZEN-TQM team is strengthened.		1) All HMT and QIT staff of three pilot health facilities were trained 2) XX staff of pilot units were trained 3) All pilot health facilities hold QIT meeting once a month All pilot health facilities hold WIT meeting once a week 4) All units of the pilot health facilities improve 5S implementation score All units at the target health facilities post XX KAIZEN stories. 5) 6 Awarding conducted (with non monetary incentive)	1) Records of training 2) Records of training 3) Minutes of Meeting (M/M) of WIT M/M of QIT 4) Audit reports / External M&E Reports / Internal M&E Reports 5) Report	
Output 2: Model activity for 5S-KAIZEN-TQM at the target health facilities is established.		1) All HMT and QIT staff of target health facilities were trained 2) All target health facilities hold QIT meeting once a month All target health facilities hold WIT meeting once a week 3) All units of the target health facilities improve 5S implementation score 4) XX Awarding conducted (with non monetary incentive)	1) Records of training 2) M/M of WIT M/M of QIT 3) Audit reports / External M&E Reports / Internal M&E Reports 4) Report	
Output 3: Organizational capacity of 5S-KAIZEN-TQM is strengthened at the selected units of the target health facilities				

Activities	Inputs	Fiji Side	Pre-Conditions
	Japanese Side		
<p>Output 1: The capacity of national 5S-KAIZEN-TQM team is strengthened.</p> <p>1-1 To review the current situation of national 5S-KAIZEN-TQM team and identify the areas to be strengthened.</p> <p>1-2 To agree on Terms of Reference of national 5S-KAIZEN-TQM team</p> <p>1-3 To review the current training program for the national 5S-KAIZEN-TQM</p> <p>1-4 To develop the supplementary training program for national 5S-KAIZEN-TQM team.</p> <p>1-5 To conduct training of national 5S-KAIZEN-TQM team members.</p> <p>1-6 To share the experiences of the pilot health facilities with other target health facilities.</p> <p>1-7 To share the experiences of the target health facilities with non target health facilities.</p> <p>1-8 To develop guidelines to roll out 5S-KAIZEN-TQM nationwide.</p> <p>Output 2: Model activity for 5S-KAIZEN-TQM at the target health facilities is established.</p> <p>2-1 To select model unit and members of QI team in the pilot health facilities.</p> <p>2-2 To prepare for training of 5S-KAIZEN for HMT and QIT of the pilot health facilities</p> <p>2-3 To conduct training of 5S-KAIZEN-TQM for HMT and QIT of the pilot health facilities</p> <p>2-3-1. To conduct 5S training</p> <p>2-3-2. To conduct KAIZEN training and introduce TQM</p> <p>2-4 To conduct training of staff of pilot units on 5S-KAIZEN by QIT.</p> <p>2-4-1. To conduct 5S training</p> <p>2-4-2. To conduct KAIZEN training</p> <p>2-5 To conduct 5S-KAIZEN activities by each unit according to the action plan.</p> <p>2-5-1. To conduct 5S activities</p> <p>2-5-2. To conduct KAIZEN activities</p> <p>2-6 To conduct regular audit of 5S-KAIZEN activities of the pilot units using 5S audit form by QIT.</p> <p>2-7 To monitor 5S-KAIZEN activities in the pilot health facilities and provide feedback to the staff by the national 5S-KAIZEN-TQM team.</p> <p>2-8 To analyze the result of monitoring and provide feedback to the pilot units in the health facilities by HMT and QIT.</p> <p>2-9 To plan and conduct activities to motivate the pilot units such as awarding.</p>	<p>[Dispatch of Experts]</p> <p>1. Chief Advisor / 5S-KAIZEN-TQM (Leadership)</p> <p>2. 5S-KAIZEN</p> <p>3. Project Coordinator / Training Management</p> <p>4. Baseline survey / End line survey</p> <p>[Equipment and Material]</p> <p>- PC, camera, projector, printer</p> <p>- Other necessary equipment for the execution of the Project's activities</p> <p>[Training / Study tour]</p> <p>- Training in Japan</p> <p>- Study tour in Sri Lanka</p> <p>[Local expenses]</p> <p>- Cost for training and workshops</p> <p>- Cost for Material development</p> <p>- Other necessary cost for the execution of the Project's activities</p>	<p>[Counterparts]</p> <p>1. Project Director</p> <p>2. Project Manager</p> <p>3. Other personnel mutually agreed upon as needed</p> <p>[Facilities and equipment]</p> <p>- Office space for the Japanese Experts in MHMS.</p> <p>- Temporary office space for Project in each health facilities</p> <p>- Facilities and equipment for training</p> <p>- Necessary equipment and materials for the project activities</p> <p>[Cost of Operation]</p> <p>- Utility cost for the Project offices</p> <p>- Personnel cost for C/P</p> <p>- Meeting cost</p> <p>- Transportation Fee</p> <p>- Part of cost for training and workshops</p>	

<p>Output 3: Organizational capacity of 5S-KAIZEN-TQM is strengthened at the selected units of the target health facilities</p>	<p>3-1. To select members of QIT in Lautoka Hospital and Labasa Hospital.</p> <p>3-2 To prepare for training of 5S-KAIZEN for HMT and QIT of Lautoka Hospital and Labasa Hospital.</p> <p>3-3 To conduct training of 5S-KAIZEN-TQM for HMT and QIT of the target health facilities</p> <p>3-3-1. To conduct 5S training for Lautoka Hospital and Labasa Hospital.</p> <p>3-3-2. To conduct KAIZEN training and introduce TQM for Lautoka Hospital and Labasa Hospital.</p> <p>3-3-3. To conduct TQM training for HMT of the target health facilities</p> <p>3-4 To conduct training of staff of Lautoka Hospital and Labasa Hospital on 5S-KAIZEN by QIT.</p> <p>3-4-1. To conduct 5S training</p> <p>3-4-2. To conduct KAIZEN training</p> <p>3-5 To conduct 5S-KAIZEN activities by each unit of Lautoka Hospital and Labasa Hospital according to the action plan.</p> <p>3-5-1. To conduct 5S activities</p> <p>3-5-2. To conduct KAIZEN activities</p> <p>3-6 To conduct regular audit of 5S-KAIZEN activities of the target units in Lautoka Hospital and Labasa Hospital using 5S audit form by QIT</p> <p>3-7 To monitor 5S-KAIZEN activities in Lautoka Hospital and Labasa Hospital and provide feedback to the staff by the national 5S-KAIZEN-TQM team</p> <p>3-8 To analyze the result of monitoring and provide feedback to the target units in Lautoka Hospital and Labasa Hospital by HMT and QIT.</p> <p>3-9 To plan and conduct activities to motivate the target units in Lautoka Hospital and Labasa Hospital such as awarding.</p>
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(2) Version 1

Version 1

Project Title: Project for Improvement of health services through 5S-KAIZEN-TQM

Implementing Agency: Ministry of Health and Medical Services

Pilot Health Facilities: CWM Hospital, Nausori Maternity Hospital and Nausori Health Center, Sigatoka Hospital, Labasa Hospital, Valevu Health Center, and Fiji Pharmaceutical and Biomedical Services

Period of Project: 2019 - 2022

Overall Goal	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
5S-KAIZEN-TQM is extended beyond the pilot health facilities.	National Quality Improvement committee is well established to ensure implementation and sustainability of 5S-KAIZEN-TQM activities in the country.	National Quality Improvement committee is well established to ensure implementation and sustainability of 5S-KAIZEN-TQM activities in the country.	<ol style="list-style-type: none"> 1) MOHMS Operational Plan 2) Annual Work Plan of National Quality Improvement committee (NQIC) 3) Budget document of activity for NQIC 4) Annual Work Report of NQIC 	
Project Purpose Quality of health services is improved in the pilot health facilities.	<ol style="list-style-type: none"> 1) Staff satisfaction is improved. 2) Customer satisfaction is improved. 	<ol style="list-style-type: none"> 1) Staff satisfaction is improved. 2) Customer satisfaction is improved. 	Baseline survey End line survey Annual Report of Feedback from the facilities	There are no major changes in the national health policy and strategies to affect implementation of the project activities.
Outputs Output 1 : The capacity of national TQM (NTQM) facilitators is strengthened.	<ol style="list-style-type: none"> 1) Roles and Responsibilities of NTQM facilitators is developed. 2) The implementation guideline for 5S-KAIZEN-TQM approach is developed. 3) All the participants in the NTQM facilitators' training obtain over 75% of score in the post assessment. 4) Consultation visits are conducted by the NTQM facilitators bi-annually to the pilot health facilities. 	<ol style="list-style-type: none"> 1) Roles and Responsibilities of NTQM facilitators 2) Guidelines 3) Record of training 4) Report on the consultation visits 	<ol style="list-style-type: none"> 1) Roles and Responsibilities of NTQM facilitators 2) Guidelines 3) Record of training 4) Report on the consultation visits 	<ol style="list-style-type: none"> 1. Transfer and retirement of the staff of the Ministry and the pilot health facilities do not affect the project activities. 2. Budget for the project and 5S-KAIZEN-TQM activities are secured in the Ministry and the pilot health facilities.
Output 2: Model activity for 5S-KAIZEN-TQM at the pilot health facilities is established.	<ol style="list-style-type: none"> 1) In-house training mechanism is established in all pilot health facilities. 2) All selected pilot units at the pilot health facilities obtain more than 70% of evaluation score on 5S activities. 3) At least one KAIZEN case at each pilot health facility 	<ol style="list-style-type: none"> 1) In-house training mechanism is established in all pilot health facilities. 2) All selected pilot units at the pilot health facilities obtain more than 70% of evaluation score on 5S activities. 3) At least one KAIZEN case at each pilot health facility 	<ol style="list-style-type: none"> 1) Consultation visit report 2) Baseline/Endline Surveys 3) Project Completion Report 	
Output 3: Organizational capacity of 5S-KAIZEN-TQM is strengthened at the pilot health facilities.	<ol style="list-style-type: none"> 1) Establishment of relevant committee, unit and teams for quality improvement (hereinafter referred to as "Quality Improvement Team (QIT)" and Work Improvement Teams (WITs) in all pilot health facilities. 2) Roles and Responsibilities of QIT and WITs are developed in all pilot health facilities. 3) Annual QI plan and quarterly QI reports are produced and submitted to the relevant authorities. 4) Internal Monitoring and Evaluation of 5S-KAIZEN-TQM activities are conducted quarterly. 5) All pilot health facilities obtain more than 70% of average evaluation score on 5S activities. 	<ol style="list-style-type: none"> 1) Consultation visit report 2) Baseline/Endline Surveys 3) Project Completion Report 4) Annual QI plan and quarterly QI report 	<ol style="list-style-type: none"> 1) Consultation visit report 2) Baseline/Endline Surveys 3) Project Completion Report 4) Annual QI plan and quarterly QI report 	

Activities	Inputs	Pre-Conditions
<p>Output 1: The capacity of national TQM (NTQM) facilitators is strengthened.</p> <p>1-1 To select and establish NTQM facilitators</p> <p>1-2 To agree on Roles and Responsibilities of NTQM facilitators</p> <p>1-3 To review and develop the training program for NTQM facilitators</p> <p>1-4 To conduct training on 5S-KAIZEN-TQM to NTQM facilitators</p> <p>1-5 To assess the level of skills and understanding on 5S-KAIZEN-TQM of NTQM facilitators</p> <p>1-6 To share the experiences of the pilot health facilities with other pilot health facilities</p> <p>1-7 To share the experiences of the pilot health facilities with non pilot health facilities</p> <p>1-8 To review and develop the 5S-KAIZEN-TQM implementation guidelines to roll out 5S-KAIZEN-TQM nationwide</p>	<p>Japanese Side</p> <p>[Dispatch of Experts]</p> <ul style="list-style-type: none"> 1. Chief Advisor / 5S-KAIZEN-TQM 1 2. 5S-KAIZEN-TQM 2 3. Project Coordinator / Baseline Survey / Endline Survey <p>[Equipment and Material]</p> <ul style="list-style-type: none"> - PC, camera, projector, printer - Other necessary equipment for the execution of the Project's activities <p>[Training]</p> <ul style="list-style-type: none"> - Training in Japan <p>[Local expenses]</p> <ul style="list-style-type: none"> - Cost for training and workshops - Cost for Material development - Other necessary cost for the execution of the Project's activities 	<p>Fiji Side</p> <p>[Counterparts]</p> <ul style="list-style-type: none"> 1. Project Director 2. Project Manager 3. Other personnel mutually agreed upon as needed <p>[Facilities and equipment]</p> <ul style="list-style-type: none"> - Office space for the Japanese Experts in MHMS - Temporary office space for Project in each health facilities - Facilities and equipment for training - Necessary equipment and materials for the project activities <p>[Cost of Operation]</p> <ul style="list-style-type: none"> - Utility cost for the Project offices - Personnel cost for C/P - Meeting cost - Transportation Fee - Part of cost for training and workshops
<p>Output 2: Model activity for 5S-KAIZEN-TQM at the pilot health facilities is established.</p> <p>2-1 To review and reselect the pilot health facilities</p> <p>2-2 To visit the selected pilot health facilities for introduction of the project and selection of the pilot units</p> <p>2-3 To introduce project outline and concept of 5S-KAIZEN-TQM approach to the Ministry leaders and the institutional heads</p> <p>2-4 To provide technical support for 5S-KAIZEN training of staff of pilot units by QIT</p> <p>2-4-1 To provide technical support on 5S training conducted by QIT</p> <p>2-4-2 To provide technical support on KAIZEN training conducted by QIT</p> <p>2-5 To provide technical support to the pilot health facilities through the consultation visits</p> <p>2-6 To oversee the progress of 5S-KAIZEN-TQM activities in the pilot health facilities through quarterly and annual reports</p>		

<p>Output 3: Organizational capacity of 5S-KAIZEN-TQM is strengthened at the pilot health facilities.</p> <p>3-1 To guide the selection of members of QIT and WITs and establishment of QIT and WITs in the pilot health facilities</p> <p>3-2 To conduct training of 5S-KAIZEN-TQM for QIT of the pilot health facilities</p> <p> 3-2-1 To conduct 5S training</p> <p> 3-2-2 To conduct KAIZEN training</p> <p>3-3 To orient the development of roles and responsibilities of QIT and WITs</p> <p>3-4 To develop the QI planning and reporting templates</p> <p>3-5 To disseminate the QI planning and reporting templates during the 5S and KAIZEN training</p> <p>3-6 To provide technical support to the pilot health facilities through the consultation visits</p> <p>3-7 To provide the technical support to develop the QI annual plan from the pilot health facilities</p> <p>3-8 To conduct a mid-term review meeting to share good practices from the pilot health facilities</p> <p>3-9 To conduct a final seminar to share experience of the pilot health facilities to the Ministry leaders and the institutional heads (divisional level and selected sub-divisional)</p>		
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