Republic of Burundi

Ex-Post Evaluation of Technical Cooperation Project

"The Project for Strengthening Capacities of Prince Regent Charles Hospital and Public Health Centers in Bujumbura City for Improvement of Mother and Child Health"

External Evaluator: Makoto Tanaka, ICONS Inc.

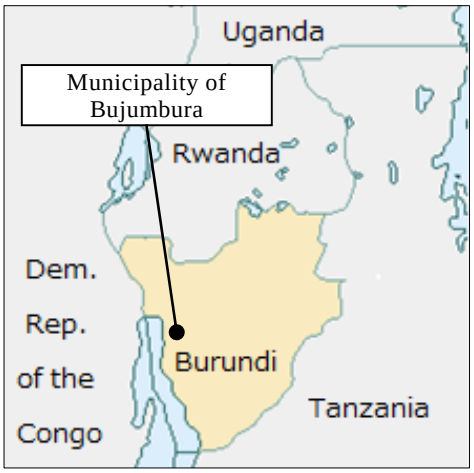
0. Summary

This project was conducted in order to materialize improved operation and management, and to put into action patient-centered maternal and neonatal care through 5S[1] activities at Prince Regent Charles Hospital (hereinafter referred to as "HPRC") and 9 Health Centers (hereinafter referred to as "HC") in the Municipality of Bujumbura, Burundi's capital. The project activities were consistent with Burundi's national development policy, in which the improvement of maternal and neonatal care was addressed. It was a priority to reduce the maternal mortality ratio and child mortality rate that were important issues in Burundi. The project also aligned with Japan's ODA policy for Burundi, which had the improvement in basic living environment as a pillar. Therefore, its relevance is high. The project enhanced the leadership abilities of managers, thereby, improving work environments through 5S activities, further developing knowledge and skills among nursing staff, and continuously implementing preventive maintenance of medical equipment. These activities resulted in the improvement of operation and management of the targeted facilities and the implementation of patient-centered maternal and neonatal care. Therefore, both its effectiveness and impact are high. Although the project was completed within the planned timeframe, the project cost exceeded the planned one. Therefore, its efficiency is fair. The target facilities have developed a monitoring system and transfer of the techniques beyond a certain level. The improvement of maternal and child health remains one of the national issues of high priority, for which the government of Burundi continues to allocate the necessary budget. Therefore, its sustainability is high.

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

[1] 5S stands for Seiri, Seiton, Seiso, Seiketsu and Shitsuke in Japanese, which are Sort, Set, Shine, Standardize and Sustain respectively. Seiri (Sort) is to remove unused stuff from your venue of work; and reduce clutter (Removal organization). Seiton (Set) is to organize everything needed in proper order for easy operation (orderliness). Seiso (Shine) is to maintain high standard of cleanness (Cleanness). Seiketsu (Standardize) is to set up the above three Ss as norms in every section of your place (Standardize). Shitsuke (Sustain) is to train and maintain discipline of the personnel engaged (Discipline) (Source: JIS Z 8141:2001 "Glossary of terms used in production management").

1. Project Description



Project Location

Prince Regent Charles Hospital (HPRC)

1.1 Background

Due to the civil war that lasted over a decade since 1993, medical and health facilities in the Republic of Burundi (hereinafter referred to as "Burundi") have been deteriorating and the quality of their service has also been a big challenge in the country. Among the several problems in the health sector, the Burundian government prioritizes the reduction of Maternal Mortality Ratio (MMR) and Infant Mortality Rate (IMR), and the improvement of access to medical services and their quality by the year 2015. In this regard, the Burundian government requested a technical cooperation project — "The Project for Strengthening Capacities of HPRC and Public Health Centers in Bujumbura City for Improvement of Mother and Child Health" (hereinafter referred to as "the Project") — to the government of Japan. In response to the request, Japan International Cooperation Agency (hereinafter referred to as "JICA") launched the three year project from January 2009 to January 2012 having the Ministry of Public Health and Fight against AIDS (Hereinafter referred to as "MOPH") of Burundi as a counterpart (C/P) organization.

1.2 Project Outline

Overall Goal		Quality of services for maternal and neonatal care is improved at the targeted facilities.
Project Purpose		Patient-centered maternal and neonatal care is practiced under improved management at HPRC and targeted health centers.
Outputs	Output 1	Leadership of the top and middle class managers is fostered at HPRC and targeted health centers, involving directors of facilities and heads of all departments & units.
	Output 2	Work environment for maternal & neonatal care is improved through practicing 5S activities under the leadership of directors.
	Output 3	Preventive maintenance of medical equipment is continuously practiced with full participation of health staff in the targeted facilities.
	Output 4	Knowledge and skills of nursing staff (including midwives) are upgraded for maternal & neonatal care at the targeted facilities.
Total cost (Japanese Side)		290 million yen
Period of Cooperation		January, 2009 – January, 2012
Implementing Agency		Ministry of Public Health and Fight against AIDS
Supporting Agency/Organization in Japan		National Center for Global Health and Medicine (Cooperation in operational direction surveys, etc.)
Related Projects		➢ Technical Cooperation Project: "Project for Capacity Building of Provincial Health Staff for Maternal and Child Health" (2013-2017) ➢ Grant Aid: "The Project for Improvement of Health Facilities in Bujumbura City" (2009-2010) ➢ World Health Organization (WHO): assistance for policies, assistance to the reduction of MMR and IMR, assistance for strengthening reproductive health ➢ United Nations Children's Fund (UNICEF): assistance for policies, assistance to the prevention of mother-to-child transmission of HIV/AIDS, vaccination, etc.

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose at the time of the Terminal Evaluation

The Project Purpose was expected to mostly meet the target by the end of the Project, January 2012. At the time of the Terminal Evaluation, since all the indicators were almost achieved, in spite that PBF (Performance Based Financing, hereinafter referred to as "PBF")[2] scores for HCs were not available, and the achievement of the Indicator c) could not be confirmed.

[2] PBF, Performance Based Financing, is a system that was adopted by MOPH at April 2010 after test adoption from 2006. The activities of each facility under the jurisdiction of MOPH are evaluated with indicators designated by MOPH (e.g. the number of deliveries). The budget of such facilities consists of two portions: the "minimum package of activities" (PMA) that is granted regardless of the evaluation and the "complementary package of activities" (PCA) or bonus portion that is granted in January, April, July, and October of each year depending on the results of the evaluation.

1.3.2 Achievement Status of Overall Goal at the time of the Terminal Evaluation

If the Burundian side maintains the effects of the Project and continues the initiatives started by the Project, the Overall Goal is more likely to be achieved in three years after the completion of the Project. However, the Terminal Evaluation team thought that among the five Indicators to measure the achievement of the Overall Goal, the Indicator d) "100% of normal deliveries are practiced based on the Normal Delivery Care Checklist" ought to be revised.

1.3.3 Recommendations at the time of the Terminal Evaluation

There are 19 recommendations at the time of the Terminal Evaluation. This report quotes 5 of them that are strongly related to the Ex-post Evaluation[3].

- To the 5S committees at the Provincial Health Office (hereinafter referred to as "BPS")[4] and HPRC: Each 5S committee meeting at BPS and HPRC is recommended to be held every three months, and should submit the monitoring report to the National 5S Committee.
- Ditto: The Working Improvement Team (hereinafter referred to as "WIT") meetings shall be held periodically so that the function of the WIT is consolidated in the 5S activity framework, and WIT members can lead and encourage other staff with strong leadership.
- To the National 5S Committee: The National 5S Committee shall share the monitoring results submitted by the 5S committees at BPS and HPRC with the relevant departments of MOPH for technical supervision.
- To the Project and MOPH: It is suggested that MOPH should carry out the same survey that will be included in the planned ex-post evaluation after a year of the Project's termination by the National 5S Committee, with the support of MOPH (i.e., EPISTAT and/or INSP).
- Ditto: Indicator d) of the Overall Goal "100% of normal deliveries are practiced based on the 'Normal Delivery Care Checklist'" should be modified, since those who get accustomed to the delivery procedures are not necessarily required to fill in the Checksheet.

[3] The expression is partly revised and reduced for the convenience of quotation.
[4] In the Municipality of Bujumbura, there exist three District Health Offices (BDS): North, Central and South. The North BDS has jurisdiction over 4 of the 9 targeted HCs, Buterere, Kamenge, Mutakura and Ngagara, while the Central over 2, Bwiza-Jabe and Buyenzi and the South over 3, Kanyosha, Musaga and Ruziba. BPS of the Municipality of Bujumbura unifies these three BDSs.

2. Outline of the Evaluation Study

2.1 External Evaluator

Makoto Tanaka, ICONS Inc.

2.2 Duration of the Evaluation Study

Duration of the Study: August, 2014 – August, 2015

Duration of the Field Study: October 27, 2014 – November 12, 2014, and February 15, 2015 – February 23, 2015

3. Results of the Evaluation (Overall Rating: A[5])

3.1 Relevance (Rating: ③[6])

3.1.1 Relevance to the Development Plan of Burundi

When this project was planned, the Government of Burundi enforced the "National Health Policy (2005-2015)", the "National Health Development Plan (2006-2010)" and the Decree on revision of "Subsidies for children younger than 5 years and deliveries performed in public health facilities and similar facilities[7] (June 2006)" to promote the qualitative improvement of maternal and child care and the expansion of access. The project aimed to materialize patient-centered care through the improvement of the working environment in the target facilities, to improve the quality of childbirth and neonatal care service, and also to improve access to these services all over the Municipality of Bujumbura, which supported the policy and programs by the Government of Burundi.

At the time of the project completion, the "National Health Policy (2005-2015)" and the "National Health Development Plan (2011-2015)" designated the reduction of the child mortality rate and maternal mortality ratio as important issues. The aim of the "National Health Development Plan" was to solve these problems by directing the three steps of (1) the improvement of care, (2) the improvement of maternal and child health, and (3) the reduction of the child mortality rate and maternal mortality ratio. The project contributed to the solving of important issues, and the reduction of the child mortality rate and maternal mortality ratio, with an aim to improve the working environment in health facilities and materialize patient-centered care.

3.1.2 Relevance to the Development Needs of Burundi

The ex-ante evaluation survey of this project clarified the following problems as the background of maternal and child health in Burundi.

[5] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

[6] ③: High, ②: Fair, ①: Low

[7] Decree No. 100/38 of 16 March 2010 on the revision of subsidies for children under five years and deliveries performed in public health facilities and similar facilities.

[Political aspects]

① The quantity and quality of care was insufficient due to the lack of facilities, equipment, and manpower.

② Referral and counter-referral systems which provide appropriate care corresponding to patients' needs had not yet been established.

[On-site in facilities]

③ Comprehensive working environment is not adequately prepared to provide maternity care.

④ Proper techniques and knowledge of the preventive maintenance of equipment is insufficient. Such knowledge is important for the purpose of avoiding disorder and misuse of medical equipment.

⑤ Nurses and midwives knowledge and awareness of care procedures is insufficient to ensure the performance of safe deliveries which would secure the patients' peace of mind, etc.

This project fostered leadership, raised awareness for improving the working environment with 5S, developed working capacity and strengthened preventive equipment maintenance capacity, especially focusing on ③, ④ and ⑤, above. It was originally planned to promote the improvement of maternal care by directly addressing on-site issues related to maternal care, as well as building environment, in order to materialize patient-centered care that places a priority on the needs of expectant mothers. The plan was conceived as an effective strategy that could provide results in a short period of 3 years.

Medical equipment was provided to facilities (including the target facilities in this project), under a Grant Aid named "The Project for Improvement of Health Facilities in Bujumbura City" (Hereinafter referred to as "ADEM") that was implemented from 2009 to 2010 during the period of this project. ADEM and this project are related in the original plans. This project is expected to let the Burundian side learn those methods for proper use and maintenance of the equipment provided under ADEM. Therefore, the activities regarding equipment maintenance in this project correspond to the need for follow-up instruction concerning equipment maintenance.

3.1.3 Relevance to Japan's ODA Policy

When this project was planned, Japan's ODA policy for Burundi mainly consisted of two pillars: "the fixation of peace" and "the improvement of basic living environments". The activities of this project were expected to contribute mainly to the second 'pillar'.

This project was highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Effectiveness and Impact[8] (Rating: ③)

3.2.1 Effectiveness

3.2.1.1 Project Output

This project targeted the HPRC and 9 HCs, and aimed to improve management at the target facilities (environmental improvements) and to cultivate patient-centered maternal and child care by: fostering the leadership skills of managers (Output 1); improving the working environment on maternal and child care under that leadership through 5S activities (Output 2); upgrading the knowledge and skills of nursing staff (Output 4); and, continuously practicing the preventive maintenance of medical equipment (Output 3). These 4 Outputs have been achieved or almost achieved. The achievement of each Output is shown in Table A1 at the end of this document.

3.2.1.2 Achievement of Project Purpose

The achievement of the Project Purpose is shown in Table 1. Each indicator of the Project Purpose was almost achieved at the time of the Terminal Evaluation. Concerning Indicator c), it was found that PBF scores in maternity/obstetric services achieved higher levels after the completion of the project.

Table 1. Achievement of Project Purpose

Project Purpose	Indicator	Actual
(3 years after the start of the project, around 2011) Patient-centered maternal and neonatal care[9] is practiced under improved management at HPRC and targeted health centers.	a) Working environment at the target facilities is improved. (The average score of 'Monitoring and Evaluation on the Progress of 5S Activity' at all targeted facilities exceeds 60%.)	Upon the completion of the Project, the score of 'Monitoring and Evaluation on the Progress of 5S Activity' at the 9 targeted HCs exceeded 60%. Since the score at HPRC was 59%, it can be said that this indicator is almost achieved, if not completely (see Table 2).
	b) The number of mothers who gives positive answers of being fully attended by health personnel and family all through their delivery process increases after 'Normal Delivery Care Checklist' is introduced.	It is judged that this indicator has been achieved upon completion of the project, since it has been almost achieved already at the time of the Terminal Evaluation.
	c) The PBF (Performance-Based Financing) scores on maternity/obstetric services at all target facilities increase.	It is determined that this indicator was achieved, since the PBF scores achieved high levels at Buterere, Kamenge, Kanyosha, Musaga and Mutakura HCs, where the scores before and after the completion of the Project can be compared (see Table 3).

[8] Sub-rating for Effectiveness is to be put with consideration of Impact.

[9] In this project, 'Patient-centered care' is defined as the care that focuses primarily on securing peace of mind and mitigating both mental and physical burdens for patients.

Scores for the "Monitoring and Evaluation on the Progress of 5S Activity" in Indicator a) and PBF scores in maternity/obstetric services in Indicator c) are shown in Tables 2 and 3 respectively. It can be said from Table 2 that Indicator a) has nearly been achieved, (although the score of HPRC in August 2011 does not exceed 60% as designated in Indicator a)). In Table 3, PBF scores are low in HCs in those years when they started to offer maternal and child health services. It is thought that it was difficult to achieve PBF evaluation indicators such as the numbers of deliveries and maternal consultations since those HCs were not familiar with providing services, and those PBF goals are automatically assumed to be taken from estimates based on the population under jurisdiction[10].

Table 2. Scores of "Monitoring and Evaluation on the Progress of 5S Activity"

(Unit: %)

Facilities	March 2009	August 2011
HPRC	39	59
Buterere HC	35	74
Bwiza-Jabe HC	37	74
Buyenzi HC	46	72
Kamenge HC	66	71
Kanyosha HC	36	65
Musaga HC	40	72
Mutakura HC	35	65
Ngagara HC	39	74
Ruziba HC	20	67

(Source) documents provided by JICA

Table 3. PBF scores in maternity/obstetric services

(Unit: %)

Facilities	2010	2011	2012
Buterere HC	84	57	99
Bwiza-Jabe HC	–	–	–
Buyenzi HC	–	–	–
Kamenge HC	100	98	99
Kanyosha HC	92	93	100
Musaga HC	88	96	98
Mutakura HC	–	20	81
Ngagara HC	–	–	–
Ruziba HC	–	–	79

(Source) data by PBF

According to the data above, the project achieved its purpose.

3.2.2 Impact

3.2.2.1 Achievement of the Overall Goal

The achievement of the Overall Goal is shown in Table 4. For evaluation purposes, it is thought that Indicators d) and e) should receive more emphasis, since Indicators a), b) and c) depend greatly on the population and health status of expectant mothers, etc. as well as the qualitative improvement of maternal and child care in HPRC and the target HCs.

[10] For example, The PBF monthly target value for the number of deliveries in an HC is determined as the product of the population under its jurisdiction, the number of deliveries per year per population and the rate of pregnant women who use it, divided by 12 (months/year). The rates are decided under nationwide common assumptions: the number of deliveries per year is 5 per 100 inhabitants and the rate of pregnant women who use HCs is 80%. In the case of Ngagara HC that started providing maternal services in November 2013, and having a population of 34,110 under its jurisdiction, the target value of the number of deliveries is 34,110 × 0.05 × 0.80 ÷ 12 = 114 per month and 114 × 12 = 1,368 per year, while the results were 2 in the year, 1 in November and 1 in December. The achievement rate was 1 ÷ 114 × 100 = 0.88% in each month and 2 ÷ 1,368 × 100 = 0.15% in the year. The PBF scores will be determined from these achievement rates (Source: data by PBF).

Table 4. Achievement of the Overall Goal

Overall Goal	Indicator	Actual
(3 years after the termination of the project, 2014) Quality of services for maternal and neonatal care is improved at the targeted facilities.	a) The number of deliveries at the targeted health centers increases.	The number of deliveries at the targeted HCs continues to increase up to 2012 (see Table 5).
	b) The number of beneficiaries of antenatal care (ANC) and postnatal care (PNC) at the targeted health centers increases.	The number of maternal care cases at the targeted HCs continues to increase (see Table 6).
	c) The number of referral cases with obstetric complication to hospitals from the targeted health centers increases.	Sufficient data concerning the number of referral cases could not be obtained.
	d) 100% of normal deliveries are practiced based on "Normal Delivery Care Checklist".	The average utilization rate of the 'Normal Delivery Care Checklist' at normal deliveries at HPRC and at 4 HCs was 25.5% in July 2011 and 39.4% in August 2011[11]. Not enough data could be obtained for the period afterward.
	e) The rate of positive answers to each question from the mothers in the patient satisfaction survey will reach 75%.	According to yes-no surveys implemented by MOPH from 2011 to 2012, the rate of positive answers from mothers exceeded 75% (see Table 7). Mothers coming to the HCs were directly interviewed in this Ex-post Evaluation survey. Its result shows that the satisfaction is generally high from the viewpoint of patients as well (see Tables 8 and 9).

The number of deliveries in Indicator a) and the number of recipients of antenatal care in Indicator b) at the 9 target HCs since 2011 are shown in Tables 5 and 6, respectively. According to these tables, the number of patients receiving antenatal care in Indicator b) continues to increase through 2014, whereas the rate of increase or decrease of those patients receiving postnatal care is not clear and the number of deliveries in the 9 target HCs in Indicator a) decreased from 2013 through 2014. According to the results of interviews with the HCs, this is because there was an increase in the number of expectant mothers since 2013 who give birth at hospitals after receiving antenatal care at nearby HCs. It is thought that this was affected by the government policy that provides for free medical care[12], and also the improvement of security and traffic conditions in the Municipality of Bujumbura.

[11] Source: Terminal Evaluation Report, pp. 20-21.
[12] A presidential decree in 2002 declared that medical services were free of charge for pregnant women and children younger than 5 years.

Table 5. Number of deliveries at the 9 targeted HCs

Health Centers	2011	2012	2013	2014
Buterere	463	1,011	1,256	1,030
Bwiza-Jabe	0	0	58	278
Buyenzi	0	0	0	13
Kamenge	582	687	660	519
Kanyosha	984	881	477	428
Musaga	185	204	224	211
Mutakura	11	398	414	298
Ngagara	1	0	2	13
Ruziba	0	251	317	347
Total	2,226	3,432	3,408	3,137

(Source) data by PBF

Table 6. Number of maternal care cases at the 9 targeted HCs

Health Centers	Antenatal care (ANC)				Postnatal care (PNC)			
	2011	2012	2013	2014	2011	2012	2013	2014
Buterere	1,908	2,521	4,538	4,354	12	258	677	564
Bwiza-Jabe	6,318	9,890	10,453	10,411	141	490	667	485
Buyenzi	8,673	7,571	8,146	6,919	847	1,068	76	5
Kamenge	7,437	9,705	10,875	12,877	43	52	57	46
Kanyosha	3,896	4,416	4,042	3,546	260	198	73	99
Musaga	3,466	3,154	3,540	3,834	244	329	68	36
Mutakura	4,091	4,280	4,328	4,752	6	1	20	620
Ngagara	2,727	2,769	3,162	3,359	48	31	7	28
Ruziba	1,534	1,777	1,978	2,523	202	57	34	25
Total	40,050	46,083	51,062	52,575	1,783	2,484	1,679	1,908

(Source) data by PBF

For Indicator c), its achievement cannot be judged since sufficient data for the number of referrals were not obtained.

For Indicator d), it is certain that the utilization rate of the Normal Delivery Care Checklist was not 100%, although sufficient data were not obtained after the Terminal Evaluation (October 2011). However, according to the evaluator's observation, and the results of interviews with the HCs, the fact that the rate did not reach 100% is greatly affected by factors outside the scope of this project- one staff member cannot observe all stages of a delivery and countersign since he/she may have to deal with multiple deliveries at the same time, etc. Such factors preceded the start of the project, and have not changed during the project period. Considering these circumstances, the evaluator believes that it is not appropriate to determine that the Overall Goal was not achieved solely by the fact that Indicator d) was not achieved, and that it can be judged that the staff members use the Normal Delivery Care Checklist if they provide care following the procedure as described in the checklist. The staff members at the target facilities understand the contents of the Normal

Delivery Care Checklist and practice delivery care with the checklist affixed to the wall or placed on the side of the delivery table. It was then confirmed that their technical skills reached the levels where they could at least follow the contents described in the checklist. It is judged that Indicator d) has almost been achieved.

For Indicator e), the percentage of positive answers from mothers in the yes/no investigation implemented by MOPH is shown in Table 7. This project's plan was for MOPH to implement a beneficiary survey by using a questionnaire in French, which was prepared as part of the project. However, during interviews with MOPH it was found that such surveys had not been performed. During the Ex-post Evaluation a beneficiary survey was conducted from 12 to 27 January 2015 using the same French questionnaire, and mothers actually coming to the facilities were asked to respond to it with explanations in the local language[13]. As shown in Table 8, answers were collected from 114 mothers who had given birth from 15 July 2010 to 9 January 2015 at HPRC and the target HCs (except Buyenzi and Bwiza-Jabe). The mothers' responses are shown in Table 9.

Table 7. Percentage of positive answers from mothers in the investigation by MOPH on their satisfaction with health facilities

(Unit: %)

Facilities	1st trimester 2011	2nd trimester 2011	3rd trimester 2011	4th trimester 2011	1st semester 2012	2nd semester 2012
Buterere HC	92	92	82	95	88	87
Kamenge HC	86	94	100	94	93	95
Mutakura HC	91	98	96	93	90	92
Ngagara HC	88	93	93	98	98	92
Bwiza-Jabe HC	92	89	3	93	96	76
Buyenzi HC	94	88	94	98	98	95
Kanyosha HC	83	88	90	91	100	93
Musaga HC	100	100	93	95	97	93
Ruziba HC	98	96	90	95	81	92

(Source) data by Bujumbura Municipality Provincial Verification and Validation Committee (CPVV)

[13] The official languages of Burundi are French and Kirundi. Almost all Burundian nationals are native speakers of Kirundi. Even people who do not learn French or who are illiterate are capable of communicating conversationally in Kirundi.

Table 8. Facilities where samples were collected

Facilities	Number of samples	Area	Area total
Kamenge HC	11	Northern	37
Mutakura HC	12	Northern	
Ngagara HC	1	Northern	
Buterere HC	13	Northern	
HPRC	48	Central	48
Musaga HC	5	Southern	29
Kanyosha HC	11	Southern	
Ruziba HC	13	Southern	
Grand total			114

Table 9. Results of the beneficiary survey of mothers who experienced deliveries at the targeted facilities on their satisfaction with the care from nurses (number of answers to questions)

(Number of samples: 114)

Question[1)]	Yes	No	Not necessary[2)]	Unclear[3)]	No answer
① Welcomed me with smiles.	110	4	–	0	0
② Helped me when I walked.	98	15	–	1	0
③ Explained the health conditions.	109	5	–	0	0
④ Helped me lying on the bed of labor room.	110	1	3	0	0
⑤ Sometimes encouraged me during delivery.	102	11	–	0	1
⑥ Taught me how to breathe, etc.	110	4	–	0	0
⑦ Suggested me to take light meal and water.	61	29	24	0	0
⑧ Let me take a comfortable position.	87	22	–	3	2
⑨ Laid my baby on top of my stomach.	75	39	–	0	0
⑩ Taught me to keep holding my baby.	57	15	41	0	0
⑪ Celebrated with me after the delivery.	104	10	–	0	0
⑫ Explained the procedure to me beforehand.	98	16	–	0	0
⑬ Taught me health care.	104	10	–	0	0

1) The questions listed here are condensed. See the footnote[14] for the complete ones.

2) Designating the circumstances where the indicated service was not necessary in questions ④, ⑦ and ⑩. For example, "directly entered the delivery room after coming to the HC, not entered the antenatal care room" for question ④, "had no time to take light meal and water due to short labor pains" for question ⑦, "the baby weighed not less than 2,500 g and the mother brought baby clothes" for question ⑩, etc.

3) Including "Cannot understand the question".

[14] The complete questions are as follows (the following are English translations that the Project translated from the original ones that are in French (Source: documents provided by JICA)).

① Welcomed me with smiles.
② Helped me when I walked.
③ Explained the health condition of mother and child after the consultation.
④ Helped me to lie on the beds in the labor room.
⑤ Sometimes encouraged me during delivery.
⑥ Taught me how to breathe and push at the time of delivery.
⑦ Suggested for me to take light meals and water during labor pains.
⑧ Let me take a comfortable position at the time of delivery.
⑨ Laid my baby on of my stomach right after the delivery.
⑩ Taught me to keep holding my baby until putting in the incubator (baby less than 2,500 g).
⑪ Celebrated with me after the delivery.
⑫ Explained to me the procedure beforehand.
⑬ Taught me health care after the delivery and child care.

Based on the above, the project has achieved its overall goal.

3.2.2.2 Status of the expression of Outputs and Project Purpose (from the point of completion to the time of the Ex-post Evaluation)

After the completion of this project until the time of the Ex-post Evaluation, the 4 Outputs continues to express results. The improvement of working environments (Output 2) and the preventive equipment maintenance (Output 3) under the leadership of managers (Output 1) resulted in the achievement of "improved management at HPRC and targeted HCs" in the Project Purpose. Under such management, the staff members practice "patient-centered care" in the Project Purpose by demonstrating the knowledge and skills acquired in the project (Output 4). It was confirmed that for the former, 5S activities continued to show positive effects, and for the latter, PBF scores in maternity/obstetric services and patients' satisfaction remain high as shown in Table 3.

3.2.2.3 Other Impacts

This project was connected with ADEM from the beginning. ADEM supplied and installed medical equipment in all the facilities targeted in this project and also at two other hospitals in 2010. This equipment was supplied when it became necessary for the activities of this project. The Burundian side learned the methods to utilize and maintain the equipment supplied through this project. Therefore, it can be said that both projects contributed to each other to show their effects.

Indirect effects are as follows. According to HPRC, the plan-do-evaluate cycle of PBF became operational during the 4 years after its introduction, in addition to raising interest in 5S activities. Ruziba HC pointed out that its working environment became standardized and more orderly. On the other hand, with respect to 5S, it was confirmed that efforts to disseminate the effects of the project to other public hospitals and HCs in the country are being made, such that the National 5S Committee has become the main body to organize training for doctors and nurses working at public hospitals with HPRC as a model hospital. The staff members of HPRC who are also members of the National 5S Committee have begun to hold seminars while making their rounds of visits.

This project did not have any impact on the natural environment, or on resettlement or land acquisition.

As described so far, this project has achieved the Project Purpose of patient-centered maternal and neonatal care under improved management at the target facilities, and has also achieved the Overall Goal in terms of the improvement of maternal and neonatal care at HPRC and the target HCs. Therefore, the effectiveness and impact of the project are high.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

Planned and actual Inputs are shown in Table 10. It cannot be determined whether the actual Inputs were quantitatively sufficient for the activities described in the Ex-ante Evaluation Report, since the content of the Inputs was not clear- the quantity of experts dispatched is not described there. However, after the Mid-term Review pointed out the relationship between the activities and maternal and child health, there was a quantitative increase of the Inputs to revise the plan to dispatch more experts.

Table 10. Planned and actual Inputs

Inputs	Plan	Actual
(1) Experts	0 Long-Term 4 Short-Term (no description of MM*)	0 Long-Term 12 Short-Term (64.98 MM)
(2) Trainees received	Trainings in Japan Trainings in third countries (no description of the numbers of trainees)	Trainings in Japan Trainings in third countries AAKCP[15] trainings Other trainings 28 trainees in total
(3) Equipment	Not expected	1 vehicle (4WD), etc. About 5.6 million yen in total
(4) Local operational expenses	(no description of budget)	26 million yen
Japanese side Total Project Cost	250 million yen	290 million yen
Burundian side Operational Expenses	(no description of budget)	Building and repairs, light and heat expenses, etc. About 0.1 million yen in total

* MM stands for man month.

By comparison, planned and actual Inputs in a similar project "Project on Ensuring Maternal and Child Health Service with MCH Handbook Phase 2" in Indonesia (October 2006 – September 2009)[16] are shown in Table 11. Although the project costs and time frame of this project in Burundi are the same as those of the project in Indonesia, it can be noticed that the Inputs of the man-month of experts and local costs are less in this project.

[15] AAKCP, standing for Asia-Africa Knowledge Co-Creation Program, is one of JICA's cooperation initiatives started after TICAD III in 2003 emphasized the importance of Asia-Africa cooperation, where TICAD stands for "Tokyo International Conference on African Development".

[16] This project was conducted to integrate the Maternal and Child Health (MCH) service by utilizing the MCH Hand Book (HB) and strengthening a system for sustaining the MCH service through the MCH HB in Indonesia (Source: Ex-Post evaluation Report on the project)..

Table 11. Planned and actual Inputs in a similar project*

Inputs	Plan	Actual
(1) Experts	3 Long-Term 2-3 Short-Term × years (no description of MM**)	5 Long-Term in total (107.86 MM) 8 Short-Term in total (3.23 MM)
(2) Trainees received	C/P Trainings (about 5 persons per year × 2 weeks × 4 years)	Trainings in Japan: 35 trainees Domestic Trainings: 42 trainees
(3) Equipment	no description of budget	3.71 million yen
(4) Local costs	Daily expenses and special project expenses	96.84 million yen
Japanese side Total Project Cost	320 million yen in total	290 million yen in total
Burundian side Operational Expenses	(no description of budget)	(budget unclear)

* Technical cooperation project "Project on Ensuring Maternal and Child Health Service with MCH Handbook Phase 2" in Indonesia (October 2006 – September 2009); MCH stands for maternal and child health.
** MM stands for man month.
(Source) Joint Terminal Evaluation Report and Ex-post Evaluation Report of the above project

3.3.1.1 Elements of Inputs

The dispatch of experts and the trainings are as shown in Table 12. The Inputs were revised after the Mid-term Review and pointed out the relationship between the activities and maternal and child health. This caused the number of experts to increase as well as the diversification of their subjects. This also resulted in excess project costs. On the contrary, it is certain that the Input concerning maternal and child health was less when compared to the Project Purpose. It is determined that the Input of experts in maternal and child health supported "maternal and neonatal care" in the Project Purpose and was necessary for achieving it. The original plan of this project incorporated the dispatch of short-term experts for training in Japan and other countries with the aim to improve both management and clinical skills. The revision of the Inputs was also for the purpose of materializing these with the increase in the Inputs such as the increase of the number of experts and the application of AAKCP Trainings. In spite of this increase, the Inputs did not become much larger than those in the similar project cited above.

Table 12. Elements of Inputs

Elements	Contents
Dispatch of experts	12 fields: Chief Advisor / Hospital Management, 5S-KAIZEN, KAIZEN / Safety and Health Management, Equipment Maintenance, Community Health Nursing, Health Survey, Midwifery 1, Midwifery 2, Project Coordination, Project Coordination / IEC*, Project Coordination, Reinforcement of Monitoring System
Acceptance of trainees	➢ Trainings in Japan and in third countries: 2 in leadership (Japan), 12 in midwifery care (Madagascar) and 1 in maintenance of medical equipment (Japan) ➢ AAKCP Trainings: 2 in leadership (Sri Lanka), 3 in 5S activities (Sri Lanka), 2 in leadership (Morocco) and 2 in AAKCP Global Forum (Japan) ➢ Other trainings: 1 in maintenance of medical equipment (Japan), 1 in improvement of quality in maternal and child health (Japan) and 2 in TQM** (Japan and Sri Lanka)
Supply of equipment	1 vehicle (4WD), 6 computers, 2 copy machines, etc.

* IEC stands for Information, Education, Communication

** TQM stands for Total Quality Management

The Mid-term Review Report pointed out that the continuation of the activities without common understanding on "patient-centered care" caused the focus of attention to be placed on the improvement of working environment, mainly by 5S activities. In this regard, staff members of the target facilities were interviewed, all of whom answered that they were always aware of the aim to improve maternal and child health even though they were grappling with those 5S activities immediately before them. Strengthening the Inputs on maternal and child health is thought to contribute to fostering such awareness.

3.3.1.2 Project Cost

The project cost was higher than planned: the actual expenditure was 116% of what was originally planned. The increase in the number of experts dispatched affected the resulting cost, which was estimated to be about 250 million yen at the time of the ex-ante evaluation, but which exceeded this estimate and actually become 290 million yen.

3.3.1.3 Period of Cooperation

The period of cooperation was as planned. Although the Japanese experts had to evacuate due to a security problem that occurred during the presidential election in 2010, the extension of this period was avoided because of the efforts by local staff members and the re-adjustment of the dispatch schedule.

Although the project period was within the plan, the project costs exceeded the plan. Therefore, the efficiency of the project is fair.

3.4 Sustainability (Rating: ③)

3.4.1 Related Policy and Institutional Aspects for the Sustainability of Project Effects

The improvement of maternal and child care is still a national issue of great importance, which is described in the "National Health Policy (2005-2015)". The plan-do-evaluate cycle of PBF worked every year even after 4 years from its introduction in April 2010. The National 5S Committee in MOPH maintains its activities and operates the structure and system to collect opinions from clients of the HCs.

The "National Health Policy (2005-2015)", the "National Health Development Plan (2011-2015)" and the "National Program for Reproductive Health", which are the related policies at the time of the Ex-post Evaluation, have declared the reduction of the child mortality rate and maternal mortality ratio to be an important issue. This policy did not experience any considerable changes from the period of its planning to the time of the Ex-post Evaluation. The sustainability of the effects of the project is high in policy and institutional aspects.

3.4.2 Organizational Aspects of the Implementing Agency for the Sustainability of Project Effects

Among the monitoring systems that BPS was aiming to build, two have been formulated: the one to collect opinions from the clients of HCs through "Suggestion boxes"[17] and oral consultation[18], and the one to report 5S activities in HCs to higher organizations. The opinions from clients are transmitted once a month from the HCs to MOPH through BDSs and BPS.

The target facilities (except HPRC) continue their training activities on 5S: their WITs hold meetings once or twice a month under the leadership of the managers. It was confirmed that because of such activities, the working environment was improved and preventive equipment maintenance is continuously performed.

The Directorate of Offer and Demand of Care of MOPH is currently formulating a training system for hospitals in the country with the assistance of the National 5S Committee. MOPH considers it to be the follow-up to this project. This training system is expected to play an important role in the organizational aspects of disseminating the effects of the project.

As described above, the structure for the Implementing Agency to continue 5S and "improved management" in the Project Purpose is being built. Although the target facilities

[17] "Suggestion boxes" are installed at HPRC and HCs as well as at MOPH and its subordinate agencies; they collect clients' opinions. Contributions to the suggestion boxes at HCs are reviewed by Suggestion Box Committees once a month, read by the staff members including the heads and the results are reported to HPRC. Each Suggestion Box Committee consists of two staff members: one representative from the commune under its jurisdiction and a person from the administration. Involving members other than the staff members prevents the HCs from suppressing and falsifying opinions.

[18] The responsible party at each facility establishes a meeting time of 2 hours per week and directly hears opinions from clients. This is for the purpose of collecting opinions from illiterate clients.

are troubled by the lack of manpower and an unstable supply of electricity, the effects of this project were visible even in such circumstances. Hence the evaluator has judged that the lack of manpower and unstable electric supply will not be factors that will inhibit project sustainability. Accordingly it is expected that to some extent the effects of this project will continue to be sustainable. The numbers of staff members at the maternity/obstetric services of HPRC and the target HCs are shown in Figures 1 and 2 respectively. From these figures, it can be seen that the lack of manpower did not worsen since the start of this project.

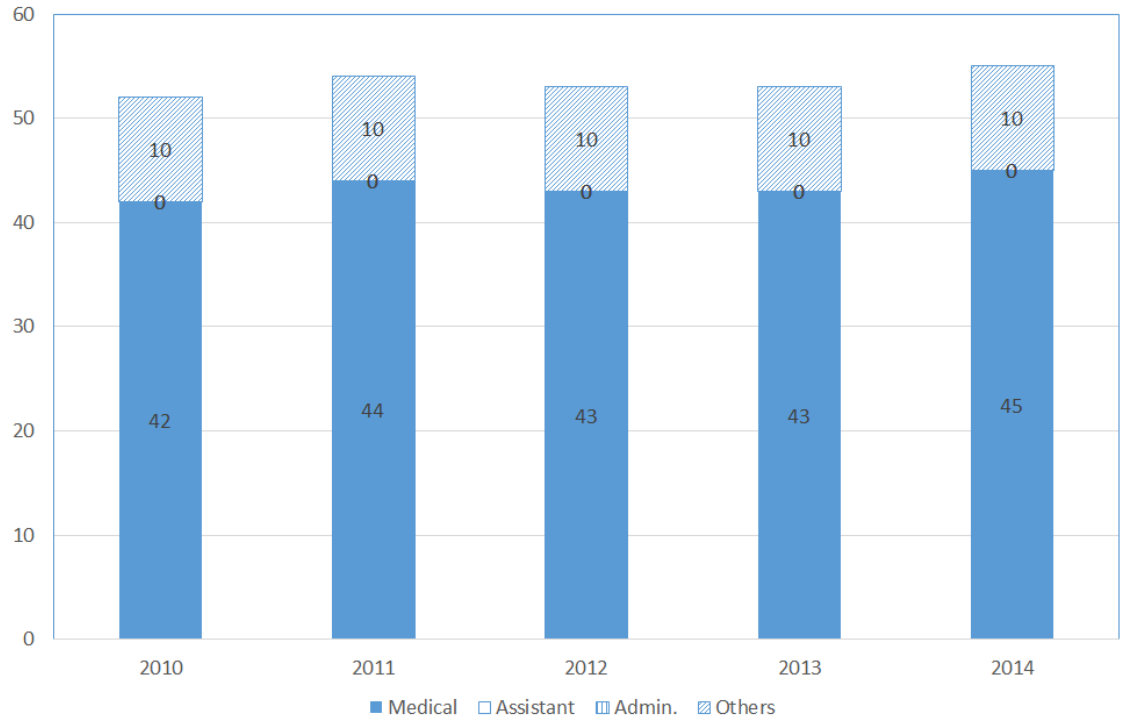


Figure 1. Number of staff members at the maternity/obstetric services of HPRC

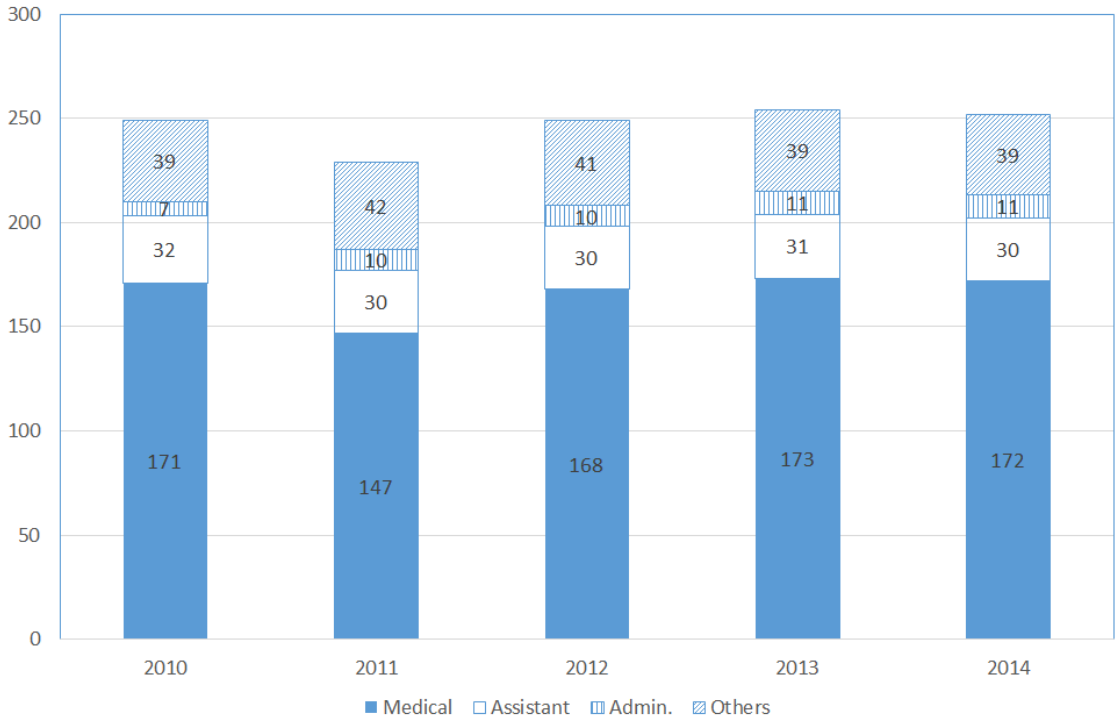


Figure 2. Number of staff members at the 9 targeted health centers

Considering the circumstances described above, the sustainability of the project's effects is high because of its organizational aspects.

3.4.3 Technical Aspects of the Implementing Agency for the Sustainability of Project Effects

Each of the health staff members at the target facilities has national qualifications as medical doctors, midwives, or as nurses according to the proper regulations. It can be said that the technical skills of the staff achieves a certain level.

The skills and knowledge of the nursing staff, which were strengthened through trainings and practice, are transferred at turnovers during the project period and after its completion. The training on 5S is transferred from predecessors not only to those who had their capacities directly strengthened by the project but also to those who took up their new post after the completion of the project. There are no problems in the structure of technical transfers.

On the other hand, the utilization rate of the Normal Delivery Care Checklist does not reach 100%. This is mainly because of factors other than technical aspects such as insufficient manpower and the medical staff often being forced to work in the dark[19].

[19] Electricity supply is unstable in Burundi. It may stop in the midnight when care is being delivered in the HCs. Such situations will force staff members to provide care with makeshift or emergency lighting sources, such as flashlights.

Therefore, the technical skills of the staff in charge of care cannot be judged solely on the fact that the utilization rate of the checklist is not 100%.

The activities of this project include the operation and maintenance of medical equipment provided under ADEM that was implemented from 2009 to 2010 during the period of this project. During the project period, many staff members were re-trained on the operation and daily inspection of dry heat sterilizers, infant warmers and aspirators, and learned the correct procedure for their operation. It was confirmed that these items are actually utilized for health services, and the staff members in charge have mastered their operational procedures.

One task of this project was the preparation of manuals on the monitoring of 5S and the maintenance of medical equipment. These are helpful for the staff members at the target facilities to keep up with their technical skills. At the time of the Ex-post Evaluation, almost all pieces of the equipment are affixed with "How to use" tags and the staff members understand that they are digested medical equipment maintenance manuals. Preventive maintenance sheets are posted on the walls of the target facilities so that visitors can look at them. The responsible persons record scores of 10 items (2 points if good, 1 point if dubious, and 0 points if to be repaired or replaced) once a week on a specified day of the week.

Of the above-mentioned training system for hospitals in the country, the finalization of 5S guidelines is being attempted. This guideline is expected to address and disseminate awareness of technical issues, and also to ensure that technical skills are transferred within the target facilities themselves.

3.4.4 Financial Aspects of the Implementing Agency for the Sustainability of Project Effects

Upon disseminating the activities of this project, such as 5S, throughout the whole country, financial sustainability remains a great issue. MOPH and HPRC attempt to combine the budget for these activities into a budget item named "Quality of Service". This budget is expected to be secured for every year in future.

Monthly subsidies from the government to HPRC and the target 9 HCs from December 2012 to December 2014 are shown in Figures 3 and 4 respectively. These figures also show the bonus portions for January, April, July and October of each year, which are determined depending on the PBF evaluation. HPRC obtained 1,322 million Burundian Francs (BIF)[20] (including the bonus portion of 201 million BIF, and so on) in 2013 and 1,342 million BIF (226 million BIF) in 2014, while the 9 target HCs obtained 913 million BIF (87 million BIF) in total in 2013 and 809 million BIF (11 million BIF) in total in 2014. The bonus portion of the HCs in April 2014 is about 25 million BIF in the red. It is thought that this is because Ngagara HC was not familiar with the PBF targets of new maternal and child health services

[20] Burundian franc (BIF) is the currency of Burundi. BIF 1,000 = c.a. JPY 77 as of the end of 2014.

which began in 2013 (see “3.2.1.2 Achievement of Project Purpose”).

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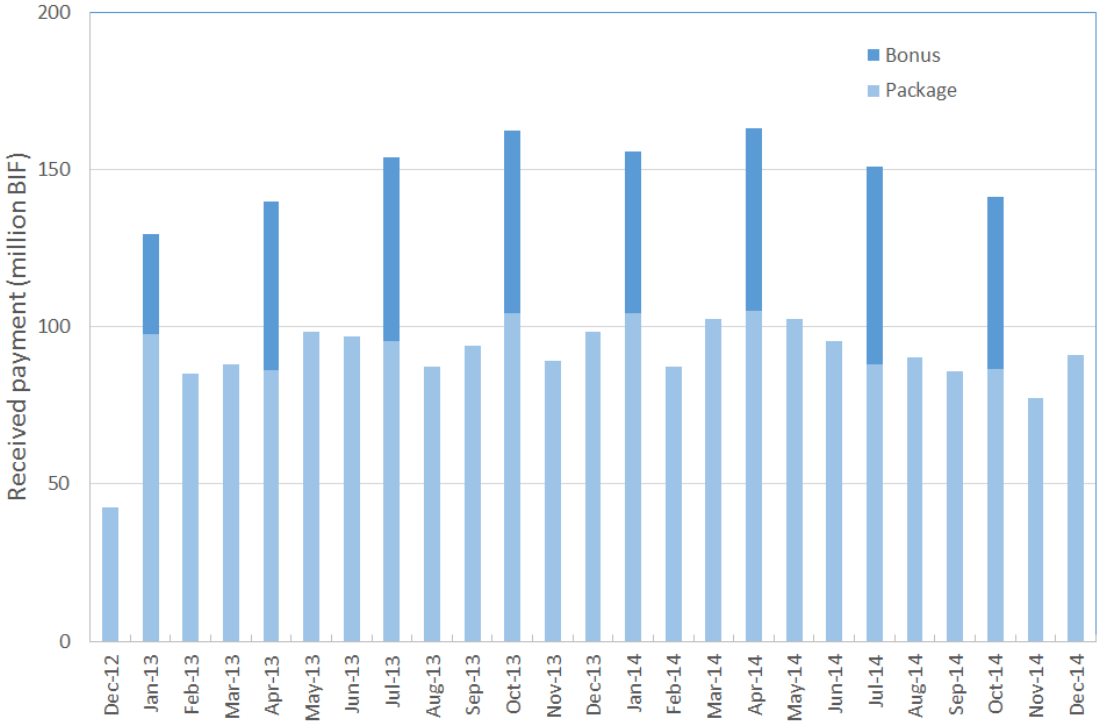

Figure 3. Monthly subsidies from the government to HPRC (Source: data by PBF)

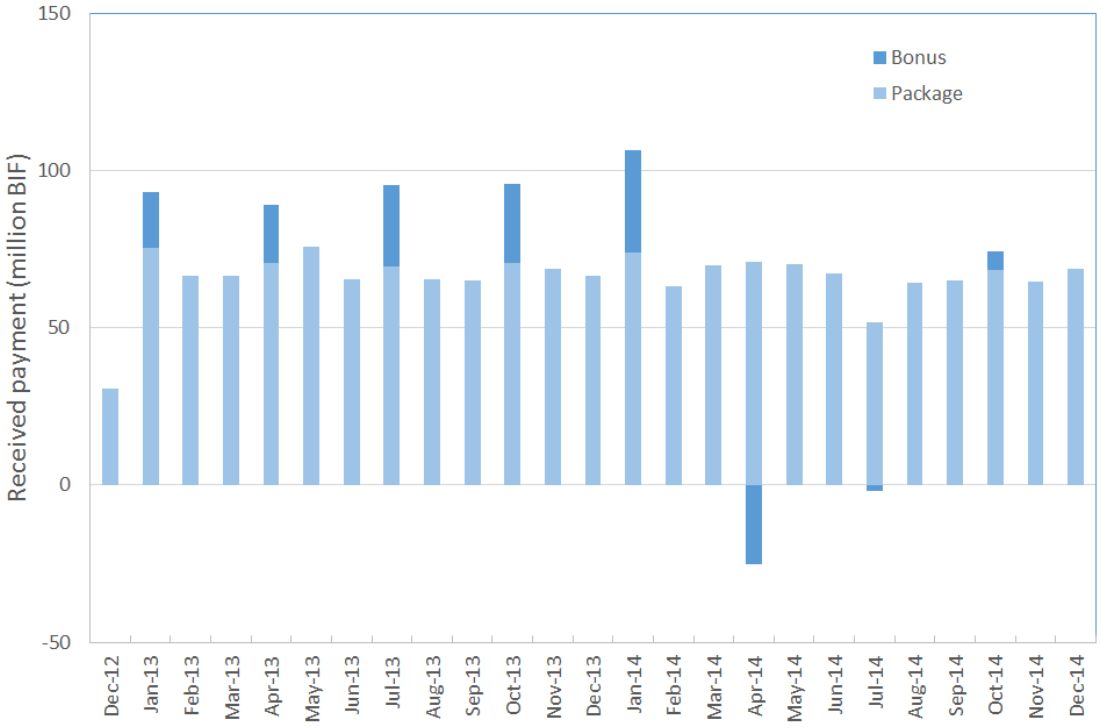

Figure 4. Monthly subsidies from the government to the 9 targeted HCs (Source: data by PBF)

PBF scores in maternity/obstetric services are shown in Table 13[21]. PBF scores in maternity/obstetric services achieved high levels after the completion of the project except for Ngagara HC, which started maternal and child health services in 2013. Mutakura HC, which started to offer maternal and child health services in 2011 and Ruziba HC, which started offering these services in 2012 have low scores in the years they started the services but they have had higher scores in subsequent years. Ngagara HC is expected to have similarly higher scores after 2014. If the scores increase, the negative portion will change into positive and the budget will be secured, since its allocation is dependent on these scores.

Table 13. PBF scores in maternity/obstetric services*

(Unit: %)

Facilities	2010	2011	2012	2013
Buterere HC	84	57	99	98
Bwiza-Jabe HC	–	–	–	–
Buyenzi HC	–	–	–	–
Kamenge HC	100	98	99	96
Kanyosha HC	92	93	100	90
Musaga HC	88	96	98	89
Mutakura HC	–	20	81	100
Ngagara HC	–	–	–	32
Ruziba HC	–	–	79	94

* Scores in 2010, 2011 and 2012 are listed in Table 3 as well.
(Source) data by PBF

No major problems have been observed in the policy's background or with the organizational, technical, and financial aspects of the implementing agency. Therefore, the sustainability of the project and its effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was conducted in order to materialize improved operation and management, and to put into action patient-centered maternal and neonatal care through 5S activities at Prince Regent Charles Hospital (HPRC) and 9 Health Centers (HCs) in the Municipality of Bujumbura, Burundi's capital. The project activities were consistent with Burundi's national development policy, in which the improvement of maternal and neonatal care was addressed. It was a priority to reduce the maternal mortality ratio and child mortality rate that were important issues in Burundi. The project also aligned with Japan's ODA policy for Burundi, which had the improvement in basic living environment as a pillar. Therefore, its relevance is high. The project enhanced the leadership abilities of managers, thereby, improving work environments through 5S activities, further developing knowledge and skills among nursing

[21] Partly duplicated from Table 3.

staff, and continuously implementing preventive maintenance of medical equipment. These activities resulted in the improvement of operation and management of the targeted facilities and the implementation of patient-centered maternal and neonatal care. Therefore, both its effectiveness and impact are high. Although the project was completed within the planned timeframe, the project cost exceeded the planned one. Therefore, its efficiency is fair. The target facilities have developed a monitoring system and transfer of the techniques beyond a certain level. The improvement of maternal and child health remains one of the national issues of high priority, for which the government of Burundi continues to allocate the necessary budget. Therefore, its sustainability is high.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

Currently the National 5S committee has become the main body responsible for conducting training on 5S activities for doctors and nurses working at public hospitals, and has started to hold on-site seminars during their visits at the hospitals. In such efforts to disseminate 5S activities, it is expected that the trainees would be further inspired and motivated if the relevant officials who have engaged in the project activities would not only explain 5S, but also speak frankly in their own words concerning: what was improved though the activities of this project (ex. complaints from patients on queues disappeared due to the clarified order of acceptance, the time it took to look for necessary medicine, medical equipment in the case of emergency patients, etc., was reduced); and, what was difficult in establishing 5S activities.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

Limitation of scopes of efforts of the moment

Burundi has been politically unstable since its independence in 1962. The civil war that lasted from 1993 to 2005 caused the deterioration of medical and health facilities, and as a result their quality of service has been a great challenge in the country[22]. This project was the first “technical cooperation project” by JICA in Burundi[23], and the second among the all projects following a development study named “The Emergency Study on Urban Transportation in Bujumbura” (January 2007 – December 2007). Although this project

[22] Source: Ex-ante Evaluation Report, Foreword.
[23] Source: Ex-ante Evaluation Report, p. 11.

declared the Project Purpose to be “Patient-centered maternal and neonatal care is implemented under improved management at HPRC and targeted health centers”, its initial focus was to improve the working environment through 5S activities. 5S could be implemented immediately even at deteriorated facilities and serve well the needs of such facilities, since it requires neither expensive equipment nor high levels of technology. It is thought to be an effective cooperation approach in a vulnerable, post-conflict country like Burundi not to try to necessitate achieving great results immediately, but instead to start with simple activities like 5S. Actual efforts through 5S contributed to the improvement of health services e. g. the clarification in the order of acceptance and the reduction in waiting time.

When cooperation projects are implemented in post-conflict countries like Burundi in the future, it is considered to be effective starting with simple things like 5S to build a foundation in the working environment first, rather than trying to solve many problems in a short period. If the infrastructure related to cooperation projects has deteriorated, it is effective to implement a grant aid and a technical cooperation project at the same time and also to utilize equipment supplied in the former for OJT, etc. in the latter, rather than to plan a cooperation project on the condition that such infrastructure is utilized. In this case, the timing of implementation should be carefully planned.

Table A1. Achievement of the Outputs

Output	Indicator	Actual
Output 1: Leadership of the top and middle class managers is fostered at HPRC and targeted health centers, involving directors of facilities and heads of all departments & units.	[Indicator 1-a)] 5S committees are established in HPRC and Provincial Health Office of Bujumbura City.	In July 2009, 5S committees were established at HPRC and the Provincial Health Office (BPS) of the Municipality of Bujumbura.
	[Indicator 1-b)] Working Improvement Teams (WIT) are established in the target facilities (within 8 months after the beginning of the project)	In October 2009, missing the deadline for one month, Work Improvement Teams (WITs) were established in three pilot departments (maternity, obstetrics and neonatal services) of HPRC and each of nine HCs. By January 2011, the number of WITs has expanded to 18 in HPRC, covering all departments.
	[Indicator 1-c)] Quality Assurance Policy is displayed on walls in the targeted facilities. (within 12 months after the start of the project)	By May 2011, missing the deadline for five months, Vision and Mission are displayed at three targeted departments in HPRC and nine HCs. The checklist for environment and sanitation is also displayed at the targeted three departments of HPRC. This delay was caused by the stoppage of the activities of Japanese experts during a 5 month-long evacuation in 2010.
	[Indicator 1-d)] Activity reports of WIT are made monthly.	From April 2010 until August 2011, the average number of monthly WIT meetings of three departments at HPRC was 0.37 (6 times out of 17 months). HPRC also organizes the chief meeting of WITs whose average number of monthly meetings was 0.65 (11 times out of 17 months). The average number of monthly WIT meetings at nine health centers was 0.72 (12 times out of 17 months). Mutakura HC has been conducting monthly meetings regularly.
Output 2: Work environment for maternal & neonatal care is improved through practicing 5S activities under the leadership of directors.	[Indicator] Following 5S activities are in operation by the WITs in the targeted facilities. 1) Segregating rules of hazardous articles and medical wastes are formulated and practiced. 2) Storing rules for articles are formulated and practiced. 3) Benches for outpatients are located and used in the proper places.	In the medical field, the criteria for waste fractionation has been created and conducted in each department. The rules for segregation of hazardous articles and medical wastes are formulated and posted in each department. Stationery, drugs, and medical materials being stored are designated by utilizing labels in order to improve the efficiency of operations. Segregation has been done in all facilities. Waiting areas for the patients have been set aside as one way to improve the environment for them. Some benches for the patients, which have been supplied by building and repair activities of the project, have been placed in appropriate locations. There are also some cases in which the bench seats themselves have been numbered with paint.
Output 3: Preventive maintenance of medical equipment is continuously practiced with full participation of health staff in the targeted facilities.	[Indicator 3-a)] All of the equipment is affixed with attention “How to use” tag in the targeted facilities (within 3 months after the completion of Japanese grant aid project).	The affixing rate was 0% at the start of the Project, but its mean reached 77.0% at the time of the Mid-term Review and increased to 98.4% at the time of the Terminal Evaluation.
	[Indicator 3-b)] Preventive Maintenance Sheets are displayed in the targeted facilities with medical equipment installed, and after-use-care and condition of the equipment is recorded. (within 6 months after the display)	The rate of display was 0% at the start of the Project, but its mean reached 72.5% at the time of the Mid-term review and 92.5% at the time of the Terminal Evaluation.

Output 4: Knowledge and skills of nursing staff (including midwives) are upgraded for maternal & neonatal care at the targeted facilities.	[Indicator 4-a)] All trainees score more than 50 out of 100 points on the post-test.	At the first maternity training in October 2009, 18% of participants scored more than 80 out of 100 points on the post-test. At the second maternity training in September 2010, 97% of participants scored more than 50 out of 100 points on the post-test. At the training for the normal delivery checklist in June 2011, 100% of 25 participants scored more than 50 out of 100 points. The average score was 70.8%. At the training for the check sheet and partogram[24] in August 2011, 88.9% of 18 participants scored more than 50 out of 100 points. The average score was 65.3%.
	[Indicator 4-b)] Accumulative more than 100 staffs at the targeted facilities complete obstetric skill trainings.	By December 2011, 273 staff members have been trained on obstetric skills in 9 trainings.
	[Indicator 4-c)] 'Normal Delivery Care Checklist' is formulated based on the knowledge obtained through the overseas trainings in Madagascar.	In May 2011, the 'Normal Delivery Care Checklist' was formulated. In June 2011, the 'Normal Delivery Care Checksheet' was formulated. In July 2011, MOPH and the National Program for Reproductive Health (PNSR) validated them. In December 2011, a revised 'Normal Delivery Care Checklist' was completed. Since January 2012, their utilization is being monitored following the established monitoring system.
	[Indicator 4-d)] Mindset and attitude of health personnel in work places are improved.	Improvement is observed in the mindset of heath personnel, according to the interviews regarding the relationships between service providers and patients conducted in March 2009 and September 2011. 104 and 81 answers were collected in each interview respectively. ➢ Staff members should approach patients with courtesy: 11.3% → 63.9% ➢ Satisfaction of patients is important: 3.8% → 63.9%

(Source) prepared by the evaluator referring to documents provided by JICA

[24] A table that can show the progress of deliveries at a glance.