Ex-Post Project Evaluation 2019 Package (South Sudan)

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Republic of South Sudan

FY2019 Ex-Post Evaluation of Technical Cooperation Project

'The Project for Improvement of Basic Skills and Vocational Training in South Sudan (Phase II)'

External Evaluators: Yoshiko Ogawa and Yuko Kishino, IC Net Limited

0. Summary

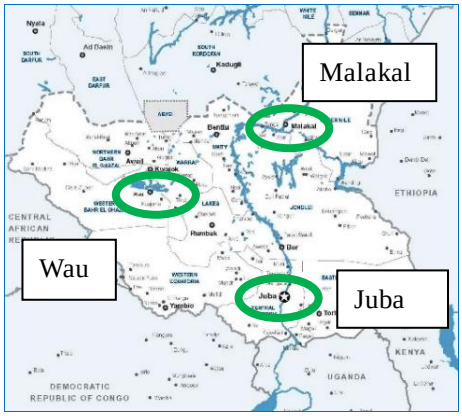
The project, in response to the needs for training of a skilled workforce that could support national reconstruction, economic development, and livelihood improvement, implemented capacity development activities to increase training opportunities and improve training quality. The project conducted training capacity development of public vocational training institutions, organisational capacity development of the Ministry of Labour, Public Service and Human Resource Development (hereinafter referred to as 'MLPSHRD'), and training capacity development of private vocational training centres. More precisely, the project strengthened the support system of the Directorate of Vocational Training (hereinafter referred to as 'DVT') of MLPSHRD for the public vocational training centres (hereinafter referred to as 'VTCs'), developed tools such as curriculum and a management manual, and trained vocational training centres, both public and private, in management and training. This was in line with the policies and needs of South Sudan that put emphasis on human resources development and increase in employment, and Japan's ODA policy. Thus, the project's relevance is high. As a result of the project implementation, training opportunities and quality improved; however, because the support of DVT for VTC was still limited, and there remained some managerial issues of VTCs that affected training quality, achievement of the Project Purpose is moderate. Some impacts were identified; the Multi-Service Training Centre (hereinafter referred to as 'MTC') and NGOs kept providing training and contributed to the graduates' finding employment. Nonetheless, two of the three VTCs, except for MTC, have stopped training,[1] which limits the quantitative impact. The data related to the Overall Goal are insufficient. Thus, the rating for effectiveness and impact is moderate. Although the project period was as planned, the project cost slightly exceeded the planned amount. Thus, according to the evaluation criteria, the efficiency of the project is moderate. At the time of the ex-post evaluation, a vocational training policy was being developed; this shows strong interest of the government and donors in this area. DVT can manage regional VTCs under donor-supported projects; however, it has a large human resource gap between the planned personnel and the actually deployed staff because of the delay in deployment. MTC does not have a sufficient number of quality instructors

[1] The two VTCs are Malakal Vocational Training Centre (hereinafter referred to as 'MVTC') and Wau Vocational Training Centre (hereinafter referred to as 'WVTC'). MVTC operated until 2013 and WVTC until 2016 but both stopped training due to conflicts.

although it keeps the technical capacity to continue training. It is not clear if DVT with such limited resources can provide full support to all VTCs that are going to expand in multiple states. Budget for training activities has not been disbursed until now and the financial sustainability is a serious issue. Thus, the sustainability of the project is low. In light of the above, this project is evaluated to be unsatisfactory.

It should be noted, however, that the discontinuation of training of the two VTCs and the absence of training budget are attributable to external factors such as conflicts in South Sudan and the financial conditions of the government. These factors negatively affected the impact and sustainability of the project.

1. Project Description



Project Locations


Civil engineering trainees at MTC
(23 November 2020, during the ex-post evaluation)

1.1 Background

At the time of planning, a few years after the end of the civil war in 2005, reconstruction was in progress in and around Juba. However, as a result of the prolonged civil war, there was a lack of South Sudanese workers with skills required for reconstruction and the gap was filled by skilled workers from neighbouring countries. On the other hand, many South Sudanese led difficult lives with limited income generating opportunities because they did not have skills necessary for employment and business. Therefore, capacity development of vocational training institutions (VTCs and NGOs) was needed to train skilled human resources who can contribute to national reconstruction. It was also necessary to provide ex-combatants and the vulnerable population such as Internal Displaced Persons (hereinafter referred to as 'IDPs') and women with vocational training so that they could find opportunities for employment and business to improve livelihood and, in so doing, mitigate dissatisfaction and facilitate stabilisation of the post-civil war society.

With this background, the Japan International Cooperation Agency (hereinafter referred to as 'JICA') implemented the Project for Strengthening Basic Skills and Vocational Training in Southern Sudan (hereinafter referred to as 'SAVOT1') from September 2006 for three years for effective basic vocational training. This project, in cooperation with MLPSHRD, strengthened the managerial capacity of MTC, a public vocational training institute in Juba, and NGOs providing vocational training.

Before the separation of Southern Sudan from Sudan, MTC, MVTC and WVTC, targeted in SAVOT2, belonged to the Supreme Council for Vocational Training and Apprenticeship of the government of Sudan. These VTCs were transferred to Southern Sudan around the time of the comprehensive peace agreement in 2005. However, the Supreme Council's function was not transferred to Southern Sudan and MLPSHRD did not have a section to manage the VTCs.[2] The necessity of such section was recognised during SAVOT1.[3] Moreover, because MVTC followed the training system of Sudan, it was necessary to support it for its transition to the South Sudanese system. Responding to these issues, a second phase project, the Project for Improvement of Basic Skills and Vocational Training in South Sudan (hereinafter referred to as 'SAVOT2') was implemented from August 2010 for three years to increase vocational training opportunities and improve training quality. SAVOT2, aiming to strengthen the vocational training system and putting emphasis on strengthening the capacity of MLPSHRD which is responsible for vocational training administration, helped establish and strengthen the functions of DVT and included management capacity development of VTCs in the regional towns of Wau and Malakal. The project took a two-track approach to provide training for (1) skilled workers at VTCs and (2) livelihood improvement of the vulnerable population by NGOs[4] so that employment and business opportunities of the diverse target population would increase.

[2] JICA internal document

[3] JICA (2007) SAVOT1 project consultation mission report (*un-ei shido chosa hokokusho*). (p.8)

[4] The project contracted with five NGOs in 2011 and supported them. These were two NGOs in Juba (South Sudan Older People's Organisation [SSOPO], Confident Children out of Conflict [CCC]), two NGOs in Wau (Women Development Group [WDG], Peace Corps Organisation South Sudan [PCO]) and one NGO in Malakal (Fashoda Youth Forum [FYF]). Among the NGOs, the contracts with PCO and FYF were terminated in 2012 because they had problems in training and management.

1.2 Project Outline

Overall Goal		Employment and entrepreneurial opportunities of ex-trainees are expanded for promoting reconstruction and development toward consolidation of peace.
Project Purpose		The number of training opportunities and quality of vocational training provided through VTCs and some selected non-governmental organisations increases/improves under the strengthened guidance of MLPSHRD.
Output(s)	Output 1	Capacity of MLPSHRD to implement the Vocational Training Policy is strengthened.
	Output 2	Technical and managerial capacity is strengthened in Juba MTC.
	Output 3	Technical capacity is strengthened in Wau and Malakal[5] VTCs.
	Output 4	Training delivery of non-governmental vocational training providers is expanded in Juba and other major cities.
Total cost (Japanese Side)		629 million yen
Period of Cooperation		August 2010 – July 2013 (3 years)
Target Area		Juba, Wau, and Malakal
Implementing Agency		Ministry of Labour, Public Service and Human Resource Development (MLPSHRD)
Other Relevant Agencies/ Organisations		-
Consultant/ Organisation in Japan		System Science Consultants Inc. KRI International Corp.
Related Projects		[Technical Cooperation Project] Project for Strengthening Basic Skills and Vocational Training in Southern Sudan (SAVOT1) (September 2006 to December 2009) [Grant Aid for Conflict Prevention and Peace Building] The Project for Improving Facilities and Equipment of Multi-service Training Centre in Juba (1st Contract date: 20 November 2009)

[5] In this part of the PDM in English, the Aluakluak VTC is included although the Japanese version does not mention it. The Aluakluak VTC was established in 2011 but conducted no SAVOT2 activities because the VTC was still in the preparatory stage. Thus, the description of Output 4 is modified according to the Japanese version.

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

The terminal evaluation concluded that the Project Purpose was almost achieved. The number of trainees significantly increased and the number of applicants exceeded the target, which amounted to twice as many as the quota of the trainees. In some courses, women accounted for a high percentage of all the trainees. The staff members of both VTCs and NGOs felt that their capacity had improved. However, the course completion rates of VTCs did not reach the target yet.

The terminal evaluation also concluded that the four Outputs, except for Output 1, were almost achieved. The progress of Output 1, enhancement of capacity of DVT, was slow because of the delayed start of the activities under the output. There also remained problems such as managerial issues of MTC (strikes of instructors, delayed budget execution, delayed procurement of training materials), delayed deployment of instructors to MVTC and WVTC, and insufficient managerial capacity of NGOs. It was also pointed out that the achievement of each output was difficult to assess because there was no standard and checklist for assessment.

1.3.2 Achievement Status of Overall Goal at the Terminal Evaluation

The Overall Goal was expected to be achieved because part of the indicators was already achieved. Among all the graduates, 28% increased their income by 89% on average. In addition, 90% of the graduates were satisfied with the training, and 76% of the employers who employed graduates recognised usefulness of training. However, the employment rates of the graduates did not reach the target. Because the employment rates largely depend on the labour market, the terminal evaluation admitted that it was not possible to be certain if stable employment rates could be attained soon. For example, in Malakal and Wau, where MVTC and WVTC are located respectively, before the independence, South Sudanese residents often found jobs in then northern Sudan. However, after the independence, the access for South Sudanese to the Sudan labour market was restricted. In general, the employment opportunities in South Sudan is smaller than that of northern Sudan before the independence of South Sudan. The terminal evaluation stated that it should be noted that the socio-economic situation of Wau and Malakal may affect the achievement of the Overall Goal.

1.3.3 Recommendations from the Terminal Evaluation

Table 1 shows the recommendations for MLPSHRD and VTCs of the terminal evaluation. The recommendations for MLPSHRD were regarding establishing and strengthening a VTC support system and those for VTCs were on organisational

management and enhancement of training system.

Table 1: Recommendations of the Terminal Evaluation

Target	Recommendation
MLPSHRD	◆ Enhancement of VTC support system and finance: DVT was recently established and not strong enough. It is necessary to establish a VTC support system. ◆ Approval and implementation of the national curriculum and VTC manual/guidelines: The vocational training curriculum and VTC managerial guidelines developed by the project need to be approved and applied in the VTC training system. ◆ Continuation of VTC coordination committee: MLPSHRD is recommended to take the initiative to continue the committee even with decreased frequency.
MLPSHRD and VTC	◆ Implementing new training courses: Each VTC should conduct a new training programme (long-term courses for 1 to 2 years) that considers the development stage and human resource needs of the locality from September 2013, as planned.
MTC	◆ MTC's appropriate training management and communication within the organisation: The instructors' strikes could be attributed to many factors such as delayed salary and weak in-house communication. MLPSHRD and the MTC Director need to exhibit their leadership and find solutions to these issues. ◆ Appropriate management of training facilities and equipment: MTC should keep proper management of the facilities and equipment provided by the Grant Aid for Conflict Prevention and Peace Building.
MVTC and WVTC	◆ Strengthening training system: MVTC and WVTC need to narrow down the courses and consider starting income generation activities in order to address the lack of personnel and budget.

(Source: JICA internal document)

2. Outline of the Evaluation Study

2.1 External Evaluators

Yoshiko Ogawa and Yuko Kishino (both belong to IC Net Limited)

2.2 Duration of Evaluation Study

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

Duration of the Study: March 2020 – June 2021

Duration of the Field Study: 26 October 2020 – 31 March 2021 (contract period for a local consultant)

2.3 Constraints during the Evaluation Study

Because the ex-post valuation was conducted seven years after the completion of the project, it took time to find and contact the project stakeholders. In particular, the staff members of MVTC fled Malakal to find safety in and outside the country after the conflict in 2013. The Director of the MVTC is still in Sudan and the questionnaire of the ex-post evaluation was answered by the acting Director who now works at DVT.

Originally, it was planned to have a field survey by the external evaluator in Juba to interview the stakeholders in Juba and from Wau and Malakal along with the questionnaire survey of the stakeholders. However, the stakeholders' trips to Juba were cancelled because of coronavirus disease 2019 (COVID-19). The external evaluator's visit to Juba was also cancelled, considering the local medical system, and the external evaluator conducted the evaluation from Japan by giving instructions to a local consultant. This resulted in research methods limited to questionnaires and interviews by the local consultant (in person or by telephone), and the obtained information was limited in quantity and quality. In corresponding with WVTC in Wau, e-mails and telephone were used but it was often difficult to communicate by e-mail because of limited access to electricity. In Juba as well, an electricity issue made e-mail communication difficult and frequent changes in meeting appointments set constraints on information collection. There were no data on graduates of MTC, MVTC and WVTC. Only a few interviews with graduates were conducted. Among five NGOs supported by SAVOT2, the evaluation team managed to contact four of them except FYF. The team was unable to receive responses to the questionnaire from all but from three NGOs (SSOPO, WDG and PCO).

As a result, some information lacks details. Therefore, the information obtained shows the results of the project but does not represent the whole project regarding quality and quantity.

It should be also noted that this project was greatly affected by conflicts during and after its completion. Therefore, this evaluation has been conducted by referring to the guidelines for ex-post evaluation of projects in conflict-affected countries/areas as well as the JICA ex-post evaluation guidelines.

3. Results of the Evaluation (Overall Rating: D[6])

3.1 Relevance (Rating: ③[7])

3.1.1 Consistency with the Development Plan of South Sudan

The Southern Sudan vocational training policy[8] at the time of planning aimed to contribute to reconstruction and development of society through rebuilding the vocational training system, efficient management of VTCs, capacity development of instructors and other personnel, and increase in employment opportunities of graduates in partnership with the private sector.

The *South Sudan Development Plan 2011-2013* that was developed just before the completion of the project, with an emphasis on the importance of vocational training of the youth, planned establishment of VTCs, development of a vocational training policy, and vocational training for youth. *The vocational training policy*[9] developed during the project was waiting for approval at the time of the completion of the project. The policy delineated the roles of DVT in VTC management and supervision, organisational system (e.g. VTC forum among the stakeholders including the government and donors). These were similar to SAVOT2 activities in which DVT supported VTCs management and training, and facilitated information sharing among the government and donors. The *Strategic Plan 2012-2016* of MLPSHRD stated that human resource development is essential for realising *Vision 2040* launched by the government of South Sudan in 2010 and emphasised the importance of enhanced VTCs' organisational capacity and human resource development.

Thus, at the time of the planning and completion of the project, the project was consistent with the development policy and vocational training policy of South Sudan.

3.1.2 Consistency with the Development Needs of South Sudan

In South Sudan, there were no private vocational training institutes but those run by NGOs, which made the public VTCs' roles important.[10] SAVOT1, the previous project, supported MTC but the managerial, operational, and technical capacity of VTCs including MTC was not sufficient to manage training courses independently. MLPSHRD had many tasks for vocational training policy implementation such as development of a unified curriculum. Therefore, there were strong needs for capacity development of DVT and VTCs. In addition, many South Sudanese had limited income generation

[6] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[7] ③: High, ②: Fair, ①: Low
[8] The final draft policy of December 2008 was waiting for approval of the parliament at the time of planning.
[9] A draft as of June 2013.
[10] Most of the private vocational training courses were run by NGOs with donor funding (JICA internal document).

opportunities because they lacked skills for employment and entrepreneurship, and led difficult lives. There were needs for vocational training leading to employment and entrepreneurship in order to remove grievance of youth, support livelihood of the vulnerable population, and promote social stability after the civil war.

3.1.3 Consistency with Japan's ODA Policy

The *ODA data book (Sudan)* in 2009 set support for basic human needs, which include basic education, technical education, and vocational training, as one of the three ODA priority areas. The priority areas of work of the *JICA guidelines on peace building* (2009) include 'support to economic reconstruction'. This project is relevant to this area. Development of vocational training institutions is relevant to 'support to restoration of social infrastructure' and strengthening MLPSHRD is relevant to 'support to restore governance'.

Thus, the project is highly consistent with Japan's ODA policy.

3.1.4 Appropriateness of the Project Plan and Approach

The project targeted a conflict-affected country. Therefore, in assessing its relevance, the following was to be examined: if the timing of the commencement of the project was appropriate from the perspective of peace building, and how the project approach contributed to reducing destabilising factors.[11] The results are as follows.

① Timing of the Commencement of the Project

The project put emphasis on capacity development for vocational training policy implementation and, at the time of planning, it was agreed to establish a section to take charge of vocational training within MLPSHRD. However, the project started even before the establishment of such a section, DVT. Thus, the project might have started prematurely. In fact, when the project started, there was a shortage of workers with skills required for national reconstruction and it was urgent to create opportunities for employment and entrepreneurship to stabilise society. Although the government was not fully prepared, the decision was made to start the project from the perspective of peace building, in response to the needs for reconstruction. The decision was appropriate under the situation of South Sudan.

② Project Approach

The project took an approach to support both skilled worker training of VTCs and training of private institutions (NGOs) for youth and the socially vulnerable in order to

[11] JICA (2013) Ex-post evaluation guidelines (conflict affected countries and regions), 7. Evaluation point for conflict-affected countries and regions. (pp.11-15)

meet the needs of a wide range of people. In addition, it tried to institutionalise the project effects by establishing a policy and system for vocational training. During the project implementation, other international organisations and international NGOs also conducted vocational training courses but they did not engage the government much for institutional development. While many other support organisations merely assisted vocational training institutes directly, the project supported the government's vocational training system and filled the gap in the support system and capacity, considering mid- to long-term development. In addition, when it is important to render the population as a whole able to feel peace dividends, this project approach made it possible to reach diverse target people and provide vocational training. Therefore, the relevance of the project is high considering the situation and needs of South Sudan, a conflict-affected country at that time from the mid- and long- term perspective.

That the project added activities to strengthen the management capacity of the VTCs in Wau and Malakal, both of which are major regional towns, is also valued from the perspective of peacebuilding. The population of South Sudan consists of more than 60 ethnic groups[12] and patches of their settlement form a mosaic-like intricate pattern.[13] In South Sudan where diverse ethnic groups co-exist, it is imperative to balance development among regions to maintain national unity. In this regard, expanding services to regional towns was of great significance.

③ Modification of PDM

The PDM was appropriately formulated with the logic that achievement of the four elements (Outputs), strengthening of DVT, MTC, MVTC and WVTC, and NGOs, would lead to attainment of the Project Purpose although the establishment of DVT was delayed significantly and implemented in the final year of the project. The indicators[14] of Output 1 of the original PDM[15] were development of a vocational training policy and qualification system, which required time and strong capacity of the counterparts (hereinafter referred to as C/Ps), and the delayed establishment of DVT made them unrealistic. Thus, the indicators of Output 1 were changed to those that centred on DVT's deeper understanding of VTCs' situation and accumulating experiences in support to VTCs. Because the Director General of DVT had no experience in vocational training and DVT was short of personnel, these changes were appropriate.

[12] World Atlas Ethnic Groups of South Sudan.
https://www.worldatlas.com/articles/ethnic-groups-of-south-sudan.html (Last accessed 23 May 2021)
[13] OCHA (2009) Distribution of Ethic Groups in South Sudan.
https://www.refworld.org/pdfid/4bea5d622.pdf (Last accessed 23 May 2021)
[14] Development and approval of vocational training policy, development and approval of qualification system, development of national curriculum and teaching materials, the level of instructors' satisfaction towards developed teaching materials.
[15] PDM (Ver0) in the ex-ante evaluation report.

However, even the final version of the PDM has a few problematic indicators. For example, indicators 1 to 4 of Output 1[16] did not set numerical target values and it is difficult to assess clearly if expected levels were attained. Indicator 2 is 'The number of actions taken by MLPSHRD to solve problems of VTC'. It is questionable if it is enough to assess the result against the 'number of actions' while how the problems were addressed and if the problem was solved or not were equally important. How to count such actions is also not clear and it must be difficult to take detailed records. The indicators of the Overall Goal, employment and income of graduates and satisfaction of employers, require a survey targeting graduates, which would not be easy given the situation of South Sudan.

Additionally, there might have been room for reconsideration or modification of the pre-condition and external conditions of the PDM. The pre-condition and external conditions of the final PDM are shown below.

Pre-condition	The security condition of Sudan is stable.
External condition to achieve outputs	Necessary trainers and managerial staff of MTC and VTCs are appointed timely.
External condition to achieve the Project Purpose	Republic of South Sudan continues to allocate necessary budget and personnel to MTC and VTCs.
External condition to achieve the Overall Goal	There are no negative changes in the local labour market.

(Source: Project completion report)

These external conditions was set on the premise that the security situation is stable, and did not consider destabilising factors while there were many before and even immediately after the independence, such as numerous tribal conflicts and the domineering army.[17] In conflict-affected countries, because the probability of changes in external conditions is higher than elsewhere, it would be useful to formulate the PDM with a plan for monitoring changes in external conditions, consequences of such changes, and countermeasures. Thus, the modification of the PDM was appropriate but the conditions and indicators of the PDM seem to have needed more consideration according to the situation of South Sudan.

[16] Indicator 1 'The number of meetings regarding issues on VTCs coming up from the quarterly and termly report'; indicator 2 'The number of actions, which are done by MLPSHRD, against the issues'; indicator 3 'The Number of regular inspection of VTC operation by inspectors of MLPSHRD'; indicator 4 'The Number of approved guidelines and manuals to standardise VTC operation'.

[17] Human Rights Watch (2013) World Report 2013: South Sudan, Events of 2012. https://www.hrw.org/world-report/2013/country-chapters/south-sudan (Last accessed 22 April 2021); Robert Gerenge (2015) South Sudan's December 2013 Conflict. https://www.accord.org.za/ajcr-issues/south-sudans-december-2013-conflict/ (Last accessed 22 April 2021)

In the light of above, this project as a whole was highly relevant to the development plan and development needs of South Sudan, as well as Japan's ODA policy. From the viewpoint of contribution to reconstruction after the conflicts, the timing of the start of the project and project approach were appropriate. Although a few indicators could have been re-considered, the logic of the PDM was properly formulated. Therefore, the project's relevance is high.

3.2 Effectiveness and Impact[18] (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Achievement of Project Purpose

The Project Purpose has the following three elements: (1) enhancement of capacity of MLPSHRD to supervise VTCs, (2) increased vocational training opportunities, and (3) improved quality of vocational training. Indicator 1 for the Project Purpose is about the increase in training opportunities provided by the project as a whole and indicator 4 is about the improved diversity of the beneficiaries. Indicators 2 and 3 are about the quality of the training. Table 2 shows the indicators and achievement of the Project Purpose. In this table, it seems that the Project Purpose has been achieved at the time of project completion; however, for the reasons explained below, it is concluded that the Project Purpose has not been partially achieved.

Table 2: Achievement of Project Purpose

Project Purpose	Indicator	Actual
The number of training opportunities and quality of vocational training provided through VTCs and some selected non-governmental organisations increases/improves under the strengthened guidance of MLPSHRD	1. The number of trainees involved in SAVOT training programme exceeds total 1,450.	The total number of the trainees of the training institutions supported by SAVOT2 was 2,218 (regular courses and short-term special courses were included) and the indicator was achieved.
	2. The number of applicants of each training course exceeds 2 times of quota for admission.	The number of applicants for admission to MTC (first semester of 2011) was 300% of the available spaces. It was 167% in 2012. The average rate of MTC was 205% and SSOPO[19] 251%.
	3. Completion rate of trainees in each course exceeds 80%.	In general, completion rates at VTCs were low (67%). WVTC's completion rate was 41% whereas NGOs' average rate was 91%. The average completion rate of VTCs and NGOs was 78.6%.
	4. Share of female graduates[20] in SAVOT training programs exceeds 25%.	Women trainees were 14.5% of all VTC trainees and 89.7% of NGO trainees. On average, women occupied 56.1% of all trainees.

(Source: Project completion report)

[18] Sub-rating for Effectiveness is to be put with consideration of Impact.
[19] It is an NGO in Juba. It was supported by SAVOT1 as well and SAVOT2 supported its income generation activities.
[20] In the PDM, both 'ex-trainee' and 'graduate' are used. Because it seems they are used interchangeably, and no definitions of these terms are provided, this paper uses 'graduate' in the text.

(1) Enhancement of capacity of MLPSHRD to supervise VTCs

There is no indicator for this part of the Project Purpose, 'under the strengthened guidance of MLPSHRD'. However, because the previous project recognised the lack of a section of MLPSHRD to manage VTCs as a problem and then capacity building of MLPSHRD was added to the Project Purpose of SAVOT2, which was planned based on the results of SAVOT1,[21] it is understood that the capacity building of MLPSHRD is a major component of SAVOT2. In fact, MLPSHRD's capacity development is clearly set as Output 1.[22] The Output 1 indicators were about guidelines and manuals developed by the project and approved by the government, and actions taken to support VTCs. The guidelines and manuals were developed in cooperation with MLPSHRD and VTCs. Meetings to address VTCs' problems were held for as many times as planned. It was not easy to gauge if the support to VTCs was sufficient and there are no clear data on that. According to the interviews with the Japanese experts and JICA staff, the capacity of DVT to support vocational training implementation seemed to have improved once the activities started. However, it was the last year of the project when the DVT was established[23] and the remaining time for activities till the completion of the project in July 2013 was short, which significantly affected the output. Although the understanding of the Director General on vocational training deepened, DVT had an insufficient number of personnel and improvement in DVT's organisational capacity to support VTCs was limited.

(2) Increased vocational training opportunities

Among the Project Purpose indicators, indicator 1 was on the number of trainees and indicator 4 on the proportion of the women trainees, and both pertained to all the trainees under SAVOT2. The increase in the number of trainees and women's participation in training was confirmed and these indicators were achieved. Women trainees occupied 56.1% of all trainees of SAVOT2 and greatly exceeded the target of 25%. However, VTCs' women trainees' proportion was as low as 14.5% while NGOs that targeted women had a higher percentage of women trainees. The trades taught at VTCs can often lead to jobs that can generate higher income compared to sewing and housekeeping taught at NGOs. Thus, from the perspective of gender equality, it would be recommended to

[21] The Project Purpose of the previous project was 'A basic skills and vocational training system is established for acquiring basic skills necessary for livelihood improvement and participation to reconstruction', Output 1 was 'The sustainable training system in Juba MTC is established', Output 2 was 'The un-skilled people in Juba and its surroundings benefit from basic skills training programs necessary in the short term', Output 3 was 'A resource and information centre on basic skills and vocational training is established in Juba MTC'. (SAVOT1 ex-ante evaluation report)

[22] Output 1 of SAVOT 2 is 'Capacity of MLPSHRD to implement the Vocational Training Policy is strengthened'.

[23] The Director General of DVT was appointed at the end of November 2012.

increase women trainees at VTCs and provide more diverse groups of people, which include women, with training opportunities that can lead to high paying jobs. It seemed that it was not intended to address this gender gap in income opportunities and barriers of admission requirements[24] in the project plan. The planning needed more detailed gender analysis.

(3) Improved quality of vocational training

In Table 2, both indicators 2 and 3 seem to have been achieved on average. However, indicator 2 has the data of only MTC and SSOPO; there is no data for MVTC, WVTC, and other four NGOs. Regarding indicator 3, WVTC's completion rate was low, at 41%. Regarding indicator 2, the assumption is that the number of applicants would increase if the quality of the training is good. However, the number of applicants can differ depending on external factors such as the channels and methods used for advertisement and the economic situation of the population. Regarding indicator 3, the quality of the training courses would affect the completion rates of trainees, but other factors also can influence the completion rates. In fact, the reasons for the low completion rate of WVTC described in the project completion report are mostly managerial ones and trainees' personal reasons.[25] In addition, Output 2 and 4 are relevant to training quality; in the following, Output 2 and 4 will be examined to see if the quality part of the Project Purpose was achieved in a comprehensive manner.

Output 2 aimed to strengthen MTC's training and managerial capacity. New curriculum and knowledge and skills on new technology were introduced to the training courses and it is understood that the course contents were improved. 77% of the trainees were satisfied or very satisfied according to a survey conducted by the project.[26] The managerial capacity improved; an action plan was developed, and income generation activities were established. However, no financial report was submitted and even a simplified version report was not submitted until the final year of the project. Thus, it is inferred that financial management remained an issue.

[24] MTC and MVTC set completion of primary education as an admission requirement. According to the 2008 census, the literacy rate of adults over 15 years old was 27%. That of women was 16%, which is even lower. This indicates that fewer women can meet the admission requirements.

[25] What described in the project completion report included the recruitment method (applications were made to the WVTC but not to each training course and after applications were collected, trainees were assigned to each course. Those who were not assigned to their preferred course had low motivation from the start), economic situation of the trainees (some of them could not pay training fees and others had to stop training to work), dissatisfaction with no free lunch provided during the training, shortage of instructors, frequent power outage (pp.57-58). Among those, all but shortage of instructors and electricity issues are managerial problems.

[26] JICA internal document.

Output 3 was about training capacity development of WVTC and MVTC.[27] The curriculum developed by the project and new technologies were introduced by both VTCs. However, some technologies were not used because of the lack of equipment. There is no sufficient information about trainees' satisfaction.

Output 4 is about expansion of the training by non-formal training service providers such as NGOs. All the indicators about establishment of income generation activities of SSOPO, the total number of NGO training courses, and trainees' satisfaction on NGO training courses were achieved.

These results seem to show the improvement in the quality of training; however, based on JICA internal documents and information gained during this ex-post evaluation study, a few points may deserve further consideration. Trainees' satisfaction is an important indicator to get an overall impression of the training; however, it is not clear what made them satisfied, and the quality cannot be assessed by this alone. The terminal evaluation pointed out MTC's managerial issues that may affect training quality, such as frequent strikes by staff members, delayed budget execution, and delayed training material procurement. It is also reported in the project completion report that many trainees had dropped out of WVTC, which also suggests some managerial issues. An MTC graduate interviewed at the time of the ex-post evaluation said that his instructor sometimes did not come to the class to teach theoretical lessons. An NGO service provider said that the difference in completion rates of VTCs and NGOs came from low motivation of VTC instructors whose salaries were not paid regularly. Therefore, it is understood that, although the quality of the training improved, there remained a certain number of managerial problems that affected training quality.

As shown above, following the previous project that strengthened capacity of MTC and NGOs, SAVOT2 was planned to further strengthen the capacity of MLPSHRD, which was to supervise vocational training services, and regional VTCs. This means that Outputs 1 and 3 were important elements of SAVOT2 that had evolved from SAVOT1. However, the project improved its training quality at a limited level because DVT's support to VTCs was limited and regional VTCs had a few major problems, which must have affected training quality, while the training opportunities increased and quality improvement to some extent was recognised. Therefore, it is concluded that Project Purpose was not partially achieved.

[27] The project team thought that managerial issues should be addressed to improve technical capacity and provided guidance on management.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

Table 3 shows the achievement of the Overall Goal at the time of the ex-post evaluation.

Table 3: Achievement of Overall Goal

Overall Goal	Indicator	Actual
Employment and entrepreneurial opportunities of ex-trainees are expanded for promoting reconstruction and development toward consolidation of peace.	1. The rate of employment of ex-trainees exceeds at least 70% in Juba and 50% in Malakal and Wau.	No data on MTC graduates' employment rate are available. Employment rate of the graduates of PCO (NGO) in 2019 is about 70%. MVTC and WVTC did not provide training at the time of the ex-post evaluation.
	2. The average income of graduates increases by 25% compared with that before training.	No data are available. Some examples of increased income were identified.
	3. More than 80% of ex-trainees are satisfied with current occupation.	No MTC data are available. The rate of satisfaction with the current job of NGO graduates is slightly lower (60% for PCO graduates) than the one with training.
	4. 70% of employers of ex trainees realise the importance of training by training providers.	There is an example to show employers' appreciation but there is no sufficient quantitative data.
	5. 80% of ex-trainees realise peace in their life.	Even at the time of the ex-post evaluation, political instability continues and there are clashes in regions. Because the current situation is not considered peaceful, the questions related to this indicator were not well understood by respondents of this study and appropriate answers were not obtained.

(Source: Questionnaires and interviews of the ex-post evaluation study)

It is not easy to assess the achievement of the indicators of the Overall Goal because there is a lack of data on the employment rate of the graduates,[28] income increase and employers' recognition of the importance of vocational training. Malakal town where MVTC was located was totally devastated by the conflict in December 2013 and MVTC buildings were destroyed. Even at the time of the ex-post evaluation, many of its staff members are still in refuge in and outside the country. In Wau where WVTC is located, the conflict in July 2016 forced the population to flee as refugees or IDPs. WVTC's instructors and trainees fled the centre and equipment was stolen. Since 2017, no training has been conducted because of lack of funds to resume training. The achievement of the Overall Goal has been badly affected by external factors such as domestic conflicts. However, a few examples to support the achievement of the Overall Goal were found in interviews with MTC graduates and questionnaires to NGOs.

[28] The indicators use the word 'ex-trainees' but this paper uses 'graduates' for those who finished the vocational training courses of VTCs and NGOs.

An NGO providing training in Juba and Wau, PCO[29] stated that 70% of its graduates found a job at the time of the ex-post evaluation. As for income, one of the two MTC graduates interviewed by the ex-post evaluation team had no job before joining the training. He was employed by an engineering firm immediately after the completion of the electrical engineering course. Afterwards, he started teaching at MTC. Because of high demand for the trade and his skills, he has been asked to work for other firms and individuals to do part-time work. A woman trainee of an automotive course at the time of the ex-post evaluation had no income before joining the course. Although she has not graduated yet, she already started part-time work in the town and was gaining income. According to an MTC staff member, some SAVOT2 graduates were continuously employed at the time of the ex-post evaluation, and their lives improved. NGOs' graduates also obtain income. A graduate has his own hotel and others pay for their siblings' education.

There is no data on employers' recognition of the virtue of vocational training. However, according to SSOPO, employers must pay more to foreign workers than to South Sudanese workers, and employers prefer South Sudanese workers if they are equally skilled as foreigners. Therefore, it is highly likely that graduates with skills and capacity are valued by employers.

Nonetheless, in general, improvement in training quality and training opportunities is not always translated into employment and income increase. It should be noted that such matters are influenced by socio-economic conditions of South Sudan.[30] Usually, qualified workers are on high demand and earn more. However, it is reported that because the size of the private sector in South Sudan is small, even trained skilled workers cannot easily get employed.[31] Therefore, the lower employment rates of VTC graduates than those of NGOs that supported entrepreneurship as well at the completion of the project might partly have come from an underdeveloped private sector market. In addition, although this may be a little trivial, satisfaction with the current job may need to be differentiated between satisfaction with the profession and satisfaction with the workplace. According to PCO, job hopping is not uncommon; thus, satisfaction with the workplace may not be too high.

[29] PCO had activities only in Wau during SAVOT2. Later, it expanded its operation and opened an office in Juba.

[30] The estimated unemployment rates were around 12% from 1990s to the time of ex-post evaluation. The Gross National Income (GNI) per capita increased from the independence to 2015. Unemployment rates in South Sudan (World Bank Open Data): https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?view=chart&locations=SS; GNI per capita: https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=SS (Last accessed 28 March 2021)

[31] ILO (2020) The potential of skills development and recognition for regulated labour mobility in the IGAD Region: A scoping study covering Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda. (pp.115-118)

As shown above, the project has achieved at a limited level its Overall Goal, at minimum. Some qualitative information indicates project results that would have contributed to the achievement of the Overall Goal despite the lack of quantitative data required to assess the indicators.

3.2.2.2 Continuation of Project Purpose and its Effects

This section will look at how the achievement of the Project Purpose and its effects continued. After the completion of the project, MVTC continued training until 2013, WVTC until 2016, and MTC and NGOs[32] continue training at the time of the ex-post evaluation. In particular, MTC continues training using the new curriculum and manuals developed by SAVOT2. The number of trainees of MTC[33] was stable at around 200 from 2013; however, it plunged to 91 in 2017.[34] Afterwards, the number increased to 560 in 2018 and 565 in 2019. The course completion rate in 2019 was 85% (the completion rate of women trainees in the same year was 95%). PCO reported 100% completion rate in 2019.

Women trainees' proportion of MTC in 2018 and 2019 was around 30%. PCO's trainees were all women. SSOPO has women trainees at 62.6% in 2018 and 54.1% in 2019. MTC's women trainees' proportion was 28% during the project; thus, MTC has kept a relatively high percentage of women for VTC.

As for the training quality, as seen in the analysis in the effectiveness, the data on the training quality is lacking at the time of the ex-post evaluation; however, MTC continues using new curricula and manuals, and keeps a stable number of the instructors.[35] Thus, MTC may keep the quality level of the time of the project completion. Nevertheless, MTC managers think that they need to upgrade the skills of the MTC instructors to meet the advancement in technology and more instructors need to be recruited. It seems more efforts need to be made for improving the training quality.

DVT was in the process of recruiting its personnel at the time of the ex-post evaluation. It was reported that DVT's guidance and visit to VTCs had not been frequent and its support had been limited to administrative costs and procedures (no training costs). Not much change was found after the project completion until the time of the ex-post evaluation and DVT's contribution to the achievement of the Overall Goal is rather

[32] Among five NGOs which received support from SAVOT2, three NGOs (SSOPO, PCO WDG) were still providing training at the time of the ex-post evaluation.
[33] The numbers excluded those for special courses contracted by donors.
[34] According to the follow-up phase expert who was deployed to South Sudan from December 2016 to December 2017, at that time, generators were out of order and training was not possible. There was also a problem in budget management. Because of that, MTC could not buy materials necessary for the final examination of two year-courses and it was not able to take in new entrants.
[35] 28 instructors in 2013, 27 in 2016, 26 after 2017. All instructors have more than three years of experience.

limited.

Therefore, the training institutions that continue vocational training keep the effects of increased training opportunities. It is highly likely that the training quality has not changed much; as for the quality of DVT's supervision, it continues to be insufficient.

3.2.2.3 Other Positive and Negative Impacts

Other impacts are shown below.

（1） Trainees' attitudinal changes such as self-confidence

According to a research report on employment and livelihood in conflict-affected countries,[36] in countries with the experience of prolonged conflicts, absence of education opportunities tends to lead to not only lack of technology and skills but to lack of regulated lifestyle and rules, understanding of work ethics and discipline. To address the similar situation, the lack of understanding of work ethic and rules often found among South Sudanese workers, the Japanese experts of the project conducted a job guidance session with an emphasis on the mindset regarding vocational training and employment and tried to nurture understanding of trainees on their contribution to national reconstruction. The report says that there will be social and psychological impacts on the conflict-affected youth when they join vocational training. They feel that they can help their family and community. The report states that this self-confidence and transformed mindset bring about direct positive influence on the opportunities of employment and starting business while the lack of such self-confidence leads to low willingness to work.[37] The study found that the MTC trainees also emphasised their positive changes in mindset and behaviour, such as confidence to support their family as a result of their training. The job guidance conducted by the project led to trainees' self-confidence that is a social and psychological impact valued in the above report. The ex-post evaluation takes this generation of self-confidence, but not what was brought about by such self-confidence, as an impact of the project.

（2） Support to South Sudanese refugees

Between December 2014 and March 2015 and between April 2015 and August 2015, MTC instructors conducted three-month vocational training twice at a refugee camp in Kiryandongo District in Northern Uganda. The instructors trained by SAVOT2 went to the Nakawa vocational training centre in Uganda and took two-month training, and then conducted three-month vocational training as practicum. The number of trainees of the first one was 98 and the second one was 130; thus, 228 people in total were trained. The

[36] JICA (2012) Livelihood and Employment Promotion in Conflict Affected Countries: Final Report Executive Summary.
[37] Ibid. (p.A-13)

beneficiaries were mainly South Sudanese refugees, but included refugees from other countries and, more notably, Ugandans of the host communities with consideration for conciliation between the refugees and the host communities. The four training courses were on carpentry, plastering, sewing, and hairdressing, and a starter kit to start business was given to 167 trainees. During the follow-up phase,[38] from 11 to 27 October 2017, three DVT instructors trained refugees in carpentry, block construction, and sewing at a vocational training centre in refugee settlements of Kiryandongo District. These activities were implemented after the project completion with the support of the JICA South Sudan Office and not part of the project; however, that the instructors trained by the project implemented training activities that would help the refugees' lives after repatriation and, at the same time, extended their support to the host community[39] may have brought positive impacts to ameliorate destabilising factors.[40] Therefore, it can be said that the project indirectly contributed to peace building through the instructors

（3） Increased recognition on the importance of vocational training

The project made the government of South Sudan recognise the value of vocational training through the establishment of DVT. As a result, skills development was positioned as a core activity in MLPSHRD's strategic plan. MTC's training capacity development along with the renovation of MTC by Japan's Grant Aid presented tangible results, which made the importance of vocational training recognised widely. That more development partners such as the UN Development Programme (UNDP), the African Development Bank (AfDB), and the World Bank Group started supporting vocational training through DVT is taken as the contribution of the project. At the time of the ex-post evaluation, many trainees were trained with donor support. According to the Director General of DVT, AfDB was supporting 1,000 trainees of MTC and the government of the Netherlands was going to support 2,000 trainees each at VTCs in Juba, Bor, Trit, Yambio, and Rumbek for three years.

（4） Capacity development of the NGOs

In the questionnaires of the ex-post evaluation, NGOs responded that, as a result of participation in SAVOT2, they became able to recruit good trainees as instructors;[41] that managerial and training capacity improved and more support was brought from donors

[38] A Japanese expert was deployed from December 2016 to December 2017 to implement follow-up activities of MTC.
[39] This is to avoid the host community's grievance that only refugees receive assistance while the host community is also poor.
[40] JICA (2013) Ex-post evaluation guidelines (conflict affected countries and regions), 7. Evaluation point for conflict affected countries and regions. (pp.11-15)
[41] Hiring foreign instructors needs legal procedures and high cost. Therefore, it is good for NGOs if they can find a local instructor.

that recognised their capacity. The project supported SSOPO in income generation activities (tailoring, bakery, and restaurant). At the time of the ex-post evaluation, income generation of bakery was suspended because of lack of production but SSOPO earned rent from the restaurant that was used for training. SSOPO plans to use the rent to resume bakery business although it has been delayed because of the COVID-19 pandemic; in this way, SSOPO continues to make use of the income generation activities of SAVOT2. PCO receives funds from the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund (UNICEF), the German Federal Ministry for Economic Cooperation and Development (BMZ), and the multi-donor trust fund of South Sudan. SSOPO received fund from UNDP, International Red Cross, Finn Church Aid,[42] WDG[43] from the Office of the United Nations High Commissioner for Refugees (UNHCR), and Dorcas.[44] It can be assumed that after SAVOT2, all NGOs retain a certain level of training capacity. The project brought long-term positive impacts to NGOs' vocational training.

As a result of NGOs' training, impacts such as individual graduates' livelihood improvement and training opportunity increase were recognised. WDG provided the graduates of a sewing course under SAVOT2 with a sewing machine as a starter kit. WDG collected repayment in three instalments and bought sewing machines with that repaid fund. At the time of the ex-post evaluation, WDG resumed training using those sewing machines.[45] A woman supported by WDG who was forced to marry young, then divorced with six children was in poverty. Thanks to the sewing training of SAVOT2, she has earned income, built a house, and now is able to send her daughters to a private school. She is teaching sewing to IDP women under a contract with the International Organization for Migration (IOM).

As shown above, the project has achieved most indicators for the Project Purpose; however, improved quality of the training was not fully confirmed from the data and there remained managerial problems affecting training quality. Because of the delayed establishment of DVT, activities for Output 1 had to be done in a short period. Supervision for VTCs was not sufficient and organisational capacity development of MLPSHRD, a component of the Project Purpose, was partially achieved. The Overall Goal is believed to have been partially achieved although the data were not sufficient. Several impacts were identified in addition to the achievements under the Overall Goal, Project Purpose, and Outputs. Therefore, effectiveness and impact of the project are fair.

[42] A Finnish international NGO.
[43] An NGO in Wau.
[44] An international NGO working in 15 countries in Eastern Europe, the Middle East, and Africa. The organisation addresses the issues of water, health, hygiene, entrepreneurship, livelihood and nutrition in South Sudan. https://www.dorcas.org/countries/south-sudan/ (Last accessed 7 April 2021)
[45] WDG stopped training after the conflict in 2013 and resumed it in 2019.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

Inputs	Plan	Actual
(1) Experts	7 Long-Term (60 MM*)	7 Long-Term (85 MM) Local staff: 5 Japanese (4.74 MM) Local staff: South Sudanese (196.57 MM)
(2) Trainees received	Training in Japan: about 10 people Third country training: about 20 people	Training in Japan: 7 people Third country training: 20 people
(3) Equipment	Not specified	Training materials and equipment for VTCs, PCs for MLPSHRD (USD 363,770)
(4) Facility	Emergency repair, MTC dormitory construction	Construction of MTC dormitory and cafeteria, computer room: USD673,000
(5) Contracted work	No description	Consulting: 22,659,000 yen Basic vocational training contract: 82,742,000 yen
Japanese Side Total Project Cost	603 million yen (including Detailed Design Survey cost, 3.58 million yen)	629 million yen (including Detailed Design Survey cost, 3.58 million yen)
South Sudanese Side Total Project Cost	・ Human resources (project director and project manager, C/P) ・ Facilities/equipment (office room and facilities) ・ Local cost (training cost, facility/equipment management, salaries of C/Ps)	C/P: Undersecretary of MLPSHRD, Director General of DVT, VTC Directors (13 people)

* MM stands for man month.

3.3.1.1 Elements of Inputs

Both the project cost and the MMs of the Japanese experts exceeded the planned figures. This is because the MMs increased when the activities of NGO training became finalised. The increase in the cost is not high in relation to the increase in the MMs. It seems that the volume of administrative work was larger than expected and the MMs of the Japanese experts who did administrative work increased.[46] The unit cost of this expert was lower than other experts. In addition, South Sudanese local staff was employed because the situation at that time did not allow Japanese experts stay long in South Sudan and there was a need for staff who can connect the Japanese experts and C/Ps. That the number of C/Ps of MLPSHRD, the implementing agency of the project, was very small was also part of the reason. Local staff could obtain information that is hard to get for the Japanese experts such as relationships within ministries and security information. That was essential information to plan appropriate activities. Thus, it can be said that personnel arrangements were efficient.

One of the measures that increased efficiency is that the project worked with an NGO that was supported by SAVOT1. The experience of SAVOT1 made the collaboration more efficient than other NGOs. Another one is that the MTC buildings constructed by the Grant Aid were as good as those of universities and boost motivation of instructors and trainees; this was a good combination of a grant aid project and a technical cooperation one that raised efficiency of the project.

The stakeholders responded that the study tour to Kenya and training in Uganda were useful. The Director General of DVT stated that the participants gained new ideas and instructors effectively improved techniques and teaching methods. Cooperation with the Nakawa vocational training centre of Uganda was especially useful because a long-term relationship was built since SAVOT1, not one-time training of trainers.

3.3.1.2 Project Cost

The actual project cost was 629 million yen and slightly higher than the planned cost of 603 million yen (104%). The reason for the increase in the cost seems appropriate; however, it cannot be concluded that the amount of increase is appropriate because details of the increase are not available.

3.3.1.3 Project Period

The project period was three years (36 months) and it was as planned.

[46] Based on the answer to the questionnaire with the Japanese experts.

Although the project period was within the plan, the project cost slightly exceeded the plan. Therefore, according to the evaluation criteria, it is concluded that the efficiency of the project is fair.

3.4 Sustainability (Rating: ①)

It should be noted that, like in the case of impacts, external factors such as the two conflicts greatly affected the sustainability. WVTC and MVTC cannot keep their training systems because of conflicts and sustainability of technical capacity is negatively affected. It is not possible to determine to what extent the conflicts affected the government budget. However, at the very least, the conflicts had a negative impact on it. It is unclear if the measures to reduce the influence of the deteriorating security on the project were discussed at the time of planning of the project because relevant information is not available.[47]

This section includes the assessment of the sustainability of organisational, technical, and financial aspects of the NGOs supported by the project. However, NGOs are not under the supervision of the MLPSHRD and not in the system using the curricula and manuals developed by the project. Furthermore, as described in 3.2.1.1, the capacity development of MLPSHRD was an integral part of the project and the Project Purpose aimed to improve the opportunities and quality of vocational training under the supervision of MLPSHRD. Thus, this evaluation puts more weight on the sustainability of MLPSHRD and VTCs when assessing the sustainability of the project as a government project.

3.4.1 Policy and Political Commitment for the Sustainability of Project Effects

The vocational training policy developed during SAVOT2 was finalised but not brought to the agenda of the cabinet meetings and did not got approved. At the time of the ex-post evaluation, the policy was re-examined with a newly added section. MLPSHRD developed *Strategic Plan 2016-2023* but this plan was not implemented because of the restructuring of ministries at the transition to the national unity government in 2015.[48] DVT is working on *Strategic Plan 2020-2026* based on a policy review conducted with the support of UNDP.[49] The National Ad-Hoc Technical and Vocational Education and Training Coordination Committee supported by UNESCO (the Ministry of General Education and Instruction is the chair and MLPSHRD is the vice-chair) has a policy

[47] JICA (2013) Ex-post evaluation guidelines (conflict affected countries and regions), 7. Evaluation point for conflict affected countries and regions. (pp.11-15)
[48] The Ministry of Labour, Public Service and Human Resource Development was restructured and became the Ministry of Labour.
[49] See the background of the TOR for the vocational policy consultant advertised by UNDP. https://jobs.undp.org/cj_view_job.cfm?cur_job_id=96168 (Last accessed on 14 March 2021)

sub-committee (the Ministry of Gender, Children and Social Affairs is the chair)[50] that is working[51] on *Unified National Technical and Vocational Education Policy*.[52]

In light of the above, the government is in the process of developing a vocational training policy. DVT takes charge of policy development in cooperation with other stakeholders. Policy and political commitment of the government for vocational training is high.

3.4.2 Institutional/Organisational Aspect for the Sustainability of Project Effects

At the time of the ex-post evaluation, DVT has seven staff members including Director General, Director for Policy and Industrial Development, Inspector for Assessment, Director for Administration, Clerk, and Data Officer. The planned number is 17 and 10 positions were vacant. Six director positions, namely, Director for assessment and examination, Director for curriculum, Director for Policy, Director for Administration, Director of Inspectorate and Director for registration of VTCs, were in the process of recruitment. Although DVT's system is not in place because of the obstacles such as shortage of personnel and the difficult financial situation of the government, it is commendable that DVT manages to survive and increase its staff. In addition, at the time of the ex-post evaluation, DVT manages two projects funded by AfDB and UNDP. Despite many constraints, DVT, as a C/P, accepts new donor projects. As shown above, AfDB will support 1,000 MTC trainees and the government of the Netherlands will support 2,000 trainees each at Juba, Bor, Trit, Yambio, and Rumbek. In this situation, VTC roll-out requires urgent securing of personnel.

To facilitate cooperation among VTCs, VTC Forum and VTC Coordination Committee meetings were held under SAVOT2. After the completion of the project, neither VTC forum nor VTC Coordination Committee meetings have been organised. As a successor to the VTC Coordination Committee, a Technical and Vocational Education and Training Coordination Committee consisting of the Director General of DVT, inspectors, VTC Directors, and trainees, chaired by the Ministry of General Education and Instruction, has been organised. Meetings are organised on an ad-hoc basis and would not be sufficient for capacity building of VTCs through information exchange. According to MTC, the support from DVT is limited to administrative aspects because of the financial constraints, and an inspector's visit was conducted once during the period from the end of the project to

[50] A response from a UNESCO programme officer.
[51] UNESCO (2019) TVET Coordination Committee founded in South Sudan. 15 July 2019. https://en.unesco.org/news/tvet-coordination-committee-founded-south-sudan-0; UNESCO (2020) A milestone towards South Sudan's first unified TVET policy. 20 January 2021. https://en.unesco.org/news/milestone-towards-south-sudans-first-unified-tvet-policy (Last accessed 22 April 2021)
[52] Unified National Technical and Vocational Education Policy

2019.

MTC is the only SAVOT2-supported VTC that survived the conflicts in 2013 and 2016 and continues vocational training. As described above, the intake of trainees went down once in 2017 but recovered and MTC has been performing well with many trainees. At the time of the ex-post evaluation, equipment provided by SAVOT2 was managed by a person in charge although the management was not done in a systematic way with a clear responsibility and reporting system.[53]

MVTC was affected by the conflict in 2013 and WVTC by the conflict in 2016. They suffered robbery and destruction of buildings and stopped training. The Director of MVTC fled to Sudan and the acting Director works at DVT.

Among the five NGOs supported by SAVOT2, the evaluation team managed to contact three. These NGOs continue vocational training or have resumed vocational training. They stated that they improved managerial capacity through their participation in SAVOT2. It can be said that they have the organisational capacity to conduct vocational training.

As shown above, MTC is well positioned to continue training but there is no concrete plan to resume WVTC and MVTC.[54] DVT can manage donor projects and receive donor support but, at the time of the ex-post evaluation, DVT's supervision and support to MTC, which are major duties of DVT, was still limited.

3.4.3 Technical Aspect for the Sustainability of Project Effects

After the project completion, DVT has received donor projects, which shows a certain level of technical capacity of DVT. However, it was unable to provide sufficient support to VTCs and the meetings initiated by SAVOT2 stopped. Enhanced VTC support can be expected after the recruitment but the capacity of new staff is not known.

MTC had an expert dispatched by the Inter Governmental Authority on Development who supported instructors after the project completion. The number of trainees increased after 2018 and the completion rate in 2019 was 85%. Thus, it is concluded that MTC has the technical capacity to continue training at the time of the ex-post evaluation. That MTC conducted special courses for 140 trainees (training with external funds) in 2019 also demonstrates its technical capacity. The vocational training curricula, management

[53] In 2017, training of generator repairment, as part of management improvement work, was conducted using two broken generators of MTC. The Japanese expert deployed during the follow-up phase instructed to assign a person in charge of monitoring and management of the generators as well as to decide training contents and schedules after consultation with DVT, senior staff and instructors of MTC, JICA national staff and repair shop, and to make a report after training. At the time of the ex-post evaluation, among three generators, one generator was used and the other two remained out of order.

[54] It has been reported that state government stakeholders visited Malakal in March 2021 to assess the rehabilitation status of MVTC buildings. According to information provided by JICA, there seems to be an initiative to resume vocational training in Malakal although details are not known.

manual and guidelines developed by the project can support technical capacity of MVTC and WVTC; however, these VTCs have not conducted training and not used the manuals for a long period, and there is no information on their current technical capacity. Thus, it is unclear if they retain their technical capacity to conduct training. As for NGOs, as described above, it can be concluded that they retain the technical capacity to provide vocational training courses.

3.4.4 Financial Aspect for the Sustainability of Project Effects

The project started to meet urgent needs for humanitarian assistance even before the government was fully ready. Thus, from the beginning of the project, the financial base of the government was weak and austerity measures continued during the project implementation. After the project completion, DVT is annually allocated a budget to implement vocational training policy; however, except for salaries, no budget has been disbursed. The situation is the same for VTCs. Budget is made but no fund for training is received.

On the other hand, MTC continues income generation activities to supplement the training cost. Since SVAOT2, MTC has rented a cafeteria and managed an automobile workshop to earn income. Still, the income generated from these can provide only part of the training cost and MTC's financial status may not be strong enough and training fees and commission from the special courses fill the gap. Among the NGOs, SSOPO received support from the project to start income generation and started a restaurant. SSOPO currently uses the rent from the restaurant to conduct training. WDG, although it did not receive support from SAVOT2 to establish income generating activities, secured training equipment through SAVOT2. All three NGOs continue vocational training with external donor funds.

Therefore, the sustainability of government vocational training is still low.

As a whole, although potential of development exists, VTCs' continuation of training is dependent on donor support and special course contracts at the time of the ex-post evaluation. The support from DVT in charge of vocational training to VTCs is still insufficient and it seems difficult to continue vocational training independently. Major problems have been observed regarding the institutional/organisational, technical, and especially in financial aspects. Therefore, the sustainability of the project effects is low.

It should be noted that, although the rating of the sustainability of the project is low according to the evaluation criteria, it is highly evaluated that MTC survived the financial difficulty and two major conflicts, and continues vocational training. The factors for the continuation can be ① it managed to fill the budget gap with the income from the

income generation activities, ② high-quality and durable buildings were built with full equipment, ③ its location in the capital city is advantageous in attracting trainees and obtaining contracts for short courses from donors, ④ the generators were repaired during the follow-up phase of 2016 to 2017 and have been used continuously since then (one of the three generators was functional at the time of the ex-post evaluation), ⑤ there are dormitories for trainees.[55] It is hoped that MTC, as an important resource for reconstruction, expands its training services.

The project started on the basis of the need for emergency assistance and made a certain degree of achievement despite all obstacles. It can be said that the whole project has contributed to setting a foundation for future reconstruction.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The project, in response to the needs for training of skilled workforce that could support national reconstruction, economic development, and livelihood improvement, implemented capacity development activities to increase training opportunities and improve training quality. The project conducted training capacity development of public vocational training institutions, organisational capacity development of MLPSHRD, and training capacity development of private vocational training centres. More precisely, the project strengthened the support system of DVT of MLPSHRD for the public VTCs, developed tools such as curriculum and a management manual, and trained vocational training centres, both public and private, in management and training. This was in line with the policies and needs of South Sudan that put emphasis on human resources development and increase in employment, and Japan's ODA policy. Thus, the project's relevance is high. As a result of the project implementation, training opportunities and quality improved; however, because the support of DVT for VTC was still limited, and there remained some managerial issues of VTCs that affected training quality, achievement of the Project Purpose is moderate. Some impacts were identified; MTC and NGOs kept providing training and contributed to the graduates' finding employment. Nonetheless, two of the three VTCs, except for MTC, have stopped training, which limits the quantitative impact. The data related to the Overall Goal are insufficient. Thus, the rating for effectiveness and impact is moderate. Although the project period was as planned, the project cost slightly exceeded the planned amount. Thus, according to the evaluation criteria, the efficiency of the project is moderate. At the time of the ex-post

[55] In February 2019, when one of the external evaluators visited MTC, 90 ex-child soldiers were being trained. They came from Yei River State (part of Central Equatoria State at the time of project implementation and the present. Its capital city, Yei, is situated about 170 km from Juba) and must have stayed at the dormitories.

evaluation, a vocational training policy was being developed; this shows strong interest of the government and donors in this area. DVT can manage VTCs under donor-supported projects; however, it has a large human resource gap between the planned personnel and the actually deployed staff because of the delay in deployment. MTC does not have a sufficient number of quality instructors although it keeps the technical capacity to continue training. It is not clear if DVT with such limited resources can provide full support to all VTCs that are going to expand in multiple states. Budget for training activities has not been disbursed until now and the financial sustainability is a serious issue. Thus, the sustainability of the project is low. In light of the above, this project is evaluated to be unsatisfactory.

It should be noted, however, that the discontinuation of training of the two VTCs and the absence of training budget are attributable to external factors such as conflicts in South Sudan and the financial conditions of the government. These factors negatively affected the impact and sustainability of the project.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

① DVT's support to VTCs is constrained mainly by the lack of funds. Still, it is DVT's responsibility to regularly guide and supervise VTCs. It is desirable for DVT to make clear TORs for staff of the Directorate to secure personnel and establish solid VTC support system within the Directorate.

② DVT may negotiate with donors to establish income generation activities at VTCs that receive donor support so that VTCs would plan and implement income generation activities suitable to each VTC.

③ It will be beneficial if DVT plans and implements refresher training of VTC instructors, in cooperation with each VTC, to improve training methods and contents suitable to recent technical advancement and raise instructors' motivation. Once funds are secured, MTC can be used as a resource centre to meet vocational training needs in the regions through capacity development by inviting instructors of the regional VTCs and giving them practice training at MTC. It is recommended to raise funds actively, and conduct vocational training as it did the training in Uganda with the support of the JICA South Sudan Office and the one for ex-child soldiers with NGO funds conducted in 2019, so that MTC can contribute to peacebuilding.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

When government's financial capacity is limited, establishment of income generation activities can be made as one of the main activities.

MTC's income generation activities seem to be one of the reasons for its sustainability. Located in Juba, MTC might be in a good position to earn income and obtain contracts from international organisations. Although other VTCs may not be able to expect exactly the same as MTC, it is necessary to include establishment of continuous income generation activities in the PDM to secure financial sustainability when government budget cannot support VTCs. The major reason for discontinuation of training of WVTC is conflicts but resumption of training is inhibited by the lack of funds. This proves the importance of income generation activities. Therefore, it will be useful for a technical cooperation project to support vocational training to introduce an institution's own income generation activities and ensure sustainability.

To address humanitarian needs of conflict-affected countries, activities to directly benefit the population can be planned as well as support to government systems.

While the project's support to DVT was limited mainly because of the delayed establishment of DVT, many support activities for VTCs were implemented. Support to conflict-affected countries have both humanitarian and development aspects and both emergency support and mid- to long-term support are indispensable. In such situation, to address urgent needs on the ground, it may be necessary to plan activities that can start even before the government system is established. The decision of the project to start support to VTCs even when the establishment of DVT was delayed was well made so as to meet the needs of the population and make stakeholders on the ground gain experience. It is true that sustainability and development of the project effects (e.g. expansion of VTCs in states) need government's capacity to support VTCs. That must have been precisely the reason for having MLPSHRD's organisational capacity development in the Project Purpose and Output 1. DVT can absorb and retain staff such as the acting Director of MVTC even when MVTC is not functioning. It will be beneficial if DVT locates all instructors and prepares to resume training. That can help sustain the effects of the project.

Support to both public and private vocational training institutions can provide support to the wider public.

By supporting both public VTCs and NGOs, the project benefitted different types of beneficiaries with training opportunities. The approach to achieve two objectives of

training of skilled workers for national reconstruction and livelihood support of the population can be applied in other conflict-affected countries. It would be more beneficial if implementing agencies and NGOs set up a coordination committee to coordinate vocational training, fill the gap between training needs and support, and standardise training so that the government can offer more effective training support.

Planning needs consideration of the conditions of conflict-affected countries.

The planning of a project in a conflict-affected country may need to carefully consider indicators, pre-conditions, and external conditions as shown below (see 3.1.4 ③).

First, it must have been possible to set indicators that are more realistic or easier to measure given the situation of South Sudan. In case of a conflict-affected country, it may need to think if data for the indicator are easy to obtain. If a survey needs to be conducted, information on that indicator may be difficult to collect. Therefore, it is necessary to make sure that information can be obtained without too much difficulty. It would be easier, without much burden, if information could be obtained through project activities. For example, regarding training quality in this project, instructors' performance during TOT could be evaluated. The status of employment could be recorded as part of job-placement support. Such information collection would be more realistic if the resources of C/Ps were limited.

The pre-condition of the project, 'The security condition is stable', was fulfilled at the beginning of the project but became unsatisfied after the project completion. It is not possible to predict all changes in the conditions and their consequences, and it is not easy to make a long-term outlook. On the other hand, the possibility of recurrence of conflicts is not low in conflict-affected countries.[56] Conflicts such as tribal crash occur[57] at the time of project planning and it might have been possible to expect deterioration of security and shortage of budget and personnel to some extent. Although a drastic change such as the conflicts after the project completion is hard to predict, it would be important for a conflict-affected country to formulate a PDM with monitoring of the conditions and assessing the influence of changes in conditions during and after the project, measures to take when conditions change, and arrangements for project implementation if a conflict reoccurs (e.g. evacuation of experts, remote implementation, and organisational arrangements of implementing agencies).

-End

[56] Collier, P. et al. (2003) Breaking the Conflict Trap: Civil War and development Policy. World Bank and Oxford University Press. (p.83)

[57] Farming Early Warning Systems Network (2009) South Sudan Food Security Update January 2009; GlobalSecurity.org. South Sudan – Tribal Warfare 2009. https://www.globalsecurity.org/military/world/war/south-sudan-2009.htm (Last accessed 29 April 2021)

(Appendix)

Table: Major events from the time before and after the independence till the ex-post evaluation

Year	Major events
1955 to 1972	The first civil war. Southern Sudan autonomous region was established in 1972.
1983 to 2005	The second civil war
2005	Comprehensive Peace Agreement (CPA) was signed.
January 2011	Independence referendum
July 2011	Independence
December 2013	Fighting in the presidential guards. President Salva Kiir alleged that the former Vice President Riek Machar attempted a coup d'état.
August 2015	Compromise Peace Agreement was signed.
April 2016	Transitional unity government was formed.
July 2016	Violence broke out in Juba between President Salva Kiir and Vice President Riek Machar.
September 2018	Revitalised Agreement on the Resolution of the Conflict in the Republic of South Sudan was signed.
February 2020	Revitalised Transitional Government of National Unity was formed.

(Source: based on the South Sudan basic data on the website of the Ministry of Foreign Affairs of Japan) https://www.mofa.go.jp/mofaj/area/s_sudan/data.html (Last accessed 7 May 2021)

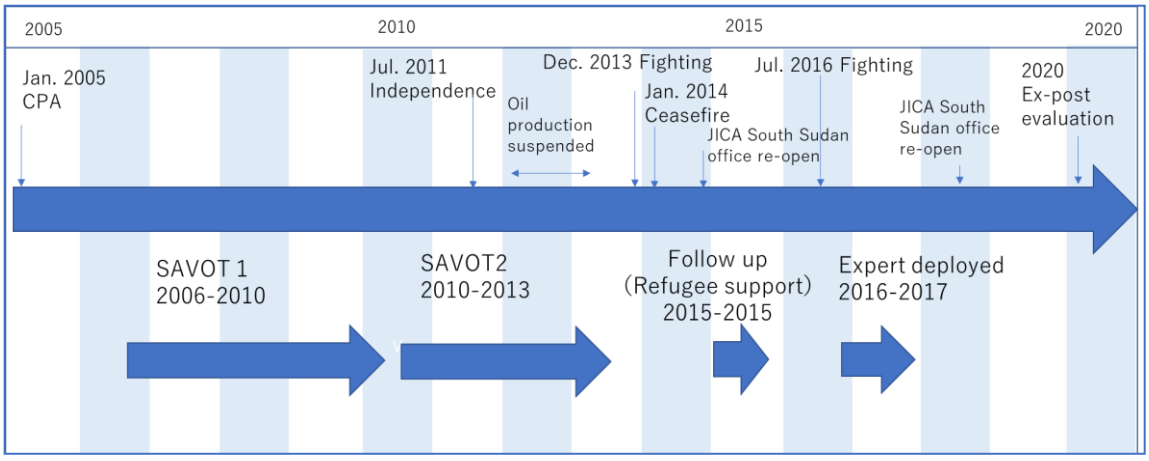


Figure: Events in South Sudan and SAVOT implementation

(Prepared by: External evaluators)

Republic of South Sudan

FY2019 Ex-Post Evaluation Report of Technical Cooperation Project

"Strengthening Mathematics and Science Education in South Sudan (SMASESS)"

External Evaluator: Shima Hayase, IC Net Limited

0. Summary

The project aimed to establish a system for Strengthening Mathematics and Science Education in South Sudan (hereinafter referred to as SMASESS), by establishing training implementation structure, enhancing the capacity of national and state trainers, developing curricula and evaluation tools, and providing training for model teachers selected in states. In addition, the project aimed to incorporate the achievement of its activities into South Sudanese policy and programs on teacher training, and to sensitize stakeholders and the public on teacher training.

From the time of project planning to completion, quality improvement of teachers was a consistent priority in the national development policy and educational sector strategy. The needs for teacher training to improve teaching skills were high because about 60% of in-service teachers were either unqualified or never received any training. Moreover, the project was consistent with the assistance policy of Japan at the time of project planning. Thus, the project's relevance is high.

The achievement of the Project Purpose, that is "improvement of teaching skills of model teachers in mathematics and science," was confirmed because the SMASESS model teachers obtained passing scores in the evaluation tool. Model teacher training sessions were implemented in all the states despite the difficulties such as delays in the disbursement of government budget. Additionally, the outputs of SMASESS were adopted in education sector plans and policies. Thus, the project's effectiveness is high.

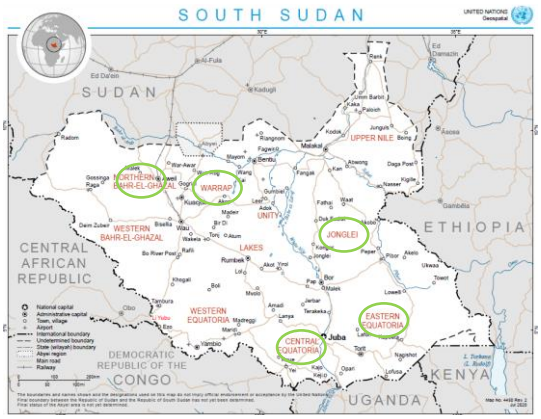
However, at the time of the ex-post evaluation, cases that contributed to the emergence of impacts, such as improvement of "teaching skills of primary teachers in mathematics and science" and "capability of primary school pupils in mathematics and science" were reported. After a few years' blank in education due to conflict occurred right after the project completion, subsequent projects were formulated. Although the national trainers have been engaging in the subsequent projects, activities of SMASESS have been discontinued. As the achievement of the project effects was at a limited level, the effectiveness and impact are fair.

The efficiency of the project is fair because both the project period and the project cost exceeded the plan.

At the time of the ex-post evaluation, South Sudan is in the period of reconstruction from two major conflicts, and faces a complex-humanitarian crises caused by such as insecurity, inflation, natural disasters, and spread of COVID-19 virus, therefore bringing more children

back to school attendance is the higher priority. Sustainability is evaluated as low because, in each aspect, project effects are difficult to sustain. The systems to ensure sustainability in policy and political commitment, institution and organization, and finance are in place, but there are major issues to realize them. In sustainability in the technical aspect, there are issues in establishing a child-centered teaching method, and even the national trainers do not understand the subjects at a satisfactory level. In addition, it is difficult to continue capacity development and disseminate mathematics and science education through the human resources strengthened by the project while cooperation with local states or contact with trained trainers and model teachers has been lost, and no efforts have been made to recover the connections. In light of the above, this project is evaluated to be unsatisfactory.

1. Project Description



Project Location
Source: United Nations Geospatial July 2020

Model Teachers Training in Eastern Equatoria
Source: Material Provided by JICA

1.1 Background

After the 2005 Comprehensive Peace Agreement,[1] school enrollment in South Sudan increased significantly with the support of donors, including the United Nations Children's Fund (hereinafter referred to as "UNICEF"). The number of primary schoolers, which was about 700,000 in 2006, reached about 1.3 million in 2008. In contrast, there were shortages in educational infrastructure such as school buildings, and in the number of teachers. In addition, there were quality issues: over 60% of in-service teachers did not receive any training at all, or even the teachers who received training did not obtain a formal license, thus a majority of in-service teachers had difficulties in understanding the subjects and mastering teaching skills.

[1] South Sudan experienced two long civil wars caused by religious and ethnic conflicts (the first civil war between 1955 and 1972, and the second between 1983 and 2005). After intervention of the international community in mediation and ceasefire monitoring, a general election and a referendum to ask for independence were held, and the Republic of South Sudan became independent in July 2011.

To solve such problems, donors were providing courses for emergency teacher training and for providing teacher qualifications to more individuals. However, opportunities to develop professional skills were extremely limited. Thus, teacher training to support long-term and continuous professional development was needed. Particularly in mathematics and science education, lack of knowledge and teaching skills of teachers was apparent regardless of qualifications, and it was essential to improve their teaching skills in the subjects. Under such circumstance, the Southern Sudan Government submitted a request for a technical cooperation project to the Japanese government. Then, in November 2009, “Strengthening Mathematics and Science Education in South Sudan (SMASESS),” a technical cooperation project, was launched.

As shown in Table 1, in the preparatory phase prior to a full-scale project, JICA took steps including the following: dispatch human resource to Secondary School Teachers Training in third country by using the framework of regional training for “Strengthening Mathematics and Science in Secondary Education” (hereinafter referred to as "SMASE"); dispatch in 2008 of short-term experts to formulate an in-service teacher training plan, and enhancing the skills of core human resources (such as administrative officers and trainer candidates) for the plan; elaborating a training manual; and implementing pilot training in Warrap State, Eastern Equatoria State, Lakes State, and Jongley State.

Table 1 Background of Technical Cooperation Project Implementation

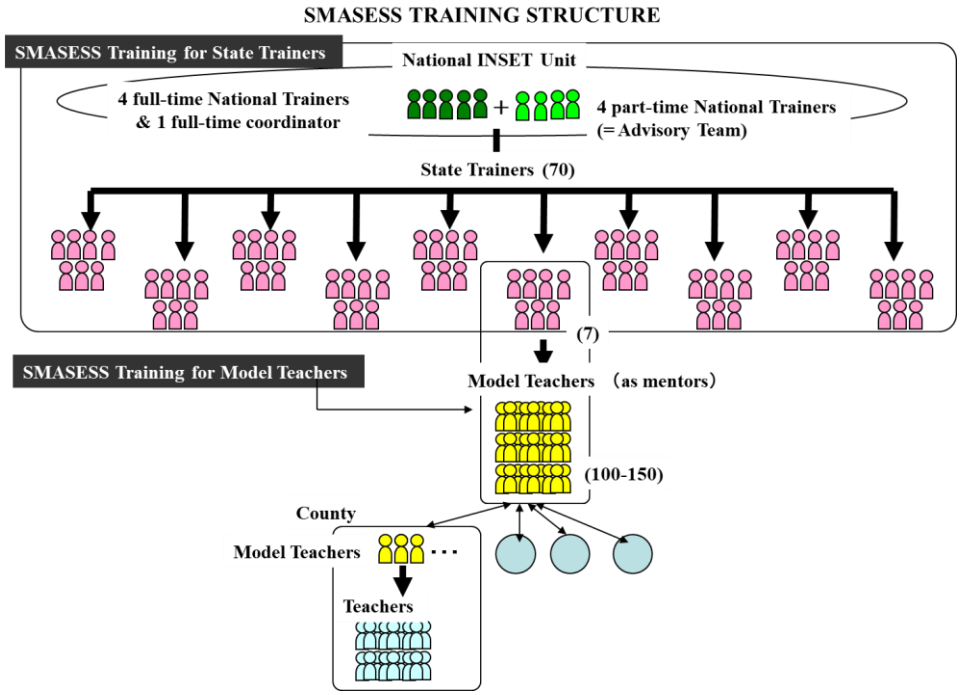
January 2005	Signing of the Comprehensive Peace Agreement (CPA)
2005 to 2007	Secondary School Teachers Training in a third country through Kenyan SMASE’s aerial training structure
July 2007	Project Formulation Study for Development in Southern Sudan
March 2008	Survey on Primary Schools in Mathematics and Science Education
July to December 2008	Project for Improving In-service Teacher Training in Science and Mathematics Education in Southern Sudan; dispatch of short-term experts
January 2009	Workshop for core human resources (4 weeks in Kenya); 74 people participated
February to May 2009	Follow-up project for Improving In-service Teacher Training in Science and Mathematics Education in Southern Sudan, Pilot training in Warrap State
June to September 2009	Follow-up project for Improving In-service Teacher Training in Science and Mathematics Education in Southern Sudan, Pilot training in 4 states
November 2009	Detailed Design Preparatory Study

1.2 Project Outline

Overall Goal		Teaching skills of primary teachers in mathematics and science are improved.
Project Purpose		Teaching skills of Model Teachers in mathematics and science are improved.
Output(s)	Output 1	The body/unit to implement SMASESS training at National and State levels is established.
	Output 2	Ability of State Trainers is enhanced.
	Output 3	The SMASESS training structure for Model Teachers is developed in model states.
	Output 4	The supporting system for teacher training policy, planning and implementation of SMASESS activities is strengthened.
Total Cost (Japanese Side)		394 million yen
Period of Cooperation		November 2009 to June 2012 (Extended period: November 2012 to June 2013)
Target Area		South Sudan, in all 10 states
Implementing Agency		Ministry of General Education and Instruction (MoGEI)[2]
Other Relevant Agencies/Organizations		State office of MoGEI
Consultant/Organization in Japan		none
Related Projects		[Technical Cooperation] Kenya "Strengthening Mathematics and Science in Secondary Education" (2009‐2013) [Grant Aid] Multi-donor Trust Fund (MDTF) (World Bank 2006–2013)

The implementation structure is shown in Figure 1 below. The project was designed to be implemented through the cascade method. Through training in Japan and/or a third country, national trainers would be nurtured. The national trainers were to enhance state trainers' skills, then the state trainers were to strengthen the teaching skills in mathematics and science of selected model teachers (math/science teachers and school inspectors) in each state. After the model teachers participated the training, they were expected to share their skills and learnings with other teachers. In this way, a larger number of primary teachers was expected to improve their teaching skills in mathematics and science.

[2] At the time of the ex-ante evaluation, the implementing agency was the Ministry of Education, Science and Technology, Government of Southern Sudan. When South Sudan became independent in 2011, governmental organization was restructured, and renamed.



Source: Material provided by JICA

Figure 1 SMASESS Implementation Structure

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of the Project Purpose at the Terminal Evaluation

The model teachers training consisted of a three-part cycle based on the SMASE project in Kenya (Table 2). According to the terminal evaluation report, the number of teachers who completed all the three parts was less than the original plan. However, the results of the sample survey indicated that the sample model teachers obtained passing scores in the "Lesson Observation Index," and the differences in the scores of the teachers who took the training and those of the teachers who did not were statistically significant. Thus, the Project Purpose was expected to be attained.

Table 2　Main Contents of Model Teachers Training

Cycle	Main contents
1	Training program, Introduction to SMASESS training, MoGEI curricula for science and math、Classroom practice, Learner-centered teaching/learning, Principles of ASEI-PDSI approach, Work planning, Lesson delivery, Geometry, Measurement, Money, Plants, Light, and Properties of matter
2	Training program, Feedback on state INSET training, ASEI-PDSI approach, Role of peer teaching, Participatory approach, Fraction, Measurements, Geometry, Algebra, Statistics, Parasites, Animals, Air and Environment, Sound and heat, and Electricity
3	Training program, Feedback on state INSET training, ASEI-PDSI, Assessment for learners' growth, Numbers and decimals, Geometry, Measurement, Algebra, Health Education, environment, Making work easier, Electricity and magnetism, and Weather

Source: Material provided by JICA

1.3.2 Achievement Status of the Overall Goal at the Terminal Evaluation (Including Other Impacts)

The terminal evaluation judged that the Overall Goal was likely to be attained because improvement was recognized in the capability of primary schoolers whose teachers received SMASESS model teachers training by the test results of 6th-grade primary schoolers conducted in the terminal evaluation study.[3] Regarding the emergence of any impact after the completion of the project, the terminal evaluation report pointed out the necessity for financial stability in education, continuation of project activities using the trained human resources, and transfer of knowledge and skills to more in-service teachers.

1.3.3 Recommendations at the Time of the Terminal Evaluation

The terminal evaluation report made recommendations including the following: the South Sudanese side should decide how best to use the improved human resources and teaching materials after the completion of the project; pre-service and in-service courses should be incorporated in the formal teacher education system so that teacher training models that match each profession can be established. In addition, to realize such teacher education system, the report recommended internalizing a public teacher education system, dissemination of the SMASESS model nationwide, and advocating the need for sensitization training to gain the understanding of school inspectors and principals to improve lessons. Additionally, as the countermeasure for South Sudan's chronic financial shortage, the report recommended the continuation of efforts to secure stable funding through donor coordination.

2. Outline of the Evaluation Study

2.1 External Evaluator

Shima HAYASE, IC Net Limited

2.2 Duration of Evaluation Study

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

Duration of the Study: February 2020 to July 2021

Duration of the Field Survey[4]: December 1 to 18, 2020, February 1 to March 31, 2021

[3] In the terminal evaluation, mathematics and science tests were conducted to 6th-grade primary schoolers of 16 schools (2 in Central Equatoria state, 8 in Eastern Equatoria, 6 in Jonglei). According to the test results, the average mathematics score of 519 students of SMASSES-trained teachers was 7.1 points higher than 761 non-SMASESS teachers' students, and the average science score of 586 students of SMASESS-trained teachers was 11.2 points higher than 731 non-SMASESS teachers' students.

[4] The field survey was conducted through a South Sudanese assistant's field visits, and the external evaluator's remote communication from Japan to confirm the content of questionnaires and collect information.

2.3 Constraints during the Evaluation Study

The external evaluator had to cancel field surveys for the ex-post evaluation study because of the COVID-19 pandemic and the security situation. Accordingly, briefings on the evaluation to stakeholders, and information collection by questionnaires and interviews were conducted remotely with the support of a local assistant. The achievement of the Overall Goal at the ex-post evaluation time was to be assessed by a sample survey on model teachers regarding how their teaching skills in science and mathematics improved. However, it was impossible to implement the survey because of travel restrictions in South Sudan and the school closure in the country due to COVID-19. As an alternative to the survey, the evaluation team interviewed model teachers. However, the sample was limited to the teachers whom the team managed to find through the grapevine. After the project completion, contact was lost between the implementing agency and those who took the model teachers training because of such reasons as the resumption of conflicts in the country. Thus, the team was unable to assess the project's impact in a way that had solid statistical justification.

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

3.1 Relevance (Rating: ③[6])

3.1.1 Consistency with the Development Plan of South Sudan

The national development plan at the time of the ex-ante evaluation was *Expenditure Priorities & Funding Needs* formulated in April 2008. The plan set basic education as one of its six priorities. In addition, the plan aimed to increase the percentage of trained teachers. *Policy Framework*, which was the educational sector plan of the Ministry of Education, Science, and Technology, aimed to improve the quality of teachers, and increase access to science and technology so that their application in everyday life could be promoted. As the strategy to attain the goal, *Policy Framework* listed developing teaching materials, enhancing basic education, and elaborating high-quality curricula. Regarding funding sources, the Southern Sudanese government's draft *Educational Sector Budget Plan 2010-2012* made "teacher training" one of its highest priorities.

The national development policy at the time of the project completion was the *South Sudan Development Plan 2011-13*. As one of its four priority development areas, the plan cited social and human development. In this area, the plan gave priority to increasing the number of teachers and improving their quality so that a high-quality education system could be ensured. Moreover, in *General Education Strategic Plan, 2012-2017*, which was the education sector's development plan, "improving the quality of basic education" was one of the seven strategic goals. The education sector plan pointed out the need to increase the

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

number of certified teachers, and the necessity to enhance teachers' teaching skills through in-service training and training to nurture new teachers.

The project aimed to improve in-service teachers' teaching skills in mathematics and science, and contribute to improving the capacity of primary schoolers. Thus, it is consistent with South Sudan's national development plan and educational strategy. In the national development policies at the time of the ex-ante evaluation and the project completion, education was a priority. In the country's education policies, improving the quality of teachers was the strategy. Thus, the project's consistency with the development policies is high.

3.1.2 Consistency with the Development Needs of South Sudan

At the time of both the ex-ante evaluation and project completion, national policies and plans on teacher training were being developed, and many donors were running teacher training.[7] However, approximately 60% of in-service teachers did not receive any training or obtain any qualification. The need of training for teacher quality improvement was extremely high. Thus, the project is highly consistent with the country's development needs.

Table 3 Number of Primary School Teachers, Number by Qualifications, Number of Students, and Number of Students per Teacher

Unit: people	Ex-ante Evaluation (2008)	Project Completion (2013)	Reference/Latest (2018)
Primary School Teachers	26,438	27,709	40,850
Male	23245 (87.9%)	24,211 (87.4%)	36,037 (88.2%)
Female	3,193 (12.1%)	3,498 (12.6%)	4,813 (11.6%)
Teachers by Qualification[8]			
Trained	7,369(32.0%)	11,034 (39.8%)	7,149 (17.5%)
Untrained	14,642(63.6%)	16,587 (59.9%)	30,371 (74.4%)
Unknown status	1,014(4.4%)	88 (0.3%)	3,302 (8.1%)
Primary Schoolers	1,327,892	1,311,467	1,605,091
Boy	836,775 (63.0%)	800,868 (61.1%)	916,336 (57.1%)
Girl	491,117 (37.0%)	510,599 (38.9%)	688,755 (42.9%)
Students per Teacher	50.23	47.3	39.3

Source: Data at the time of the ex-ante evaluation are from the Education Management Information System (EMIS) 2008 ver1.3 (estimation based on 90% of actual survey). Data at the project completion time are from EMIS 2013. The 2018 data are from National Education Census Booklet 2018.

[7] At the time of the ex-ante evaluation, there were the following teacher training projects by donors: qualification training by the World Bank-managed Multi-Donor Trust Fund (MDTF) (The fund was established to assist nation building in South Sudan); and emergency teacher training by UNICEF and NGOs. At the time of project completion, the United States Agency for International Development (USAID) was implementing the South Sudan Teacher Education Project (SSTEP); the UK Department for International Development (DFID) provided teacher training through the Community School Development and Construction Project; and UNHCR and the International Organization for Migration (IOM) assisted qualified refugee teachers' repatriation.

[8] The definitions of "trained" vary widely by year as follows: [2008] pre-service 441, in-service 1,112, under phases trained 3,303, phase completed 3,113, diploma 400; [2013] grade III 6,906, grade V 2,501, diploma 1,627; [2018] Bachelor of Education and above 394, 2-year in-service 30, 2-year pre-service 2,525, 4-year in-service 3,354, and diploma in education 846.

3.1.3 Consistency with Japan's ODA Policy

JICA's country assistance implementation plan for South Sudan at the time of the ex-ante evaluation focused on the support for Basic Human Needs (BHN). The project is positioned as an undertaking in the plan's *Basic Education/Vocational Training Program*. In May 2008, the fourth *Tokyo International Conference on African Development (TICAD IV)* declared the *Yokohama Action Plan*. The plan set out a specific goal "to provide training for 100,000 teachers in the African region." The project was meant to contribute to attaining the goal. Thus, the project is highly consistent with Japan's ODA policy.

3.1.4 Appropriateness of the Project Plan and Approach

Because the project was implemented in a conflict-affected country, viewpoints based on JICA's *Evaluation Reference on Projects in Conflict Affected Countries/Areas* were referred to in examining the appropriateness of the project plan and approach. In 2005, when North and South Sudan signed the peace agreement, JICA started reviewing the possibility to implement the project. Prior to the project, JICA provided third country training to nurture core human resources, and implemented pilot projects. In addition, among the teacher training projects implemented by other donors, JICA had an advantage in mathematics and science education in South Sudan because it was preparing and implementing the project with the support from SMASE-WECSA, a network within Africa.[9]

The major modifications from the project plan at the time of the ex-ante evaluation were as follows. The teacher training program spared about 50% of it for subject study because there were problems in in-service teachers' understanding of subjects, and, in the classroom, they tended to skip the items that they did not understand. In addition, the content of the ASEI/PDSI[10] approach used in Kenya's project was modified in accordance with the South Sudanese level. The evaluation tools to measure the achievement of the Project Purpose and effectiveness were also adjusted for assessing the effect of project interventions accurately.

On the other hand, the project plan cited the following external factors that would inhibit the project's effectiveness: turnover of trained teachers, shortage of the government's budget, negative effects of a general election and referendums, and frequent personnel shuffle of government personnel. Among these factors, the issues of trained teachers' resignations and a shortage of the government budget already occurred at the time of the ex-ante evaluation. In addition, the general election due to South Sudan's independence was planned during the

[9] Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa. The network was established to enhance and promote mathematics and science education cooperation in Africa by sharing experiences in JICA's math and science education project in Kenya, such as the teaching method based on the ASEI/PDSI approach, enhancement of local human resources, and establishment of a sustainable in-service training system.

[10] ASEI-PDSI stand for Activity, Student, Experiment, Improvisation/Plan, Do, See, and Improve. A teaching method that teachers take actions of Plan/Do/See/Improvement from the viewpoints from learners' Activities, Student-Centered, Experiment, and Improvisation.

project period. Thus, impacts from these factors on the project could have been anticipated. In fact, these factors had negative effects on the project's effectiveness, impact, and sustainability. At the time of the ex-ante evaluation, it was necessary to consider these factors as risks, and JICA should have examined countermeasures to avoid or minimize the negative effects. Additionally, in its lessons learned, the terminal evaluation report pointed out that the project plan should have included a component to develop capacity of the counterpart organizations including the national and state MoGEI because the project was implemented soon after the conflict, and their capacity was not mature.

As mentioned above, the project was consistent to South Sudan's development plan and educational sector strategy, development needs at the time of the ex-ante evaluation and project completion, as well as Japan's ODA policy at the time of the ex-ante evaluation. Therefore, its relevance is high. The project design was amended according to the situation of South Sudan. However, regarding the project design, activities to strengthen counterpart organizations, and measures to address the risks, which were already taking place or likely to happen, should have been considered because the project was planned soon the conflict.

3.2 Effectiveness and Impacts[11] (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Project Output

The project aimed to disseminate the improvement of primary teachers' mathematics and science teaching skills through activities including the project-trained national trainers to provide training for state trainers, and the state trainers were to enhance model teachers' teaching skills in each state.

Output 1	The body/unit to implement SMASESS training at National and State levels is established.
Output 2	Ability of State Trainers is enhanced.
Output 3	The SMASESS training structure for Model Teachers is developed in model states.
Output 4	The supporting system for teacher training policy, planning and implementation of SMASESS activities is strengthened.

"Output 1: The body/unit to implement SMASESS training at National and State levels is established" was achieved because members of the SMASESS Unit, the implementation body composed of four national trainers, one coordinator, and part-time trainers, was selected and promoted the project activities with the Japanese experts.

"Output 2: enhancement of State Trainers" was achieved because 60 state trainers, which was more than 85% of the plan, completed the three-part cycle of training, and obtained

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

passing scores in the "Lesson Observation Index."

Regarding "Output 3: The SMASESS training in model states," the pilot training was held in the five model states and five other states as shown in Table 4. The terminal evaluation concluded that none of the model states completed the three-part cycle of training. However, as JICA's mid-term supervision mission pointed out, the project was implemented under difficult circumstances such as the country becoming independent after conflicts, fragile government functions, inadequate budget allocation, chronic delays in paying salaries to government personnel and teachers, and an underdeveloped educational system. The mission commented that the implementation of project activities was a major accomplishment in itself. The project[12] was able to provide the 1st cycle or more trainings to more than 100 teachers in the five model states, and organize training in all 10 states.[13] Even before trainees completed the three-part cycle, they would improve their teaching skills to a certain extent because SMASESS was designed to have trainees learn teaching methods and repeat them in the cycle. Thus, SMASESS contributed to the attainment of the Project Purpose. For the reasons above, Output 3 was mostly achieved.

Table 4 Number of Model Teachers Training Participants by State **(Unit: People)**

State/Cycle	5 Model States					5 Other States					Total
	Ex-ante Evaluation			2nd year addition							
	Eastern Equatoria	Jonglei	Warrap	Northern Bahr El Ghazal	Central Equatoria	Upper Nile	Unity	Western Bahr El Ghazal	Lakes	Western Equatoria	
1	197	185	146	125	127	26	22	30	30	29	925
2	65	119	75	-	36	-	-	-	-	-	295
3	56	85	-	-	-	-	-	-	-	-	141

Source: Material provided by JICA
Note: Model states selected at the time of the ex-ante evaluation are colored in dark green, additional model states in the second year are colored in pale green. Other five states were not the target of the project, but pilot training is implemented for fairness.

Regarding "Output 4: establishing training policy and supporting system," two of the planned activities were completed because sensitization workshops for the state MoGEI, school principals, inspectors and students were implemented, and sensitization programs were disseminated through the radio, newspapers, and television. However, it is not possible to measure how these activities contributed to system building. Other activities were contributing directly to strengthening the training structure because the education sector strategy incorporated an in-service training plan in mathematics and science, and

[12] The number of trainees to complete training was not mentioned in the indicators. According to the minutes of meeting (signed July 2009), the three-part cycle training was to be implemented to 100 to 150 model teachers each in Warrap and Eastern Equatoria states. Addition was to be considered at the Joint Coordination Meeting held a year after the project's launch. In the ex-ante evaluation report, the target areas for model training were Juba and three model states (Warrap, Eastern Equatoria, and Jonglei). Actually, two states (Central Equatoria and Northern Bahr El Ghazal) were added in the second year. Thus, it is assumed that the project's target number of the model teachers was between 500 and 750.

[13] To eliminate unfairness among states, the implementing agency requested to implement the project nationwide, and the project added pilot projects in five states besides the model five states.

professional standards and curricula employed the essence of SMASESS.[14] Therefore, the purpose that Output 4 was aiming at was attained.

3.2.1.2 Achievement of the Project Purpose

The sample survey in the terminal evaluation[15] was conducted to measure the accomplishment of the Project Purpose. For the survey, three national teachers visited 15 primary schools in three model states (Central Equatoria, East Equatoria and Jonglei), and observed 19 teachers' lessons with the "Lesson Observation Index."[16] The survey results showed that the SMASESS trainees (13 teachers) obtained the passing scores both in mathematics and science, and their scores were better than those of the 6 non-SMASESS teachers (as shown in Table 5). Therefore, the Project Purpose was accomplished.

Table 5 Achievement of the Project Purpose

Project Purpose	Indicator	Actual
Teaching skills of Model Teachers in mathematics and science are improved.	Model Teachers obtain over 3 points with "Lesson Observation Index"	**The average score of SMASESS trainees obtained a passing score of 3 points.** Mathematics: Trainee average 3.1 points/non-SMASESS average 2.6 points Science: Trainee average 3.2 points/non-SMASESS average 2.1 points

Source: JICA Terminal Evaluation Report

Although only six SMASESS trainees among the 13 completed two of the three-part cycle, they obtained a passing score.

In SMASESS in South Sudan, about 50% of the training contents was used for subject study. Thus, although the three evaluation tools of the Kenyan SMASE were referred to, only the "Lesson Observation Index" whose content was modified and reduced to match South Sudan was used. The model teachers training was designed to have trainees learn teaching methods and practice them with different materials in the three-part cycle. Thus, the fact that the six trainees gained passing scores without completing the three-part cycle has nothing to do with the level of the evaluation tool.[17]

[14] As a result of the project activities, the ASEI-PDSI approach (including using improvised material available nearby and lesson plan), which is the essence of SMASESS, was incorporated in the training materials for the first and second years of the four years of INSET training. Moreover, it was incorporated in the teacher profession standards developed in 2012. In addition, it was to be incorporated in the teacher training curriculum.

[15] In November 2012, the National Trainers visited 15 primary schools in three states (Central and Eastern Equatoria, and Jonglei), and observed 19 teachers' lessons. Among the 19 teachers, 13 participated in SMASESS (model teachers), and six were non-SMASESS (primary school teachers). The terminal evaluation report does not explain how the target schools and teachers were selected.

[16] Evaluation tool based on the indexes developed by the SMASE project in Kenya (Lesson Improvement Index, Lesson Observation Index, and ASEI-PDSI Checklist). These were used partially because, in the training in South Sudan, more than half the coursework time was spent for understanding the subjects. Only the Lesson Observation Index adjusted to the South Sudanese level was used.

[17] According to the project's Science and Math Education Expert, because the method of the training was to have trainees learn teaching skills, then practice them repeatedly with various materials, the Project Purpose was achieved before the trainees completed the three-part cycle.

Among the project outputs, 1 and 2 were achieved, and 3 and 4 were mostly achieved. In addition, the terminal evaluation confirmed that the Project Purpose was attained. Therefore, the project achieved its purpose.

3.2.2 Impacts

3.2.2.1 Achievement of the Overall Goal

In the project design, the Overall Goal was expected to be attained by the SMASESS model teachers sharing their knowledge and skills and providing guidance to other primary school teachers with the initiatives of state government and the principal in each primary school.

At the time of the ex-ante evaluation, JICA designed the Overall Goal on the basis of the following evidence: (1) model teachers were positioned as mentors for other primary teachers; (2) sensitization workshops for school principals and education authorities were included in the activities, thus a supporting system for model teachers to provide guidance would be prepared in each school; (3) when JICA personnel visited schools in regions at the time of the Detailed Design Preparatory Study in 2009, they observed cases that teachers who had participated in training provided guidance to other teachers after the training.

In the ex-post evaluation, the extent of Overall Goal achievement was validated by a sample survey. The survey results showed that one model teacher shared knowledge and skills and provided guidance to six primary teachers on average, and presented examples of positive changes in teachers' attitudes toward mathematics and science education (Table 6).

Table 6 Achievement of the Overall Goal

Overall Goal	Indicator	Actual
Teaching skills of primary teachers in mathematics and science are improved.	Conduct survey on improvement of model-state primary teachers' teaching skills in mathematics and science with "Lesson Observation Index" (sample survey)	At the time of the ex-post evaluation, a SMASESS model teacher shared knowledge and skills and provided guidance[18] to six other primary school teachers, and positive attitude changes were recognized. Example of the changes: positive attitude toward mathematics and science classes (4 answers), confident in teaching planning and material preparation (3 answers), attitudes of students who disliked mathematics and science changed positively, and their capability improved (2 answers)

Source: Sample survey at the time of the ex-post evaluation

The results of the sample survey proved that the model teachers contributed to improving other teachers' teaching skills in mathematics and science by sharing their knowledge and skills and providing guidance. However, the subjects for the sample survey were limited to the model teachers[19] who were reached through the grapevine. No statistical justification,

[18] The ways of sharing and guidance varied. The answers included the following: mutual lesson observation and feedback; providing tips and advice on children-centered teaching; group discussion; one-on-one discussion; guidance at lunchtime; coaching and mentorship; and organizing teachers' study group.

[19] In the sample survey on the Overall Goal, the external evaluator inquired contacts of SMASESS model

such as random sampling from the list of all model teachers, was secured in this survey. Therefore, the results of the sample survey do not represent the contribution of all model teachers; they just present a few examples.

teachers through the MoGEI office in Central and Eastern Equatoria states or acquaintance teachers. Information was obtained through remote or face-to-face interviews, which were conducted by a local assistant.

COLUMN: Opinions and Suggestions from SMASESS Model Teachers

The following are opinions and suggestions from model teachers who responded to interviews at the time of the ex-post evaluation.

- The SMASESS project gave me knowledge and skills, and the ASEI/PDSI Approach. Now I can prepare teaching materials by using things readily available. The project also helped me use questioning techniques to promote a participatory approach in teaching and learning mathematics and science. I want the SMASESS training to be a part of in-service training. For further implementation, all the school inspectors and head teachers should be informed on the importance of the project. (At the time of the project: teacher in Central Equatoria state; current position: Assistant Director for Mathematics and Science; current age: 50s)
- I managed to minimize difficulties in teaching subject contents such as geometry. I mastered subject contents, and feel more confident in my teaching skills, such as using instrumental set to draw and calculate geometric assignments. It also enabled me to improvise teaching materials with available resources. For example, using sticks for counting although the ministry doesn't provide marbles for math lessons. The approach was also effective in communication with pupils with special needs. (At the time of the project: teacher in Central Equatoria state; current position: Director of Directorate of Education, Juba City Council; current age: 60s)
- The project changed my negative attitude towards teaching math and science. It helped me improve my teaching skills such as preparing lesson plans and other professional documents, in addition to knowledge on pedagogy. The project was interrupted by conflict, but I hope that it will pick up from where it stopped and even recruit more teachers to the training across the country. (At the time of the project: teacher in Central Equatoria state; current position: Coordinator for Inclusive Education and Teachers' Trainer for Mathematics & Science; current age: 40s)

In the interviews below, a few model teachers made the following suggestions on dissemination of SMASESS and continuity.

- SNS group (WhatsApp, or Messenger Groups) for discussion among teachers
- Focus Group Discussion for sharing knowledge and skills among teachers
- Learning circle to build teachers' professional expertise, and schools should implement the activity as part of teachers' duties.

On the other hand, there was an opinion on the situation of the country.

- In some regions, conflict is still ongoing, and communication infrastructure is not fully developed. Thus, it might be difficult to organize a SNS discussion group nationwide.

3.2.2.2 Emergence of Project Effects after the Completion of the Project

Table 7 below shows what happened between the completion of the project and the ex-post evaluation. The emergence of the project's effects is limited.

Because of the conflict's resumption six months after the project's completion, a two-year blank in education occurred. At the end of 2015, when the security situation was stable, JICA implemented a subsequent project formulation survey, and two technical cooperation projects were formulated between 2016 and the time of the ex-post evaluation.

Although subsequent projects were implemented, status of project effects' emergence regarding in-service training are limited because of such inhibiting factors as periodic deterioration of the security situation, school closure due to COVID-19, travel restrictions on Japanese experts, and the situation that the experts had to shift to remote operation. In the subsequent projects, the SMASESS-trained national trainers have engaged full-time in the activities to improve the quality of teacher training institutions (hereafter referred to as TTIs) and establish in-service teacher training models with Japanese experts. In addition, they are assisting other donors' projects to standardize in-service teacher training materials. Other activities of the previous project stopped after its completion. Training for national and state trainers and model teachers has been discontinued, and the developed materials and evaluation tools have been neither used nor revised. Neither advocacy to the media nor sensitization workshops to disseminate SMASESS have been conducted. Moreover, the training implementation structure built in the project has not been maintained or enhanced since the project completion. Contacts among national- and state-level stakeholders have not been updated because no training has been implemented. In addition, contacts with the trainees were lost because the list was not updated after conflicts and personnel shuffles. The national trainers pointed out that such discontinuity occurred because the project had no activity to build a platform for trainees to exchange information.

It is true that the project's activities were restricted by conflict, the security situation, and COVID-19, all of which are external factors. However, as the subsequent projects have been implemented after a blank period, efforts to revise teaching materials, and restore contacts with trained human resources and the cooperation structure could have been made internally despite the restrictions imposed by the external factors above. In particular, it is a major loss that the human resources strengthened by the project training have not been used in the subsequent projects. This is an important point that was also made in the recommendations of the terminal evaluation. The interviews with model teachers at the time of the ex-post evaluation confirmed that the teachers are contributing to sharing knowledge and skills and providing guidance to other teachers. In addition, as written in the column above, some of them have attained key posts such as city's Director of the Directorate of Education. These human resources can be helpful to the subsequent projects, especially in building teacher

training models and disseminating them at the state level.

Table 7 Sequence from Project Completion to Ex-Post Evaluation

December 2013 to Blank period In December 2013, which was half a year after the project's completion, a conflict erupted. The death toll from the conflict was 383,000, and 4.5 million (equivalent to one third of the population of South Sudan) were forced to evacuate. In addition, another conflict in 2016, inflation, and famine overlapped, and both the education system and the schools in South Sudan, which were vulnerable to begin with, became dysfunctional. In 2017, about half the existing classrooms, including both permanent and temporary ones, were functional, and the number of students per teacher increased to 100.[20]
September 2015 to February 2016 Study for formulating a subsequent project As the security situation became stable, Japanese experts were dispatched for a formulation study for resumption of technical cooperation. During the two-year blank, the system built by the previous project was not maintained or strengthened. Although the SMASESS unit was the executing body for teacher training in science and mathematics of the Teacher Education Division, the unit members were transferred or concurrently serving other sections. In this period, there was no training at the national or state level, and no model teacher training was implemented.
July 2016 to October 2018 SMASESS II Two Japanese experts were dispatched to implement SMASESS II, which was to support in-service teacher training implementation, and quality improvement of primary TTIs. Soon after the project started, a major conflict occurred. The experts remotely managed the project from neighboring Uganda, and project activities were narrowed down to quality improvement of the institutions. In SMASESS II, supplementary teaching materials were developed, teacher trainings in TTIs, and needs assessment and monitoring were conducted.
November 2019 to SMASESS III With a Japanese SMASESS advisor, the SMASESS unit is conducting activities for quality improvement of TTIs, building in-service teacher training, models, and mathematics and science education promotion.[21] From March 2020, Japanese experts returned to Japan because of COVID-19, and have been remotely managing the activities.

[20] Source: Education Cluster Assessment South Sudan October 2018

[21] Because of the school closure due to COVID-19, it was not possible to conduct the Lesson Study to clarify the approach to implement "lessons learned" through a Lesson Study and finding "Tips" in primary schools in Juba city and Rombur Teacher Training Institution.

3.2.2.3 Other Positive and Negative Impacts

(1) Achievement of the Super Goal

The Super Goal of the project was "Improvement of primary school pupils' capability in mathematics and science." The model teachers who were interviewed at the time of the ex-post evaluation provided a few examples of effects related to the super goal which appeared to the students in model teachers' classes, or the students of the teachers who were shared knowledge and received guidance from model teachers (Table 8).

Table 8 Achievement of the Super Goal

Super Goal	Indicator	Effects (Model Teachers' Interview)
Capability of primary school pupils in mathematics and science is improved.	- Positive change of students' attitude and participation in classroom activities - Results of achievement in Examination (8th grade primary school graduation examination)	Students gain higher score in exam (5 answers), students started mutual teaching (2 answers), questions and answers from students increased, students' attitude in classroom became positive (2 answers). Below, one answer for each: better attendance rate, discussion group developed by students, mathematics and science group developed by students, more students select science in secondary school; before SMASESS, the school was ranked the lowest in mathematics and science scores, but after SMASESS the school could get out of the bottom.

Source: Sample survey at the time of the ex-post evaluation

(2) Gender

Gender balance was taken into consideration at project planning and implementation. In an effort to increase women's participatory opportunities, the project encouraged one or more female teachers from each state to participate as state trainers, and women to be national trainers. The reason was that the ratios of girls in students and female teachers in primary schools were extremely low in South Sudan.[22] As a result, 17 female instructors, including 16 state ones and one national one, were trained.

(3) Peace Building

In the original plan at the time of the ex-ante evaluation, model teachers training was to be implemented in the model states. However, the South Sudan side requested nationwide implementation for fairness among states. Thus, for peace building consideration, the training was conducted in all 10 states.

In addition, the time of the project's launch was around the time when schools restarted after civil wars and teachers returned to the classroom. Some commented that the project symbolized "the arrival of peace."[23]

[22] As shown in the Relevance section (Table 3), at the time of the ex-ante evaluation, the ratio of girls in students were 37%, and the ratio of women in teachers was 12%. There was no major improvement at the time of the ex-post evaluation: the ratio of female students was 39%, and the ratio of female teachers was 13%.

[23] Source: Terminal Evaluation Report

The effectiveness and impact of the project are fair. “Improvement of teaching skills of model teachers in mathematics and science,” which the project aimed at, was attained. In addition, as an impact, a few cases were seen that contributed to achieving the Overall Goal, which is improvement of primary school teachers’ teaching skills through dissemination of knowledge and skills by the model teachers and improvement of students’ capability. On the other hand, between the project completion and the ex-post evaluation, there was a blank period in education due to conflicts. Then, although subsequent SMASESS projects were implemented, no activity except national trainers’ engagement has continued. Thus, the emergence of the project effects remains limited. The constraints due to conflicts, security issues, and COVID-19 are external factors. Meanwhile, activities including the following could have been done internally: revision of training materials, restoration of the coordination structure for training, and recovery of contacts with the human resources strengthened by the project, which was seen as a priority. However, they remain discontinued.

3.3 Efficiency (Rating:②)

3.3.1 Inputs

Table 9 below shows the plan and results of inputs.

Table 9　Comparison of Planned and Actual Inputs

Inputs	Plan (at the time of ex-ante evaluation)	Actual (at the time of the project completion)
Dispatch of experts	2 long-term experts (Teacher Training Policy/Chief Advisor 28.7 MM*, In-service Training Management 27.5 MM) Short-term experts: as necessary	3 long-term experts (Teacher Training Policy/Chief Advisor 34.6 MM, Science Math Education 9.9 MM) In-Service Training Management (no information on MM) 2 short-term experts: Kenya SMASE Science and Math Education
Trainees received	No information on the number Including training in Japan, and training in a third country	37 people Training in Japan 12 people, training in a third country (Kenya 17 people, Malaysia 8 people)
Equipment	Vehicle, computers, printers, office setup	Vehicle, copy machine, computers, printers, UPS, generators, air conditioners, office setup
Local costs	Training materials, accommodation, part of transportation, training venue renovation, etc.	Allowance for state-level training, transportation, etc.
Japanese Side Total Project Cost	355 million yen	394 million yen** (111% of the plan)
South Sudanese Side Total Project Cost	SSP 1,390,625*** (approximately USD 556,250)	SSP 884,330**** (approximately USD 252,600)

Source: Materials provided by JICA
* MM stands for man month.
** Actual amount of the project excluding the cost for the Detailed Design Preparatory Study
*** SSP stands for the South Sudanese pound.
**** Total amount of the South Sudanese side as of March 2013; national and state MoGEI covered the allowance and travel costs for state trainees.

3.3.1.1 Elements of Inputs

The inputs were almost as planned. Regarding the three long-term Japanese experts, the Chief Advisor was dispatched as planned, but the dispatch of the other two was delayed. It took time to select the In-Service Training Management Expert and the expert was dispatched about half a year late. In addition, the Science and Math Education Expert was dispatched in October 2011, which was during the latter half of the project period.

At the time of the ex-ante evaluation, the project's target areas were Juba and three model states (Warrap, Eastern Equatoria, and Jonglei). However, in the project's second year, two more states (Central Equatoria, and Northern Bahr El Ghazal) were added. Thus, the project covered five model states in total. In addition, the South Sudanese side requested JICA to implement the project in all 10 states. Thus, pilot training courses were implemented in additional five states as well. Moreover, although no quantitative records are left, it is assumed that the workloads of the experts and the counterparts increased because of the coordination for implementing training in the additional states.

3.3.1.2 Project Cost

Regarding the project cost, as opposed to the planned amount of 355 million yen, the actual amount was 394 million yen, which is 111% of the plan. Although pilot training in five states were added to the original plan, no major change occurred. The additional amount was for the personnel cost and the indirect cost, both of which were due to the extension of the project period.

3.3.1.3 Project Period

The actual project period was three years and seven months, which was longer than the planned period of three years (119% of the planned period). The reasons for the extension include the following: effects from frequent replacement of state MoGEI personnel; delays in south Sudanese budget disbursement due to the referendum and the general election; and communication difficulties among MoGEI state offices and subordinate levels. In addition, when implementing model teacher training, there were difficulties in finding venues, road conditions, preparation of lodging facilities, and taking much time in money transfer.

Among the reasons above, frequent personnel replacement and the budgetary issues of the South Sudanese side existed at the time of the ex-ante evaluation. Moreover, the referendum and the general election toward independence were planned in advance. Thus, the project should have considered measures to avoid or reduce negative impacts from these factors.

As stated above, both the project cost and the project period exceeded the plan. Therefore, the efficiency of the project is fair.

3.4 Sustainability (Rating:①)

3.4.1 Policy and Political Commitment for the Sustainability of Project Effects

The Republic of South Sudan National Development Strategy 2018-2021, the development plan at the time of the ex-post evaluation, has the following four guiding principles: "Peace, Security, and Rule of Law"; "Democracy and Good Governance"; "Socio-Economic Development"; and "International Compacts and Partnerships." "Improving the quality of education and expanding training opportunities" is listed among the 13 items in Socio-Economic Development.

Items in Socio-Economic Development

(a) Inclusive and equitable economic growth, service delivery, social safety nets for the vulnerable and development of markets; (b) Productive capital accumulation; (c) Poverty reduction and eradication of hunger; (d) Economic recovery and management of inflation; (e) Economic diversification; (f) Infrastructural services; (g) Empowerment of women and youth; **(h) Improving the quality of education and expanding training opportunities;** (i) Support to scientific and socio-economic research; (j) Provision of vocational technical training; (k) Adoption of communication and information technologies; (l) Industrialization of the economy; (m) Export promotion

One of the priorities of *the General Education Strategic Plan, 2017-2022* (*GESP2)* is improving the quality of education, which was carried over from *GESP1*. The following four are the goals toward achieving the priority.

GESP2 Goals toward Improving Quality of Education

(1) Every learner in primary and secondary schools will have access to one complete set of textbooks by 2021. (2) Increase the percentage of qualified teachers from 37% in 2017 to 94% by 2021. (3) Implement new curricula. (4) Implement a quality assurance system, such as school inspection, supervision, national assessment, and examination framework.

The work plan for FY2020 lists the following actions to achieve the four goals above: (3) organizing an orientation for 16,000 teachers for introducing a new curriculum; (1) distributing textbooks that match the new curriculum; and (2) reconstruction of teacher training centers and institutions, and implementing training.

Other donors have started providing support to teacher education and in-service teacher training, although details of the support are still under consideration. In 2019, the African

Development Bank and UNICEF began working on reconstruction of and training in public TTIs, which ceased to function during the conflicts.[24] To build the capacity of unqualified teachers, NGOs and private TTIs have started a program targeting 3,000 teachers. However, this program is not in line with the new curriculum being introduced by South Sudan, and teaching materials vary depending on the area or organization. Thus, they have been standardizing teaching materials since February 2020. The SMASESS unit has been assisting the standardization of mathematics and science materials. The unit is not only providing input on the content, but also revising the materials so that they will be learner-centered.

Meanwhile, according to the statistics shown in the Relevance section (Table 3), the percentage of untrained teachers, which was about 60% (approximately 17,000 teachers) at the time of project completion (2013), has deteriorated to over 70% (approximately 30,000 teachers)[25] at the time of the ex-post evaluation (2018). This means that more in-service teachers needing training to attain the goal of quality improvement.

Because schools lost their functions owing to the conflicts, and more than 60% of children were out of school, a coalition of donors and NGOs in the education sector has been running an emergency education program since 2015 to provide more children with access to education and bring them back to school.[26]

At the time of the ex-post evaluation, major donors and NGOs believe that South Sudan faces a complex set of humanitarian crises caused by the following factors: being in the period of reconstruction from two major conflicts; continuous security problems and in-country evacuation; falling national revenues due to the fall in oil prices; rising commodity prices and hardships due to inflation; damage from major floods; food shortages; and COVID-19. Under these circumstances, 2.4 million school-age children (3 to 17 years old) are out of school. Thus, in the FY2021 assistance policy, the major donors in the education sector along with MoGEI aim to increase the number of children enrolled in school, and reduce dropouts in cooperation with other sectors such as water hygiene, food, and gender-based violence.

At the time of the ex-post evaluation, the national development policy and the educational sector's strategy refer to "improvement in the quality of education" and "teacher training,"

[24] Continuous Professional Development (CPD), which is designed to build the capacity of unqualified teachers. It is a two-year program that provides remote sessions including 100 days of face-to-face sessions. It is provided by three NGOs that are funded by UNICEF, and private TTIs.

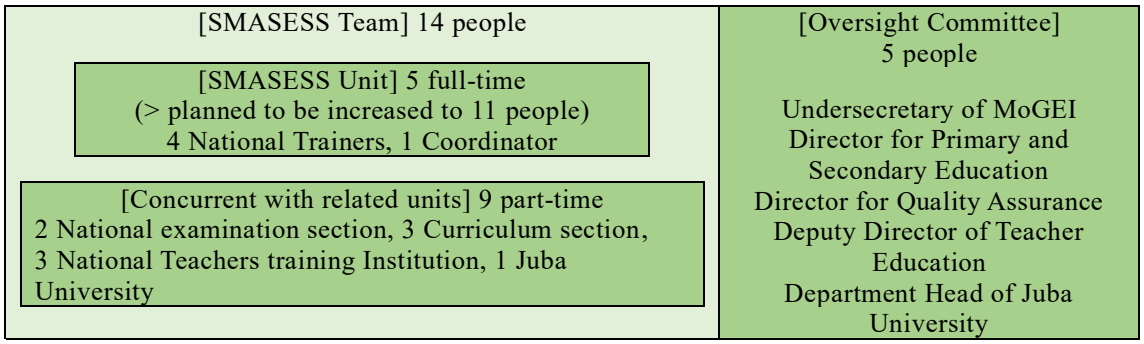
[25] In the statistics at the time of project completion (2013) and the latest one (2018), the number of primary school teachers increased substantially from 27,709 to 40,850 (a 47% increase). However, among the teachers, the ratio of untrained ones deteriorated from 60% (16,587 teachers) to 74% (30,371 teachers, which is an increase by 83%). At the time of the ex-ante evaluation (2008), the number of untrained teachers was 14,642 (64% of the total). The definition of qualifications varies from year to year, but the results indicate the need to strengthen the capacity of unqualified teachers.

[26] Program implemented by donors such as UNICEF, USAID, and the World Food Programme (WFP), and nine NGOs. In the Back to Learning Program, Education in Emergencies (EIE), whose teaching content is narrowed down to a minimum, is applied in areas that are strongly affected by conflicts. The program applies Skills for Life in less affected areas.

and a few donors provide teacher training courses. However, given the current situation in South Sudan, which is in a humanitarian crisis, MoGEI is compelled to increase school attendance while aiming at quality improvement of education. The number of teachers has been increasing, but the percentage of unqualified teachers has rather increased. Thus, although the sustainability on policy and political commitment is expected to be ensured, there are major issues.

3.4.2 Institutional/Organizational Aspect for the Sustainability of Project Effects

At the time of the ex-post evaluation, duties of the SMASESS team in MoGEI are development of supplementary materials for trainees, implementation of training, implementation of needs assessment, and monitoring for TTIs' quality improvement. The SMASESS team has 14 members: five full-time members of the SMASESS unit, and nine part-time ones from related sections. In addition, the Oversight Committee is responsible for promoting the SMASESS activities, managing their progress, and supervising the SMASESS team.



Source: Material provided by JICA

Figure 2 SMASESS Implementation Structure at the Time of the Ex-Post Evaluation

According to information at the time of the ex-post evaluation, SMASESS unit is to be upgraded to the program level,[27] and the number of unit members is to be increased to 11 because the education sector strategy plans to develop the bases for teacher training in regions.

However, the reality is that some of the five SMASESS full-time members, who are expected to be the core in SMASESS activities, are on leave or sick. Part-time members have time constraints from their original posts. However, because salary payment is delayed for both full-time and part-time personnel,[28] they choose to attend donors' workshops that

[27] Because of the promotion of Deputy Director of Teacher Education, who is responsible for supervising SMASESS, to Director General, Teacher Development and Management Service, SMASESS is to be upgraded to the Department of Science, Mathematics and Programs, and the number of personnel is to be increased.

[28] According to a Japanese expert, in 2020, MoGEI counterparts' monthly salary is between SSP 3,000 and 4,000 (approximately USD 15.00). The amount does not cover three days' living expenses in South Sudan

provide transportation expenses. As a result, it is difficult to have the members concentrate on SMASESS activities. In addition, as some of the national trainers are nearing the retirement age, it is necessary to train younger human resources for the sustainability of SMASESS, but there was no replacement of personnel after the project completion.

Regarding the implementation structure with states, the project coordinated in-service teacher training courses in all 10 states, and there was a contact list of state trainers and model teachers who participated in the project. After the project completion, such list was not used, and the coordination relationship and the contacts were lost at the time of the ex-post evaluation. It is true that the project had negative effects from external factors such as the blank period from conflicts and personnel shuffles, but no activity to recover what was lost has taken place. Once SMASESS training is ready to be restarted, the coordination structure with the national and state levels, and a contact list of human resources for training need to be redeveloped.

Summarizing the above, the functions and duties of the SMASESS unit in the MoGEI are clarified, and personnel have been assigned. Thus, institutional and organizational structures are seemingly in place. However, it is difficult to say that the coordination structure for sustaining project effects related to in-service teacher training has been maintained.

3.4.3 Technical Aspect for the Sustainability of Project Effects

In the time between the project completion and the beginning of subsequent projects, JICA kept capacity development of human resources including national trainers using the framework of SMASESS overseas training. They were dispatched to training in Japan or in a third country.

In subsequent projects, Japanese experts and national trainers developed supplemental teaching materials for TTIs, but the following difficulties in keeping the technical level of the trainers strengthened in the project were reported: child-centered teaching method, which is the basis of SMASESS, and consciousness and behavioral change to "learning" instead of memorization are not established; knowledge of the subjects is insufficient both in mathematics and science; and teachers lack capacity to examine and analyze problems in classes, which is essential for needs assessment and monitoring.[29]

Sustainability on technical skills including planning, management, teaching skills, and evaluation, could not be confirmed because SMASESS training has stopped at all levels, and both national and state trainers have no occasion to implement what they learned.

Regarding model teachers' technical level, it was not possible to examine all the model

where commodity prices are high. Moreover, payment delays are not unusual. Because delays also occur in primary school teachers' salaries, the European Union (EU) has implemented a project to bridge the gap in payment.

[29] Source: Material provided by JICA

teachers. However, in the sample survey, they were asked to conduct a self-evaluation[30] by giving themselves scores of one to five in each category of the project's evaluation tool. In the self-evaluation, the model teachers scored high in the categories of "ability to formulate lesson plan" (4.7 points) and "understanding of subjects" (4.1 points). In contrast, "facilitation skills" (3.6 points), and "ability to share information and knowledge with other teachers" (3.3 points) categories were given lower scores. The reason for the lower scores in the latter two categories was that there has been fewer occasions to use these skills. In the interviews, on maintaining and enhancing the skill levels, there were suggestions to implement group discussions where teachers can share knowledge and skills, and to organize learning groups.

Regarding transfer of skills, after the project completion, no new national trainer was employed in the SMASESS unit, and technical transfer to new generation did not take place. Additionally, as explained in the Effectiveness section, the coordination structure among the national and state MoGEI has not been maintained, and contact with state trainers and model teachers was lost. There is no activity for the human resources trained in the project to maintain or enhance the level of their teaching skills in mathematics and science. Moreover, the human resources trained by the project have not been used to support the activities in SMASESS III, for example, promotion of mathematics and science education which SMASESS III aims to, and collect good practices on approaches to realize "learning" and tips.

There are issues on technical sustainability. Although JICA provided additional training for national trainers, difficulties were reported in subsequent projects. The technical level of state trainers and model teachers raised by the project could not be confirmed. However, it is assumed that opportunities to use the skills acquired are becoming less because of negative effects from external factors such as conflicts or COVID-19. Thus, needs to maintain and enhance their technical level were indicated.

3.4.4 Financial Aspect for the Sustainability of Project Effects

It seems difficult to ensure financial sustainability. Every year, the government of South Sudan publishes a MoGEI budget plan (Table 10), but the actual amount to execute is between 20% and 30% of the planned one. This means that, although the budget is presented in the plan, it is unclear if sufficient funding is to be executed.

As mentioned in the section of institutional and organizational sustainability, salaries for the national trainers and teachers are continuously delayed or unpaid. Moreover, the salary

[30] Same as the Impact section. Information is from answers from seven model teachers. The scoring system for the self-evaluation was set as Very High=5 points, High=4 points, Medium=3 points, Low=2 points, and Very Low= 1 point.

amounts are not sufficient to support their living, which negatively affects their motivation to work.

Table 10 Annual Budget of MoGEI (Planned Amount)

Unit: SSP	FY2016/17	FY2017/18	FY2018/19	FY2019/20
MoGEI Total	962,884,760	1,408,671,502	6,844,545,069	10,125,736,804
Wages and Salaries	84,603,235	84,582,413	69,667,310	90,120,193
Use of Goods and Services	20,904,038	106,585,792	786,954,984	305,961,738
Transfer and Grants*	857,377,487	1,217,503,297	5,987,922,775	6,512,218,263
Capital Expenditure**	-	none	none	3,217,436,610

Source: Ministry of Finance and Planning
* include grants for primary schools, and salaries for primary and secondary school teachers
** In the budget of FY2019/20, the budget for buildings and facilities was put in the separate category of "Capital Expenditure."

After the project completion, the budget on the South Sudanese side has not been secured. In subsequent projects, JICA has been covering the operation costs of the SMASESS office, which the partner country is expected to bear. The payment of salaries for the national trainers, who are formal employees of MoGEI, has been delayed. In light of the above, the systems to ensure sustainability in policy and political commitment, institutional and organizational, and financial aspects are seemingly in place. However, there are major issues to realize the systems, and also there are issues in the technical aspect. Thus, there are issues in all the aspects, and the sustainability of the project effects is low.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The project aimed to establish a system for SMASESS by establishing training implementation structure, enhancing the capacity of national and state trainers, developing curricula and evaluation tools, and providing training for model teachers selected in states. In addition, the project aimed to incorporate the achievement of its activities into South Sudanese policy and programs on teacher training, and to sensitize stakeholders and the public on teacher training.

From the time of project planning to completion, quality improvement of teachers was a consistent priority in the national development policy and educational sector strategy. The needs for teacher training to improve teaching skills were high because about 60% of in-service teachers were either unqualified or never received any training. Moreover, the project was consistent with the assistance policy of Japan at the time of project planning. Thus, the project's relevance is high.

The achievement of the Project Purpose, that is "improvement of teaching skills of model teachers in mathematics and science," was confirmed because the SMASESS model teachers obtained passing scores in the evaluation tool. Model teacher training sessions were

implemented in all the states despite the difficulties such as delays in the disbursement of government budget. Additionally, the outputs of SMASESS were adopted in education sector plans and policies. Thus, the project's effectiveness is high.

However, at the time of the ex-post evaluation, cases that contributed to the emergence of impacts, such as improvement of "teaching skills of primary teachers in mathematics and science" and "capability of primary school pupils in mathematics and science" were reported. After a few years' blank in education due to conflict occurred right after the project completion, subsequent projects were formulated. Although the national trainers have been engaging in the subsequent projects, activities of SMASESS have been discontinued. As the achievement of the project effects was at a limited level, the effectiveness and impact are fair.

The efficiency of the project is fair because both the project period and the project cost exceeded the plan.

At the time of the ex-post evaluation, South Sudan is in the period of reconstruction from two major conflicts, and faces a complex-humanitarian crises caused by such as insecurity, inflation, natural disasters, and spread of COVID-19 virus, therefore bringing more children back to school attendance is the higher priority. Sustainability is evaluated as low because, in each aspect, project effects are difficult to sustain. The systems to ensure sustainability in policy and political commitment, institution and organization, and finance are in place, but there are major issues to realize them. In sustainability in the technical aspect, there are issues in establishing a child-centered teaching method, and even the national trainers do not understand the subjects at a satisfactory level. In addition, it is difficult to continue capacity development and disseminate math and science education through the human resources strengthened by the project while cooperation with local states or contact with trained trainers and model teachers has been lost, and no efforts have been made to recover the connections. In light of the above, this project is evaluated to be unsatisfactory.

4.2 Recommendations to the Implementing Agency and JICA

The human resources trained by the project should be used and networked because they are the most important asset of the project.

In the project, eight national trainers and 60 state trainers were trained, and 141 model teachers completed the entire three-part cycle training. Additionally, JICA provided training opportunities for further enhancement of their capability, such as training in Japan and a third country before and after the project. However, according to the implementing agency, contacts with the trained human resources are lost because of evacuation during the conflicts, personnel shuffles, and the numbers on the trainee list became unusable because of the sudden withdrawal of the telephone company.

In the ex-post evaluation, through the grapevine, seven model teachers in Central and Eastern Equatoria were identified. In interviews, they expressed gratitude to SMASESS training, and stated that the training proved advantageous in their profession. They keep up the activities to share with other teachers what they learned, they have their know-how in promotion, and they are willing to work with subsequent projects. Furthermore, many of them suggested establishing a network for sharing what they learned with other teachers. In South Sudan, according to the latest data (2018), only one teacher out of four received teacher education. As mentioned in the Impact section, it is confirmed that model teachers shared what they learned with other teachers. In such situation, the model teachers' support can be the key to spread the effects to more teachers.

Moreover, such human resources trained in the project are an asset. The implementing agency should obtain their contact information as much and soon as possible, and organize some way of networking them through such means as social networking services. JICA should consider using such network for promoting mathematics and science education which aimed in subsequent projects , and consider providing information for further capacity enhancement of these human resources.

In subsequent projects conducted at the time of the ex-post evaluation, the national trainers are engaging, but some have been absent for leave or for health reasons. Some of the trainers are near the retirement age. Thus, recruitment and technical transfer to a younger generation are an issue. The educational sector strategy plans to enhance teacher training and increase training bases in regions, and more SMASESS trainers are needed. For sustainability and preparing for the possibility to enhance its functions, the implementing agency should strengthen human resources for training and transfer their skills. Using the human resources trained by the project is an option.

4.3 Lessons Learned

When formulating a project in a conflict-affected country, not only the education sector experts, but also peace building and reconstruction experts should be involved so that the project plan will meet the unique situation of the country.

At the time to design the project, more consideration should have been given to the fact that South Sudan was a conflict-affected country. The following external factors were foreseen at the time of project planning; (1) model teachers will not leave teaching; (2) revenue of the Southern Sudan government will not greatly decrease; (3) the general election and the referendum will not affect the project; and (4) frequent personnel shuffle will not occur in the government. However, all of the above were already taking place, or the probability of occurrence was high. Thus, JICA should have considered them as factors that may cause instability, and should have included measures to avoid or minimize any negative

effects, and should have planned some way to ensure sustainability of the project's effectiveness.

According to the Detailed Design Preparatory Study report and the records of the review commission, all the participants in the project planning were from the education sector such as the Basic Education Section in the Human Development Department and SMASE Advisors. From the project planning, experts on peace building and reconstruction should have been involved to design the project based on the characteristics of a conflict-affected country and consider measures to avoid or minimize the effects from destabilizing factors.

End

Republic of South Sudan

FY2019 Ex-Post Evaluation of Technical Cooperation Project

Livelihood Improvement in and around Juba for Sustainable Peace and Development

External Evaluators: Yoshiko Ogawa and Yuko Kishino, IC Net Limited

0. Summary

The Project for Livelihood Improvement in and around Juba for Sustainable Peace and Development (hereinafter referred to as 'project') was implemented in the Republic of South Sudan during the period before and after the independence, taking agricultural villages in and around Juba as its model sites. The project aimed to establish a foundation to disseminate the livelihood improvement models[1] in which Community Development Officers (hereinafter referred to as 'CDOs') of the Ministry of Cooperatives and Rural Development, Central Equatoria State (hereinafter referred to as the 'MCRD/CES') facilitated villagers' agricultural production and income generation activities (hereinafter referred to as 'IGAs'), and introduced agricultural technology packages with the technical support of Agriculture Extension Officers (hereinafter referred to as 'AEOs') of the Ministry of Agriculture and Forestry, Central Equatoria State (hereinafter referred to as the 'MAF/CES'). The project was in line with the development plan and needs of the Government of South Sudan aiming to increase agricultural production, implement human resource development, rural development, and livelihood improvement, and create employment. It was also highly consistent with Japan's ODA policy for Sudan.[2] The implementation approach of the project was appropriate with thorough consideration of the condition of the conflict-ridden country. Thus, the relevance is high. Basic tools of the livelihood improvement models were developed, capacity of government stakeholders and community leaders was strengthened, and model projects[3] achieved results. Although the organisational capacity of ministries was relatively weak, the project developed a policy and established networks, and the Project Purpose was almost achieved. The Overall Goal was partially achieved as the livelihood improvement models were applied in some villages other than the model ones despite various difficulties faced by the villages, such as two national crises and an influx of IDPs and refugees, resulting in the discontinuation of community activities. After the completion of the project, the model villages continued their activities without government support. However, only a few villages were still active at the time of the ex-post evaluation while others stopped activities because of increasing insecurity. Thus, the effectiveness and impact are fair because the project

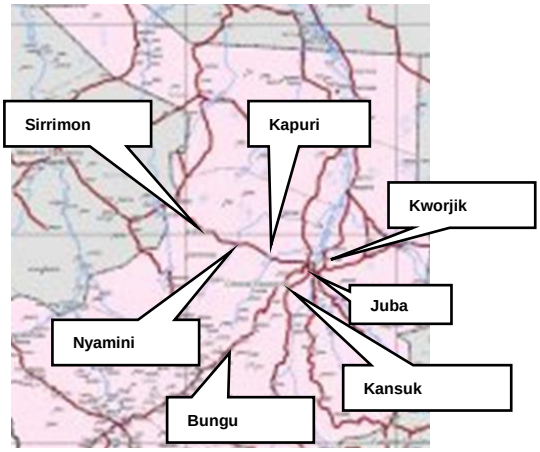
[1] The 'livelihood improvement models' of the project were a mechanism to promote community development services. This mechanism is primarily based on two processes: 1) a wide range of communication, facilitation and learning activities organised and 2) agricultural technological packages that provide improvement and innovation in agricultural production.

[2] The policy of 2007 when northern and southern Sudan formed one country.

[3] Six model villages in Juba County elaborated a development plan and implemented livelihood improvement activities that considered characteristics and needs of respective villages, using tools created by the project. For the names and locations of the villages, see the Project Location on the following page.

impact is moderate. The project period was as planned. However, the project cost was 127% of the planned amount. This is because some activities were added when the model projects were finalised. The increase in the project cost itself is assessed as fair; however, there was no information to judge if the added amount was fair and within the range of a minimum amount. Thus, the efficiency of the project is fair. Regarding sustainability, there remains issues of financial and organisational sustainability of the government. It is affected by the restructuring of the states resulting in transfer of some CDOs and the lack of government budget for rural development activities. Still, at the community level, part of farmer teachers, Boma [4] Development Committee members, CDOs, and AEOs keep using the techniques and technologies introduced by the project. Technology transfer occurred at the community level and there is possibility that project results will be reproduced and sustained. Thus, the sustainability is rated as fair. In light of the above, this project is evaluated to be moderately satisfactory.

1. Project Description



Project Location (Juba County)


A farmer teacher teaching villagers
(Project completion report, p.63)

1.1 Background

After the long civil war in South Sudan, the comprehensive peace agreement was signed in January 2005. Following the agreement, the Japanese government resumed development assistance to help consolidate peace. Restoration of peace brought the influx of repatriating refugees and internal displaced persons (hereinafter referred to as 'IDPs') and it became urgent to develop social and economic infrastructure to facilitate resettlement and reintegration of returnees into society. It was also critical to improve livelihoods of the population and develop public services for livelihood improvement in rural areas of South Sudan where 80% of the population was engaged in agriculture. In the agricultural villages near Juba, the country's capital,

[4] A Boma is the lowest level of the administrative division of South Sudan (state, county, payam, and boma) and translated as 'village'.

local habitants, IDPs who settled during the civil war, returnees who came back after the comprehensive peace agreement co-existed forming a complex society including both agriculturalists and pastoralists. As a result of the prolonged civil war, they lacked basic knowledge and experience in agricultural production and management.

The Ministry of Cooperatives and Rural Development of the Government of South Sudan[5] (hereinafter referred to as 'MCRD/GOSS') oversaw policy development, and state-level ministries were responsible for implementing policies. MCRD/CES was in charge of implementing policies in Central Equatoria State where Juba is located. CDOs who provided public services in rural villages belonged to MCRD/CES, and AEOs to the Ministry of Agriculture and Forestry of Central Equatoria (hereinafter referred to as 'MAF/CES'). From March 2009 to February 2012, JICA implemented the Project for Livelihood Improvement in and around Juba for Sustainable Peace and Development, a technical cooperation project, to develop the capacity of agricultural village population including returnees and IDPs in agricultural production and livelihood improvement in cooperation with MCRD/GOSS, the Ministry of Agriculture and Forestry of the Government of South Sudan (hereinafter referred to as 'MAF/GOSS'), MCRD/CES, and MAF/CES as counterparts (hereinafter referred to as 'C/Ps'). Rural development was a prerequisite for restoration and economic and social development of South Sudan, and the project strived to establish livelihood improvement models as the basis of rural development.

1.2 Project Outline

Overall Goal		Livelihood of the community people will be widely improved through the adaption of "livelihood improvement models" in and out of Juba County.
Project Purpose		Basic conditions for extension of livelihood improvement models suitable for various communities in and around Juba are established.
Outputs	Output 1	Basic tools for Community Development Services are developed;
	Output 2	Capacity of relevant government staff and community leaders in extension of livelihood improvement models is strengthened.
	Output 3	Institutional Capacity of MCRD/GOSS/CES, and MAF/CES in effective operation of livelihood improvement models is strengthened.
	Output 4	The Model projects adapting livelihood improvement models are implemented.

[5] In South Sudan, ministries at the central government level develop policies and those at the state level are responsible for implementing them. However, there is no consistent one-to-one correspondence between the two levels. During the project implementation, according to the project team, there were difficulties in harmonising policies and management systems, and coordination and communication between the central and state ministries.

Total cost (Japanese Side)	511 million yen
Period of Cooperation	March 2009 to February 2012
Target Area	Juba County, Central Equatoria State
Implementing Agency	[At the time of planning] ◆ Ministry of Social Development, Gender and Religious Affairs, Central Equatoria State[6] ◆ Ministry of Agriculture, Forestry, Animal Resources and Fisheries, Central Equatoria State [From September 2011 to the end of the project] ◆ MCRD/CES ◆ MAF/CES
Other Relevant Agencies/ Organisations	Responsible agencies[7] [From the beginning of the project to September 2011] ◆ MCRD/GOSS [From September 2011 to the end of the project] ◆ MAF/GOSS
Consultant in Japan	System Science Consultants Inc. Chuo Kaihatsu Corporation
Related Projects	[Grant Assistance for Grassroots Human Security Project] Project for construction of a primary school in Bungu Boma, Juba County, Central Equatoria State (G/C concluded on 25 February 2011)

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

The project activities were conducted based on the livelihood improvement models in six model villages in Juba County and established the foundation to disseminate the models. Such foundation consisted of 1) capacity development of C/Ps, notably CDOs, 2) development of guidelines and manuals to be used by C/Ps as an activity guide, and 3) organisational capacity development of MCRD/GOSS, MCRD/CES and MAF/CES. These were under progress and it was envisaged that the Project Purpose would be achieved by the end of the project.

[6] In 2011, the Directorate of Community Development of the Ministry of Social Development, Gender and Religious Affairs, Central Equatoria State, was separated from the Ministry to form a new ministry, the Ministry of Cooperatives and Rural Development.

[7] The term 'responsible agencies' was taken from the PDM. These national level ministries are in the position to develop national policies and receive reports from implementing state ministries (i.e. MCRD/CES and MAF/CES).

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

The terminal evaluation had a positive prospect for the achievement of the Overall Goal, that is, the livelihood improvement models applied in a wider area including counties other than Juba County. This judgement was because 1) CDOs and participating villagers intended to retain the knowledge and technology learned through the project activities and continue the activities, and 2) MCRD/CES planned to deploy the trained CDOs to other counties in Central Equatoria State. On the other hand, the terminal evaluation pointed out that, for the models to be sustained and expanded, MCRD/CES had to take over the project activities and support the activities of the CDOs, and the evaluation did not draw a clear conclusion.

1.3.3 Recommendations from the Terminal Evaluation

At the time of the terminal evaluation, the community development section of the MCRD/GOSS was going to be integrated in MAF/GOSS as part of the restructuring of South Sudan's ministries. The terminal evaluation team pointed that the community development section needed to be well positioned in the new ministry structure in order for the section to be able to implement the rural development policy developed with the support of the project. In addition, it was suggested to secure community development budget and arrange the environment to deploy CDOs and AEOs for continuing application and development of the livelihood improvement models. For model villages, it was suggested that the villages strengthen their capacity to make and implement their own development plans to continue the activities independently, and to set up a management body to sustain demonstration farms.[8]

2. Outline of the Evaluation Study

2.1 External Evaluators

Yoshiko Ogawa and Yuko Kishino (both belong to IC Net Limited)

2.2 Duration of Evaluation Study

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

Duration of the Study: March 2020 – June 2021

Duration of the Field Study: 26 October 2020 – 31 March 2021 (contract period for a local consultant)

2.3 Constraints during the Evaluation Study

It took time to locate the current whereabouts of the people involved in the project because the ex-post evaluation was conducted eight years after the completion of the project. This time lag

[8] Demonstration farms were set up in Kapuri and Kworjik villages for agricultural technology training.

also led to limited quality and quantity of information because the information sources were limited and the information was often drawn from memories of the informants.

Furthermore, the planned visit by the external evaluator in 2020 was cancelled because of the COVID-19 pandemic. The information collection method was also modified and questionnaires to and interviews with implementing agencies and other stakeholders were conducted by a local consultant under the supervision of the external evaluators. Even the local consultant was unable to visit the model villages, and the plan to invite villagers to Juba was also cancelled because of security concerns; thus, information collection from the model villages was limited to telephone interviews. This situation allowed the external evaluators to gain only limited information, which was insufficient to evaluate the project comprehensively. The information collected in this study certainly represents part of the results of the project; however, even when the obtained information shows some achievement of the project, the information does not represent the entire achievement of the project.

3. Results of the Evaluation (Overall Rating: C[9])

3.1 Relevance (Rating: ③[10])

3.1.1 Consistency with the Development Plan of South Sudan

The development goals of the Government of South Sudan at the time of planning, *Expenditure Priorities and Funding Needs 2008-2011*, set six priority sectors, aiming at social and economic development of the country. One of the priority sectors was an increase in productivity and income in rural villages. Development objectives were also set for sub-sectors along with the priority sectors. One of the sub-sectors, 'social and humanitarian sector', was relevant to social reintegration, and it included, as major activities, peace building and conflict resolution, gender equality, repatriation and reintegration of IDPs and refugees, and support to and empowerment of the socially vulnerable people. A development policy of the MCRD/GOSS, *Policy Framework and Work Plan 2007-2008*, has seven objectives, of which three were related to community development: (1) to start community-based development projects in cooperation with communities, (2) to promote empowerment of rural population in all aspects including social, economic, cultural and political ones, (3) to develop capacity of communities, CBOs, and CSOs. This shows the policy's emphasis on community development. A development policy of MAF/GOSS, *Food and Agriculture Policy Framework 2006-2011*, prioritised the issues of capacity development of professionals including AEOs, development of agricultural packages for extension, promotion of poverty reduction through agricultural development in rural communities. The project was in line with the development policies above because it organised communities, working with the vulnerable population such as IDPs and women, and implemented agricultural

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

extension and IGAs to improve agricultural productivity and livelihood to promote establishment of stable rural communities.

The *South Sudan Development Plan 2011-2013*, which covers the period before and after the completion of the project, set an increase in agricultural productivity as one of the priorities in the area of economic rural development. It regards improvement of livelihood and employment as an important driving force for poverty reduction and peace building of South Sudan. In the area of rural development, after the independence of South Sudan in July 2011, ministry restructuring made MCRD/GOSS absorbed in MAF/GOSS as one Directorate. It was reported that this change decreased the importance of rural development; however, a subsector policy of agricultural production services of the *Agriculture Sector Policy Framework (ASPF) 2012-2017*, a policy framework of the agriculture sector, laid out the objectives and a policy implementation framework on extension services, agricultural village mobilisation, and capacity development. This shows the government's recognition of the importance of rural development. The cooperatives and rural development section of this policy set 'development and implementation of rural development policy', 'establishment of development fund for rural development', 'enhancement of CDOs' roles', and 'capacity development of government officials and community leaders' as a policy implementation framework. The project corresponds with the direction of these policies.

Thus, the project was consistent with the policies on development, agriculture, and rural development of South Sudan at the time of the planning and beginning of the project.

3.1.2 Consistency with the Development Needs of South Sudan

When the project was planned, South Sudan was at the beginning of the reconstruction phase. The Project Purpose, that is, agricultural development in rural villages and social reintegration of returnees and IDPs through community development along with strengthening of the capacity of the government, met the needs for enhancement of peace and social stability. Furthermore, while food security was a critical issue in rural villages, farmers did not have knowledge and experience in agricultural technology and had little access to agricultural inputs such as fertiliser and seeds. Thus, there were strong needs for learning agricultural technology and IGAs of farmers for livelihood improvement.

Even at the end of the project, food security was a major issue in South Sudan. During the project, there were many incidents of bad weather and insect damage. From 2011 to 2013, all but one state (Western Equatoria State) had a cereal production deficit.[11] An analysis concluded that this food shortage resulted from intertwined complex structural factors including the lack of agricultural services.[12]

[11] FAO/WFP (2013) FAO/WFP Crop and Food Security Assessment Mission to South Sudan. 22 February 2013. (p.31)
[12] Ministry of Agriculture, Forestry, Cooperatives and Rural Development (2012) Agriculture Sector Policy

Thus, the project was consistent with the development needs of South Sudan at the time of the planning and beginning of the project.

3.1.3 Consistency with Japan's ODA Policy

Basic policy of the Official Development Assistance of Japan: country by country data book (Sudan) in 2009 states that the Japanese government would actively support peace consolidation of Sudan and emphasises that the entire population of Sudan should equally receive peace dividends. The JICA guidelines on peace building in 2009 set a few priority areas for undertakings. The project matched one of the priority areas, 'assistance for restoration of economic activities.' The project is also related to the 'assistance for restoration of social infrastructure' because it would lead to stable food supply.

Therefore, the objective of the project was in line with the Japanese ODA policy.

3.1.4 Appropriateness of the Project Plan and Approach

① The timing of the project implementation

The project started before the independence of South Sudan. For an evaluation of a project implemented in a conflict-affected country like this one, it is important to examine if it was appropriate to start an ODA project to support the government while the government was still organisationally and financially weak; the project commencement could have been too early. In South Sudan, around the time of the independence, reconstruction started in cities and there was a concern that the gap between cities and agricultural villages in rural areas would raise new dissatisfaction among rural people. Thus, the government's support to rural areas was an important component for stabilising the country and it was necessary to restore government functions for preventing renewed conflicts. People in rural communities lacked both knowledge and experience in agricultural technologies as a result of the civil war and extension of modern agricultural technology was required to ensure food security in rural villages. In fact, the needs for stabilisation and food security in rural villages had existed after the comprehensive peace agreement, even before the independence. An MCRD/CES official stated that the timing of the project implementation had been appropriate and it could have started even earlier. Thus, it can be said that the timing of the project implementation was appropriate.

② Modification of the PDM

During the project implementation, the PDM was modified twice when details of the model project activities were defined. The original PDM did not have outputs regarding implementation of the livelihood improvement models in model villages and capacity development of government personnel through model projects although these two outputs were essential parts of the project

Framework (ASPF): 2012-2017. 2.3 Problem Statement. (pp.13-14)

in order to achieve the Overall Goal and the Project Purpose. The first modification[13] added 'implementation of model projects' as an outcome and set indicators, which clarified the aim of the implementation of model projects. 'Strengthening of community leaders' capacity and organisational capacity of ministries at national and state levels' was also defined as an outcome. These changes strengthened the appropriateness of the logic of the PDM to achieve the goals. The second modification[14] added the indicators regarding CDOs' and AEOs' own initiatives and commitment, training of community leaders, development plan of the model villages, and ownership of the communities towards model projects. These changes clearly reflected the community development and capacity development approach and, thus, were aligned with the direction of the project.

It is necessary to pay attention to the indicators that required a sampling survey for monitoring. It is not easy to obtain data of such indicators, especially for a project in conflict-affected countries. Specifically, the numerical target values set for 6 out of the 10 indicators for Output 4, 'implementation of model projects applying the livelihood improvement models,' required baseline data and a survey targeting both participating and non-participating community members for evaluation. Monitoring of these indicators would require substantial time and effort. This could be the reason why corresponding data were not gathered even at the end of the project. Some other indicators do not clearly define what is to be assessed (See Table 1). Thus, the PDM as a whole was logically formulated but there seemed to be room for consideration; some indicators could have a clearer target to assess, and others could have more easily measurable numerical target values. Table 2 shows the issues and alternatives of some indicators.

Table 1: Issues in indicators

Example indicators[15]	Issues
Output 4, Indicator 1, 2, and 3	There are many external factors influencing the numerical data of indicators.
Output 4, Indicator 1 and 3	A survey of participating and non-participating households is necessary to get data, which add extra burden to implementers.
Output 2, Indicator 1, Output 3, Indicator 3, and Output 4, Indicator 1, 2 and 3	What and how to assess is not clear.

(Source: external evaluators)

[13] Modification from version 0 to version 1.1.
[14] Modification from version 1.1 to version 1.2.
[15] Output 3, Indicator 3: Through introduction of improved information systems, every CDO and other stakeholders are able to access necessary information; Output 4, Indicator 1: Increase in production of food, incomes and assets of participating household, by at least 50% by the end of project implementation, compared to control groups and pre-project levels; Output 4, Indicator 2: Number of households experiencing hunger is reduced by 50% by 2012; Output 4, Indicator 3: Agricultural productivity of participating households increases by at least 10% by 2012.

Table 2: Alternative indicators

Indicator	Issue	Alternative
Output 4, Indicator 1	A survey of participating and non-participating members is necessary, which would add burden to the project. Assessment and comparison may not be easy because there might be differences among target population regarding areas of cultivated land and crop types.	Assess the benefit per household gained from IGAs. Analyse the magnitude of the benefit from IGAs for each household by comparing the amount of benefit and household monthly income (% of benefit in household income).
Output 4, Indicator 2	'Experience of hunger' is subjective judgement and depends on who responds. Even if the number of meals increases, a person may feel hungry.	Assess the percentage of the households where the number of meals, or the amount of food intake per day has increased compared to the previous year. Information is to be sought from a person who prepares family meals.
Output 4, Indicator 3	Even if 'agricultural productivity' is defined as amount of crop yield, it is not clear which year's data would be compared to see if there was a 10% productivity increase. Furthermore, yield is usually influenced by the amount of rainfall and increase would be a result of good weather. Low yield could be a result of ineffective technologies or incorrect application of technologies.	Leave the assessment of increase in income and food intake to indicator 1 and 2, and be sure to assess if participants clearly understand that the introduction of technologies leads to yield increase.[16] Interview participants and calculate the percentage of the participants who understand the relationship between yield and technologies out of all participants.

(Source: external evaluators)

③ Community-based approach

The project, with the understanding that cohesion among the community members is essential for both peace building and rural development, took the approach to make a development plan of model villages and establish model projects based on the plan with an emphasis on cooperation among the community members. The project mobilised the villagers, formed Boma Development Committees (hereinafter referred to as 'BDCs'), and facilitated group activities to strengthen solidarity of the communities. CDOs recognised that BDCs and collaborative activities worked well to increase cohesion of the communities. Community representatives also highly valued agricultural activities in groups and IGAs. Furthermore, village development plans and community activities evolved into donor coordination presented in the box below. This shows effectiveness of the community-based approach.

[16] Indicators for Output 4, 'The model projects adapting livelihood improvement models are implemented' are increases in production, income and assets, and improvement of capacity for community development, motivation and ownership of the villagers as a result of model projects implementation. It is understood that the understanding of the advantages of adopted technologies would lead to continuing use of such technologies, and continuing technology use means success of the model projects.

Enhanced project effects through cooperation among donors and other stakeholders

The community-based approach led to unexpected cooperation with other donors and government agencies. Table 3 shows examples of such cooperation. The village development plans worked as a good information source for donors. Further, CDOs and AEOs working in the villages connected the villages to donors to generate various types of cooperation.

Table 3: Cooperation with donors and support agencies

Organisation	**Support**
UNICEF (United Nations Children's Fund)	Support to the Health Centre of Nyamini village, distribution of textbooks through Payam department of education
Ministry of Health, Red Cross	CDO training on health and hygiene (Ministry of Health requested training in model villages)
Ministry of Health	Vaccination in Kapuri village
State Ministry of Education	Primary school constructed based on the community development plan of Bungu village (Grant Assistance for Grassroots Human Security Project) requested deployment of an education officer to improve supervision, which was granted by the state education ministry.
PSI	Distribution of mosquito nets in Sirrimon, Nyamini, Kansuk and Kapuri villages
ZOA	Agricultural technology extension project in Sirrimon village
FOFCOD	Candle production support in Sirrimon village

(Source: Project completion report, CDOs' responses to the questionnaire, interviews with village representatives)
Note : PSI (Population Services International) and ZOA are international NGOs, and FOFCOD (Forum for Community Change and Development) is a local NGO.

The following are the facilitating factors that made such unplanned cooperation possible. The first factor, which is the adoption of the community-based approach, seemed to have contributed much to gaining accurate understanding of the needs of the villages.

① The project established a channel to pick up the needs of the villages and connect them to donor support.

② The project made donors recognise the project activities.

Community development plans made in the model villages presented the villages' needs clearly. Thus, these plans were useful information sources to agencies and organisations that intended to support the villages. Some donors and organisations came to the villages for feasibility studies for their projects and made their support plans based on the results of the project. CDOs also often visited the villages, once or twice a week, and built trust among the villagers. They played the role of an advisor and were able to learn the needs of the villages accurately. CDOs shared the needs

of the villages at their weekly meeting. Then, the leaders of CDOs conveyed such needs to donors. The Japanese experts of the project also always encouraged such interaction of CDOs with donors.

At the national level, the project conducted meetings such as rural development forum and rural development workshops for information exchange among government stakeholders, donors, and NGOs. These meetings seem to have made the project known by donors and facilitate cooperation.

In a telephone interview, a representative of Bungu village said that 'after the school planned by the BDC was built, other development partners supported the school. We used the network established during the project and received support to Bungu village from the government and development partners'. This suggests that the project paved the way for further assistance. In this way, using limited resources, the project managed to draw support from other development partners and government agencies to realise effective development support.

④ Selection of the model villages

Prior to the project, the JICA Sudan Office implemented small-scale model projects in Juba County. Based on the results of the model projects, and applying the same implementation structure, the plan of the project was made. JICA agreed with the Ministry of Cooperatives and Rural Development of the Government of South Sudan and the State Ministry of Social Development, Gender and Religious Affairs of the Central Equatoria that the project would include the model project villages as target villages. In addition, during the preliminary study mission's visit to South Sudan for the project, a sampling survey with the households in the model project area was conducted to understand the tribal composition, livelihood, and potential and issues of livelihood.

Furthermore, at the beginning of the project, from June to July 2009, a sampling survey on the socio-economic situation was conducted in 30 villages in Juba County. After the discussion on the survey results with the CDOs, the model villages of the project were selected. The criteria for the selection were: 1) security and access, 2) leadership and solidarity in the villages, 3) available local resources, and 4) geographical balance. Criteria 2) looked at if the village leaders took strong leadership; if the villagers live not too far from each other; if the villagers are relatively homogeneous in ethnicity and their lifestyles. Criteria 4) was to avoid geographical concentration of target villages and ensure that people from different cultures, environments, and ethnic backgrounds could benefit. The selection was made after solid consideration to balance geographical and ethnic distribution of the target villages and it was regarded as appropriate from the perspective of peace building.

3.1.5 Avoiding risks caused by destabilising factors

In rural villages of South Sudan, many different tribes co-exist. During the project

implementation as well, there were clashes between farmers and cattle keepers.[17] Therefore, the project had to take careful measures catering to such complexity, while striving to stabilise the communities through livelihood improvement and community-based rural development.

When setting up BDCs in the model villages, the project specifically ensured that the BDCs include diverse members in the committees so that different opinions in the communities could be heard. The project held meetings to facilitate communication within the communities and strengthen community solidarity. Training of community leaders deepened their understanding of equitable development to the socially vulnerable people with consideration for IDPs, women, ethnic minorities, households with orphans, and the disabled. In one of the model villages, Kworjik village, there lived a Bari ethnic group (agriculturalist) and a Mundari ethnic group (cattle keepers) and relations between the groups were tense and possibly destabilising. Formation of an income generation activity group that consisted of Mundari people and produced milk products was consideration to the village's characteristic production and to Mundari people so that Mundari people could also benefit from the project. In Kworjik village, there was a tension among cattle keepers, farmers, and the military over the use of well water. The project built additional wells to alleviate the tension. Understanding that the use of a common well could be an opportunity to nurture better relations among different groups, the project decided to give priority to avoiding the risk of confrontation and providing each group its own well.

Before selecting farmer groups and IGAs, CDOs thoroughly explained to the stakeholders the purpose of the model projects, possible activities, implementation procedures, and told them that the support was not meant for a specific group but for all. The project tried to nurture solidarity, avoiding being seen as unfair. In assisting the rural communities of South Sudan where society was basically complex, conflict-affected, tended to be weak in solidarity, the project strived to prevent risks of destabilising communities by bringing in assistance. Nonetheless, when an ethnic tension intensified, the project stopped activities in villages to ensure safety of C/Ps.

To prevent food shortage and circumvent the risk of bad weather, the project introduced cassava and sweet potatoes for farmers' own consumption. The introduction of cassava and sweet potatoes alleviated food shortage and was highly valued by the beneficiaries.

Thus, the project was highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. It took various measures to cooperate with other donors as well as to avoid risks in the difficult environment of a conflict-affected country. Therefore, its relevance is high.

[17] This paper calls those who are engaged in animal raising as the main source of living cattle keepers, which include those who settle down and those who lead nomadic life (pastoralists).

3.2 Effectiveness and Impacts[18] (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Achievement of Project Purpose

The project set four Outputs under the Project Purpose. That is, development of basic tools for the livelihood improvement models extension (Output 1: Basic tools for community development services are developed.), capacity development of ministries' officials and CDOs and AEOs who facilitated rural development using the tools (Output 2: Capacity of relevant government staff and community leaders is strengthen.), development of the models and organisational capacity for extension (Output 3: Institutional capacity of MCRD/GOSS/CES), and demonstration of the achievement of rural development practice (Output 4: the model projects adapting livelihood improvement models are implemented). Achievement of these outputs were to lead to achievement of the Project Purpose.

Table 4: Achievement of Project Purpose

Project Purpose	Indicator	Actual
Basic conditions for extension of livelihood improvement models suitable for various communities in and around Juba are established.	Livelihood improvement approaches of Juba County are established by CES.	**The Project Purpose was almost achieved.** ・ Manuals and guidelines were developed, reflecting the experience and knowledge of C/Ps, and used by C/Ps. ・ Through training and practices, the capacity of C/Ps, such as CDOs and AEOs, was improved and it was noticed that their attitudes toward work had improved. ・ The experience of the project was reflected in the rural development policy in 2012 and political foundation was established. Inter-ministerial communication was improved although the organisational capacity was not strengthened. ・ Agricultural production improved and solidarity was strengthened through group mobilisation of farmers among the participants of the model villages.

(Source: responses to the questionnaires by Japanese experts and CDOs, interviews with Japanese experts)

For some of the indicators, there is some mismatch between the indicators and collected information at the end of the project. Because of this lack of information, it is not easy to judge if the project achieved the outputs; however, it can be said that Output 1 to 4 were almost achieved based on some qualitative information.

First, regarding Output 1 on the basic tools of the livelihood improvement models, a community development manual and agricultural extension packages consisting of an agricultural technology

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

manual and an agricultural extension manual were developed and distributed to all State Ministries of Agriculture and Forestry in South Sudan by the completion of the project. The manuals were developed in a participatory process in which the Japanese experts first prepared manuals' outlines and then CDOs and AEOs fleshed out specifics based on their own experiences in the model villages. CDOs valued the manuals, thinking them easily understandable and useful, and used the manuals daily.

As for Output 2, the project provided various learning opportunities for capacity development such as training, workshops, training in Japan, and training in the third countries. During the training in Japan, the participants learned the concept of rural development. In the third county training, the participants were inspired with technology used in the countries having much in common with South Sudan, and started importing agricultural inputs such as seeds using the networks built during the training. The CDOs and AEOs, who had had no experience in rural development before the project, learned from each other in topic-based groups (e.g. health, gender, and water management) among them, and strengthened their practical capacity through the implementation of the model projects. Their motivation was also boosted by building good relations with the communities and being counted on by the farmers. In the communities, along with the BDCs, promising farmers were trained as farmer teachers who, in turn, trained other farmers to facilitate agricultural technology transfer. At the beginning of the project, the farmers tended to depend on aid; thus, the project tried to motivate them in various ways. The project made the farmers realise that they could increase crop yield if they followed the instructions and gave polo shirts to farmer teachers as a token.

Regarding Output 3 on organisational capacity development, the project implemented formulation of the rural development policy[19] of MCRD/GOSS, clarifying roles of CDOs and AEOs, information sharing through a rural development forum and five workshops, and a survey on agricultural villages and rural development. The policy developed at the ministry level was approved in the final year of the project and it can be said that the institutional foundation for extending the livelihood improvement models was established. The policy development exercise facilitated building of networks among the government stakeholders. Given that the government had been still weak at the beginning of the project, this network building must have contributed to establishing the foundation for implementing the livelihood improvement models. Improved communication between ministries at the national and state levels was also reported. It was significant progress in information sharing between state and national ministries because national ministries had known little about the situation in rural areas at the beginning of the project. However, this improved communication tended to depend on individual relationships and was not

[19] A rural development policy of the Ministry of Agriculture, Forestry, Cooperatives and Rural Development (name of the ministry at that time). The experience of the project, such as community mobilisation, connecting communities to external resources, and capacity development of CDOs, were reflected in the policy.

based on better organisation. Thus, it is understood that organisational capacity development was still limited.

Regarding the increase in agricultural production and livelihood improvement through model project implementation, data corresponding to the indicators of Output 4 were not collected. However, from the interviews with village representatives, agricultural production increase, reduction of hunger, use of the technologies of the agricultural packages, enhanced participation by women, and benefits received by the vulnerable population were identified among the participating households. Specifically, at the completion of the project, the technologies of agricultural packages were used by 70 to 95% of the participating farming households of the model villages. As described above, BDCs were organised and community development plans were formulated, and the project achieved much by the time of its completion.

On the other hand, there were still destabilising factors for rural development such as tribal tension. In Kworjik village, because of a conflict between cattle keepers, farmers, and the military, sometimes CDOs had to stop visiting the village. Under such a situation, the project strived to avoid risks with different measures. For example, the project facilitated communication among community members and decision-making mechanisms of BDCs with diverse members, carefully explained the project details, and collected security information. The project also continued to instruct CDOs, AEOs, and village leaders on the importance of equal participation.[20]

Thus, although the strengthening of the organisational capacity of the ministries was limited, the project established the foundation of the livelihood improvement models (that is, tools and technical capacity) and demonstrated the models' good results by the time of its completion. The project mostly achieved its purpose.

3.2.2 Impacts

3.2.2.1 Achievement of Overall Goal

The Overall Goal of the project, which is wide application of the livelihood improvement models in Juba County, set the 'number of villages benefiting from practicing the models' as its indicator. Neither a target number of the villages nor the model application criteria (if the models should be applied as a whole or they can be applied partially) was defined. Thus, even partial application of the models in the model villages and non-model villages in Juba County at the time of the ex-post evaluation will be counted as evidence for the increase in the number of villages adopting the livelihood improvement model.

[20] See 3.1.5. on p.12.

Table 5: Achievement of Overall Goal

Overall Goal	Indicator	Actual
Livelihood of the community people will be widely improved through the adaptation of "livelihood improvement models" in and out of Juba County.	Numbers of villages benefiting through practicing livelihood improvement models increased.	**The Overall Goal is partially achieved.** Agricultural technologies had been adopted in model villages. Three model villages still continued IGAs at the time of the ex-post evaluation. Application of the technologies was found in four non-model villages. The number of villages benefiting through the models increased.

(Source: CDOs' responses to the questionnaire, telephone interviews with model village representatives)

At the completion of the project, the Overall Goal was expected to be achieved if (1) policy and budgetary arrangements were made for expansion of application of the livelihood improvement models, (2) there was no frequent transfer of C/Ps, (3) there was no major restructuring of C/P agencies, and (4) there were no major natural disasters. However, after the completion of the project, no budget has been secured for policy implementation and CDOs' activities. Restructuring of states,[21] drought, and conflicts in 2013 and 2016 brought about major changes in society and security of the country and affected the achievement of the Overall Goal of the project. There were also conflicts between cattle keepers and farmers, and tribal crashes. In 2018, the demonstration farm of Kworjik village was burned down and many villagers fled from the village. In 2019, as a result of the heavy flood in the Eastern part of South Sudan, pastoralists moved into Central Equatoria State, which fuelled the conflicts between settled farmers and pastoralists in many places. Even under these unfavourable conditions, the model villages kept practicing the introduced activities and application of technologies of the livelihood improvement models until the security situation further worsened. Table 5 shows the status of the model village activities at the time of the ex-post evaluation. The BDC of Bungu village continued. Among the two demonstration farms built in Kworjik and Kapuri villages, the Kapuri village demonstration farm is still used by groups and individuals. Joint production and sales of vegetables continue in Kapuri village. In Nyamini, Kapuri and Bungu villages, farmer teachers teach agricultural technologies to both participating and non-participating farmers in their communities.

[21] In 2015, a Presidential decree established 28 states in place of 10 states and Juba County became Jubek State. In 2017, the number of states further increased to 32. In 2020, these were re-organised into 10 States and 3 Areas. Jubek State became Central Equatoria State.

Table 6: Status of model village activities at the time of the ex-post evaluation

Village name	Activities
Kworjik	Application of agricultural technologies, candle and soap production until 2018
Nyamini	Chicken raising until recent (stopped in 2021 when pastoralists came)
Kansuk	Fishing continues despite of attacks of cattle keepers. Farming and bee keeping stopped because of security concern.
Kapuri	Vegetable sales group, bee keeping and chicken raising continue.
Bungu	Application of agricultural technologies and group farming continue. Bee keeping stopped.
Sirrimon	Candle, soap, and improved stove production till 2015. Group bee keeping continue.

(Source: CDOs' responses to the questionnaire, telephone interviews with model village representatives)

As for the model application in non-model villages, according to the responses to the questionnaires for CDOs, some CDOs[22] support farmers and farmer groups in Rokon, Tijor, Mongalla and Rajaf in agricultural technologies learned through the project. Figure 1 shows the location of these villages.

Some CDOs spread the models in the non-model villages after being transferred when the states were re-structured. Some farmers in the model villages also fled their villages and moved to other villages and then disseminated learned technologies. However, further expansion may not be possible because it is difficult to implement rural development activities at the same level of intensity as the project owing to the lack of activity budget and security concerns. On the other hand, some donors are implementing or planning projects and programmes on local governance and public services, and improvement of agricultural technologies and livelihood.[23] It would be possible for the CDOs to use their experiences if a larger number of such projects and programmes were implemented.

[22] CDOs do not receive budget or transport for rural development activities from MCRD/CES and the CDOs who continue activities are doing so on a voluntary basis, if only they have means of transport.

[23] For example, the International Fund for Agricultural Development (IFAD) is planning a livelihood programme, 'South Sudan Livelihoods Resilience Programme', targeting three states including Central Equatoria State. The programme will take a community-based approach and promote County Development Committees and Boma Development Committees, aiming at improved agricultural technology, development planning, and implementation of sub-projects, which is similar to the methodology of the project. The Project Design Report of the programme says that CDOs will work with BDCs to mobilise communities, select activities and support implementing activities. See IFAD (2000) South Sudan Livelihoods Resilience Programme Project Design Report: Main report and annexes.

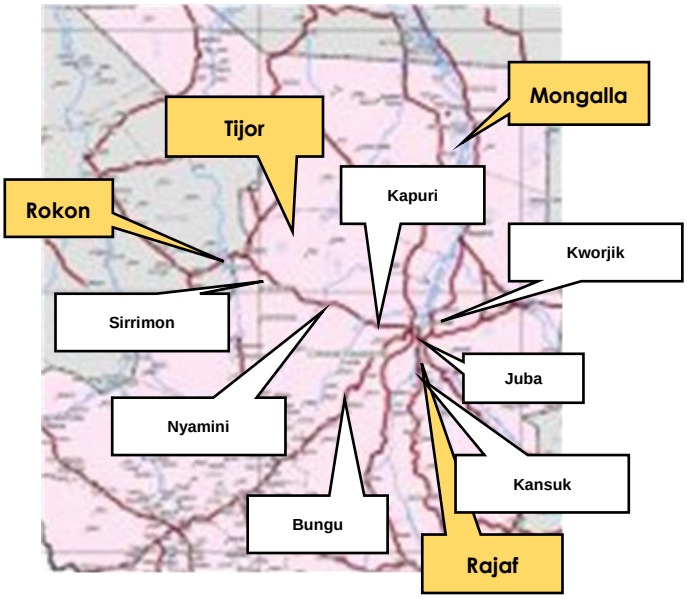


Figure 1: Location of the villages adopting the livelihood improvement models

(Source: External evaluators, based on the information from CDOs)

Note: the names in white speech balloons are those of model villages and those in orange balloons are non-model villages.

Despite the hard conditions such as conflicts, natural disasters, and a large-scale movement of refugees and IDPs, even without government budget, part of BDC activities, IGAs, and application of technologies continue. Even in non-model villages, part of the technologies and community development methods of the livelihood improvement models were found to be applied. That community members continued activities and the use of technologies may have largely depended on the usefulness of the agricultural packages, appropriate selection of technologies, and voluntary activities of individual community members and CDOs. The expansion of the models was not planned in the project and did not happen systematically; it seems to have been induced by transfer of CDOs who were keen to disseminate appropriate technologies. Because there is no rural development budget, it is not possible to apply the livelihood improvement models as a whole, including community mobilisation and development of community development plans, in the same way as had been done in the project. The project achieved at a limited level its Overall Goal because of its limited application, while some expansion was identified.

3.2.2.2 Other Positive and Negative Impacts

There were no negative impacts. The following are positive impacts in the socio-economic area.

According to the project completion report, open communication within the communities improved. Women and IDPs gained access to land use and participated in decision-making and economic activities, which led to their improved social statuses. The framers of the model villages

independently started importing agricultural inputs such as seeds learned from the project from neighbouring countries. Changes in awareness and behaviour of community members were observed, including better relationships in the model villages such as solidarity and inclusiveness and independent behaviour to take initiative. It was also reported that, when a conflict between cattle keepers and farmers happened in Kapuri village in 2009, BDC[24] established by the project took the initiative in negotiation and resolved the problem. This proved that an effective mechanism for conflict resolution was established in the model village. According to the interview with a Kapuri village representative at the time of the ex-post evaluation, as a result of strengthened solidarity and awareness of self-reliance in the village, it became possible to collect from the villagers the expense for repair and water user fees for the wells built and repaired by the project.[25]

The relation between CDOs and the villagers was not so strong at the beginning; the community members did not know about CDOs. However, after the project started, CDOs visited the villages once or twice a week and contributed to the villages' development by bringing in new technologies and donor support and won trust from the villagers, according to the project completion report. At the time of the ex-post evaluation, interviews with model village representatives confirmed that the villagers had difficulty in communication with CDOs at the beginning of the project but, as the project proceeded, trust was built between villagers and CDOs. Given that, in conflict-affected countries where governments are weak and public services are rare, the population has little trust in the government, such trust building is significant. The relations between CDOs and MCRD/CES also improved; CDOs replied in the questionnaire of the evaluation that their relations had become closer while working together toward common objectives.

CDOs and AEOs, who had no experience in rural development and technically and ethically limited capacity, also developed their skills to the extent that CDOs and AEOs understood the situation and needs of the communities, invited donor support to the communities, and won the trust of the communities. Some of them continued to be active after the project completion even without government budget. That CDOs and AEOs were trained to contribute to mid- and long-term rural development work is also an achievement of the project.

In this way, the project supported the farmers who had been dependent on external aid as a result of the civil war and CDOs and AEOs who had had no rural development experiences. The project helped them become motivated to participate in project activities in a forward-looking fashion and learn agricultural technologies. This helped them to establish the foundation of self-reliant continuation of activities. Diverse membership and leadership introduced and strengthened by the project sometimes had led to conflict resolution in the village. Thus, the project brought

[24] The BDC of Kapuri village existed until 2014.
[25] The wells were still used at the time of the ex-post evaluation.

not only technological but also positive social impacts to the target villages that contributed to peace building.

Regarding the Project Purpose, organisational capacity development of the ministries was not achieved because the baseline capacity was low and improvement in communication and understanding of rural development was limited to the individual level, while the tools for the livelihood improvement models were developed and used and the capacity of CDOs, AEOs, and community members was strengthened through practice in the model villages. Overall Goal achievement cannot be judged but practice of the livelihood improvement models was continued in some model villages while the security situation worsened. Application of the model was found in non-model villages as well; therefore, the Overall Goal was partially achieved. Some changes leading to peace building, one of the objectives of the project, was also found. However, an influx of refugees and IDPs into the area caused by the nation-wide conflicts negatively affected the achievement of the project's impacts. Even some of the villages that continued activities without government assistance after the completion of the project stopped their activities as a result of the conflicts. Thus, the impact is fair, and the effectiveness and impact are fair.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

Inputs of the project were as follows.

Inputs	Plan	Actual
(1) Experts	6 Long-Term (72 MM*)	9 Long-Term (108.47 MM)
(2) Trainees received	Not defined	Training in Japan: 13 people Third country training: 48 people
(3) Equipment	Vehicles, office equipment	・ Construction and repair of 7 types of building ・ Materials needed for implementation of the project and model projects (transport for extension activities, materials for agricultural technology training and IGAs) ・ Reference books (library room, 4 computers, 200 books on agriculture education, health and hygiene, and peace building)
(4) Local cost	Amount not mentioned	21 million yen
Japanese Side Total Project Cost	401 million yen	511 million yen

	(including the expense for the detailed design study)	(including the expense for the detailed design study, 11 million yen)
South Sudan Side Total Project Cost	C/P, land, buildings and facilities, project management cost	C/P (50 people, full-time), land for office

* MM stands for man-month.

3.3.1.1 Elements of Inputs

There is a difference between the planned and actual figures of MM for the Japanese experts and the project cost. The major difference came from the expense for the construction of two demonstration farms, finalised model project activities, repair of the buildings of MCRD/CES, and rural development and extension survey of 10 states. This cost increase reflected the activities added to the modified PDM in March 2009. Repair of the buildings of MCRD/CES and the rural development and extension survey of 10 states were a necessary addition to enhance government capacity. Compared to the increase in MM, the increase in the cost was not large; this might be because the project needed personnel to handle additional administrative work whose unit cost happened to be relatively low.[26]

3.3.1.2 Project Cost

The planned project cost was 401 million yen and the actual project cost was 511 million yen (both include the cost for the detailed design study, 11 million yen) which is 127% of the planned amount and higher than planned (②). The increase of 110 million yen was, as shown above, for the construction of two demonstration farms, model project activities, MCRD/CES building repair, and rural development and agricultural extension survey in 10 states (detailed information is not available).

3.3.1.3 Project Period

The project period, both planned and actual, was from March 2009 to February 2012 (36 months) and the project period was as planned (③).

Although the project period was within the plan, the project cost exceeded the plan: 127% of the planned cost. The increase in the project cost is likely due to the model project activities, which were added during the project plan review after the commencement of the project. This addition was made based on the project's improved understanding of the situation and the

[26] There is no documented information. This was expressed by the Japanese experts.

necessity to achieve the project objectives. Thus, the increase in the project cost is supposed to be justifiable. However, even at the time of planning, it was recognised that the capacity development of the government officials through practice of the livelihood improvement models was an important part of the project to establish the foundation for disseminating the models and it can be assumed that a certain amount of the activity cost in the model villages was factored in. Therefore, detailed information on costing at the planning of the project and at the modification is needed to assess if the increase was fair and a minimum amount required for the addition. Without such information, it is concluded that the efficiency of the project is fair.

3.4 Sustainability (Rating: ②)

3.4.1 Policy and Political Commitment for the Sustainability of Project Effects

A national development plan was not identified at the time of the ex-post evaluation; however, the development plan for 2011 to 2013 set improvement of agricultural productivity as one of its priorities.[27] It states that livelihood improvement and increase in employment in rural areas is important for poverty reduction and peace building. Comprehensive Agriculture Master Plan (2015), a long-term road map for agricultural development in 2015, also recognises the need for capacity development of AEOs and their means of transport. The rural development policy developed by the project and approved by the government reflects the project's experiences in rural development and CDOs' work. Thus, it can be said that the policy framework was established to buttress the application of the models developed by the project.

3.4.2 Institutional/Organisational Aspect for the Sustainability of Project Effect

At the state level, the Ministry of Agriculture and Food Security/CES[28] is responsible for agricultural technology extension and MCRD/CES for rural development. At the national level, the Ministry of Agriculture and Food Security/GOSS is responsible for agricultural and rural development. The ministries play complementary roles to each other.

A certain number of CDOs trained by the project were transferred to other duty stations because of the re-organisation of the states. As a result, some CDOs introduced the technologies learned from the project in the new duty station. However, some other CDOs still live in camps in and outside the country because of the conflicts. It is not easy to fill the gap of CDOs who changed the duty station or left the office. At the time of the ex-post evaluation, state ministries were under reorganisation and the remaining CDOs were waiting to be assigned. Thus, the government was not in the position to sustain the project effects. The two photos below are the project library taken during the ex-post evaluation. The library supported by the project was not in use. It is said that much of equipment was scattered and lost as a result of the re-structuring of ministries and states,

[27] South Sudan Development Plan 2011-2013
[28] This is the current name of the state ministry. The same applies for the national level.

and not managed properly.

Left: Building of the library

Right: Inside the library

(8 February 2021)

At the time of the ex-post evaluation, farmer teachers of Kapuri, Bungu, Sirrimon and Nyamini villages continued teaching other villagers. Bungu village was affected by conflicts and some villagers fled the village but BDC was still active. All six model villages continued activities after the completion of the project without any material support. The suspension of the BDCs and IGAs resulted from the worsening security situation and it is expected that these activities would be resumed when security improves.

3.4.3 Technical Aspect for the Sustainability of Project Effects

According to a CDO, 10 CDOs and one AEO among those trained by the project were active in rural development at the time of the ex-post evaluation. CDOs have engaged in rural development using the manuals. Therefore, it is expected that they would keep the rural development skills detailed in the basic tools. Some CDOs who stopped rural development work use the technology at their own farm. In villages, too, the farmer teachers have kept teaching and the participating farmers continued to use at least part of the technologies introduced by the project. IGAs continued after the completion of the project, until when it became too difficult to continue them because of security concerns. Although it is not possible to specify which technologies among those introduced were still used and to what extent, it is expected that the technical capacity for improvement of agricultural production and IGAs are sustained.

3.4.4 Financial Aspect for the Sustainability of Project Effects

After the completion of the project, the Government of South Sudan has not had budget for rural development activities in villages and a community development fund was not established. The government still has difficulty in paying salaries to CDOs and AEOs; salaries were often paid late and not sufficient. The financial situation of the implementing agencies is quite difficult. On the other hand, in the villages, community leaders and members have kept doing activities without external support. A CDO reported that the community members secure funds through a kind of

saving group called merry-go-round,[29] village savings and loan associations, NGOs and agricultural cooperatives.[30]

Some minor problems have been observed regarding the institutional/organisational, and financial aspects. Therefore, the sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The project was implemented during the period before and after the independence in the Republic of South Sudan, taking agricultural villages in and around Juba as its model sites. The project aimed to establish a foundation to disseminate the livelihood improvement models in which CDOs of MCRD/CES facilitated villagers' agricultural production and IGAs, and introduced agricultural technology packages with the technical support of AEOs of MAF/CES. The project was in line with the development plan and needs of the Government of South Sudan aiming to increase agricultural production, human resource development, rural development, livelihood improvement and increase in employment. It was also highly consistent with Japan's ODA policy for Sudan. The implementation approach of the project was appropriate with thorough consideration of the condition of the conflict-ridden country. Thus, its relevance is high. Basic tools of the livelihood improvement models were developed, capacity of government stakeholders and community leaders was strengthened, and model projects achieved results. Although the organisational capacity of ministries was relatively weak, the project developed a policy and established networks, and the Project Purpose was almost achieved. The Overall Goal was partially achieved as the livelihood improvement models were applied in some villages other than the model ones despite various difficulties faced by the villages, such as two national crises and an influx of IDPs and refugees, resulting in discontinuation of community activities. After the completion of the project, the model villages continued their activities without government support. However, only a few villages were still active at the time of the ex-post evaluation while others had stopped activities because of increasing insecurity. Thus, the effectiveness and impact are fair because the project impact is moderate. The project period was as planned. However, the project cost was 127% of the planned amount and because some activities were added when the model projects were finalised. The increase in the project cost itself is assessed as fair; however, there was no information to judge if the added amount was fair and within the range of a minimum amount. Thus, the efficiency is fair. Regarding sustainability, there remains issues of financial and organisational sustainability of the government. It is affected by the restructuring of the states

[29] Group members regularly meet (often every week) and each member pays a set amount of money. One member takes all the money. All members take turn and receive the money and each member will receive the same amount of money which she/he put forward.
[30] At the time of the ex-post evaluation, registration of cooperatives was in progress.

resulting in transfer of some CDOs and the lack of government budget for rural development activities. Still, at the community level, part of farmer teachers, Boma Development Committee members, CDOs, and AEOs keep using the techniques and technologies introduced by the project. Technology transfer occurred at the community level and there is possibility that project results will be reproduced and sustained. Thus, the sustainability is rated as fair. The overall rating is 'partially satisfactory'.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

(1) Recommendations to MAF/CES and MCRD/CES

Some of the CDOs and AEOs trained by the project keep rural development activities in new duty stations and some others has stopped activities owing to security concerns and financial constraints. It depends on the individuals if they continue rural development work or not and the effects of the project have not been fully put to use. Both ministries are recommended that they locate all the trained CDOs and AEOs and secure budget for activities to use the experience and effects of the project (e.g. rural development activities or training of other CDOs and AEOs). MAF/CES and MCRD/CES, when resuming dialogues with the central ministries and development partners working on agriculture, need to promote the project results as a good practice to the international organisations and donors which will develop activities targeting CDOs and communities in rural areas and mobilise external resources.

(2) Recommendations to MCRD/CES

Until the government of South Sudan can secure activity budget, MCRD/CES could use the time for preparation to collect good practices of the model villages with the support of CDOs and AEOs, and update the manuals adding such good practices. These good practices could be presented to the national government and development partners to promote the effectiveness of the models and secure budget for rural development.

4.2.2 Recommendations to JICA

It is difficult for JICA to find a way to support the government to realise the project effects when there is no government budget. However, it is possible to try not to waste the achievement of application of technology and activities in the model villages and to support the government so that the government can use the project experience when the time is right. Specifically, JICA may be able to support and advise MCRD/CES in collecting good practices and updating rural development directory and manuals, which could be done even with limited resources and form the basis for rural development and agricultural technology extension. Outcomes of such activities could be shared with other development partners.

4.3 Lessons Learned

Projects can enhance sustainability of effects by striving for community capacity development.

When implementing rural development work in model villages with CEOs and AEOs, the project organised BDCs and trained community leaders to facilitate community owned development work involving diverse people, especially those socially vulnerable such as IDPs and women. The project facilitated agricultural technology extension by identifying farmers eager to learn and training them as farmer teachers based in the villages in place of CDOs and AEOs. The farmers directly experienced and understood the effect of the introduction of new technologies and received benefits of increase agricultural products. This experience enhanced their motivation and sustainability of the project effects at the village level. At the completion of the project, community members expressed their intention to continue the activities and, in fact, continued adoption of technologies and activities introduced by the project without government support until when security problems arose. In conflict-affected countries, governments often have limited technical and financial capacity to provide public services. Thus, it is highly likely that governments can contribute to sustaining project effects to a limited extent. Even in such a case, thorough implementation of community-based activities involving community members on the ground may lead to highly sustainable project effects. When planning a technical cooperation project in countries where governments are weak, such as conflict-affected countries, it would be useful to consider such an approach that directly support beneficiaries on the ground.

Projects can actively disseminate project information to stakeholders during the implementation in order to create synergy with government services and other donor assistance and enhance the project effects.

As shown in 3.1.4 ③ above, the project succeeded in connecting the model villages to assistance by other donors and government agencies in the areas of education, health, and income generation. The assistance was not pre-planned but realised through the successful approach to understand needs of the villages accurately and convey them to other agencies. The needs of the villages clarified in the community development plan of each village covers multiple areas. All of them were indispensable for improvement of the life in the villages but it is not possible for one project to address all needs. Therefore, CDOs who understood the needs of the model villages shared that information in CDOs' meetings and CDO leaders relayed the needs to relevant agencies to solicit support. The Japanese experts also instructed and supported CDOs in this. This approach, which involves clarifying and understanding the needs, sharing of the needs and facilitating cooperation, can be applied in other projects.

Projects can build trust in the government through assistance to communities.

During the civil war, community members of South Sudan did not receive sufficient social services from the government or Sudan People's Liberation Army/Sudan People's Liberation Movement.[31] They were not even allowed to go out of their villages and had a very difficult time. These experiences made the government untrustworthy for the communities. At the beginning of the project, community members did not know about CDOs and found it difficult to communicate with CDOs and AEOs. However, as the project activities progressed, community members witnessed an increase in agricultural products and assistance from other donors, and trust towards CDOs and AEOs was gradually built.

In conflict-affected countries, people's trust in the government is critical for social stabilisation.[32] The trust that the project managed to build between the communities and CDOs and AEOs can be the first step to nurture trust in the government and enhance stability of society. In this sense, when planning technical assistance, it would be useful to set activities in which the population can see public services and their benefits in order to facilitate social stabilisation. It is important to make it clear that the project is part of the government public services and assist communities with what they really need. This will require capacity development of the government personnel like CDOs who work with the communities and a favourable environment for them to conduct community-based activities.

Projects should introduce appropriate technologies and activities based on the community needs and available resources.

The contents of the model projects and agricultural technologies to be introduced were carefully selected according to the needs and conditions of each model village. The process of model village selection started with deepening CDOs' understanding of the situation of target agricultural communities through the socio-economic survey of 30 villages in 8 areas of Juba County. Then a community development plan was made in each target village with facilitation of CDOs. Basic technologies such as straight-row method for transplanting was still applied at the time of the ex-post evaluation. Cassava and sweet potatoes introduced as a countermeasure to bad weather were highly valued by farmers. Among two demonstration farms, the one in Kworjik village functioned until 2018 when it was burnt down, and the other in Kapuri village was still functioning at the time of the ex-post evaluation. Some IGAs also continue. That all these activities continue at the time of the ex-post evaluation is a proof that the introduced technology was a good match with the community members' understanding and available resources. This approach to thoroughly pick up needs through a socio-economic survey and introduce appropriate technologies and

[31] The government army and the party in power at the time after the independence.

[32] Mallett, R., Hagen-Zanker, J., Slater, R., and Sturge, G. (2015). Surveying livelihoods, service delivery and governance: baseline evidence from DRC, Nepal, Pakistan, Sri Lanka and Uganda (Secure Livelihoods Research Consortium Working Paper 31). London: ODI.

activities can be applied in other rural development projects.

Projects should use the results of analysis of project impacts and effects on the socially vulnerable, such as gender analysis, to improve project management throughout the project implementation period.

The socio-economic survey conducted at the beginning of the project revealed that women and IDPs did not have access to productive resources such as land and did not participate in economic activities and decision making. These findings were incorporated into model project selection and meeting management. In community leader training, necessity of consideration for IDPs, women, ethnic minorities, and households with orphans or the disabled was emphasised to make the leaders understand equitable development (see 3.1.5. Avoiding risks caused by destabilising factors). As a result, it was reported that women had started participating in economic activities and decision making and their relationships and status within their families improved. This must be a useful approach in a country where gender-based violence is a serious issue like South Sudan.[33] However, although the positive impacts on the socially vulnerable was recognised, some details, such as what was effective and if there were any problems, were unclear. Thus, not only at the beginning but throughout the project, gender analysis and analysis on the socially vulnerable could be conducted as part of monitoring. If the process of the changes becomes clear, such understanding could help establish more effective livelihood improvement models with consideration for diversity of the population. Especially for projects targeting communities with many vulnerable groups like this project, such analysis would provide useful information for more effective project implementation and learning to be used in rural development projects.

Model project village selection needs to be done according to the Project Purpose and capacity of people who manage implementation.

At the beginning of the project, from June to July 2009, a sampling survey was conducted targeting 30 villages in Juba County. Based on the survey results, the project decided on the target villages after discussion with CDOs. The selection criteria were 'security and access, leadership and solidarity in the village,[34] available local resources, geographical balance, relative concentration of residence, relatively homogeneous ethnicity and lifestyles'. It can be said that the villages with relatively favourable conditions were selected. For target community selection,

[33] According to a survey conducted by the International Organization for Migration targeting 3,130 women aged 17 or older, 45% of the respondents suffered gender-based violence in their households during the last 12 months. See IOM (2019) Gender-Based Violence: Knowledge, Attitude and Practices Survey in South Sudan. (p.43)

[34] The project visited the villages to assess leadership of the representatives and solidarity of the villages based on mobilisation of the community members, community activities such as road repair and church activities, collaborative work among the community members. Experiences in receiving assistance for community development activities and past conflicts in the villages could be used as well. See Kim, J., Sheely, R., Schmidt, C. (2020). Social Capital and Social Cohesion Measurement Toolkit for Community-Driven Development Operations. Washington, DC: Mercy Corps and The World Bank Group.

different criteria, such as communities having different characteristics from each other, the same number of communities from different geographical areas, or poorer communities, could have been used. When implementing model projects, it may be useful to select communities with different characteristics for comparison. However, in the case of the project, CDOs and AEOs with little rural development experience had to facilitate communities' activities under difficult conditions after conflicts. Therefore, it was decided not to select difficult communities and give priority to CDOs and AEOs' practising and experiencing success.

Finally, at the time of the ex-post evaluation, the only one village where BDC still functioned is Bungu village which, according to the project, under strong leadership, had solidarity and social capital.[35] It is not true that Bungu village has not been affected by conflicts; many villagers have fled the village because of conflicts, just like other villages. Its solidarity from the beginning might have led to sustained project effects. Therefore, when selecting target areas for technical cooperation projects in conflict-affected countries where government officials need capacity development, it would be worth selecting target areas with strong leadership, solidarity, and social capital so that the project, as a capacity development model, can have higher possibility of successful implementation and sustainability of effects. It might be said that this selection criteria are inappropriate if fairness and an experimental aspect are emphasised; however, when C/Ps of a conflict-affected country needed their own capacity building, it would be good to select less problematic targets so that capacity building of the government could be done through the project implementation and a successful model could be presented.

Projects in conflict-affected countries need to set indicators that do not require much work to collect data considering individual situations.

Some indicators of the project required a survey of both participating farmers and non-participating ones to collect data to assess their achievement (see section 3.1.4 ②). Outcome 4 set indicator ② that was supposed to compare participating and non-participating farmers' food production, incomes, and assets. However, the project completion report used perception of the participating farmers on agricultural production and income for this indicator, without presenting quantitative data. It can be assumed that data matching this indicator were not collected because it would not be easy to conduct a survey with community members. Comparison with non-participating farmers was not necessarily required to see if the livelihood improvement models were successful. The models could be regarded as a success if the participating members recognised the introduced technologies were useful (then, it is highly likely that they would keep applying the technologies) and new IGAs brought income increase. It is understandable that setting a control group is desirable for a research design. Nonetheless, it is better and realistic to

[35] Project completion report. (p.44)

set less demanding indicators, as long as minimum required information is obtained, because projects in conflict-affected countries face far more problems than usual. In addition, some indicators have terms that needed clear definitions to be used in this project, such as agricultural productivity and hunger. These can be replaced with clearly defined terms that can make data collection easier such as the number of meals[36] or the number of households reporting increase in the volume of meals. That can help make accurate assessment. It is recommended that a project in a conflict-affected country with inherent difficulties set indicators that are clearly defined and do not require extra efforts to collect data. That will help conduct accurate monitoring and evaluation.

- End

[36] The project completion report also uses the decrease in the proportion of the households which have one meal per day to assess if life was improved.