conducted by Sudan Office: March, 2023

Country Name	Capacity Building Project for the Implementation of the Executive Programme for the
The Republic of the Sudan	Agricultural Revival

I. Project Outline

1. 1 roject Gutime	
Background	Sudan was in urgent needs of rebuilding its finances, which were dependent on oil revenues. The agricultural sector, which used to account for the majority of the country's non-oil exports, has been a key factor in the country's development. However, the country's agricultural production has been stagnant for a long time, and the production and harvested area of major crops such as sorghum, wheat, sesame, cotton, and groundnut have been stagnant or decreasing. In recent years, domestic consumption of wheat has grown rapidly, and the country imports more than 1 million tons per year. As a countermeasure to the risk of the entire economy collapsing due to over-dependence on oil, the Government of Sudan formulated the "Executive Programme for Agricultural Revival (ERAR)" in April 2008 as a national strategy for the agricultural sector, with the promotion of agricultural and livestock exports, poverty reduction, and food security as its top goals. However, the implementation of the agricultural development plan remained limited, which was attributed to the low administrative capacity of government agencies and their inability to formulate and implement development plans.
Objectives of the Project	Through 1) developing a model system of human resource development and organizational capacity development of the Ministry of Agriculture, and 2) enhancing planning, implementation, monitoring & evaluation for promotion of rice production, the project aimed at strengthening human and organizational capacity of the Ministry of Agriculture and other concerned organizations to materialize "The Executive Programme for the Agricultural Revival.", and thereby contributing to the improvement of the quality of public agriculture services. 1. Overall Goal: The quality of public services provided by the Ministry of Agriculture and the organizations concerned are improved through their capacity development. 2. Project Purpose: Human and organizational capacity of the Ministry of Agriculture and the organizations concerned is strengthened to materialize "The Executive Programme for the Agricultural Revival."
Activities of the project	 Project site: Gezira, Sennar, Gedaref, River Nile, Northern and White Nile State. Main activities: 1) developing a model system of human resource development and organizational capacity development of the Ministry of Agriculture, and 2) enhancing planning, implementation, monitoring & evaluation for promotion of rice production. Inputs (to carry out above activities) Japanese Side Experts: 20 persons Trainees received (in Japan): 63 persons Third country training: 156 persons in Uganda and 159 persons in Egypt Equipment: Tractors, seed drill, rice milling machines, stone removers, vehicles, etc. Local cost: Allowance, labour cost, fuel, electricity, etc. Local cost: Personnel expenses, training expenses, agricultural materials and equipment, travel and transportation expenses, conference expenses, supplies
Project Period	(ex-ante) March 2010 – February 2014 (actual) March 2010 – March 2016 (Extended period: March 2014 – March 2016) Project Cost (ex-ante) 520 million yen, (actual) 936 million yen (ex-ante) 520 million yen, (actual) 936 million yen
Implementing Agency	Federal Ministry of Agriculture and Forestry (FoMAF ¹), State Ministry of Agriculture of the target area (SMoA ²) (Gezira, White Nile, Sennar, Gedaref, Northern, and River Nile)
Cooperation Agency in Japan	Vision and Spirit for Overseas Cooperation Co., Ltd. (VSOC), C. D. C. International Corporation

II. Result of the Evaluation

- < Special Perspectives Considered in the Ex-Post Evaluation >
- Continuation status of the project effects are analyzed as factors to achieve the Overall Goal.
- Based on the suggestion by the project at the time of project completion, upland rice productivities, the number of farmers, cultivated area were treated as the concrete indicators for the Overall Goal. The indicator for the Overall Goal, "quality of public services

¹ FoMAF was reorganized to the Federal Ministry of Agriculture and Irrigation (FMoAI), and again reorganized to FoMAF in June 2015. At the time of ex-post evaluation, the name has changed to Federal Ministry of Agriculture and Natural Resources (FMoANR).

² Accordingly, SMoA was reorganized to State Ministry of Production and Economic Resources (SMoPER)

provided by the Ministry are improved", could have been measured by the quality of services provided to the target rice production farmers, its operations and frequency, as well as assessing the satisfaction rate of the farmers towards those services. However, due to the limitation of the time, budget and human resources to conduct the survey in all 6 target States, the alternative indicators which were mentioned above were utilized.

1 Relevance

<Consistency with the Development Policy of Sudan at the Time of Ex-Ante Evaluation >

The project was consistent with the development plan of Sudan. The Executive Programme for the Agricultural Revival (2008-2011), a four-year development plan for the agricultural sector, identified capacity development of agricultural producers and related institutions as one of the factors for achieving agricultural revitalization.

<Consistency with the Development Needs of Sudan at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Sudan for strengthening capacity for formulating and implementing agricultural development plan, as the implementation of the agricultural development plan remained limited.

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

The project was also consistent with Japan's ODA policy to Sudan. Strengthening administrative capacity was one of the priority areas (cross-cutting issues) of ODA to Sudan³.

<Appropriateness of Project Design/Approach>

During the project, there was a change in the project scope to expand the target area from 2 States to 6 States, which has significantly affected the Efficiency in Evaluation Criteria eventually. The original budget and duration were not sufficient to cover the additional 4 States, thus there was an increase of budget and project duration to accommodate the expansion of the target area.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

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

The Project Purpose was achieved as the staff members of then FMoAF were trained and practiced Project Cycle Management (planning, implementation, monitoring and evaluation) (Indicator 1) and self capacity evaluation of the staff of then FMoAF and extension officers of the 6 target States of then State Ministries of Agriculture showed the improvement in their capacity (Indicator 2).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Continuation status of the project effects are analyzed as factors to achieve the Overall Goal. As mentioned below, the effects of the project have continued to certain extent, such as continuation of capacity building both at Federal and State level, the National Rice Project (NRP)'s monitoring and evaluation activities to the 6 target States as well as coordination of stakeholders initiated by the NRP.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved. Based on the suggestion made by the project at the time of project completion, the number of farmers, cultivated area and productivity (yield), were treated as the concrete indicators for the Overall Goal. All 6 target States have been continuing upland rice production after the completion of the project. The seed production has been even initiated at Khartoum State since 2021 with the guidance and support from NRP of FMoANR.

Regarding the indicators for the Overall Goal, cultivated area and productivity, are not showing significant increase. There are several reasons behind this, but one of the main reason is due to the limitation of the seeds. The on-going JICA technical cooperation project(Capacity Building Project for the Promotion of Rice Production, 2018-2022) focuses on seed multiplication activities on Breeder Seeds(BS), Foundation Seeds(FS) and Registered Seeds(RS) at Agriculture Research Corporation(ARC), followed by Certified Seed (CS) production at designated farmers' filed in the 6 target States. The project had to focus on the multiplication of seed, as there were limited varieties and amount of seeds that are officially registered and available in Sudan. As to the number of farmers, 139 farmers have experienced rice cultivation in 6 states with the support from SMoA from 2017 to 2021, leading to promotion of rice cultivation among farmers.

The seed production started in 2018 with the production of BS, FS and RS at ARC. Then CS production started in 2020 with the limited numbers of contracted farmers in Gezira State. As of the cultivation season of 2021/22, FS and RS production have been expanded from ARC headquarter in Gezira State to the ARC research stations in other 5 target States which contributes to increase in the amount of seeds. As of 2021/22 season, the CS production has also expanded to all the target 6 States.

While such efforts taking place, the total production area and the number of farmers has been still small. There has been still limitation of available amount of seeds to be distributed to the CS production farmers. In addition, CS production has been produced in smaller plot for each farmer (2feddans⁴/farmer in Gezira, 0.25feddans/farmer in other target States), as CS production requires more delicate and precise production techniques compared to the ordinary rice production. The CS production farmers are selected by certain criteria set by the ongoing JICA project. The extension officers in the State level are also required to have closer contacts and support to the CS production farmers during the cultivation season. These conditions of the availability of the seeds as well as technicality of the CS production have been the limitation of expansion of the production.

With regard to the surrounding environment of the rice production in Sudan, it should also be emphasized that Sudan as a country has been experiencing political turmoil since 2019. There was a political turnover in April 2019 which lead to the establishment of transitional government, then the political turmoil occurred again in October 2021. In addition, there have been outbreak of COVID-19 since early

³ Source: ODA Databook 2010

⁴ 0.42ha.

2020 which also affected the economic activities in the country. These political and economic instability have been strongly affecting the performance of government services as well as production activities.

Regarding the Project Purpose and outputs, the effects of the project have continued to certain extent after the project was completed. The FMoANR has been continuing capacity building activities to certain extent, such as conducting skills and needs assessment, identifying mandates of each directorate, identifying training needs, transfer of technology and skills through trainings at Federal level. The method of learning by doing for upland rice production in which the project introduced for the capacity development of farmers and extension officers, has been actively utilized by all 6 target State through the trainings and at the demonstration farms. The handbook developed during the project has also been utilized in all 6 States at the trainings and the extension services. The on-going JICA technical cooperation project is now updating the technical handbook for the extension officers, and creating a new production manual for the researchers at ARC. In terms of the trainings on capacity development, all 6 target States have been conducting in-country trainings for extension officers and farmers, except for 2019, which was due to the political turmoil and related budget constraints. At the time of expost evaluation, most of the trainings are organized and implemented by Rice Promotion Unit (RPU) in the State level (mainly by Gezira State) which indicate the increase of their capacity.

During the project period, the project tried to involve stakeholders, by initiating Rice Sector Development Forum and establishing the National Rice Council in order to realize high productivity of upland rice production. Although these setting did not continue after the project completion, the function of the NRP has been strengthened as their role has expanded to include the responsibility of the National Rice Council. NRP has been making efforts to secure the annual budget from the Federal Ministry of Finance and Economic Planning, and distribute to the target 6 States for the rice production activities. NRP has made monthly and annual follow-up and evaluation for all the 6 States to monitor the implementation. They also hold annual coordination meeting with the stakeholders to work together towards the rice development in Sudan.

In-country Trainings conducted for the extension officers and farmers (2017-2021)

III couii	ur y rrum	ings conducted for the extension officers at	<u> </u>	/ 	1
Year	Month	Trainings	Implementer	Venue	Number Participated
					Farticipated
2017	-	Monitoring & Evaluation Method	RPU Sennar	Sennar	23
2018	-	Rice Cultivation & Production Techniques	AOAD ⁵	Gezira	17
2018	-	Rice Harvest & Post harvest Technology	AOAD		17
	Jan	Rice Cultivation Techniques	RPU Gezira	Gezira	18
2010	Mar	Rice Seed Production	RPU Gezira	Gezira	16
2019	Sep	Rice Cultivation & Production Techniques	AOAD	Khartoum	12
	Oct	Rice Seed Harvest & Post-harvest	RPU Gezira	Gezira	36
	Eals	Wrap-up meeting on CS production in	RPU	Q :	200
	Feb	2020 Season(plan)	Gezira/NRP/JICA	Gezira	36
2021	A		RPU	Carina	
	Apr	CS Production for 2021 Season(plan)	Gezira/NRP/JICA	Gezira	55
	Sep	Rice Seed Production(plan)	RPU Gezira	Gezira	20

Source: Questionnaire to the RPU in 6 States supplemented by the interview

<Other Impacts at the time of Ex-post Evaluation>

No other positive and negative impacts, including impact on the natural environment have been observed. There have been no land acquisition and resettlement.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

Aim Indicators Results Sour	Source				Aim	
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⁵ Arab Organization for Agriculture Development

(Project Purpose) Indicator 1 Status of the Achievement: achieved (partially continued) ЛСА Human and 60% of the staff members of (Project Completion) documents organizational of Capacity building of staff members of FMoAF were carried out through individual the Federal Ministry Agriculture, and core staff of training and practicing action plans. Around 350 staff in total participated in the capacity of the Ministry of State Ministries of Agriculture training on Project Cycle Management (planning, implementation, monitoring and Agriculture and organizations evaluation). Around 250 (71.4%) staff in total conducted action plans utilizing the organizations concerned, involved in the knowledge and skills learned at the training on Project Cycle Management. They concerned is Activities, practiced cycles of planning of action plans, its implementation, monitoring and Project demonstrate improvements in evaluation. strengthened to materialize "The action planning, Executive implementation, monitoring & (Ex-post evaluation) Programme for evaluation relating to the The FMoANR has been continuing capacity building activities to certain extent, such the Agricultural "Executive Programme for the as conducting skills and needs assessment, identifying mandates of each directorate, Revival." Agricultural Revival". identifying training needs, transfer of technology and skills through trainings at Federal level. Also, NRP has been making efforts to secure the annual budget from the Federal Ministry of Finance and Economic Planning, and distribute to the target 6 States for the rice production activities. NRP has made monthly and annual follow-up and evaluation for all the 6 States to monitor the implementation. They also hold annual coordination meeting with the stakeholders to work together towards the rice development in Sudan. JICA Indicator 2: 80% of the Status of the achievement: achieved (partially continued) documents staff of the Federal Ministry of (Project completion) Agriculture, and core staff of The latest capacity assessment (self-assessment) was conducted from January to State Ministries of Agriculture February in 2013. All participants showed the improvement in the score. Especially, organizations 5 groups among 9 groups marked more than 4.0 points (in average of 5 components). other received If the score is more than 4.0, it is considered that their capacity is at satisfactory level. concerned, training, show improvement in the score of the self capacity Self-evaluation on capacity improvement was carried out by the extension officers of evaluation. the relevant 6 MoAs after the 2014 cropping season. The officers evaluated themselves on the 5 aspects (Ability of formulating action plan, ability of managing and working, ability of identifying and solving technical problem, ability of responding to emergencies in the field, and ability of monitoring and evaluating field activities) both in the first year and in 2014. All extension officers answered that they have improved their capacity in the course of participation in the project. (Ex-post evaluation) Although there is no data of the score of the self-capacity evaluation at the time of expost evaluation by the staff of the Federal Ministry of Agriculture, and core staff of State Ministries of Agriculture and other organizations concerned, who received trainings, the method of learning by doing for upland rice production in which the project introduced for the capacity development of farmers and extension officers, has been actively utilized by all 6 target State through the trainings and at the demonstration farms. Most of the trainings are organized and implemented by Rice Promotion Unit (RPU) in the State level (mainly by Gezira State) which indicate the increase of their capacity. (Ex-post Evaluation) partially achieved Questionnaire (Overall Goal) Indicator 1: 50% of relevant The services extended to the farmers were regular visits by the extension officers, and interviews The quality of agricultural parties trainings courses (see page 3), operation of Farmer's Schools, and distributing rice with NRP, public services (Production coop, Investors, Interviews with cultivation handbook. provided by the Agricultural product vendors Gezira State Ministry of etc.) recognized increases in Number of farmers, cultivated area and productivities for the rice production in Ministry, the 6 target State for CS and Ordinary Rice] **Questionnaires** Agriculture and quality of the public to RPU in 6 the organizations agricultural services. <Gezira> states, concerned are Information 2017 2018 2019 2020 2021 Note: Based on the improved shared from the (CS)* (CS)* through their suggestion by the project at experts of the Number of 5 6 7 10 12 capacity succeeding the time of project farmers** (8)project. (6)development. completion, the following Harvested area 16 28 18 13.25 16 indicators were collected. (feddans) "the bottom line of the Production (Kg) 7759.5 5200 14209 6792 concrete final indicator Yield 0.325 0.507 0.512 0.484 should be the degree of (t/feddan) improvement of upland rice productivities and income of (number of farmers conducting CS production.) **Total aggregated number of farmers who experienced cultivation of rice is 35. (One the concerned farmers

through the Project activities. The other important point is that "how many farmers had shown their interest in growing upland rice and how many of them are actually cultivating upland rice". Accordingly toward achieving these goals, it is important to improve productivity of upland rice and to expand its production.

farmer continued rice cultivation from 2017 to 2021, and one farmer continued from 2019 to 2020.)

<White Nile>

	2017	2018	2019	2020	2021
				(CS)*	(CS)*
Number of farmers**	10	7	5	2	22
				(2)	(8)
Harvested area	40	28	7	0.5	4
(feddans)					
Production (Kg)	15000	14000	700	469	90
Yield	0.375	0.5	0.1	0.938	0.022
(t/feddan)					

^{*(}number of farmers conducting CS production.)

< Sennar >

2017	2018	2019	2020	2021
			(CS)*	(CS)*
4	7	4	2	7
			(2)	(7)
13	22.5	10	0.5	4
4500	8100	7000	375	1407
0.346	0.360	0.7	0.75	0.351
	4 13 4500	4 7 13 22.5 4500 8100	4 7 4 13 22.5 10 4500 8100 7000	4 7 4 2 (2) 13 22.5 10 0.5 4500 8100 7000 375

^{*(}number of farmers conducting CS production.)

< Gedaref >

· Ocuarer					
	2017	2018	2019	2020	2021
				(CS)*	(CS)*
Number of farmers	2	1	1	3	4
				(2)	(4)
Harvested area	6	5	4	5. 5	8
(feddans)					
Production (Kg)	1875	450	1800	2318	5929
Yield	0.312	0.09	0.45	0.421	0.741
(t/feddan)					

^{*(}number of farmers conducting CS production.)

< Northern >

· I toltilelli ·					
	2017	2018	2019	2020	2021
				(CS)*	(CS)*
Number of farmers	1	0	0	2	5
				(2)	(5)
Harvested area (feddans)	40	0	0	0.5	2
Production (Kg)	60000	0	0	46	682
Yield	1.5	0	0	0.9	0.341
(t/feddan)					

^{*(}number of farmers conducting CS production.)

< River Nile >

	2017	2018	2019	2020	2021
				(CS)*	(CS)*
Number of farmers	5	3	3	2	6
				(2)	(6)
Harvested area	45	5	7	0.5	2
(feddans)					
Production (Kg)	8200	2500	3500	508	1801
Yield	0.182	0.5	0.5	1	0.9
(t/feddan)					
4. 1 00	1				

^{*(}number of farmers conducting CS production.)

^{**}Total aggregated number of farmers who experienced cultivation of rice is 46.

^{**}Total aggregated number of farmers who experienced cultivation of rice is 24

^{**}Total aggregated number of farmers who experienced cultivation of rice is 7. (One farmer continued rice cultivation from 2017 to 2021)

^{**}Total aggregated number of farmers who experienced cultivation of rice is 8.

	**Total aggregated number of farmers who experienced cultivation of rice is 19. The rice production data of FS and RS at ARC.					
FS*&RS** 2018						
Production (Kg) 24.51	65.76	817.4	i			
*FS: Foundation Seeds **RS: Registered Seeds			ı			

3 Efficiency

Both project cost and project period significantly exceeded the plan, as the ratio against the plan was 180% for the cost, 150% for the project period. This was due to the extension of the project period for 2 years (March 2014 to March 2016) which was suggested at the time of Terminal Evaluation conducted before the end of the original project period. The main reasons for the extension was to fulfil the two indicators on the Output 2, which are; 1) appropriate upland cultivation technology development 2) capacity development of extension officers in 5 participating States(except for Gezira). This extension was justifiable considering the fact that the target States were expanded from initial 2 States (Gezira and White Nile) to the 6 States since 2012 cultivation season, in response to the request made by then FeMoAI. The State Ministries of the additional 4 States only had 2 years of experience until the end of the original project period, this would have been inadequate time for achieving the Output 2.

The outputs were produced as planned, however, due to the significant increased cost and duration compared to the original plan, efficiency of the project is low.

4 Sustainability

<Policy Aspect>

There has been update of the national strategy to "National Rice Development Strategy for Sudan" (NRDS) (2020 – 2030) in collaboration with the Coalition for African Rice Development (CARD) and JICA. The CARD is the international initiative for expansion of the rice production for the countries in Sub-Saharan Africa which was launched at the Tokyo International Conference on Africa Development (TICAD IV) in May 2008. Sudan became its member country since 2018, and received consultation supports from CARD secretariat for the development of national policy to improve the rice sector in the country. The NRDS describes the overview of the rice sector and action plan for strengthening the sector. In developing the NRDS, the NRP, along with various stakeholders, held a workshop in 2019 to exchange ideas.

<Institutional/Organizational Aspect>

There have not been major changes for organizational structures both at Federal and State level. FMoANR and SMoPER have 109 staff members in total for the rice development sector. At the target 6 States, the RPU have continued its function to promote rice production in each state under the supervision of NRP. The numbers of the extension officers under the RPU have not been changed over the years, although one State experienced slight decrease of skilled extension staffs due to the low salaries against the country's rapid inflation. For the time-being, the effects of the decrease of the extension officers are not so apparent, but if the country's current economic situation continues, there will be more decrease of extension officers which will affect the quality of extension services. NRP has also continued encouraging the private sector and financing institutions to support and develop rice production in Sudan.

<Technical Aspect>

At the target State level, the extension officers have sustained and improved their knowledge by conducting and participating the incountry training. At Federal level, NRP organized and participated in-country trainings as well as international trainings through the ongoing JICA technical cooperation project. The farmers also have participated in the above mentioned in-country trainings although the opportunity were limited. Rather, the farmers were individually given close technical follow-up by the extension officers during the cultivation season. However, since the rice cultivation in Sudan is still at its initial stage therefore further technical inputs are necessary.

<Financial Aspect>

NRP secured activity cost requested by the 6 target States Ministries. However, there have been some issues with the budget planning and allocation. The budget requested and approved by the Federal Ministry of Finance and Economic Planning(FMoFEP) did not always distributed to the NRP in full amount and in timely manner. Accordingly, the budget has sometimes not been allocated to the States at the time of cultivation season at the needed time.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose at the time of project completion, as the implementing agency were trained and practiced Project Cycle Management and the evaluation showed the improvement of their capacity. The Overall Goal has been partially achieved, as the yield and cultivated area have not shown significant increase. However, this is justifiable since the rice production is still at its initial stage and it is still under the seed multiplication stage. As for the efficiency, both the project cost and project period significantly exceeded the original plan. On the other hand, the scale of the activities were significantly expanded from the original plan. As for the sustainability, slight problems have been observed in terms of institutional, technical, and financial aspects. Reflecting these points to the rating criteria, the project is evaluated to be Unsatisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

With regards to the capacity development of extension officers and farmers, more trainings are needed since the rice production is still new phase in Sudan. In order to realize the enhancement of training opportunity, the Sudanese counterparts are suggested to coordinate well from the time of the planning stage. This applies not only the activity planning but also the budget planning, which include clarifying the demarcation of the cost borne by the Federal (NRP) and the States, as well as close follow-up of the budget distribution within the government. In addition, NRP and State Ministries are highly recommended to keep advocating the rice sector and needed support to both internally and externally in order to secure the enable environment. This applies especially to the aspect of securing the budget and irrigation water which are the fundamental bases of the production activities.

Lessons Learned for JICA:

Country situation in Sudan has been unstable since the political turnover in 2019. There has been obstacles for the Japanese experts and Sudanese counterparts to proceed the on-going project. Access to all the 6 target States and the distant areas within the State has been one of the major challenges, due to the unstable security situation, transportation and fuel issue arising from limited financial resources as well as limited road access from the effect flood during the cultivation season. Rice production in Sudan is still at its early stage, so the allocation of the budget should be conducted more efficiently and effectively. Considering these points, it is recommended at the time of planning stage, to be more aware of the limited resources of the project and the overall capacities of government of Sudan(time, budget, human resources) and those resources to be allocated more efficiently by considering the personnel and financial situation of each state, the maturity of agricultural technology, and the condition of the land. Adoption of a strategy that selects a technically matured state as a model and expands its experiences to other states is one of the options. In addition to that, it is necessary to set suitable goals that could be addressed even in situations where unforeseen circumstances are likely to occur.



Harvesting Rice at Gezira State



Harvest and post-harvest training conducted in Gezira State