Republic of Senegal

FY2017 Ex-Post Evaluation of Technical Cooperation Project

"Project for Reinforcement of Health System Management in Tambacounda and Kédougou Regions"

External Evaluator: Michiru Suda, TAC International Inc.

0. Summary

The project was implemented aiming to "reinforce the results-based management capacities[1]" of regional medical offices[2], district health offices, and health centers in Tambacounda and Kédougou regions, through "improving planning, monitoring and evaluation (M&E) capacities", "improving resource management capacities (organizational management such as human resource, accounting/finance, medicines and medical equipment and facility management)" and "sharing the project experiences within and outside of the target regions". The main counterparts (hereafter referred to as "C/P") are concerned personnel in the Ministry of Health and Social Action (hereafter referred to as "the Ministry") and the regional medical offices. Its overall goal was to "improve the health status of the population in the two regions".

The objective of the project was consistent with *National Health Development Plan 2009-2018* (*Plan National de Développement Sanitaire: PNDS) 2009-2018,* which emphasizes "promoting results-based management", and with the development needs to improve the health status of the population in the two regions where the health indicators were poor, both at the time of the project planning and its completion. It was also consistent with Japan's ODA policies and JICA's plan in the health sector, which proposed "Enhancement of Basic Social Services", "the development of policy-oriented

[1] In the project, the results-based management was defined as "managing and implementing aid (note by the evaluator: it is considered to indicate "work" to be accurate) in a way that focuses on the desired results and uses information to improve decision-making".
In the Senegal health sector, the budget and activity plan for each region have been developed according to the framework of the Annual Work Plans (Plan de Travail Annuel: PTA) since 2008. And the concept of results-based management was introduced, which decides the activities and the inputs focusing on the problems observed and targets to be achieved in the region, and the previous method of developing the plan with the inputs was replaced. (Source: Japan International Cooperation Agency, IC Net Limited (2014) *Project Completion Report on the Project for Reinforcement of Health System Management in Tambacounda and Kédougou Regions* (hereafter referred to as "Project Completion Report")

[2] The administrative divisions are subdivided into region (région), department (département), arrondissement (arrondissement), and communes/municipalities (commune) from the upper level in Senegal. The health administration system consists of the following; the Ministry of Health in the central level; 14 regional medical offices (régions médicale) and district health offices (districts sanitaire) are deployed as local branches of the Ministry, responsible for region and health district respectively. The regional medical office supervises the district health office, and the district health office supervises the health facilities such as health centers and the lower level facilities in the health district. Each health district has at least one to two health centers (centre de santé) and several health posts (poste de santé). The health center is equipped to accommodate inpatients and doctors, nurses, and midwives are assigned. A nurse and a midwife are assigned to a health post, and pre- and postnatal checkups and vaccinations are conducted. (Source: JICA documents)

human resources" "to formulate and implement evidence-based" health plans, and "strengthening administrative capacity" in health sector. Therefore, its relevance is high.

The following activities were conducted; improvement of health information system management for the regional medical and district health offices; strengthening the operational capacity for annual work plan (Plan de Travail Annuel, hereafter referred to as "PTA") establishing a sustainable mechanism for strengthening planning, and M&E capacities; strengthening supervision capacities; preparing to establish a sustainable training system (continuing training program); enhancement of 5S[3] approach and improvement of resource management capacities in the health districts and health centers; development of tools and guidelines that are the basis of these activities; and sharing project experience. With the project contribution, the mechanism for PTA operation is in place, and the PTA operation has continued at the time of the ex-post evaluation. Activities related to 5S and OGRIS (Outils de Gestion des Ressources et de l'Information Sanitaire: hereafter referred to as "OGRIS", which indicates "Tools for Management of Resources and Health Information") for resource management improvement, were implemented to some extent accordingly. Under an influence of external factors and a result of giving priority to strengthening C/Ps' training management capacity, all 5S and OGRIS trainings that were expected during the project period could not be completed by the end of the project. At the time of the ex-post evaluation, the 5S and OGRIS activities in the two target regions were partly continued. Therefore, effectiveness and impact of the project are fair. However, the PTA operation is continued nationwide, and 5S trainings have been conducted in other regions and the ripple effect is high.

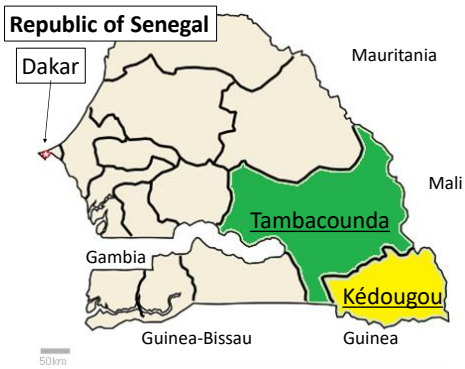
Although the project period was within the plan, the project cost exceeded the plan, so the efficiency of the project is fair.

For the prospect of sustainability of the project effects, no major problems have been observed in policy background, while some minor problems have been observed in terms of the technical and financial aspects. Therefore, sustainability of the project effects is fair as a whole.

In light of the above, although the project has achieved the project purpose to some extent, this project is evaluated to be partially satisfactory.

[3] 5S approach is a tool for improving the work environment, the quality of services, and service productivity, and is the five concepts (Sort, Set, Shine, Standardize, and Sustain) which begin with initial "S". (Source: Project Completion Report)

1. Project Description



Project Locations

5S Poster utilized
at Kédougou Health Center

Source: Taken by the evaluator

1.1 Background

Senegal's National policies, such as *Economic and Social Policy Document 2011-2015* and *National Health Development Plan 2009-2018*, emphasize the importance of achieving the Millennium Development Goals (MDGs)[4] and Senegal states strengthening results-based management as one of the strategies[5] to achieve them. Although the under-five mortality rate and the maternal mortality ratio are below the Sub-Saharan Africa average, they are still far from reaching the MDGs targets [the target values were 44 (per 1,000 live births) and 127 (per 100,000 live births)[6] respectively, while the actual values were 72, and 392[7] in 2010-2011 respectively].

The project's target areas, Tambacounda and Kédougou regions, are located in the southeastern part of the country. They occupy approximately 30% (approximately 60,000 km^2) of the country, and the poverty rate is high (at the time of the project

[4] The Millennium Development Goals (MDGs) are common goals in development of the international community and are based on the United Nations Millennium Declaration adopted at the United Nations Millennium Summit in 2000. The MDGs identified eight goals, such as eradication of extreme poverty and hunger, to be achieved by 2015. The targets were achieved to some extent and its contents have been taken over by the succeeding goals, the 2030 agenda for sustainable development. (Source: Ministry of Foreign Affairs of Japan http://www.mofa.go.jp/mofaj/gaiko/oda/doukou/mdgs.html) (Accessed on April 22, 2018)

[5] *PNDS* consists of four sector objectives; "Reduce the burden of maternal and child morbidity and mortality", "improve prevention and disease control performance of the health sector", "sustainably strengthen the health system", and "improve the governance". It indicates "Promoting results-based management" as one of the strategy to improve the governance. (Source: JICA Senegal Office, Japan International Cooperation Agency (2011) *Study on Detailed Plan for Project for Reinforcement of Health System Management in Tambacounda and Kédougou Regions in Senegal* (hereafter referred to as "Project Detailed Planning Survey Report")

[6] Ministère de l'Economie et des Finances [Senegal], and Programme des Nations Unies pour le Développement. (2012). *Rapport de Suive des OMD 2000-2012 République du Sénégal*. http://www.undp.org/content/dam/senegal/docs/OMD/undp-sn-Rapport%20de%20Suivi%20des%20OMD%20SEN%20%202000-2012.pdf (Accessed on March 25, 2018)

[7] Agence Nationale de la Statistique et de la Démographie (ANSD) [Senegal], and ICF International. (2012). *Senegal Demographic and Health and Multiple Indicator Cluster Survey (EDS-MICS) 2010-2011*. Maryland: ANSD and ICF International. (hereafter referred to as "EDS-MICS 2010-2011")

planning, 49% for the national average, 56% for the two regions)[8]. As described in "3.1.2. Consistency with the Development Needs of Senegal", the health indicators were poor compared to the national average. In order to improve healthcare services continuously by utilizing the regions' limited funds and human resources efficiently, there was a need to operate health facilities effectively and efficiently and to strengthen health system management[9].

In 2005, together with the Senegalese side, Japan identified these two regions as priority areas for Japan's cooperation in health development. Since 2007, together with the Ministry of Health and Prevention[10], "Health System Strengthening Program in Tambacounda and Kédougou Regions" (2007-2011) was implemented, which included grant aid, technical cooperation projects, follow-up cooperation program, dispatch of Japanese experts, provision of equipment, a training program in Japan, and a third-country training program. As part of this cooperation program, this technical cooperation project was requested by the Senegalese government, to strengthen the capacity of health administration and health facility management at the regional and district levels, especially planning, M&E in health administration, and resource management in health facilities. It was implemented from March 2011 for the planned duration of three years. In addition, this project was made as a component of the "Health System Strengthening Program (2012-2016)"; a succeeding program that aimed to scale up the results of the above program nationwide.

1.2 Project Outline

Overall Goal		The health status of the population of Tambacounda and Kédougou regions is improved.
Project Purpose		"Managing for results" capacities of the regional medical offices and district health offices are reinforced in Tambacounda and Kédougou regions.
Output(s)	Output 1	The capacities of planning and monitoring & evaluation (M&E) of the regional medical offices and district health offices are improved.
	Output 2	The capacity to manage resources (organizational management such as human resources, accounting/finance, medicines and medical equipment and facility management) in the medical regions and the health districts are enhanced.
	Output 3	Lessons learned from the project are shared within and outside Tambacounda and Kédougou regions.

[8] JICA Senegal Office, Japan International Cooperation Agency (2014) *Terminal Evaluation Report on Project for Reinforcement of Health System Management in Tambacounda and Kédougou Regions in Senegal*. (hereafter referred to as "Terminal Evaluation Report"), Project Detailed Planning Survey Report

[9] Project Detailed Planning Survey Report

[10] It became the Ministry of Health and Social Action after the organizational restructuring in 2012.

Total cost (Japanese Side)	513 million yen
Period of Cooperation	March 2011– February 2014
Implementing Agency	Ministry of Health and Social Action (Ministry of Health and Prevention at the time of the planning), the Medical Region of Tambacounda, the Medical Region of Kédougou
Other Relevant Agencies / Organizations	10 District Health Offices and 10 Health Centers in the two regions, the Regional Health Training Center[11] (Centre Régional de Formation en Santé: CRFS) of Tambacounda
Supporting Agency/ Organization in Japan	IC Net Limited
Related Projects	【Health System Strengthening Program in Tambacounda and Kédougou Regions (2007 - 2011) 】 ・Training in Japan "Asia Africa Knowledge Co-creation Program (AAKCP) -Total Quality Management for better hospital Services" the first group (2007-2013) ・Grant Aid "The project for the development of health facilities in Tambacounda and Kédougou Regions" (May, 2009) ・Technical Cooperation "Project for Reinforcement of Maternal and Child Health Care in Tambacounda and Kédougou Regions" (Projet de Renforcement des Soins de Santé Maternelle et Néonatale dans les Régions de Tambacounda et de Kédougou: PRESSMN1) (2009-2011) ・Expert "Technical Advisor for Ministry of Health and Prevention" (2008-2010) ・Expert "Health System Management Advisor in Tambacounda" (2009-2010) 【Health System Strengthening Program Phase 2 (2012-2016)】 ・Technical Cooperation "Project for Reinforcement for Maternal and New Born Health Care Phase 2" (Projet de Renforcement des Soins de Santé Maternelle et Néonatale au Sénégal Phase II: PRESSMN2) (2012-2018) 【The succeeding project】 ・Technical Cooperation "Project for Reinforcement of Health System Management Phase 2" (Projet d'Appui au Renforcement du Système de Santé au Sénégal-Phase 2: PARSS 2) (2016 - 2021)

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

As for the project purpose, Indicator 1 (PTA development) and 2 (monitoring of

[11] CRFS is a training institution for health professionals under the Ministry of Health, and they have seven locations throughout the country. CRFS of Tambacounda provides basic education to become a nurse or a midwife (3 years each), and advancement education for assistant nurses and assistant midwives.

activities according to the PTA operation guidelines) have been achieved. The prospect for the achievement of Indicator 3 (evaluation of activities according to the PTA operation guidelines) was considered to be high. Indicator 4 (Monitoring 5S activities) was achieved because monitoring standards and tools were standardized and integrated into 5S manuals and supervision was implemented at some health centers. The prospect for the achievement was high for Indicator 5 (Improvement of resource management) because the activities had been appropriately planned and implemented using OGRIS in the two health districts where the OGRIS trainings were already conducted. The OGRIS trainings were scheduled for the remaining eight health districts.

Therefore, the project purpose was considered almost achieved at the time of the terminal evaluation, and the prospect of its achievement was considered to be high by the project completion.

1.3.2 Achievement Status of Overall Goal at the Terminal Evaluation (Including other impacts)

It was considered to be too premature to evaluate the prospects for achievement of the overall goal at that time. As an impact of the project implementation, synergies between the projects in the "Health System Strengthening Program" and the positive impact of collaboration with other donors were confirmed, and no negative impact was observed.

1.3.3 Recommendations from the Terminal Evaluation

Recommendations at the time of the terminal evaluation are shown in Table 1 and Table 2.

Table 1 Recommendations from the terminal evaluation; by the project completion

	Recommendations	Responsible body
1	Monitoring of 5S and OGRIS shall be integrated into regular supervision of the management team at regional medical and district health offices.	Regional medical offices, district health offices
2	Trainings developed by the project shall be conducted certainly in Tambacounda and Kédougou regions with United Nations Children's Fund (UNICEF) financial support, which has been committed and allocated.	Regional medical offices, district health offices
3	The three newly constructed health centers (Saraya, Koumpentoum and Kidira) shall be quickly opened and 5S training shall be conducted. If the shifts to the new buildings are not completed by the end of December 2013, the project will not support the training.	Ministry

Source: Terminal Evaluation Report

Table 2 Recommendations from the terminal evaluation; after the project completion

	Recommendations	Responsible body
1	The integration of the project's training package in the continuing education at the Regional Health Training Center of Tambacounda shall be ensured. It is desirable that the management system shall be established and the necessary budget is to be secured as agreed on in the operational plan.	Directorate of Human Resources, Ministry
2	Cascade trainings[12] shall be provided after a training of trainers in order to ensure knowledge transfer to all concerned personnel.	Regional medical offices, district health offices
3	Dissemination of the project activity shall be done to other regions. The financial support is already committed to by Belgium, France, Luxembourg, etc. but needs to be effectively invested and implemented under the appropriate coordination.	General Directorate of Health, Ministry
4	PTA shall have more practical effect by sustainably coordinating with various partners such as donors, local governments and enterprises, etc.	Regional medical offices, district health offices

Source: Terminal Evaluation Report

2. Outline of the Evaluation Study

2.1 External Evaluator

Michiru Suda, TAC International Inc.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: August, 2017 – September, 2018

Duration of the Field Study:

November 12, 2017 – December 5, 2017, February 18, 2018 – February 28, 2018

2.3 Constraints during the Evaluation Study

Among the indicators in the Project Design Matrix[13] (hereafter referred to as "PDM"), there was data that was not available at the time of the project completion or the ex-post evaluation. The project was complemented and evaluated using qualitative data obtained through interviews and other information.

Due to time and other constraints in the field survey, the district health offices and health centers in eight health districts were selected for data collection by a purposive sampling method (selection criteria are the same as the qualitative survey described in Table 3 below). Therefore, selection bias may have occurred and collected data may not

[12] The OGRIS training takes a cascade training method to provide trainings from the Ministry to the regional medical offices, from the regional medical offices to the district health offices, then from the district health offices to the staffs in the health centers and the health posts. (Source: Project Completion Report)

[13] It is a project plan summary table indicating the elements of project purpose, activities, inputs, external factors, indicators, etc. and their logical framework.

necessarily represent the entire target area. The evaluator obtained available information on health districts that were not visited from the regional medical offices as much as possible. We reviewed sustainability mainly based on PTA operation, 5S, and OGRIS activities, which were the main components of the project. Table 3 shows the outline of the qualitative survey conducted to collect the data for achievement, based on the PDM indicators, and to examine the effect of the strengthening results-based management.

At the time of the field survey, the national vaccination campaign by the Ministry of Health was ongoing. The project's implementing organizations and the survey targets that were the beneficiaries in the project were extremely busy, and time for interviews was limited. By utilizing responses from the questionnaires requested beforehand, data was efficiently and comprehensively collected to understand the overall picture of the project

Table 3 Outline of the qualitative survey

Purpose of survey	Collect required data for PDM indicators, in order to evaluate effectiveness and impact of the project. Namely, data for indicators of overall goal and project purpose, data for some output indicators, and data for supplementary intermediate outcomes indicators that are observed between the project purpose and the overall goal (e.g. the number of outpatients at the health center etc.) In addition, examine the project effect in the strengthening results-based management.	
Survey method	Interviews using questionnaires, documents review	
Survey area Study target Sampling method		
	Ministry of Health	General Directorate of Health, Directorate of Planning, Research and Statistics, National Quality Program, Directorate of Human Resources
	Regional Medical Office	Survey area: two regions (Tambacounda and Kédougou) Regional Chief Medical Officer, Regional Planning Officer, Primary Health Care Supervisor, etc.
	District Health Office	Survey area: eight areas (Tambacounda, Maka Colibantang, Koumpentoum, Goudiry, Dianké Makha, Bakel, Kédougou and Saraya) Sampling method: purposive sampling[14]; eight areas were selected from ten health districts in two regions. Interview targets: District Chief Medical Officer and others (those involved in PTA development and monitoring, or supervision)
	Health Center	Survey area: eight areas (same as the district health offices) Interview targets: Chief Medical Officer and others (those responsible for 5S activities)
	CRFS	Director, a person responsible for the continuing training program

[14] Eight areas were selected from the 10 health districts in two regions, including the six health districts where the status of preparing the annual work plan (PTA) was observed in the Project Detailed Planning Survey Report, as well as Dianké Makha, which was one of the target health centers in the grant aid "the project for the development of health facilities in Tambacounda and Kédougou Regions".

3. Results of the Evaluation (Overall Rating: C[15])

3.1 Relevance (Rating: ③[16])

3.1.1 Consistency with the Development Plan of Senegal

The second Poverty Reduction Strategy Paper at the time of the project planning, and *National Strategy for Economic and Social Development 2013-2017* at the time of the project completion were set as poverty reduction strategies in Senegal, and achievement of MDGs and support to the poor were regarded as important issues. At the time of both the project planning and its completion, Senegal had the *National Health Development Plan 2009-2018* (*PNDS 2009-2018*), which stated the improvement of governance and strengthening results-based management in health sector. The project aimed to strengthen the results-based management capacities, improve the quality of healthcare service provision, and improve the health status of the population. Therefore, the project is in line with development policies in Senegal (see "1.1 Background").

3.1.2 Consistency with the Development Needs of Senegal

In the two target regions, the health indicators of the population were worse than the national average and the development needs to improve their health status were observed, at the time of both the project planning and its completion (Table 4). In order to provide high-quality healthcare services in a sustainable manner to improve the health status of the population, a necessity for effective and efficient health administration was recognized, in addition to improving access (facility construction) and improving quality of care (health and medical technology). At the time of project planning, there were issues such as "human resource shortage", "insufficient knowledge in management" and "unrealistic annual work plan, not based on health information data" in the two regions, and there was a need to strengthen management capacities to utilize the limited funds and human resources efficiently in order to improve healthcare service provision in a sustainable manner. At the time of the project completion, the PTA operation had been continued nationwide and effective management in health administration continued to be important. Therefore, the project is in line with the development needs as observed to improve the health status of the population and to strengthen management capacity in the health administration.

[15] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[16] ③: High, ②: Fair, ①: Low

Table 4 Trends of health indicators (at the time of the project planning and its completion)

Health indicators	Region	2010-2011	2012-2014
Under-five Mortality Rate (per 1,000 live births)	Tambacounda	100	108
	Kédougou	154	114
	Senegal	72	54*
Maternal Mortality Ratio (per 100,000 live births)	Tambacounda	N/A	N/A
	Kédougou	N/A	N/A
	Senegal	392	N/A
Institutional delivery rates[17]	Tambacounda	45.2%	41.8%
	Kédougou	32.4%	45.1%
	Senegal	72.8%	77.0%*

Source: *EDS-MICS 2010-2011, EDS-Continue*[18] *2012-2014, *EDS-Continue 2014*

3.1.3 Consistency with Japan's ODA Policy

At the time of the project planning, *Japan's Global Health Policy 2011-2015* (2010), states that "Japan will support the development of policy-oriented human resources" "to formulate and implement evidence-based" health plans. The Japanese Government's *Country Assistance Policy for Senegal* (2009) mentioned that the government supports the "Enhancement of Basic Social Services" as Minor Goal II in "Major Goal I: Improvement in the Quality of Life of the Poor Population in Rural Areas". In *JICA's Operation in Health Sector* (2010), "Strengthening administrative capacity" is an issue that is raised. Therefore, the project objective is consistent with Japan's ODA Policies.

3.1.4 Appropriateness of the Project Plan and Approach

The project's PDM was revised twice; the overall goal and the project purpose remained the same, while the activities and indicators changed. The project budget on the Japanese side increased three times[19].

According to the "Project Detailed Planning Survey Report", the "Project Completion Report" and the JICA document, the project aimed to improve the health status of the population in two regions, by reinforcing the "managing for results" capacities of the regional medical and district health offices in two regions (the project purpose). Furthermore, the expectation is also observed that the project outputs will be disseminated to other regions after the project completion. This is indicated by Output 3; "Lessons learned from the project are shared both in and outside of Tambacounda and Kédougou regions". Besides, during the project planning, there was discussion about determining another goal of "dissemination to other regions" along with the overall goal stated in the PDM, but the Senegalese side had the opinion that "there

[17] Percentage of childbirths conducted in the health facilities in the total number of deliveries
[18] The official name is "Enquête Démographique et de Santé Continue" and is one kind of "Demographic Health Survey" (DHS).
[19] JICA document

should only be one overall goal". Respecting the Senegalese view, the fore mentioned goal was not adopted. The JICA document mentioned that the reasons for the increasing the project budget was "to conduct project activities considering the nationwide scale-up after the project completion, together with maintaining active cooperation with other donors" and dissemination to other regions was recognized as important. At the time of the project planning, the project planned to implement Output 1 and 2 and to share the lessons learned from the project both in and outside of the two regions in Output 3[20]. The consultant team that engaged in the project implementation took a different approach, which established a mechanism including the Ministry in order to enhance the sustainability of the project activities[21]. By raising the degree of participation from the Ministry, coordination with the Ministry went smoothly and the Ministry's ownership over the project increased. It was also effective in obtaining official endorsement from the Ministry for the project deliverables, such as PTA operation guidelines.

As mentioned above, there was a more active approach to get more involvement from the Ministry, and the project's aim was further clarified based on the baseline survey results and other information. In addition, PDM activities and indicators have been modified to match the ongoing situation, and necessary inputs have been added (setting another project office in the Ministry besides the one in Tambacounda Region, increase of duration of experts dispatch, and activities' budget). Revisions of PDM have been made and the project budget (on the Japanese side) has been increased based on the agreement with the JICA office and C/Ps. From the above, the revisions of PDM and their process were considered to be appropriate.

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

3.2 Effectiveness and Impacts[22] (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Project Output

Output 1's aim is to establish a mechanism to implement the PTA operation, and to

[20] According to a stakeholder at the time of the project planning, it was common for the development partners to have a demarcation area-wise and support the target area (such as region) at that time.

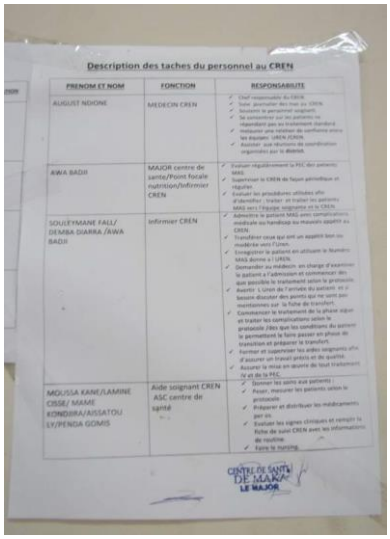
[21] In the project, as the approach to emphasize establishing the administrative mechanism, Japanese experts developed the National guidelines together with the central Ministry and C/Ps in the target regions. Trainings and activities in the target regions were conducted, according to the guidelines, by the Ministry with the technical support of the Japanese experts. It was said that this approach was effective in scaling up of the project activities outside of the target regions. (Source: Project Completion Report)

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

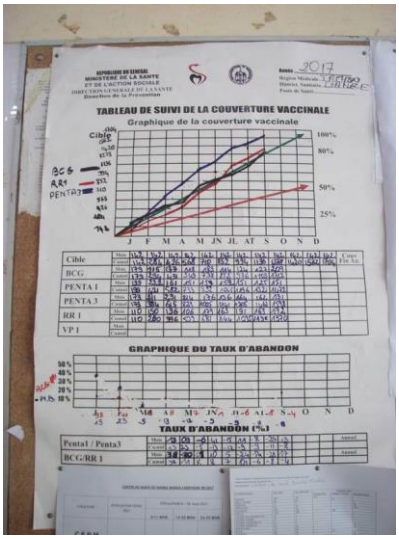
strengthen supervision.

At the time of the project completion, Output 1 was largely achieved as a whole[23].

By the time the project ended, the PTA operation mechanism from planning to M&E (including appropriate supervision) was established along with the required training system, and the guidelines were developed. Although some activities began just before the project completion, the PTA operation guidelines, which were jointly developed with other development partners, have been utilized nationwide since 2013. At the time of the project completion, PTA operation activities were conducted mostly according to the guidelines. Therefore, it can be said that the goal of Output 1 to improve "the capacity of planning and M&E of the regional medical and district health offices" is almost achieved.



Job Description
(An OGRIS tool for human resource management)
Source: Taken by the evaluator



Line Graph
(An OGRIS tool for health information management, a monitoring chart on routine immunization program for children)
Source: Taken by the evaluator

In Output 2, mechanisms related to OGRIS and 5S were established and capacity building was carried out through trainings of trainers for OGRIS, various trainings for 5S[24], finance, and human resources management to improve the capacity of resource management. Therefore, it can be said that the goal of Output 2 to enhance "the capacity

[23] For the achievement of the outputs indicators, see "Appendix 1 Achievement of Outputs at the time of the project completion".

[24] The 5S trainings were conducted at seven health centers excluding three health centers where the transfers to the new buildings had not completed. The electricity and waterworks required for relocation to the new facilities were beyond the project control (the external factor). The 5S training contains 5S practical exercises at each unit in the health center, so conduct of the training in the old facilities indicated training inputs would result in waste of resources. Therefore it was agreed with C/Ps not to conduct the training at the health center before relocation.

to manage resources (organizational management such as human resource, accounting/finance, medicines and medical equipment and facility management) in the medical regions and health districts" is almost achieved.

By the time of the project completion, Output 3's goal, "lessons learned from the project are shared in both in and outside of Tambacounda and Kédougou regions," was achieved remarkably as follows.

In Output 3, the project initiatives were shared both inside and outside the target regions. The PTA operation guidelines were beginning to be used nationwide, along with the 5S-training package in other regions. The PTA operation guidelines, training materials and tools for 5S practice, and the OGRIS training package developed by the project were endorsed by the Ministry as official documents and shared with other regions. The following columns show the reasons why the project activities were spread to other regions.

Column: Contributing Factors That Helped Spread the Project Deliverables to Other Regions

The contributing factors for the nationwide scale-up of the PTA operation guidelines and the spread of the 5S-training package to other regions are as follows:

· Matching with high priority needs in Senegal, such as PTA operation and quality improvement of health services
· Approach to establish mechanisms in the administrative system, such as drafting of manuals and guidelines, piloting, finalization of the documents, and endorsement by the Ministry
· Development of manuals and guidelines with a great regard for fostering a strong sense of C/Ps ownership
· Project management system that enabled the above approach (establishment of project offices not only in the target area but also in the Ministry)
· Involvement of other development partners at the developing stage of manuals and guidelines, and active donor coordination
· Explicit information about the contents and expenses of the trainings in project publicity to the Ministry and other development partners, which made planning on their part easier

Source: Project Completion Report, Questionnaire responses

3.2.1.2 Achievement of Project Purpose

Table 5 Achievement of Project Purpose

Project Purpose	
"Managing for results" capacity of the regional medical and district health offices are reinforced in Tambacounda and Kédougou regions.	
Indicators	Actual

1. Annual Work Plan (PTA) for 2013 is developed following the eight steps outlined in the PTA operation guidelines.	< Mostly achieved > · According to the regional medical offices that supervise health districts, PTAs for 2014 were developed in accordance with the guidelines in all the health districts and two regions. · According to the district health offices and CRFS, there were "unknown[25]" responses (four out of eight district health offices and CRFS), but all the rest developed PTA for 2014 in accordance with the guidelines. · PTA for 2012 and PTA for 2013 were developed in accordance with the guidelines in ten health districts and two regions.
2. The activities for 2013 was monitored according to the seven steps mentioned in the PTA operation guidelines.	< Mostly achieved > · According to the regional medical offices, PTAs for 2013 were monitored in all the health districts and Tambacounda Region according to the guidelines. It was unknown in Kédougou. · According to the district health offices and CRFS, there were "unknown" responses (four out of eight district health offices, and CRFS), but all the rest monitored PTA for 2013 according to the guidelines. · Activities for 2012 and 2013 were monitored according to the guidelines in the ten health districts and the two regions.
3. The activity achievements in 2013 are evaluated according to the three steps mentioned in the PTA operation guidelines.	<Mostly achieved > · According to the regional medical offices, PTAs for 2013 were evaluated in accordance with the guidelines in all the health districts and two regions. · According to the district health offices and CRFS, there were "unknown" responses (five out of eight district health offices, and CRFS), but all the rest evaluated PTA for 2013 in accordance with the guidelines. · PTAs for 2012 were evaluated in accordance with the guidelines in the ten health districts and two regions. Note: Evaluation of PTA for 2014 was to be done in 2015 after the project completion; therefore it is not included in this survey.
4. The activities of 5S-KAIZEN-TQM (Total Quality Management) are monitored in each health center according to the established standards and tools before the end of 2013.	<Achieved to some extent> Supervision was carried out at six out of the seven health centers[26] where the 5S training was conducted.
5. Activities to improve resource management (organizational management such as human resource,	< Partially achieved> The activities were implemented in only the four health districts where the OGRIS trainings were conducted.

[25] The reasons for unknown responses are mainly because the project activities were the events before office appointment of Regional Chief Medical Officers and District Chief Medical Officers who were interviewed in the ex-post evaluation survey, and have little knowledge about the situation during the project. Among those, two Regional Chief Medical Officers and seven District Chief Medical Officers have joined the current post after the project completion. Many of them were working in other offices or health facilities in the two regions during the project, and participated in some project activities. The other two did not know much about the project activities. In addition, because the content of the questionnaire was broad, the questionnaires were answered in consultation with other management team members in some cases.

[26] In the JICA's ex-post evaluation, in principle, the influence of external factors is not considered for evaluation judgment. However, as mentioned before, in case the transfers to the newly constructed health centers were not completed by the end of December 2013, it was agreed in the project's Joint Coordinating Committee that the project would not support the 5S training. Therefore, achievement in the seven health centers where the trainings were conducted, were analyzed.

accounting/finance, medicines and medical equipment and facility management) are planned and implemented in each health district by the end of 2013 according to the guidelines and tools, in line with the laws and regulations.	Note: OGRIS trainings were conducted as a pilot in the two health districts. The trainings for the remaining eight health districts were managed mainly by C/Ps with the financial support of UNICEF, in order to enhance the capacity of C/Ps to conduct training. At the time of the project completion, the trainings were conducted in four out of ten health districts. Due to the circumstances of C/Ps, the trainings in the remaining six health districts were completed after the project. Although the conduct of trainings was delayed, it is considered that it was appropriate to have prioritized strengthening C/Ps' capacity.

Source: questionnaire responses by regional medical offices, district health offices, and CRFS; interviews; Terminal Evaluation Report; Project Completion Report
Note: It was asked to the regional medical offices to confirm the situations for the regional medical offices and all the health districts in the regions.

Table 5 shows the degree of achievement for the project purpose. Indicators 1 to 3 on PTA operation were achieved. In the two target regions, the capacities to utilize health information data and to conduct PTA operation activities in accordance with the guidelines have been strengthened, and PTA development and M&E are being conducted.

Indicators 4 and 5 are related to Output 2 "improvement of resource management capacity in the medical regions and the health districts". Indicator 4 (5S monitoring) was achieved to some extent. Indicator 5 was achieved partly, and OGRIS was used in four health districts where the trainings were conducted. In addition, the project prioritized conducting trainings mainly by the C/Ps initiative, and the trainings were completed in all the ten health districts after the project completion.

Because the project prioritized strengthening the capacity of C/Ps to conduct training, the project achieved to some extent its project purpose because some activities were not completed by the time of the project completion.

3.2.2 Impacts

3.2.2.1 Achievement of Overall Goal

Although it is not a direct relationship, there is a causal chain between the project purpose and the overall goal, and the intermediate outcome is assumed in between. Considering the causal relationship, when the project purpose "Managing for results capacities of the regional medical and district health offices are reinforced" in the two target regions is achieved, the intermediate outcome to improve the quality of healthcare services in health facilities would be achieved. Then the overall goal; "improvement of the health status of the population" in the two regions would be achieved. Thus the intermediate outcome indicators[27] were included for evaluation. The time frame for

[27] As intermediate outcome indicators, several indicators from *Continuous Service Provision Assessment*

target achievement and target values of the overall goal has not been set; therefore, the changes from the time of the project completion to the ex-post evaluation were analyzed. Trends of improvement were observed in both the overall goal (Table 6) and the intermediate outcome indicators (Table 7) as a whole, though it is necessary to consider the possibility that other factors other than the project have influenced the achievement[28].

Table 6 Achievement of the Overall Goal

<table>
<tr><th colspan="2">Overall Goal</th></tr>
<tr><td colspan="2">The health status of the population of Tambacounda and Kédougou regions is improved.</td></tr>
<tr><th>Indicator</th><th>Actual</th></tr>
<tr><td>Indicators adopted in health related Millennium Development Goals (reduction of child mortality; improvement of maternal health; combat of HIV/AIDS, malaria, and other diseases) have improved in Tambacounda and Kédougou Regions.</td><td>< Achieved to some extent: Among 21 indicators for each target region, 10 indicators improved, 1 indicator remained the same, 5 indicators deteriorated, 26 indicators unknown >
The changes from the time of the project completion to the ex-post evaluation were analyzed based on twenty indicators confirmed at the time of the terminal evaluation, and one similar indicator, “a percentage of children under age 5 who took the malaria test tested positive”, taken from *the Demographic and Health Surveys*[29].
The changes over years in each region were analyzed; ranking A indicates improvement, B indicates the same degree, C indicates deterioration and N/A indicates unknown due to lack of data.

Degree of changes in overall goal indicators
(from the time of the project completion to the ex-post evaluation)
<table>
<tr><th rowspan="2">Rank</th><th colspan="2">Tambacounda</th><th colspan="2">Kédougou</th><th colspan="2">Total of 2 regions</th></tr>
<tr><th>Number of indicators</th><th>%</th><th>Number of indicators</th><th>%</th><th>Number of indicators</th><th>%</th></tr>
<tr><td>A</td><td>6</td><td>28.6%</td><td>4</td><td>19.0%</td><td>10</td><td>23.8%</td></tr>
<tr><td>B</td><td>1</td><td>4.8%</td><td>0</td><td>0.0%</td><td>1</td><td>2.4%</td></tr>
<tr><td>C</td><td>1</td><td>4.8%</td><td>4</td><td>19.0%</td><td>5</td><td>11.9%</td></tr>
<tr><td>N/A</td><td>13</td><td>61.9%</td><td>13</td><td>61.9%</td><td>26</td><td>61.9%</td></tr>
<tr><td>Total</td><td>21</td><td>100.0%</td><td>21</td><td>100.0%</td><td>42</td><td>100.0%</td></tr>
</table>
Reference: Appendix 2 Changes over the years in Overall Goal Indicators Value</td></tr>
</table>

Survey [SPA: a survey conducted to evaluate the status of service provision of health facilities and the quality of health care services, conducted by ICF International which conducts DHS survey. This survey has been conducted in several countries including Senegal and Kenya with the support of the United States Agency for International Development (USAID)], were added as reference indicators. Though these indicators would not be improved only by achieving the project purpose, the evaluator used these as a reference for impact judgment. The survey is called *Enquête Continue sur la Prestation des Services de Soins de Santé (ECPSS)* in French.

[28] As factors affecting the achievement of the overall goal, the number and quality of health personnel, the logistics of medicines, the facilities and medical equipment of health facilities, etc., may be considered. The World Bank and USAID launched Result Based Financing (RBF, bonus paid based on outcome) in four regions including the project’s two target regions in 2014. At the time of the project completion, the RBF was in the pilot phase, and it was not implemented yet in the two regions. At the time of the ex-post evaluation, RBF was conducted in two health districts in the eight health districts visited.

[29] Other documents that were mentioned as information sources in PDM could not be obtained.

Table 7 Comparison of degree of changes in intermediate outcome indicators, between the two target regions and the national average

<table>
<tr><th>Indicator</th><th>Actual</th></tr>
<tr><td>The indicators related to status and quality of service provision in health facilities, and performance management have improved.</td><td>< Achieved to some extent
Comparison between the two target regions and the national average in fifteen indicators: nine indicators found better improvement; one indicator found to be the same; five indicators found to be less improvement. >

Applicable indicators[30] from the SPA survey were analyzed.
Average of the two target regions and the national average were compared to the changes from the time of the project completion to the ex-post evaluation; ranking A indicates better improvement, B indicates the same degree, C indicates less improvement.

Comparison of degree of changes in intermediate outcome indicators (between the two target regions and the national average)
<table>
<tr><th>Rank</th><th>Number of indicators</th><th>%</th></tr>
<tr><td>A</td><td>9</td><td>60.0%</td></tr>
<tr><td>B</td><td>1</td><td>6.7%</td></tr>
<tr><td>C</td><td>5</td><td>33.3%</td></tr>
<tr><td>Total</td><td>15</td><td>100.0%</td></tr>
</table>
Reference Appendix 3 Changes over the years in intermediate outcome indicators value</td></tr>
</table>

The project is considered to have achieved its overall goal to some extent; some indicators have deteriorated, such as the under-five mortality rate and immunization coverage rate for children, but there have also been improvement trends to some extent in the overall goal indicators, and better improvement trends than the national average in the intermediate outcome indicators are observed as a whole. However, as mentioned before, the influence of other factors other than the project needs to be considered.

3.2.2.2 Continuity of the Project Purpose and the Project Outputs at the time of the ex-post evaluation

Continuity of the project Outputs are shown in Table 8; the PTA operation mechanism of Output 1 is continued, the other activities in Output 1 and Output 2 are continued partly, in Output 3, the PTA operation is continued nationwide, and the 5S trainings are conducted in other regions.

Continuity of the project purpose is shown in Table 9; PTA operation is mostly continued; 5S and OGRIS activities are continued partly; monitoring of 5S activity is continued at a limited level.

[30] The evaluator selected 15 indicators from the SPA survey that are considered relevant to outputs and the overall goal of the project.

We can deduce that the project purpose is continued to some extent as a whole.

Table 8 Continuity of the Project Outputs at the time of the ex-post evaluation

<table>
<tr><th>Output</th><th>Continuity of the Project Outputs</th></tr>
<tr><td>Output 1</td><td>< PTA operation is continued; others are partly continued >
· PTA operation is continued.
· Tools and packages are partly utilized as shown below[31].

Utilization of tools and training packages (Medical Regions)
<table>
<tr><th>Name of Tools</th><th>Number of response “in use”</th></tr>
<tr><td>PTA operation guidelines</td><td>2/2</td></tr>
<tr><td>Handbook for the effective management of quarterly coordination meetings at the regional level</td><td>1/2</td></tr>
<tr><td>Supervision sheet for M&E activities in a health district[1]</td><td>1/2</td></tr>
<tr><td>Supervision tools for the health management information system[1]</td><td>1/2</td></tr>
<tr><td>5S training package[1, 2]</td><td>1/2</td></tr>
<tr><td>OGRIS training package[2]</td><td>0/2</td></tr>
</table>
Source: questionnaire responses by the regional medical offices
Note 1: It is a supervision tool, or contains a supervision tool.
Note 2: Utilization is asked for a whole package which includes a supervision tool for 5S.

Utilization of tools and training packages (Health Districts)
<table>
<tr><th>Name of Tools</th><th>Number of response “in use”</th></tr>
<tr><td>PTA operation guidelines</td><td>6/8</td></tr>
<tr><td>Manual for effective management of monthly coordination meetings at the district level</td><td>5/7</td></tr>
<tr><td>Supervision tools for the health management information system[1]</td><td>4/8</td></tr>
<tr><td>5S training package[1, 2]</td><td>4/8</td></tr>
<tr><td>OGRIS training package[1, 2]</td><td>5/8</td></tr>
</table>
Source: questionnaire responses by the district health offices
Note 1: It is a supervision tool, or contains a supervision tool.
Note 2: Utilization is asked for a whole package that includes a supervision tool for 5S and OGRIS, and the interpretation on this requires attention.</td></tr>
<tr><td>Output 2</td><td>< Continued partly >
· The mechanism of OGRIS (OGRIS trainers, training package, M&E method) is continued partly. Some of the trainers that were trained through the project have been transferred.
· The continuing training program on management at CRFS has not been established.
· 5S trainings were not conducted at three health centers because of lack of funds.
· 5S and OGRIS training packages are in the process of revision.
· Some personnel who were trained in the project continue to work as management team members, partly because of the transfers of those trained.</td></tr>
</table>

[31] The reason why the PTA operation guideline is not used is because the instruction is written in the PTA development tool itself and is sufficient to understand how to develop the plan. Some OGRIS tools are not used because some tools are not in line with the current system, such as the health information system and others that have been changed since the project completion. The other major reasons why the use of the tool is partial are; the insufficient supervision budget (fuel cost for vehicles, daily allowance for supervisors, etc.), transfer of the trained managers, and insufficient understanding and knowledge on activities of newly joined personnel without training. (Source: questionnaire responses from regional medical and district health offices and interviews)

Output 3	< Continued partly> · PTA operation is continued nationwide using the revised PTA operation guidelines. · 5S trainings were conducted at 40% of health centers throughout the country (including the project achievement) using the 5S training package developed in the project. · The 5S training package is in the process of revision with support from PARSS 2.

Source: questionnaire responses, interviews

Table 9 Continuity of the Project Purpose at the time of the ex-post evaluation

Indicators	Continuity of the Project Purpose
1–3. PTA operation (development, monitoring and evaluation)	< Continued mostly > · Development, monitoring and evaluation of PTA are continued mostly. While CRFS develops the PTA, but does not monitor and evaluate it according to the guidelines, as the indicators do not match with their activities.
4. The activities of 5S-KAIZEN-TQM are monitored in each health center according to the established standards and tools	< Continued partly > · Systematic 5S activities are continued partly due to the transfers of those trained[32]. Furthermore, the rate of supervision conduct is low, due to insufficient human and financial resources, etc.
5. Activities to improve resource management are planned and implemented in each health district according to the guidelines and tools, in line with the laws and regulations	< Continued partly > Confirmed the situation of OGRIS trainings conduct and the use of OGRIS tool. OGRIS training: After the project completion, all the planned trainings in the health districts were conducted. Utilization of OGRIS: ·Regional medical offices responded that they were used partly or no response. · Partial use of OGRIS is continued in health districts. · Among eight health districts surveyed; the usage rate was as follows; 56.3% for medicine management tool, 59.4% for health information management tool, 40% for human resources management tool. According to the evaluation survey mission on the OGRIS use conducted by PARSS 2 in June 2017 (survey target area: four health centers and eleven health posts in the two regions), all health facilities use one or more OGRIS tools. Supervision scores were 20.2% for health centers, 63.0% for health posts, on average. (Higher score indicates higher OGRIS utilization.) Reasons for the partial usage of OGRIS are; insufficient

[32] According to the Ministry, it is common practice in a project for field staffs in the region or lower level to conduct activities with financial incentives from the development partners, which may spoil ownership and sustainability of the activities after the project completion. Therefore, it is very important that the Ministry takes initiative in the project implementation. Furthermore, the Ministry is conducting activities to foster the non-monetary incentives (e.g. equipment procurement to the health facility with excellent work, offering foreign training opportunities to the health staffs with excellent performance). The survey conducted by this project in 2012 also indicates the expectation of financial incentive by staffs in the field.
(Source: Kanamori, S., Sow, S., Castro, M. C., Matsuno, R., Tsuru, A., & Jimba, M. (2015). Implementation of 5S management method for lean healthcare at a health center in Senegal: a qualitative study of staff perception. *Global Health Action, 8*. https://doi.org/10.3402/gha.v8.27256)

	understanding and knowledge of personnel on the activities and tools, due to transfers of the trained personnel, and no trainings conducted for newly assigned personnel; insufficient supervision from the upper level organization[33], some outdated OGRIS tools[34]; and excessive workload in health posts.

Source: questionnaire responses, interviews, JICA documents

3.2.2.3 Other Positive and Negative Impacts

The project implementation made the impacts described below. Negative impacts on the natural environments and unexpected negative impacts were not observed.

Synergy with other projects in the "Health System Strengthening Program" was observed, such as PRESSMN 2 utilized the contents of the project's 5S training package for its own training package. Furthermore, as a result of the project's effort to involve other development partners (UNICEF, USAID, Belgium, Luxembourg, and France) in the process of developing and revising the various guidelines, collaboration was realized toward the dissemination of the project activities to non-target regions[35]. In addition, the knowledge and experience acquired by implementing the project have been shared through academic journals after the project completion[36].

Since this project has to some extent achieved the project purpose and overall goal, effectiveness and impact of the project are fair.

For the project purpose, some activities were not completed by the time of the project completion, because the project had prioritized strengthening the capacity of C/Ps and it is assessed that the project has to some extent achieved the project purpose.

For the continuity of the project purpose and the project outputs, the PTA operation is mostly continued, while 5S and OGRIS activities are continued partly, because of the transfers of those trained, insufficient understanding and knowledge on activities of the newly assigned personnel, and insufficient funds for conducting trainings and supervision.

[33] According to the interview with a district health office, OGRIS utilization has improved after the aforementioned evaluation survey mission on OGRIS, and this is a good case that monitoring contributed to improve the activity implementation.

[34] After the project completion, transition to District Health Information System 2, introduction of software on Human Resource Information System in health sector, and launching of a new initiative in medicine supply were executed in the OGRIS associated area. At the time of the ex-post evaluation, revision on OGRIS training package was under process with the support of PARSS 2. (Source: JICA document)

[35] PTA operation guidelines were developed in cooperation with other development partners who supported the same issues. The guidelines were printed jointly by JICA, USAID and Belgian Technical Cooperation and were distributed nationwide. Since 2013, the guidelines have been utilized for PTA operations in the regional medical and district health offices in all 14 regions and departments in the Ministry. Luxemburg and France have also supported its use. (Source: Project Cooperation Report)

[36] Together with the aforementioned academic paper, two papers have been published.
Kanamori, S., Castro, M. C., Sow, S., Matsuno, R., Cissokho, A., & Jimba, M. (2016). Impact of the Japanese 5S management method on patients' and caretakers' satisfaction: a quasi-experimental study in Senegal. *Global Health Action, 9*. https://doi.org/10.3402/gha.v9.32852

As mentioned above, the PTA operation guidelines are utilized nationwide, and the 5S trainings have been conducted at 40% of health centers in Senegal, therefore the PTA and 5S had a remarkable ripple effect.

Although some indicators deteriorated for overall goal, improvement trends in the two target regions were observed, and intermediate outcome indicators showed better improvement trends than the national average as a whole. However, as mentioned before, the influence of other factors other than the project needs to be considered.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

Table 10 Inputs of the Project

Inputs	Plan	Actual
(1) Experts	0 Long-Term 5 Short-Term (no description of MM*) Chief Advisor / Management for Results / Health Planning, Financial Management, 5S-KAIZEN-TQM, M&E, Health Information System, Other Experts based on necessity	0 Long-Term 13 Short-Term (cumulative) Chief Advisor / Management for Results / Health Planning / Financial Management, 5S-KAIZEN-TQM, M&E, Health Information System
(2) Trainees received	No description of numbers of trainees	0 person
(3) Equipment	No description of budget amount Necessary equipment and materials for project activities such as printer(s), computer(s), photocopier(s), projector(s), vehicle(s)	Approximately 10 million yen 2 vehicles, a printer, computers, photocopies, projectors, etc.
(4) Local Operation Expenses	No description of budget a mount	Approximately 133 million yen at the time of the terminal evaluation (amount not mentioned at the time of the project completion)

Japanese Side Total Project Cost	total 330 million yen	total 513 million yen
Senegal Side Total Project Cost	1. Assignment of Counterparts 2. Provision of project office spaces (the Ministry, Regional Medical Offices of Tambacounda and Kédougou) 3. Utility costs for the project offices 4. Other necessary material, equipment, and information for the project activities	1. cumulatively 24 Counterparts[37] 2. Project offices (the Ministry, and the Regional Health Training Center of Tambacounda) 3. Utility costs for the project offices

Source: Terminal Evaluation Report, Project Completion Report, questionnaire responses
* MM stands for man-month.

3.3.1.1 Elements of Inputs

It was not possible to compare the actual inputs with the plan, for man-months of experts, numbers of trainees, and budget for equipment were not described with figures and amount in the Project Detailed Planning Survey Report. For dispatch of experts, as described in "3.1.4 Appropriateness of the Project Plan and Approach", it was confirmed that the man-months of persons have increased based on necessity according to the PDM revisions and equipment was mostly provided as planned.

3.3.1.2 Project Cost

The project cost was 513 million yen, which was significantly higher than the 330 million yen planned (155% of planned). The increase was due to the change of the project implementation approach [the approach to establish mechanisms including the Ministry, as well as strengthening the capacities of the two target regions (see "3.1.4 Appropriateness of the Project Plan and Approach")], and the increase of activities based on the revised PDM. Therefore, the increase in project cost is considered as

[37] Breakdown of the counterparts is as follows: 5 counterparts who led the project (cumulative, Director of General Directorate of Health in the Ministry, Regional Chief Medical Officers in Tambacounda and Kédougou regions), and 19 counterparts at the executive level (cumulative, the Ministry: cumulative total 6, Medical Region Office Tambacounda: 4, Medical Region Office Kédougou: 2 , District Chief Medical Officers: cumulative total 4, Health Center: 1, Regional Health Training Center of Tambacounda: 1

appropriate[38]. Three project offices at the time of the project planning, and one office (in Tambacounda) at the time of the project inception were planned, but eventually the offices were set up, one in the Ministry of Health and one in Tambacounda[39]. By establishing offices in two places, it contributed to the effective and efficient project operation[40].

3.3.1.3 Project Period

The project period lasted three years from March 2011 to February 2014, as planned (100% of planned).

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

3.4 Sustainability (Rating: ②)

The sustainability of results-based management capacities of the regional medical and district health offices in the two target regions, reinforced by the project, was analyzed at the time of the ex-post evaluation. The policy and political commitment, the organizational, technical, and financial aspects of the Ministry, the regional medical and the district health offices were examined. PTA operation, 5S activities and OGRIS were mainly analyzed as the results-based management capacities in this evaluation.

3.4.1 Policy and Political Commitment for the Sustainability of Project Effects

At the time of the ex-post evaluation, the *National Health Development Plan 2009-2018* is continued, and "Promoting results-based management" is continuously regarded as important.

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[38] The C/Ps commented favorably that the project cost on the Japanese side increased and their office was set up in the central Ministry, they facilitated better coordination with the Ministry, and they produced many project deliverables. According to a Japanese expert, many deliverables were produced based on the C/Ps' requests (source: questionnaires responses). In the project, 53 deliverables in the 10 areas were produced including the various guidelines, training packages, supervision tools, etc., and the Ministry approved documents on PTA, 5S, and OGRIS as official documents. At the time of the ex-post evaluation, some deliverables have been continuously utilized and the activities on PTA and 5S were expanded outside of the two target regions.

[39] Project Detailed Planning Survey Report, JICA document, Project Completion Report

[40] The following effects were observed by having two project offices.
Information collection from the Ministry and other Dakar based organizations (such as development partners) became easy, and after the project started, it was possible to develop project strategies timely at an early stage. This made it possible to have frequent communication with Ministry officials, who participated in developing the guidelines and tools reflecting their opinions, and fostered a strong sense of ownership for the materials produced. It also made it possible to have frequent communication and obtain better cooperation with the Project Director, the Director of the General Directorate of Health in the Ministry. It also increased the efficiency in administrative tasks, such as obtaining signatures for the project document, and helped to coordinate the activity schedule efficiently as it made easy access to both the Ministry and the field. (Source: Project Completion Report)

PTA[41] and 5S[42] activities are supported by policy documents and systems are stipulated. Although there is no policy document on OGRIS, OGRIS is a supplementary tool for improving the management of current work (management on medicine, health information, and human resources) in health centers and health posts, so there are no major hindrances to OGRIS utilization in the health facilities without particular policy document. In addition, documents on PTA operation, 5S, and OGRIS training packages have been approved nationally and are officially recognized by the Ministry.

Therefore, the sustainability of the project effects is high as a whole in policy and political commitment.

3.4.2 Institutional / Organizational Aspects for the Sustainability of Project Effects

The various departments in the Ministry engage in the development of national guidelines, M&E on their implementation, collaboration and coordination with development partners, acquisition of training budget (including trainings in region and lower level), etc. The PTA operation is managed by Directorate of Planning, Research and Statistics, and is conducted nationwide. PTA development starts in January of the previous year, and after the endorsement from the upper office, it is forwarded and consolidated into the Ministry of Health. The budget is then requested from the Ministry of Health to the Ministry of Economy, Finance and Planning, which is in charge of finance[43]. 5S activities are managed by the National Quality Program. Two personnel in the National Quality Program and one personnel in Directorate of Health Establishments are mainly involved in coordinating to conduct 5S trainings to other regions. For OGRIS, General Directorate of Health, Directorate of Human Resources, Directorate of Planning, Research and Statistics, Directorate of Pharmacy and Medicine, and regional medical offices are involved. Coordination is important as various directorates are involved, although no major issue was observed[44].

The form of decentralization in Senegal is deconcentration (déconcentration), and the central ministry takes most authorities and responsibilities, while the regional

[41] The PTA operation guidelines in which PTA operation system was stipulated were revised in 2015 and 2017, for the transition from the Mid-Term Sector Expenditures Framework to the Multi-year Expenditures Programming Document in the budgeting framework and integration of the gender approach in the health sector, and have been utilized nationwide. (Source: questionnaire response by the Ministry)

[42] Plan Stratégique National Intégrée de la Qualité en Santé 2018-2022 (provisional translation: National Strategic Plan for Improving Integrated Quality in Health) was developed and 5S activities are positioned as one of the initiatives for the quality improvement of health services. In the document, conduct of 5S training was planned and the budget amount was accounted for.

[43] JICA document

[44] At the time of the ex-post evaluation, PARSS 2 has been engaged in technical cooperation, including OGRIS activities. Because the Secretary-General of the Ministry is the Project Director, a project stakeholder mentioned that it made easier the OGRIS related departments to be cooperative in project implementation. (Source: interview with the Ministry)

medical offices are positioned as a branch of the Ministry[45]. Involvement from local government in operations in the health sector is low in the form of deconcentration[46]. Under these circumstances, the Ministry plays a role to revise the guidelines if necessary, and to provide guidance and monitor the activities in the regions. Therefore, it is important to establish a mechanism with involvement from the central ministry and its ownership, when considering the sustainability of the project effects and scale-up of the project activities in other regions. In this project, various guidelines were developed with stakeholders' participation including the Ministry, and as a result, C/Ps' sense of ownership was fostered[47]. With such contribution, nationwide PTA operations and deployment of 5S training to other regions by the Ministry are continued after the project completion.

At the time of the ex-post evaluation, although the management team members for the Regional Medical Office of Tambacounda seems somewhat small in number[48], there are organizational structures to conduct PTA operations, 5S, OGRIS and supervision activities both in the medical regions and the health districts. Although transfers of health personnel such as in the regional medical and the district health offices are observed anywhere in Senegal, six regions including the two target regions are recognized particularly as difficult areas to retain health personnel[49]. According to the project stakeholders, some prefer to transfer to a more convenient area within three months to a year, as the area is far from the Capital Dakar, and the living and the educational environment for children are severe. In the two target regions, transfer of personnel is observed in health personnel including management team members in the regional medical and district health offices, health centers, and health posts (approximately 20% transfer rate per year[50]). In addition, low motivation seems to be one of the main reasons for reduced continuity for some project activities in medical regions and health districts (see "3.2.2.2 Continuity of the Project Purpose and the Project Output, at the time of the ex-post evaluation").

In CRFS, the "continuing training program" on resource management, improvement

[45] Project Detailed Planning Survey Report
[46] Japan International Cooperation Agency (2009) *Thematic Guideline, Local Administration*
[47] Terminal Evaluation Report
[48] The numbers of management team members has declined from nine (2013) to three (at the time of the ex-post evaluation) in the Regional Medical Office of Tambacounda. On the other hand, its numbers in Kédougou Region was five (at the time of the ex-post evaluation) and its number was unknown for 2013. The numbers of management team members in health districts of Tambacounda Region was 49 members in total, both in 2013 and at the time of the ex-post evaluation. Its number was unknown for 2013, and there were 15 members in total in Kédougou Region at the time of the ex-post evaluation. In addition, many responded that insufficiency in human resources and technical aspects in PTA operation, 5S, and OGRIS activities, but the former issue was regarded more serious than the latter. (Source: questionnaires responses).
[49] Ministère de la Sante et de la Prévention Sénégal. (2010). *Plan National de Developpement des Ressources Humaines en Sante*.
[50] Project Completion Report. In addition, the transfer rate is 20% or more, according to a stakeholder in the Ministry who participated in the project as a counterpart in the target region.

of service quality and health system governance, which the project supported to establish, has not been realized and there is no implementation system of the said training program.

From the above, no problem is observed in the organizational aspect of the Ministry. Institutional structure is there to conduct activities in the medical regions and health districts, while the number of management team members who were trained and have sufficient technical capacities in implementing the project activities is insufficient (see "3.4.3 Technical Aspects for the Sustainability of Project Effects").

3.4.3 Technical Aspects for the Sustainability of Project Effects

For the Ministry, the technical aspects for revising various guidelines, and managing a training of trainers, and for the regional or lower level, the technical aspects for conducting activities on PTA operations in accordance with the guidelines, 5S and OGRIS were analyzed.

The Ministry needs to update or revise the guidelines, aligning them with policy changes and the program implementation situation in the field. The Ministry has revised the PTA guidelines with technical support from other development partners. Nine personnel in Directorate of Planning, Research and Statistics are mainly in charge of trainings and orientations for the PTA operation. As for 5S, with technical support from PARSS 2, the 5S training package was under revision. Regarding 5S training, a sufficient number of 140 personnel have been trained in Senegal as "Experienced Trainers" as of 2017[51]. Regarding OGRIS, the members of the OGRIS review committee[52] established by PARSS 2 will be the core trainers in the training of trainers for the regional level. Therefore, no particular problem is observed at the Ministry level.

In the regional and district levels, PTA is developed and operated largely according to the guidelines. However, a few mentioned that the degree of understanding of PTA development was insufficient in the two target regions[53]. As for 5S and OGRIS trainings,

[51] The 5S training program, established by the project, is designed to train 5S trainers through each training conduct. The trainer team consists of 10 members total; two Supervisors who oversee the entire training, four Experienced Trainers who have experience as 5S trainers, and four Apprentice Trainers who make their debut as 5S trainers in the training. In every training, the Apprentice Trainers take part and become candidates for becoming Experienced Trainers in future trainings. Management team members of regional medical and district health offices, and the staff of the Regional Health Training Center take part as trainers. (Source: Project Completion Report, questionnaire response, JICA document)

[52] The OGRIS review committee consists of six members for medicine supply management, five members for health information management, six members for human resource management, five members for coordination and supervision of OGRIS, excluding the PARSS 2 members, and they are from the Ministry, regional medical offices, and development partners. (Source: JICA document). In addition to its members, personnel in the related departments in the Ministry are cooperating as trainers in the OGRIS training of trainers at the regional level. (Source: interview with the Ministry).

[53] According to the JICA document, the quality of PTA monitoring in the country has not yet reached a

since the management teams of the medical regions and health districts have managed trainings during the project, their technical capacities on conduct of training and supervision to health facilities (health center and health post) are adequate. However, the numbers of personnel trained have decreased due to transfers of such personnel[54], and technology transfer other than trainings, such as briefings or on-the-job training (OJT) to newly assigned personnel are limited. It was observed that in health districts where there are no trainers, or where the District Chief Medical Officer has not attended the 5S or OGRIS training, understanding and knowledge about 5S and OGRIS in the District Management Team was not sufficient and it was difficult to conduct supervision adequately from the district health office to health facilities. According to the questionnaire responses and interviews, the utilization of tools and packages such as PTA, 5S, and OGRIS developed by the project in respective activities are; average 50% in the medical regions[55]; average 65% in the health districts (see "3.2.2.2 Continuity of the Project Purpose and the Project Output, at the time of the ex-post evaluation"). The reasons for limited utilization of tools are insufficient understanding of 5S and OGRIS activities in the management teams, and insufficient budget for trainings and supervision.

Regarding 5S activities at the health center level, based on questionnaire responses and on-site visits, it was observed that some centers conduct regular clean-up and some units in the health center voluntarily perform 5S activities, but active involvement from the 5S committee[56] in the health centers was not observed in most places. OGRIS is used in some health facilities[57] as a supplementary tool for the current work, and some staffs in health facilities are considered to have technical capacities to some extent. For 5S and OGRIS, the numbers of those trained have also been decreasing on the regional and health district level. Training and information related to 5S and OGRIS are not sufficiently relayed to newly assigned staff, and there is concern that the activities' implementation may become inadequate due to insufficient understanding of 5S and OGRIS activities. At the time of the ex-post evaluation, utilization of tools and training packages in health facilities only partially remained due to insufficient financial resources to train newly assigned staff, insufficient knowledge of new staff, and

satisfactory level. In this survey, its quality was not analyzed beyond the research questions, and not included in the evaluation judgment.

[54] The total numbers of trainers in the two regions were; 26 for 5S training, 20 for OGRIS training, which are equivalent to 67% and 43% of those trained by the time of the project completion. The average numbers of trainers in each health district were 1.8 trainers for 5S (range: 0-3) and 1.3 trainers for OGRIS (range: 0-3).

[55] The utilization in the region including the health districts was asked to the regional medical offices.

[56] The 5S committee is composed of the representative of each unit in the health center, and leads the internal supervision.

[57] At the time of the project planning, health posts were positioned as indirect beneficiaries of the project. OGRIS training was developed to introduce OGRIS to health centers and health posts. The training is led by the District Management Team as trainers, and the chief of each unit (unit chiefs) in the health center and the chief nurse in health post are trainees. (Source: Project Completion Report).

infrequent supervision to health centers by the district health offices (5S, and OGRIS), and by the regional medical offices (5S). The infrequent supervision is mainly due to the shortage of supervisors with sufficient knowledge, and the shortage of financial resources necessary for supervision implementation, as shown in the next section.

Therefore, technical sustainability problems are not observed with the Ministry, but are considered to be fair at the regional and lower levels.

3.4.4 Financial Aspects for the Sustainability of Project Effects

Decentralization is in process in Senegal and the local governments have state subsidies in the health sector. However, the budget amount coming through the Ministry of Health to implement their activities[58] is the largest in the regional and lower levels. In addition, opportunities to obtain funds from local sources are limited.

The PTA operations were established as official activities. Although the budget information could not be obtained, budget allocation and support from the government and development partners (World Bank and USAID) are expected for several years. According to interviews with the Ministry and the two regional medical offices, USAID's Neema project is supporting the PTA operation in the region and lower level in the two regions[59].

Regarding the 5S activities, in the policy document of the National Quality Program, the *National Integrated Strategic Plan for Quality in Health 2018-2022*, the budget amount for 5S trainings conducted in the regional or lower levels by the Ministry is stated as 51,840,000 FCFA (Franc CFA) (approximately 10 million yen[60], for 4 years) in the budgeted action plan[61]. In Senegal, it is common for the conduct of trainings and supervision to be supported by development partners in the region and lower level, but at the time of the ex-post evaluation, there was no partner support in the two regions on 5S, and there was no budget for 5S trainings and supervision. However, since PARSS 2 has components of "trainings on PTA, OGRIS, and 5S-KAIZEN-TQM", some training might be conducted in the two regions, and at least two health centers in Tambacounda Region are listed as candidate sites for 5S training[62]. Regarding 5S supervision, one of the issues is infrequent supervision due to insufficient financial resource in the two

[58] Source of health funding in Senegal are comprised of following; 64% by national budget, 19% by the out-of-pocket payment by the patient, 12% by the development partners and 5% by the local government, and the national budget accounts for a large proportion. [Source: Ministère de la Sante et de la Prévention Sénégal. (2009). *Plan National de Developpement Sanitaire (PNDS) 2009-2018*.]

[59] The Neema project aims to improve maternal and child health through strengthening health services, and will provide financial support of US $69 million for five years (2016 - 2021). (Source: Neema project https://www.intrahealth.org/projects/neema) (Accessed on April 22, 2018)

[60] For conversion of foreign currency, the rate as of April 3, 2018 was used.

[61] According to stakeholders in the Ministry, it was also mentioned that 5S related budget in the Ministry was not sufficient.

[62] JICA document

regions. As a countermeasure to that, we may consider integrating 5S supervision into the regular supervision that the regional medical and the district health offices are responsible for, in subordinate organizations.

The budget specifically for OGRIS (training conduct, supervision, etc.) is not yet secured by the Ministry, the regional medical, and the district health offices. However, since OGRIS is strongly related to the current work, it might be possible to conduct ORGIS activities to some extent without this budget by doing the following: by engaging activities as part of its original work in the relevant departments in the Ministry; by integrating monitoring of OGRIS activities into regular supervision to the health districts by the regional medical offices; by integrating OGRIS supervision into regular supervision to health facilities by the district health offices; and by enhancing the mind of health facility staffs through OGRIS activities as part of their regular work in health facilities.

As mentioned above, the Ministry has prospects of financing for PTA and 5S, while financial issues on conduct of trainings and supervision for 5S and OGRIS are observed in the regional and lower level. Therefore, the financial sustainability is considered to be fair as a whole.

From the above, no major problems have been observed in policy background, while some minor problems have been observed in terms of the organizational, technical, and financial aspects in implementing agency and concerned organizations. Therefore, sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The project was implemented aiming to “reinforce the results-based management capacities” of regional medical offices, district health offices, and health centers in Tambacounda and Kédougou regions, through “improving planning, M&E capacities”, “improving resource management capacities (organizational management such as human resource, accounting/finance, medicines and medical equipment and facility management)” and “sharing the project experiences within and outside of the target regions”. The main C/Ps are concerned personnel in the Ministry and the regional medical offices. Its overall goal was to “improve the health status of the population in the two regions”.

The objective of the project was consistent with *National Health Development Plan 2009-2018,* which emphasizes “promoting results-based management”, and with the development needs to improve the health status of the population in the two regions

where the health indicators were poor, both at the time of the project planning and its completion. It was also consistent with Japan's ODA policies and JICA's plan in the health sector, which proposed "Enhancement of Basic Social Services", "the development of policy-oriented human resources" "to formulate and implement evidence-based" health plans, and "strengthening administrative capacity" in health sector. Therefore, its relevance is high.

The following activities were conducted; improvement of health information system management for the regional medical and district health offices; strengthening the operational capacity for PTA establishing a sustainable mechanism for strengthening planning, and M&E capacities; strengthening supervision capacities; preparing to establish a sustainable training system (continuing training program); enhancement of 5S approach and improvement of resource management capacities in the health districts and health centers; development of tools and guidelines that are the basis of these activities; and sharing project experience. With the project contribution, the mechanism for PTA operation is in place, and the PTA operation has continued at the time of the ex-post evaluation. Activities related to 5S and OGRIS for resource management improvement, were implemented to some extent accordingly. Under an influence of external factors and a result of giving priority to strengthening C/Ps' training management capacity, all 5S and OGRIS trainings that were expected during the project period could not be completed by the end of the project. At the time of the ex-post evaluation, the 5S and OGRIS activities in the two target regions were partly continued. Therefore, effectiveness and impact of the project are fair. However, the PTA operation is continued nationwide, and 5S trainings have been conducted in other regions and the ripple effect is high.

Although the project period was within the plan, the project cost exceeded the plan, so the efficiency of the project is fair.

For the prospect of sustainability of the project effects, no major problems have been observed in policy background, while some minor problems have been observed in terms of the technical and financial aspects. Therefore, sustainability of the project effects is fair as a whole.

In light of the above, although the project has achieved the project purpose to some extent, this project is evaluated to be partially satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

Integration of 5S and OGRIS supervision into regular supervision

[Organizations concerned: (Central level) Planning and Monitoring-Evaluation

Supporting Unit[63] in General Directorate of Health, National Quality Program, and departments related to OGRIS; regional medical offices; district health offices]

In the two target regions, supervision of 5S and OGRIS activities is limited due to insufficient funds. It is desirable to integrate carefully selected important supervision check points into the regular supervision conducted by the regional medical and district health offices, while the current monitoring tools for 5S and OGRIS may be utilized where necessary. For example, the National Quality Program, the OGRIS related departments, and the Planning and Monitoring-Evaluation Support Unit in the Ministry may encourage and monitor the regional medical and district health offices to integrate the 5S and OGRIS check points into their regular supervision checklists.

Strengthening the sustainability of 5S and OGRIS activities

[Organizations concerned: (Central level) National Quality Program and departments related to OGRIS; regional medical offices; district health offices]

After the project completion, 5S and OGRIS activities are continued only partially in some offices and facilities in the two target regions. The reasons are insufficient understanding and knowledge of the activities of newly assigned in region and health districts and infrequent conduct of supervision. It is desirable for the regional medical and district health offices to make efforts to increase the learning opportunities for the newly assigned through briefings and OJT, and the regional medical offices may strive to seek possible financial support through consultation with the department concerned (e.g. the National Quality Program) to conduct training to the newly assigned. Where possible, the regional medical and district health offices may coordinate with health committees[64], local governments, or local enterprises to conduct trainings and to have their financial support.

In addition, as shown in "3.2.2.2 Continuity of the Project Purpose and the Project Output at the time of the ex-post evaluation", it is presumed that staffs' incentives (including non-monetary incentives) are low as the reasons that some project activities were not continued at the field level. It would be desirable for the National Quality Program and the departments related to OGRIS to take the initiative and continue to promote activity implementation at the field level (e.g. raising motivation of personnel who are engaged in 5S and OGRIS activities in the health facilities, and management

[63] The unit developed the *National Supervision Plan* with the support of JICA in 2017, and is strengthening supervision in the health sector.

[64] A health committee is organized for each health center and health post with local residents, and is responsible for; financial management of medical fees and medicine sales; employment and placement of assistant personnel such as community health workers, medical assistants, dispensary clerk, accountants etc.; management of the budget. (Source: Japan International Cooperation Agency (2008) *Preliminary Survey Report on the project for the development of health facility infrastructure in Tambacounda Region in the Republic of Senegal*.)

team members of medical regions and health districts through sharing of good practices at the central and lower levels; publicity to increase the activity recognition; awarding personnel or health facilities with good practices, etc.)

Strengthening financial sustainability

[Organizations concerned: (Central level) National Quality Program and departments related to OGRIS; regional medical offices; and district health offices]

The Ministry is expected to strengthen the financial sustainability for conducting 5S and OGRIS trainings for untrained personnel in the two regions. It is desirable for the regional medical and district health offices to keep in mind the responsibility of obtaining a training budget, and to seek local financial resources if possible.

Continuing discussion on establishing continuing training program

[Organizations concerned: (Central level) Directorate of Human Resources; regional medical offices; Regional Health Training Center]

The project started the preparations for the continuing training program to strengthen the capacities on the health system governance, resource management and quality improvement in service provision. But it is far from being established, and there is no secured budget and no mechanism for implementation at the time of the ex-post evaluation. It is desirable for the concerned parties, including PARSS 2, to continue discussions on the training program and to realize it in a manner aligning with the current circumstances. Furthermore, if the effectiveness of 5S and OGRIS activities is widely recognized in Senegal, and they are implemented as usual practices in the health sector, it is desirable to consider the integration of 5S and OGRIS training components into the basic education[65] of health professionals.

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

Approach aimed at establishing a sustainable mechanism with a nationwide scale up in consideration

Under the circumstances of deconcentration in decentralization like Senegal, the central Ministry plays an important role in establishing mechanisms to reinforce the health system (e.g. development of guidelines and training packages) and in implementing a scale-up of activities to the entire nation (e.g. technical and financial

[65] Education to become health professionals (doctors, nurses, midwives, etc.)

inputs in conducting trainings). In a country with a similar decentralization situation, when the project aims to strengthen the administrative capacities of health personnel in the regional and lower levels, it would contribute to the sustainability of project effects, to give importance to establishing a mechanism to strengthen capacities involving the central Ministry, and to foster their ownership (see “3.4 Sustainability”).

Project management setting two project offices in the central Ministry and region

In addition to strengthening the capacities in the target area, when the project aims to establish a national mechanism for health system strengthening through the pilot activities in the target area, and aims to strengthen the capacities in the regions and lower levels nationwide, it would be effective and efficient to have the project office not only in the target area, but also in the central Ministry. This would enable the project to have better involvement from the central Ministry and would also get the project administrative to work more efficiently (see “3.3.1.2 Project Cost”).

Collaboration with other development partners

When the project aims to scale-up the activities nationwide with support from the development partners in a country where the other partners are conducting similar activities, the following may contribute towards obtaining their support more easily and expanding the activities to other regions: involvement of development partners from the development stage of manuals and guidelines (joint development of guidelines, their printing, and nationwide distribution), active promotion with clear indication of total activity cost, and explicit publicity of the project activities (e.g. indication of deployment model for the training program in the region) in a project brochure to the Ministry and other development partners, which make planning on their part easier.

Setting appropriate overall goal and indicators in PDM

By setting the overall goal and indicators appropriately, the effect of the project may be evaluated more accurately.

Regarding the overall goal and its indicators in the project, some indicators were difficult to achieve because of external factors. Furthermore, 20 indicators were set for the overall goal and some data was not available at the time of the ex-post evaluation. The overall goal is a long-term effect of which targeted value is expected to be achieved three to five years after the project completion. However, it is desirable to monitor the indicators throughout the project implementation. Therefore it is necessary to consider its cost (cost for time and effort) for data collection and analysis, and for example, setting

two to four indicators for the project purpose is generally desirable[66]. Considering the data availability, it is desirable to select appropriate indicators for monitoring and evaluation, and to set the adequate number of indicators.

End

Appendix 1 Achievement of Outputs at the time of the project completion
Appendix 2 Changes over the years in Overall Goal Indicators Value
Appendix 3 Changes over the years in Intermediate Outcome Indicators Value

[66] Evaluation Department, Japan International Cooperation Agency (2016) *JICA' Operations Evaluation Handbook ver 1.1*.

Appendix 1 Achievement of Outputs at the time of the project completion

Output 1	
Indicators	Actual
(1) At least one health information officer in each regional medical and district health office receive training on information system by the end of 2013.	<Achieved> Information system training was conducted for the target personnel in 2013.
(2) A system for the improvement of planning, monitoring and evaluation capacities (team of trainers, training modules, implementation guidelines, training frameworks, M&E mechanism and funding mechanism) is put in place by the end of 2013.	< Achieved > Training of trainers in PTA training, development of training modules and PTA operation guidelines, development of "the Effective Management Manual for coordination meetings" for each regional medical office and district health office as a method of monitoring and evaluation of PTA has been completed. It is assessed that a mechanism necessary for improving the planning, monitoring and evaluation capacities has been established.
(3) In 2011, the initial version of the PTA operation guidelines is to be developed.	< Achieved > The initial version of the PTA operation guideline was developed in 2011.
(4) Before the end of 2013, the final version of the PTA operation guidelines is developed.	< Achieved > The final version of the PTA operation guideline was developed in 2012. In addition, the guideline has been approved as the official document of the Ministry in September 2012, and it has been used throughout the country since 2013.
(5) By the end of 2012, more than 80% of the management team members of the medical regions, regional services[67], and the health districts in Tambacounda and Kédougou regions receive training on PTA trainings.	< Achieved > At the time of the project completion (2014), the situation in Kédougou Region is unknown, but the training attendance rate in Tambacounda Region, and CRFS is 100% each. Since PTA operation is being implemented nationwide, it is assumed that training is being carried out in Kédougou region as well. In 2011 and 2012, nearly all management team members took training in the two target regions and CRFS.
(6) By the end of 2012, improved supervisory tools are put in place.	< Achieved > Although they were not achieved by 2012, four supervision tools were completed by December 2013.
(7) By the end of 2012, more than 80% of the management team members of the medical regions, regional services, and health districts are trained on supervision[68].	< Achieved to a great extent > There has been a high degree of achievement of three among four trainings (5S training for health center, training of trainers for OGRIS, health management information system training, and M&E training to monitor health districts).

[67] "Regional services" in the project indicates the "Regional Health Training Center (CRFS)".

[68] It was confirmed by a project stakeholder that there is no "supervision training" in the training package, but when the supervisors received the training (e.g. training of trainers for OGRIS) to learn how to use the supervision tool for "OGRIS", "5S", "health management information system", or "activities to monitor and evaluate health districts", which were developed in Indicator 6 of Output 1, it was considered that the supervisor received the training. Although various trainings were conducted in the project, the evaluator followed the analysis in the terminal evaluation, and only the aforementioned four kinds of supervision tools were analyzed.

	The achievement is described below, for the regional and district levels, and the regional services. Although some indicators were not achieved by 2012, the achievement at the time of the project completion was as follows: <u>Regional Management Team</u> · M&E training to monitor health districts: 100% (estimate) (Actual target was 14 personnel. Approximately 38 people from the regional medical and district health offices participated in a session on supervision tools to monitor and evaluate health districts, and breakdown of participants is unknown.) · For 5S, the degree of achievement of the related training is unknown. It was confirmed by a project stakeholder that members who were responsible for 5S supervision, have acquired relevant knowledge and skills through the use of supervision tools in the field activities. · The OGRIS training is conducted in a cascade manner and the Regional Management Team is to attend the training of trainers at the regional level. It was at the development stage of the training package in the two regions, and the formal trainings for the Regional Management Team were not implemented. However, some members have engaged in the development of OGRIS training package, and it is considered that they have related knowledge and skills equivalent or higher than what would be gained in the training. <u>District Management Team</u> · 5S: 85.7% (6/7 health districts) · OGRIS (the training of trainers at the District level): 100% (10/10 health districts) <u>Regional and District Management Team</u> · Health management information system: 48.7% (estimate) (38/78 persons, accurate degree of achievement is unknown) Note: Health management information system has an estimated value of less than 50%, but there is a possibility of underestimation. The exact number in attendance is unknown, and the number of participants was estimated based on the number of people who filled in the questionnaires in the session. It may be presumed that some may have not filled in the questionnaires, or some may have left earlier during the session. Therefore, there is a possibility that the degree of achievement was estimated low. <u>Regional Services</u> Although the exact figures of the number of the target and the participants are unknown, according to the project stakeholder, targeted personnel were trained in the trainings in the relevant field.

Output 2	
Indicators	Actual
(1) A system for improving resource management capabilities (team of trainers, training modules, implementation guidelines, training frameworks, M&E mechanism and funding mechanism) is in place by the end of 2013.	< Achieved > · OGRIS training By 2013, conduct of training of trainers, development of training modules, development of "OGRIS supervision sheet" as OGRIS M&E method (duplicated with "OGRIS supervision tool" of indicator 6 in Output 1) have been completed. Therefore, it is assessed that a mechanism for improving the capacity of resource management was established. · Trainings other than OGRIS training Training Materials for Improving Financial Management Capabilities (teaching materials / exercise notebook, guide for facilitators) was developed in 2013. Human Resources Management Training Materials and its Regulatory and Legal Aspects (teaching materials, reference documents) was developed in 2014. (It was officially added to the project activities in 2013 to complement the strengthening of human resources management capacity by OGRIS.) · Training framework "Operational plan for the implementation of the continuing training program on health system governance and resource management at the CRFS of Tambacounda" was developed in 2014. (It was added to the project activity in 2013, to promote the sustainability of the training implementation mechanism developed in the project.
(2) Before the end of 2012, the initial version of a Practical Guideline for 5S-KAIZEN-TQM is developed.	< Achieved > The initial version of 5S-KAIZEN-TQM guideline was developed and achieved in 2012.
(3) By the end of 2012, 5S-KAIZEN-TQM trainings will be conducted in the ten health centers.	< Achieved to some extent > The degree of achievement at the project completion was 70% (trainings conducted at seven health centers). The reason for non-achievement in the three health centers: The centers had not transferred to the newly built facilities. The electricity and water works required for relocation to the new facilities were beyond the control of the project. The 5S training contains 5S practical exercises at each unit in the health center, so conduct of the training in the old facilities indicated training inputs would result in a waste of resources. Therefore it was agreed upon with C/Ps not to conduct the training at the health center before relocation. The degree of achievement in 2012 was 50% (conducted in five health centers). Trainings were conducted at two health centers from November to December 2013.
(4) By the end of 2013, the final version of a Practical Guideline for 5S-KAIZEN-TQM is developed.	< Achieved > This was achieved in 2013; "5S practical guide" and "facilitators' guidelines" were approved as official documents of the Ministry in 2013.

(5) By the end of 2013, the Guideline on Resource Management is developed.	< Achieved > At the time of the project completion, it is assessed that the development of the resource management guidelines was achieved. <u>Developed by 2013:</u> · OGRIS training package (management tools for three areas such as medicine management, health information utilization, and human resource management were approved as official documents by the Ministry in September 2013) · Financial and accounting training package <u>Developed in 2014:</u> · Human Resources Management Training Materials and its Regulatory and Legal Aspects (supplementary contents to strengthening human resources management capacity of OGRIS) (Added as activities in July 2013)
(6) By the end of 2013, more than 80% of the Management Team members of the medical regions and health districts participate in trainings on various resource management guides / tools (organizational management such as human resource, accounting / finance, medicines and medical equipment and facility management).	< Achieved > Training on regulations on human resource management is a supplementary to the OGRIS training. Therefore, the degree of achievement on OGRIS training and "financial and accounting training" are considered to be more essential to this indicator. Therefore, it is assessed that this indicator is achieved as a whole. · OGRIS training Regional Management Team: Because the OGRIS training package was in the development stage, the training of trainers at the regional level was not conducted[69]. However, some members have engaged in the development of the OGRIS training package, and it is considered that they have related knowledge and skills equivalent or higher than what would be gained in the training. District Management Team: 90.6% (58/64 personnel) · Financial and accounting training Almost 100% (Almost covered all the targeted personnel, 26 persons received the training.) · Training on regulations on human resources management This was added to the project activities in 2013 as mentioned above (see "Output 2-5"). Although it was not achieved by 2013, it was conducted by the time of the project completion.

[69] The main activities of the OGRIS training package are shown as follows chronologically: the development of the training package draft version, the OGRIS pilot trainings at the health centers (two health districts), the finalization of the package and its approval by the Ministry, the training of trainers for eight health districts, and the trainings in two health districts. In order to facilitate the OGRIS trainings outside of the target regions, the mechanism was developed that the Ministry trains the Regional Management Team as "regional level trainers", and the regional trainers train the District Management Team as "district level trainers". The training of trainers was conducted for the three Regional Management Teams in Saint-Louis, Louga, and Matam regions in November 2013. (Source: Project Completion Report)

Output 3	
Indicators	Actual
(1) By the end of the project, lessons learned from the implementation of planning / monitoring and evaluation and resource management systems is recognized and shared with other regions.	< Achieved > The degree of achievement is assessed to be high. Scale-up of the project activities to other regions · PTA operation has been conducted nationwide. · The developing local government's Annual Health Action Plan was supported in the other five regions. · The 5S trainings were conducted at five health centers in other regions. In addition, at the time of the project completion, 5S trainings were being planned in 11 regions, and a discussion on the training conduct was in process in four regions. There was a plan for OGRIS to be introduced in eight regions.
(2) The guidelines / manuals to improve management capacity are approved as national documents and also shared with others	< Achieved > It is assessed that the indicator was achieved. · PTA operation guidelines, POCL-Santé development guideline operation manual, health management information system evaluation sheet for health districts, training materials and tools for 5S practice, and OGRIS training package were approved as official documents. · Sharing of PTA, 5S and OGRIS documents were conducted on a nationwide basis, and a project outcome sharing seminar was held nationwide and with French-speaking African countries.

Source: Terminal Evaluation Report, Project Completion Report, questionnaire responses, interviews

Appendix 2 Changes over the years in Overall Goal Indicators Value

	Indicator	Region	C-DHS 2012-2014	C-DHS 2016	Change over the years from【2012-14】to【2016】	Ranking (Region wise)
1	Infant mortality rate (under 1) (per 1,000 live births)	Tambacounda	56	48	86%	A
		Kédougou	58	71	122%	C
		Total[1]	N/A	N/A		
2	Under-five mortality rate (per 1,000 live births)	Tambacounda	108	105	97%	A
		Kédougou	114	140	123%	C
		Total	N/A	N/A		
3	Full immunization coverage among children 1-year-old	Tambacounda	54.3	41	76%	C
		Kédougou	56.7	47.3	83%	C
		Total	N/A	68.9		
4	Maternal mortality ratio (per 100,000 live births)	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
5	Percentage delivered by a skilled provider (doctor, nurse, midwife, and auxiliary nurse/midwife) (%)	Tambacounda	35.6	N/A		N/A
		Kédougou	37.1	N/A		N/A
		Total	N/A	58.6		
6	Current use of contraception (%)	Tambacounda	11	11	100%	B
		Kédougou	9.6	11.5	120%	A
		Total	N/A	24.3		
7	Percentage of women aged 15-19 who have begun childbearing (%)	Tambacounda	31.9	N/A		N/A
		Kédougou	44.3	N/A		N/A
		Total	N/A	N/A		
8	Percentage receiving antenatal care from a skilled provider (%)	Tambacounda	84.1	87.7	104%	A
		Kédougou	89	84.2	95%	C
		Total	N/A	95.4		
9	Unmet need for family planning among currently married women (%)	Tambacounda	29.3	23.4	80%	A
		Kédougou	30.4	26.5	87%	A
		Total	N/A	24.4		
10	Adult HIV prevalence (aged 15-49, women) (%)	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
11	Adult HIV prevalence (aged 15-49, men) (%)	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		

12	Condom use with multiple partners (%)	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
13	Knowledge of AIDS (aged 15-24)	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
14	Orphan school attendance ratio	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
15	Proportion of population with advanced HIV infection with access to antiretroviral drugs	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
16	Malaria mortality rate	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
17	Percentage who slept under an insecticide-treated net last night (children under age 5)	Tambacounda	37	55.4	150%	A
		Kédougou	41.3	52.1	126%	A
		Total	N/A	61		
18	Percentage who took antimalarial drugs (among children under age 5 with fever) [2] (%)	Tambacounda	3.3	2.9	88%	N/A
		Kédougou	4.6	12.4	270%	N/A
		Total	N/A	4.1		
18a	Percentage of children 6-59 months old with a positive test result for malaria rapid diagnostic test	Tambacounda	8.1	2.4	30%	A
		Kédougou	12.4	8.9	72%	A
		Total	N/A	0.8		
19	TB Case detection rate, TB incidence rate, TB mortality rate	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		
20	Proportion of TB cases detected and cured under directly observed treatment short course	Tambacounda	N/A	N/A		N/A
		Kédougou	N/A	N/A		N/A
		Total	N/A	N/A		

Ranking (by region)
Indicator values were analyzed over years for each region. Indicators were ranked as follows: A when improvement was observed; B when the values remained the same; C when deterioration was observed. N/A when the judgment cannot be done due to no availability of data or other reasons.

A	**10**
B	**1**
C	**5**
N/A	**26**

Source:
Agence Nationale de la Statistique et de la Démographie (ANSD) [Sénégal], et ICF International. (2015). *Sénégal : Enquête Démographique et de Santé Continue (EDS-Continue 2012-14), Rapport Régional.* Maryland: ANSD et ICF International.
Agence Nationale de la Statistique et de la Démographie (ANSD) [Sénégal], et ICF International. (2017). *Sénégal : Enquête Démographique et de Santé Continue (EDS-Continue 2016)*. Maryland: ANSD et ICF International.
JICA Senegal Office, Japan International Cooperation Agency (2014) *Terminal Evaluation Report on Project for Reinforcement of Health System Management in Tambacounda and Kédougou Regions in Senegal.*

Note:
1: Total indicates the national average.
2: It is recommended to treat malaria after the malaria test. It is ambiguous to judge the improvement only with this indicator and was ranked as N/A.

Appendix 3 Changes over the years in Intermediate Outcome Indicators Value

Indicator	Region	2014	2016	【2016】/【2014】	Average of two regions	Comparison: average of two regions over the national average	Rank
1 Percentage of health facilities, providing all basic health services[1]	Kédougou	80%	82%	103%			
	Tambacounda	80%	85%	106%	104%		
	Total [2]	74%	78%	105%		99%	C
2 Percentage of health facilities, regular electricity available	Kédougou	73%	75%	103%			
	Tambacounda	73%	75%	103%	103%		
	Total	53%	57%	108%		96%	C
3 Percentage of health facilities, improved water source[3] available	Kédougou	89%	100%	112%			
	Tambacounda	83%	76%	92%	102%		
	Total	94%	95%	101%		101%	A
4 Percentage of health facilities, implementing safe final disposal of needle waste	Kédougou	100%	100%	100%			
	Tambacounda	97%	88%	91%	95%		
	Total	94%	92%	98%		97%	C
5 Percentage of health facilities, conducting malaria diagnostic test	Kédougou	95%	100%	105%			
	Tambacounda	100%	100%	100%	103%		
	Total	94%	94%	100%		103%	A
6 Percentage of health facilities, conducting HIV diagnostic test	Kédougou	95%	93%	98%			
	Tambacounda	91%	86%	95%	96%		
	Total	89%	84%	94%		102%	A
7 Percentage of health facilities, providing outpatient curative care for sick children	Kédougou	100%	93%	93%			
	Tambacounda	100%	100%	100%	97%		
	Total	96%	96%	100%		97%	C
8 Percentage of health facilities, conducting growth monitoring for children	Kédougou	90%	88%	98%			
	Tambacounda	80%	90%	113%	105%		
	Total	84%	86%	102%		103%	A
9 Percentage of health facilities, all basic child vaccines available	Kédougou	87%	87%	100%			
	Tambacounda	67%	62%	93%	96%		
	Total	86%	80%	93%		103%	A

10	Percentage of health facilities, offering any family planning service	Kédougou	85%	87%	102%			
		Tambacounda	86%	86%	100%	101%		
		Total	87%	86%	99%		102%	A
11	Percentage of health facilities, family planning commodities for every method provided by the facility was available on day of survey	Kédougou	82%	100%	122%			
		Tambacounda	84%	100%	119%	120%		
		Total	84%	98%	117%		103%	A
12	Percentage of health facilities, providing antenatal care	Kédougou	91%	87%	96%			
		Tambacounda	86%	86%	100%	98%		
		Total	91%	88%	97%		101%	A
13	Percentage of health facilities, conducting normal delivery service	Kédougou	85%	82%	96%			
		Tambacounda	86%	86%	100%	98%		
		Total	77%	81%	105%		93%	C
14	Percentage of health facilities, providing HIV testing service	Kédougou	95%	93%	98%			
		Tambacounda	91%	86%	95%	96%		
		Total	89%	84%	94%		102%	A
15	Percentage of health facilities, offering malaria diagnosis and/or treatment services	Kédougou	100%	100%	100%			
		Tambacounda	100%	100%	100%	100%		
		Total	99%	99%	100%		100%	B

Ranking

Compared the average value of the improvement rates in the two regions with the value of national average. Indicators were ranked as follows: A when improvement was better than the national average; B when the values were the same; C when improvement was less than the national average.

A	**9**
B	**1**
C	**5**

Source:
Agence Nationale de la Statistique et de la Démographie (ANSD) [Sénégal] et ICF International. (2015). *Sénégal : Enquête Continue sur la Prestation des Services de Soins de Santé (ECPSS) 2014.* Maryland: ANSD et ICF International.
Agence Nationale de la Statistique et de la Démographie (ANSD) [Sénégal] et ICF International. (2016). *Sénégal : Enquête Continue sur la Prestation des Services de Soins de Santé (ECPSS) 2016*. Maryland: ANSD et ICF International.

Note:
1: Basic health services include outpatient curative care services for sick children, child growth monitoring, childhood immunization services, family planning, antenatal care services, and sexually transmitted infections (STIs) services.
2: Total indicates the national average.
3: Safe piped water, borehole or a tube well, a protected dug well, protected spring, or rain water.