Mid-term Review Report on Project for the Development of Irrigated and Rainfed Rice Cultivation (PRODERIP) in Cameroon

January 2021

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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Currency Equivalents (as of November 2020)

Currency Unit (FCFA)

1 FCFA = 0.188 JYN

1 JYN = 5.3056 FCFA

1 USD = 105.61 JYN

Government Fiscal Year in Cameroon

January 1 – December 31

List of Acronyms and Abbreviations

AVZ	Agent de Vulagrisation de Zone Zonal Extension Agent
BS	Breeders' Seed
CARD	Coalition for African Rice Development
CEAC	Centres d'éducation et d'Actions Communautaires Education Action Community Centre
CS	Certified Seed
DRCQ	Direction de la Réglementation et du Contrôle de Qualité des Intrants et Produits Agricoles Department of Regulation, Quality Control of Agricultural Inputs and Products
DSCE	The Growth and Employment Strategy Paper
DSDSR	Rural Sector Development Strategy
FCFA	Franc Communauté Financière d'Afrique Centrale Financial Cooperation in Central Africa Franc
FS	Foundation Seed
FY	Fiscal Year
GoC	Government of the Republic of Cameroon
GoJ	Government of Japan
INS	Institut National de la Statistique du Cameroun National Institute of Statistics of Cameroon
IRAD	Institut de Recherche Agricole pour le Développement Institute of Agricultural Research for Development
JCC	Joint Coordination Committee
JFY	Japanese Fiscal Year
MINADER	Ministre de l'Agriculture et du Developpement Rural Ministry of Agriculture and Development
MINEPIA	Ministère de l'Élevage, des Pêches et des Industries Animales Ministry of Livestock, Fisheries and Animal Industries
M/M	Minutes of Meetings
NERICA	New Rice for Africa
NRDS	National Rice Development Strategy
ODA	Official Development Assistance
PDM	Project Design Matrix

PIB	Public Investment Budget
PNVRA	Programme National de la Vulgarisation et de la Recherche Agricole National Agricultural Extension and Research Programme
PO	Plan of Operations
PRODERiP	Projet de Développement de la Riziculture Pluviale de Plateau en Zone de Forêt à Pluviométorie Bimodale Upland Rice Development Project of the Tropical Forest Zone in Cameroon
PRODERIP	le projet pour le développement de la culture du riz irrigué et pluvial au Cameroun Project for the Development of Irrigated and Rainfed Rice Cultivation in Cameroon
PRSP	Poverty Reduction Strategy Paper
R/D	Record of Discussions
RS	Registered Seed
SS	Superviseurs de Secteur Sectorial Supervisor
TOR	Term of reference
UNVDA	Authority Société de Développement de la Haute Vallée du Noun Upper Noun Valley Development

Chapter 1. Outline of the PRODERIP

1-1 Background of PRODERIP

Rice is one of the staple foods for the rural and urban population in Cameroon. Rice consumption in Cameroon is rapidly expanding. The increasing demand is met by import.

The government of the Republic of Cameroon (GoC) recognizes the importance of the rice sector in its economy as well as for poverty reduction. The Growth and Employment Strategy Paper (DSCE) was developed as the second generation Poverty Reduction Strategy Paper (PRSP), providing strategic direction for the national poverty reduction of a decade from 2010. The agriculture sector is considered as the main engine for economic growth with rice as the most important crop to address import dependency, food security and coping strategies for high cost of living.

Under DSCE, rural sector strategy was elaborated in Rural Sector Development Strategy (DSDSR), confirming the importance of rice as a strategic crop.

Cameroon became a member of the 'Coalition for Africa in Rice Development (CARD) in 2008. Under the CARD initiative, the National Rice Development Strategy (NRDS) was developed in 2009. NRDS aims to achieve rice self-sufficiency by 2018 and established the target of producing 970,000 tons in 2018. Rainfed upland rice production, the majority of increase, was expected to increase by more than 20 times from 30,000 tons in 2008 to 697,000 tons in 2018.

At the Regional level, the Government of Japan (GoJ) took the initiative to establish CARD and continues to commit. At the country level, Japan's Country Assistance Policy for Cameroon established Agriculture and Rural Development, focusing on rice, as one of the three priority sectors for assistance.

Following Cameroon's participation in the CARD initiative and based on the NRDS objectives, JICA assisted in implementing a Technical Cooperation Project 'The Upland Rice Development in the Tropical Forest Zone in Cameroon (PRODERiP, 2011-2016).' PRODERiP aimed at increasing the number of farmers producing upland rice varieties. While PRODERiP introduced upland rice to the non-experienced areas and this should be regarded as an important contribution to the rice sector of Cameroon in a long run, it was recommended at the Terminal evaluation that further follow up is required to establish a success model for upland rice cultivation for the wider adaptation of upland rice by farmers, and that the potential of irrigated rice should also be cultivated.

Against such background, 'The Project for the Development of Irrigated and Rainfed Rice Cultivation (PRODERIP)' was requested by GoC and approved by GoJ.

1-2 Summary of PRODERIP

The narrative summary of PRODERIP is given in the revised Project Design Matrix (PDM) which was approved in the 2nd Joint Coordination Committee (JCC) in February 2018. Following is the summary of the PRODERIP.

1. Project Name

Project for the Development of Irrigated and Rainfed Rice Cultivation (PRODERIP)

2. Cooperation Period

From June 2016 to June 2021

3. Target Group

15,000 Farming households in PRODERIP Areas

(10,000 households in three rainfed Regions / 5,000 households in the irrigation sector)

4. Implementing Agency

Ministry of Agriculture and Rural Development (MINADER) and

Upper Nun Valley Development Authority (UNVDA)

5. Target Area:

Center, East and South Regions for rainfed rice, and irrigated sectors of UNVDA

6. Project Site:

PRODERIP has four seed multiplication fields as follows.

1) Nkolbisson, Institute of Agricultural Research for Development (IRAD), Yaoundé in Center Region

2) Farm of Regional Agricultural College (CRA) at Bityili, and Ebolowa in South Region

3) Seed farm of MINADER at Batouri in East Region

4) UNVDA, Ndop, North West Region

PRODERIP has produced Basic Seed[1], Foundation Seed (FS) for upland rice in the IRAD farm. The seed farms of CRA at Bityli and Ebolowa produce Registered Seed（RS） and Certified Seed（CS）. The seed farms of MINADER at Batouri in East Region produce RS and CS.

As for the lowland rice, PRODERIP produces Breeders' seed (BS), FS, RS, and CS at the seed plot in Ndop in the Northwest Region.

Training on upland rice cultivation is conducted for MINADER extension workers and key farmers of upland rice in the PRODERIP field in Yaoundé. On-site training is conducted for general rice farmers in each target region.

[1] Seed for Foundation seed production

PRODERIP supports the post-harvest activities and milling operations in ten milling stations in three target regions.

7. Super Goal

Rate of rice self-sufficiency is improved in Cameroon

8. Overall Goal

Sales of irrigated rice and consumption amount of upland rice are increased in PRODERIP areas

9. Project Purpose

Production and quality of milled rice are improved in PRODERIP areas.

10. Outputs

① Production of high quality seeds of irrigated and upland rice varieties increased in the project areas.

② The number of farmers who cultivate and consume upland rice increases in the project areas in the Centre, South and East Regions

③ Farmers' irrigated rice cultivation techniques are improved in the UNVDA irrigation sectors.

④ Harvest, post-harvest processing are improved for marketing in the UNVDA irrigation sectors.

Chapter 2. Outline of the Mid-term review

2-1 Objective of the Mid-term review

The Mid-term review of PRODERIP is conducted to serve the following objectives:

1. To review the achievement and implementation process of the project according to the PDM;
2. To review the project according to the five evaluation criteria described in the following section;
3. To discuss the further plan for the project among both Cameroonian and Japanese sides based on the assessment and analysis results, and also solutions for any problems that may arise through the reviews and observations to secure sustainability;
4. To identify the promoting factors and impeding factors of achievement of the project and to draw lessons learned from the project; and
5. To present the results of the review in the form of a review report.

2-2 Members of the Team

Name	Position	Organization
Mr. MATSUSHITA Yuichi	Team leader	Economic Development Department, JICA
Mr. KAKINUMA Shota	Cooperation Planning	Economic Development Department, JICA
Ms. SHIRAI Kazuko	Evaluation & Analysis	Kaihatsu Management Consulting, Inc.

2-3 Schedule of the Mid-term review

The Mid-term review was conducted from 9th November to 4th December 2020. The detailed schedule is shown in ANNEX 1.

Chapter 3. Methodology of the Mid-term review

3-1 Review

Due to COVID-19, JICA determined to conduct the Mid-term review by the Mid-term Review Team (hereinafter, 'the Team') composed of only Japanese members to avoid the complexity of the study. The Team reviewed PRODERIP in accordance with the Record of Discussion (R/D), the PDM and the Plan of Operations (PO). The review activities, including report analysis and remote interviews with staff of relevant institutions, beneficiaries, Japanese experts and other concerned personnel of PRODERIP, were conducted based on the Five Evaluation Criteria described in the following section.

3-2 Framework of review: Five Evaluation Criteria

The review is preceded along with the following five criteria, which are the major points of consideration when assessing development projects.

(1) Relevance	Relevance is to question whether the Project Purpose and overall goal are still in line with the priority needs and concerns at the time of review
(2) Effectiveness	Effectiveness concerns the extent to which Project Purpose has been achieved, or is expected to be achieved, in relation to the Outputs produced by PRODERIP.
(3) Efficiency	Efficiency is the productivity of the implementation process: how efficiently the various inputs are converted into outputs.
(4) Impact	Impact is any intended and unintended, direct and indirect, positive and negative that is brought about as a result of PRODERIP.
(5) Sustainability	Sustainability of PRODERIP is assessed in terms of institutional, financial and technical aspects by examining the extent to which the achievement of PRODERIP will be sustained after the project is completed.

3-3 Sources of information utilized for the review

Following sources of information were utilized for this review study:

(1) Project planning documents such as R/D, PDM, and Minutes of Meetings (M/M)

(2) Bi-annual and monthly reports of the project

(3) Interviews and discussions with the Japanese experts

(4) Interviews and discussions with the counterpart personnel and collaborating entity such as IRAD

(5) Record of inputs and utilization

(6) Project documents on the progress and achievements of the project

(7) Interviews and discussion with the target farmers

3-4 PDM for review

The current PDM (version 1: as of 28th February 2018) shown in ANNEX 2 is used as the PDM for the Mid-term review.

Chapter 4. Achievements and Implementation Processes of PRODERIP

4-1 Inputs

The Team confirmed that PRODERIP has availed the following inputs along with the plan stated in the PDM and the PO attached in ANNEX 3.

(1) Japanese side

1) Dispatch of Japanese experts

9 Japanese long-term experts (Chief Advisor/ Rice Sector Policy, Seed Production/ Rice Cultivation, Farm Management/ Extension, Training/Extension (2), Regional cooperation/ Project Coordinator, Monitoring/ Project Coordination (2 persons), Extension (2)/ Paddy quality control, and Training/ Rice Mill Operation and Management) and 3 short-term experts (Variety Purification and selection Technique, Post-harvest & Agricultural Machinery, and Civil Engineering), have been dispatched to PRODERIP for technology transfer.

2) Provision of equipment and machinery

There are equipment and machinery provided to PRODERIP. The total value of them is 66,238,557 JPY (equivalent to 351,435,288 FCFA). The details of the equipment and machineries provided by JICA are listed in ANNEX 4. Out of 66,238,557 JPY (equivalent to 351,435,288 FCFA) spent from July 2016 to January 2019, 36,614,399JPY (equivalent to 194,261,355 FCFA) (55%) and 21,869,108 JPY (equivalent to 116,028,739 FCFA) (33%) were spent in 2017 and 2018, respectively. Most of the equipment and machineries are properly used. All office supplies, such as a desktop PC and a laser printer, and means of transportation such as vehicles and motorcycles are frequently used. Out of equipment and machinery specialized for rice production and processing, a rice whiteness analyzer, scales, a testing rice huller, and a testing rice miller are often used. An instrument shelter is installed as a spare in IRAD and is replaced when the current one is damaged. The Project intended to use a tiller, a rice thresher, a tractor in the field in Ndop plots. But for safety reasons, it has not been accessible. A milling plant will be installed when the warehouse is constructed.

3) Training of counterpart personnel in Japan

The counterpart training was conducted in Japan and the third country with 15 participants from MINADER and UNVDA as follows. Saga University organized the Country-focused training, in which 5 trainees participated in 2017. 4 trainees participated in the invitation program to Japan in 2019.

Table 1 Training in Japan and the third country

	Date	Country	Participants
1.	June 2 to August 9, 2017	Japan	1

2	June 2 to August 9, 2017	Thailand	1
3	August 12 to September,2017	Japan	2
4	October 14 to October 30, 2017	Japan	4
5	June 27 to August 10, 2019	Japan	1
6	October 20 to November 2, 2019	Japan	4
7	November 4 to December 21, 2019	Japan	1
8	March 8 to October 16, 2020	Japan	1

Source:PRODERIP

The objectives of the training were to learn Japanese/Thai rice production technology such as agricultural machineries, irrigation, and distribution and sales system of agricultural products. The participants also learnt the large-scale production process of high-quality rice seed and organizational structure, as well as inspection technology of high-quality rice seed production and seed certification, and how to reflect what they leaned on their agricultural policies.

4) Bearing of local costs

Total equivalent to 224,999,000 JPY (1,232,808,220 FCFA) has been provided to supplement a portion of local expenditure for Japanese Fiscal Year (JFY) 2016-2019 (up to the end of January 2019). The details of the local cost borne by the Japanese side and budget are shown in Table 2 below.

Table 2 Local Operational Expenses Covered by Japan (JPY)

Items of expenses	2016	2017	2018	2019*1
Labor Costs	14,212,000	18,498,000	17,525,000	17,525,000
Local Consultant Fees	0	0	0	0
Construction Expenses	0	5,998,000	7,365,000	1,536,000
Facility Maintenance / Management Fees	344,000	686,000	434,000	434,000
Maintenance Expenses for Equipments	3,626,000	3,491,000	4,921,000	3,957,000
Purchase Expense	3,610,000	7,080,000	4,499,000	6,685,000
Travel / Transportation Expenses	7,211,000	11,537,000	11,653,000	10,681,000
Communication / Transportation Expenses	1,899,000	1,504,000	2,168,000	2,367,000
Document Expenses	1,222,000	1,373,000	1,156,000	939,000
Rental Fees	764,000	921,000	723,000	181,000
Conference Fees	1,887,000	0	2,110,000	0
Miscellaneous Fees	86,000	3,629,000	108,000	2,761,000
Utility Charges	0	0	0	0
HR Training Fees	7,132,000	9,911,000	8,444,000	10,206,000
Total per year (JPY)	41,993,000	64,628,000	61,106,000	57,272,000
			Total (JPY)	224,999,000

Source: PRODERIP

(2) Cameroonian sides

1) Appointment of counterpart personnel

In total, 15 counterpart personnel, 9 officers were appointed from MINADER, and 6 officers from UNVDA as shown in the list of ANNEX6. As for the division supervisors and extension workers, the allocation of division supervisor and extension workers is showed in Table 3.

Table 3 Number of division supervisor and extension workers in 2019

	1st season	2nd season
Division Supervisor	14	6
Extension workers	171	83
Subtotal	185	89
Total	274	
Target area	153	73
Non-target area	32	16

Source: PRODERIP

2) Provision of facilities

The necessary office space and fields have been provided at the MINADER, UNVDA, and IRAD for daily activities of the Japanese experts and personnel hired by the project. For example, MINADER provided the project with the seed fields in Batouri. IRAD provided the seed fields of agricultural high school under MINADER in Bityili and Nkoemvone field in Ebolowa of South Region to produce RS and CS. Some spaces to keep equipment and machinery were also provided.

3）Operational Cost

Table 4 shows that the Cameroonian side provided 390,000,000FCFA of C/P fund and 170,500,000FCFA of Public Investment Budget (PIB) as the operational costs. For PIB, the revenue was largely declined as the impact on the overall economy of the country due to COVID-19 and others.

Table 4: Operational cost by Cameroonian side

(,000FCFA)

Year	Counterpart Fund		Public Investment Budget (PIB)	
	Approval	Revenue	Approval	Revenue
2016	60,000	60,000	0	0
2017	100,000	100,000	50,000	50,000
2018	0	0	76,000	76,000
2019	120,000	110,000	40,000	40,000
2020	120,000	120,000	11,000	4,500

Source: MINADER

4-2 Achievements of the Outputs

The achievement levels of the four Outputs are different between upland and lowland rice. The achievements of some indicators are also unknown. The detailed information on the Output achievement is described as follows:

Output 1: Production of high quality seeds of irrigated and upland rice varieties increased in the project areas.

(1) Indicator 1-1: The genetic purity of certified seed of target rice varieties, produced by the project is maintained as established as the target in Rice Seed Strategy (more than 99.8%)

The project set a target figure of at least 99.8% CS purity, stated in the Seed Strategy prepared by MINADER in 2015. **The achievement of the target figure is not known yet,** as the

genetic purity was not measured due to the tentative return of the Japanese expert Team. However, according to DRCQ[2] and SRCQ, any problems have not been detected by their inspections until the time of the Review survey. All seeds have been passed the field inspection by SRCQ. The Japanese experts will conduct survey to confirm the genetic purity with the C/P after returning to Cameroon.

(2) Indicator1-2: Certified seed production of target rice varieties in the project areas reaches more than 20 ton/year for lowland variety, and 60 ton during the project year for upland variety.

The indicator has been partially achieved.

[Lowland rice seed]

The variety purification and seed multiplication for all seed categories from BS to CS have been implemented at the UNVDA seed multiplication fields in Ndop by UNVDA C/Ps and at the project field in Yaoundé. Out of 11ha of UNVDA seed production plots, the project initially intended to irrigate 3ha for the project's activities. However, only 1.5ha was irrigated due to security issues. In addition, as the Japanese experts were unable to visit the fields, it is difficult to provide proper technology transfer. Nonetheless, the skills of the technical assistants and field labours were improved. The project avoided early growth loss due to delay in transplantation by dividing the sowing into two sessions. As a result, the project multiplied a total of 30 tons of CS (20 tons of Tox 2 and 10 tons of Local 2), which exceeds to the target figure.

[Upland rice seed]

Since June 2016, seed maintenance (Basic Seed[3] and FS) of the upland rice seed are implemented at Nkolbisson field in Yaoundé. RS and CS of upland rice varieties (NERICA 3 and NERICA 8) were multiplied mainly at Bityili and Batouri[4] seed farms. The production of CS of NERICA 3 and NERICA 8 from 2016 to 2019 is shown as follows.

Table 5 Production of Certified Seed

Year	Production (ton)	
	NERICA3	NERICA8
2016	3.0	2.5
2017	4.0	8.3
2018	6.4	5.0

[2] Direction de la Réglementation, du Contrôle de Qualité des Intrants et Produits Agricoles
[3] Basic Seed is the seed to produce Foundation Seed (FS).
[4] Due to the soil degradation at the Batouri seed farm, it has been moved to the one in IRAD field in Southern Region at the time of Mid-term review.

2019	8.6	3.2
Subtotal	22.0	19.0
Total		41.0

Source:PRODERIP

MINADER multiplied CS of NERICA3 with the BIP budget with the Avangane Irrigated Rice Pilot Farm (FPRIA-C) project (the Korean project) in the dry season of 2017-2018. However, based on the total result, **upland rice seed production has not reached the target figure yet.** CS production of upland rice did not reach the target figure because (1) the continuous seed production causes the degradation of soil quality. Consequently, the brown spots were occurred, and 1 of 4 seed plots were severely damaged. In stinkbug-infested fields, yields were as low as 0.5ha. In Batouri, the cultivation of 2 crop seasons was hampered, (2) there is a lack of budget and its delay in disbursement for the activities, and (3) the COVID-19 outbroke in March 2020. Nonetheless, seed production activities have been carried out for the first season in both fields with the efforts of C/P, and appropriate instructions from the Japanese experts (figure 1).

Seed Plot at Bachanga in Central Region, MINADER

Distinguish Off type-paddy at Ebolowa in South Region, MINADER

Seed Plot at Batouri in East Region, MINADER

Seed plot at Ndop UNVDA

Figure 1　Seed production in the target areas in 2020

Even though the production of CS continues, its scarcity is apparent since there is a large demand in the CS made by PRODERIP from not only the target farmers but also non-target farmers in non-target areas because of its high quality.

Output 2: The number of farmers who cultivate and consume upland rice increases in the project

areas in the Centre, South and East Regions.

(1) Indicator 2-1: Rate of farmers cultivates upland rice two times in 5 years in the monitoring areas is more than 35% (baseline was 29.8%)

The survey on the continuous farmer in the PRODERiP revealed that 1,225 (29.8%) of the 4,106 farmers were practicing upland rice cultivation on two or more occasions using seeds that they collected themselves or received more than once from the project distribution. PRODERIP, in consultation with the C/P, set a target figure of 35%.

At the time of Mid-term review, **the indicator is not achieved yet,** even though the rate of farmers who cultivated upland rice twice for the seeded farmers increased by 18.5% in 2017 and 28.1% in 2018 (23.9% on average). Factors for non-achievement were identified as a decrease in project seed production and lack of instructions by decreased extension workers, caused by the end of the National Agricultural Extension and Research Programme (PNVRA) extension program that split the extension system into two in 2018. Consequently, extension workers of the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA) let the project. A lack of fuel and daily allowance for extension workers discourage them from visiting farmers' fields. Rainfall is not always sufficient for upland rice cultivation, either.

(2) Indicator 2-2: Out of farmers who received seed, ratio of farmers who repeat cultivation the following season with in-house produced seed is more than 20%.

Results of the PRODERiP of continuous farmer survey showed that out of 4,106 farmers, 682 (16.6%) practiced upland rice cultivation using self-collected seeds. More than half of the 4,106 farmers in PRODERIP were assumed to be self-collecting upland rice farmers, with a target figure of 20%. The percentage of farmers who collected seeds from their fields has been increasing since 2017 as below. However, it has resulted that **the indicator is not achieved yet**.

Table 6 The Percentage of Farmers who Collected Seeds from Their Fields

Year	Farmers who collected seeds from their fields
2017	7.5%
2018	13.1%
2019	14.3%

Source: PRODERIP

It is observed that the heavy burden of birds raiding, untimely guidance from extension workers due to a decline in the number of extension workers discourage farmers from continuing

farming rice. Some farmers do not collect self-produced rice seed intentionally, because the project provides seeds, and they think seeds from PRODERIP is better than the one produced in their fields[5].

At the same time, there are a certain number of farmers who continue upland rice cultivation. The Team identified several contributing factors for successful farmers, as 1) Practicing what farmers learned in training faithfully in their fields, 2) Group farming functions to collaboratively take measures to overcome the challenges such as bird attach and land preparation[6], 3) some farmers sold their upland rice at the PROMOTE[7], and realized that there is a strong market demand. This finding makes farmers produce rice more, 4) farmers can save their expenditure for daily food by producing rice by themselves instead of buying it, and 5) farmers have noticed that self-produced rice without chemicals is healthier than imported rice. These factors could be the keys to increase upland rice producers.

Output 3: Farmers' irrigated rice cultivation techniques are improved in the UNVDA irrigation sectors.

(1) Indicator 3-1: Average paddy yield/ha of trained farmers is more than 5.0 ton/year.

The yield study by the project resulted 3.5t/ha for UNVDA irrigated areas as a baseline. The project set the target figure set at 5.0t/ha after consultation with C/P. **The indicator is likely to be achieved** since the production of CS has exceeded the target figure at the project seed multiplication field in Ndop, as shown in Table 7. However, the reason of increase is not the result of technology transfer, but the improved seed quality. When the security status improved, the project will conduct a sample survey at the farmers' field in Ndop to confirm the yield performance at the farmer's level after the Japanese expert Team returned to Cameroon.

Table 6: Yield of Certified Seed in 2019

		Yield of Certified Seed (t/ha)	
Place	Variety	Baseline	2019
Ndop (PRODERIP)	TOX 2	3.5	7.5
	Local 2		6.0

Source: PRODERIP

Output 4: Harvest and post-harvest processing are improved for marketing in the UNVDA

[5] Basically, farmers receive seeds only once when participated in the training. When the project provides seeds, two key farmers and 15 general farmers come at one time.

[6] According to an interviewed key farmer in Makenane, in Central Region, who has been growing upland rice since 2007, the success factor is the group's ability to help each other. They are also planting rice in a single row, as they learned in training, to increase productivity.

[7] PROMOTE is an agriculture exhibition organized by MINADER to promote the Cameroonian crops. PRODERIP has participated in PROMOTE to sell upland and lowland rice to see the consumers' reaction to the PRODERIP made rice.

irrigation sectors.

(1) Indictor 4-1: Broken rice rate of UNVDA marketed rice is less than 30%.

A baseline survey on the UNVDA's rice sales showed that the broken rice percentage was 45%-52% before PRODERIP. Based on the consultation with the C/P of UNVDA and MINADER, the project set a target of 30% or less for the broken rice percentage. **The indicator has been achieved,** as shown in Table 7. The broken rice rate of higher quality rice (750 FCFA/kg) to sell for a supermarket is less than 30%, and the average of those rice and the acceptable quality rice (500FCFA/kg) is 26.04%. There is a room to improve in seed purification yet, when comparing the PRODERIP made rice with imported rice.

Table 7 Broken Rice Rate of UNVDA Marketed Rice

	Baseline	Target	Average of 750FCFA/kg and 500FCFA/kg	Imported rice (reference)
Broken rice rate (%)	45 to 52	30 or less	26.04	4 to 5

Source: PRODERIP

(2) Indicator 4-2: Dockage (impurity) number of UNVDA marketed rice is less than 1 stone/5kg and less than 20 paddy grains/kg.

Based on the results of a sample survey of rice sold at UNVDA, specific and actual figures were set as the target in consultation with the CP. **The indicator in 2019 has already been achieved,** as showed inTable 8.

Table 8 Dockage (impurity) Number of UNVDA Marketed rice

	Baseline	2019	
Stone	1 stone/kg		0 stones
Paddy	40 grains/kg	SB10 milling machine	1.48 grains/kg
		Stone picker machine	0 grains in 30 packs

Source: PRODERIP

4-3 Prospects to Achieve the Project Purpose

Project Purpose: Production and quality of milled rice are improved in the project areas.

(1) Indicator1: Rates of increase of amount of rice production in the project areas are more than 42% for irrigated rice and more than 36% for upland rice.

A part of the indicators of PRODERIP Purpose is unlikely to be achieved by the end of the project.

① Lowland rice

Based on the baseline survey conducted in 2016, the project estimated the target volume as follows.

Baseline: 3.5t/ha x 4,000 ha = 14,000 tons

Target: 5.0t/ha x 4,000 ha = 20,000 tons (42% increase)

The Prospect for the achievement is positive, even though the indicator 1 is not known. The present data is not available because extension officers could not visit the field to collect data due to security reasons. However, as Table 9 shows, the number of farmers who cultivate new varieties, cultivation areas, production of lowland rice, and amount of paddy brought to UNVDA increased in 2019.

Table 9 Number of farmers, paddy production and sales for UNVDA

		Cultivated new variety	Production	Brought paddy to UNVDA	
				local	TOX2
2018	Farmers(no)	305			
	Paddy	15.3ha	5.5 ton	17.9 ton	---
2019	Farmers(no)	522			
	Paddy	35.9ha	33.8ton	79.9 ton	37.5ton

Source: PRODERIP

The project plans to conduct a sample interview survey at farmers' field in 2021 to understand the yield performance, as well as to obtain the data for the indicator.

② Upland rice

The upland rice production is 238 tons, 56.7% of the target figure, as shown in Table 10. The project speculates that the production will not reach its target by its end, even if the production in 2020 and 2021 is added on top.

Table 10 Production of Upland Rice

	Baseline	Target	Present status
Upland rice (ton)	307	420	238

Source: PRODERIP

The number of farmers who received seeds, seeded, and harvested have decreased since 2017, in Table 11 shows as below.

Table 11 Number of Farmers Received Seed, Seeded, and Harvested

	No. of farmers received seed	No. of farmers seeded	No. of farmers harvested
2017	2,055	1,369	1,059
2018	1,415	1,179	884
2019	1,302	1,012	797

The project aims to produce upland rice for subsistence rather than for sale. It was argued that farmers who were able to produce upland rice on a continuous basis would be able to work more efficiently and deal with bird damage by cultivating in groups. The Team also identified that these farmers have a background of traditional upland rice production, relatively little bird damage, and the availability of labour for bird trapping even in the event of bird damage.

The followings are various reasons that made the upland rice production low.

1) Seed shortage due to disease and lack of C/P fund to produce

The disease was outbroken in the seed field in Batouri in East Region due to the soil degradation.

2) Number of extension workers decreased because the extension system has changed.

After the restructuring of the extension system, MINADER has not been able to fill the vacancies due to budget shortfalls. Instead, the project has substituted the vacancy of extension workers by key farmers, experienced retirees to be, Education Action Community Centre (CEAC) directors, and community representatives.

3) Continuous cultivation was not enough due to the decreased interest of farmers

Some of the target farmers have lost their interest in upland rice cultivation due to rain shortage, no harvest due to late seeding, insufficient weeding, bird damage in the field. Heavy workload for land preparation and weeding are challenging for them to choose unfamiliar upland rice cultivation, while they have other conventional crops such as cacao, plantain, and cassava to grow.

(2) Indicator2: Percentage of consumers who rate the taste of domestic rice as delicious ("OISHI")[8] is more than 50%.

Considering the result of baseline survey, 30.5% of consumers' preference at 6th International Exhibition for Enterprises SME and Partnerships of Yaoundé (PROMOTE), the project

[8] "OISHI" is a Japanese word for "delicious". At the beginning of PRODERIP consumer preferences on rice will be determined by surveys.

set the target figure as the percentage will increase more than 50%.

Indicator2 is expected to be achieved as the rate of 'OISHI' was 66.1% in 2019. The data was collected at the 7th PROMOTE in 2019, and the project plans to conduct a survey in 2021 as well. The taste of NERICA varieties has been highly evaluated among stakeholders of rice development such as high lank officials of MINADER and the farmers interviewed in the Mid-term review.

Figure 2 Survey of the rice taste at 7th PROMOTE

(3) Indicator3: Rate of increase of whiteness of milled rice produced in UNVDA irrigation sectors is more than 38%.

According to the baseline survey result, the average value of the whiteness of Ndop rice was about 33%. The target figure was decided to 38%, which was the average whiteness of NERICA 3 that had been cultivated and milled in the previous project.

The Indicator3 is expected to be achieved as the average whiteness of milled rice was found as 37.9% in PRODERIP's survey in 2020. The photo of project irrigated rice apparently improved in its colour (Figure 3). It is expected to be achieved by the end of the project.

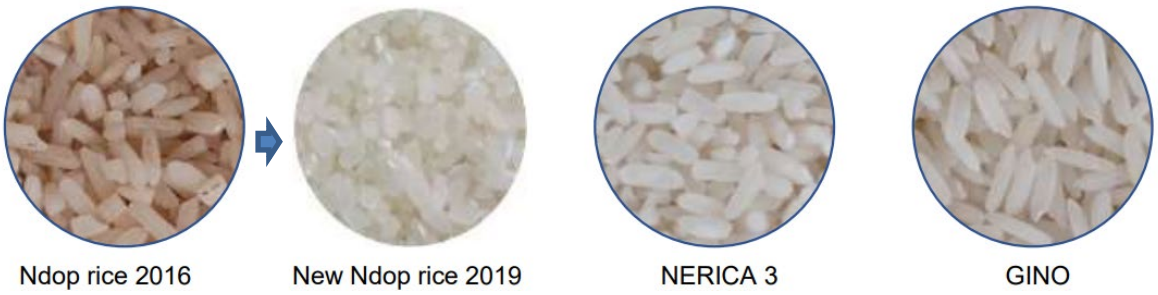

Figure 3 Colour of Ndop Rice 2016 (UNVDA), New Ndop Rice in 2019, NERICA 3 (PRODERIP), and GINO (imported rice)

Source: PRODERIP

(4) Indicator4: Different variety contamination rate of paddy produced in UNVDA irrigation sectors decrease from 45% to less than 10%.

In 2016, the project conducted a sample survey about the mixture rate of paddy purchased by UNVDA from farmers and found that more than 45% of 8 varieties were mixed. In consultation with MINADER and UNVDA, the target was set at 10% or less. The indicator has achieved its target, as all the samples show that the varietal mixture is less than 10% in 2020. **The indicator is expected**

to be achieved asTable 12 shows that the mixture rate of each variety is less than 10%.

Table 12 Mixture Rate of Variety

Place	Variety	No. of Sample	No. of samples in each range of different paddy mixture		
			X<1	1≦X＜10	10≦X
UNVDA	Local	302	232	70	
	TOX2	No data	No data	No data	
Yaonde	Local	125	125	0	0
	TOX2	31	22	9	0

Source:PRODERIP

While UNVDA accepted paddies, some of them are not passed the check by the project. The reason for the differences in the quality assessment results of the UNVDA/Ndop and Yaoundé inspections is that UNVDA/Ndop was done on a farmer-by-farmer basis, when the assessment should have been done for each harvest bag. When the same farmer brings in multiple loads, it is not easy to distinguish the differences among the harvested bags. There is a room for UNVDA to improve their skills to judge the color and shape of paddy.

4-4 Contributing and hindering factors for the achievement of Project Purpose

The contributing and hindering factors to affect the achievement of Project Purpose can be summarized as below.

1) Contributing factors for the achievement of Project Purpose

【Upland rice】

The project promotes group farming to reduce the heavy workload in rice cultivation and protect paddy from bird attack. The improved quality of seed is contributing to the improvement of yield. Improved post-harvest of milling machines and destoner have enabled the project of good quality milled rice at the end. The capacity of milling machine operators is also improved through training.

【Lowland rice】

The mandate of the UNVDA is mainly to prepare fields and farm roads, buy, mill and sell rice paddy, and supply production materials and equipment such as seeds and fertilizer. Therefore, prior to the project, UNVDA officials had never conducted rice farming training. After the start of the project, UNVDA staff began to provide training, which led to gaining the trust of farmers. C/P observes that water control is much easier in lowland rice than in upland rice, which is contributing to an increase of lowland rice production.

【Common factors】

Farmers gradually realized that high quality seed made by the project improves their yield. The farmers who belong to the functional group tend to succeed the continuous rice production by collaborating and encouraging each other in field work. The extension services improved after the project started in its instruction as well as frequency.

2) Hindering factors for the achievement of Project Purpose

【Upland rice】

The decrease in seed production is concerned because of the delay in budget allocation and drought, while the Cameroonian budget covers production cost of FS and CS. It is not resolved and is not expected to be solved although the delay of budget allocation is discussed in JCC.

A decrease of the number of extension workers hinders active extension services for rice farmers. The small number of extension staff prevents them from visiting farmers when farmers need him/her. Lack of fuel and per diem, the extension staff are not motivated. As the extension staff does not go to the field, information about the field is not gathered timely.

Rain shortage due to Climate Change is hampering the rice cultivation on time, which discourage the farmers from continuing the production.

【Lowland rice】

The deteriorating security situation caused to narrow the target's target area from five sectors to three sectors. It also prevented the Japanese experts and even UNVDA staff from visiting the site, which hampered smooth implementation of the target activities.

4-5 Prospects to Achieve the Overall Goal

Overall Goal: Sales of irrigated rice and consumption amount of upland rice increased in PRODERIP areas.

(1) Indicator1: The amount of marketed irrigated rice of in UNVDA irrigation sectors is more than XX tons.

In 2018, UNVDA sold 3.9 tons of milled rice. It is expected to see an increase in 2019, although the total volume is still being compiled. Detailed data are difficult to obtain because of the movement ban due to the deteriorating security situation in the Northwest Region. In addition, farmer's sales volume across the irrigation sector is extremely difficult to measure, as it includes the purchases by non-UNVDA actors through local buyers. Such a situation is observed where the cash purchase of paddy by UNVDA is insufficient due to the lack of budget. This tendency will hamper the future achievement of the overall goal, that is, the sales of irrigated rice are increased in the project area.

(2) Indicator2: Annual consumption of self-grown upland rice increases to 45.5 kg/year in the target household

Based on the results of PRODERiP, upland rice is considered as the milled volume (= consumption). The amount of milled rice can be calculated from the yield of produced rice. Therefore, the baseline and target figures were calculated as follows.

- Baseline: amount of paddy rice produced (63 kg/farmer) x 62% yield = consumption (39 kg/farmer/year)
- Target figure: amount of paddy rice produced (70 kg/farmer) x 65% yield = consumption (45.5 kg/farmer/year)

As of November 2020, data on farmers' annual consumption is not yet collected. Means of verification, that is, extension worker's reports, should be reconsidered, as the yield of milled rice cannot be ascertained from the reports.

4-6 Prospects to Achieve the Super Goal

Super Goal: Rate of rice self-sufficiency is improved in Cameroon.

Indicator1: Rate of Rice self-sufficiency is more than XX%.

While MINADER aims to improve rice self-sufficiency, the self-sufficiency rate is not precisely calculated as there are imported and exported rice in Cameroon. However, according to FAOSTAT data (domestic production / (domestic production + total imports - total exports)), self-sufficiency has increased from 10.1% in 2008 to 25.8% in 2017.

4-7 Implementation Process

(1) Implementation of activities

Since its commencement, the project has implemented the activities generally as planned as indicated in PO. Some activities such as selecting and conducting training for good farmers/groups who have the potential to become seed farmers/groups in the future, and TOT for division supervisors/ extension workers and key farmers on upland rice, are not implemented in 2020 due to COVID-19. The project plans to implement these delayed activities after returning to Cameroon, prioritizing the activities that contribute to the development and sustainability of the rice sector in the future.

(2) Decision making and monitoring mechanism

1) Joint Coordination Committee (JCC) (once or twice/year)

JCC, as the highest decision-making mechanism for the project, chaired by the Minister of MINADER, held meetings 3 times since its commencement. In the JCC meeting, PRODERIP shared the progress and plan of activities for the following term.

2) Technical meeting

The Technical meeting has been held every two weeks among C/P of MINADER, UNVDA and the Japanese expert team. Since the security problem occurred in the Northwest Region, the C/P of UNVDA attend the meeting in Yaoundé. Even after the outbreak of COVID-19, the project Team continues the meeting remotely.

(2) Communication among the project personnel

The Team found that there has been close communication among stakeholders such as Japanese experts, officers at the headquarter of MINADER and UNVDA, officers at the target Regional Agriculture Offices, Division, and Sectoral Supervisors (SS) and extension workers of target areas in both upland and lowland rice production. At the same time, the Team identified that 3 Regional agriculture offices consider PRODERIP to involve them more in the project activities.

Chapter 5. Results of the evaluation

5-1 Relevance

The relevance of PRODERIP is evaluated as **High** based on the following factors:

(1) Relevance to the related policies of the Government of Cameroon

Rice has become an important crop due to its increasing demand. According to MINADER, there is a need to shift rice from import to export of rice and balanced trade, and the project is getting a policy support from the government. In these policy trends, since 2018, the Project to Support the Production of Quality Plant Material (PAPMAV-Q) has made rice seeds into a strategic crop to enter the portfolio of the plan. The second NRDS is under its revision and expected to be completed in 2021.

(2) Consistency with the ODA policies of the Government of Japan

The project is regarded as the core project of the Agricultural Promotion Program of the Country Assistant Policy of the Japanese Government to Cameroon. Further, the GoJ launched the second term of the CARD initiative in 2019, which aimed to double the rice production in Africa by 2030. Cameroon was placed as one of the first among CARD target countries. Therefore, the project is in line with the Official Development Assistance (ODA) policies of the GoJ.

(3) Relevance to the needs of the target beneficiaries

The objective of the project is in line with the needs of Cameroonian society from the officers of MINADER and UNVDA to farmers of upland and lowland rice in the field. MINADER and UNVDA have a strong aspiration to upland rice and lowland rice development to achieve the national goal, increasing self-sufficiency of rice.

The UNVDA's mandate is mainly to maintain plots and access roads, buy, mill and sell rice paddy, and supply production materials and equipment such as seeds and fertilizer. While UNVDA had never conducted cultivation-related training, it is able to conduct training together with the project at present.

Both lowland and upland rice farmers need to use high-quality seed, improve cultivation techniques to increase rice production. For the lowland rice farmers, the quality of rice is also important for sale to UNVDA. The project has met their needs in these aspects.

5-2 Effectiveness

The effectiveness of the project is evaluated as **Relatively High** based on the following factors:

(1) Achievement of the Project Purpose

As above stated, **the Project Purpose is unlikely to be achieved** by the project end in terms

of the target figures. The indicators regarding the quality of lowland rice will likely be achieved. The result of parameters to measure the production of lowland rice is also indicated as positive, even though the actual data of production has not been available due to security reasons. The taste and quality of rice will be improved at a satisfactory level.

There are various challenging factors to prevent the upland rice from increasing its production, such as disease that occurred in the seed production plots, a lack of C/P fund for production, and a decreased number of farmers who continuously cultivate upland rice. The project plans to investigate the good practices of successful upland farmers in every step of cultivation to identify and disseminate the model to other farmers.

(2) Logicality and contribution of Outputs to the achievement of PRODERIP Purpose

The logicality between PRODERIP Purpose and the Output is still valid at present.

(3) Analysis of factors

1) Contributing factors

In addition to the achievement of outputs, the Team identified contributing factors as follows:

② Upland rice

- The strong commitment of the MINADER is identified to promote upland rice in the course of rice self-sufficiency process stipulated in NRDS.
- Active participation of motivated extension workers is observed.
- Group farming is successfully practiced for protecting paddy from bird attacks.
- Farmers' preference for fresh and safe domestic rice for self-consumption encourages farmers to produce more rice.

③ Lowland rice

- Skills and knowledge of UNVDA staff in extension services are improved for farmers, as training was not included in the mandate of UNVDA before PRODERIP.
- Improved quality of rice by purification of seed, cultivation and post-harvest techniques

- ①＋②：Even under the influence of COVID-19, the project and the CP are in close contact with each other remotely using a variety of tools to ensure that project activities are carried out with as little delay as possible.

2) Hindering factors

① Upland rice

As stated above, the most serious obstacles for farmers to cultivate upland rice is bird attack, following heavy work of plowing, and damages by hedgehogs. Even though the project recommends farmers form a group to mitigate bird attacks and practice cultivation collaboratively, it is not easy for the farmers in some areas where there are different thoughts and attitudes among them.

The Team identified that the success of farmers depends largely on each extension workers' performance in target areas. Where they are very much active to disseminate new skills and knowledge on upland rice production and carefully monitor farmers' performance, the result of production is outstanding. However, not all the extension workers are not the same, and some farmers did not follow extension workers' advice on appropriate cultivation timing.

② Lowland rice

The security problem in the Northwest Region has affected the smooth implementation of the project since 2017. It has restricted the Japanese expert Team, and later even UNVDA staff from entering the target areas. In consequence, the project had to narrow the target areas from 5 sectors to 3 sectors. It was also difficult for farmers to go to their fields for daily work in cultivation and harvest of rice.

(4) Current situation of the Important Assumptions to achieve the Project Purpose by attaining the Outputs

1）Project areas are not seriously affected by natural disasters including droughts and floods.

【Not fulfilled】

A flood happens every October due to heavy rain in the area of UNVDA. Water flow in the upper stream is changed to prevent water from concentrating in field plots using sandbags. Brown spot outbroke and spread due to poor fertility of soil, which caused the low yield of seed production.

5-3 Efficiency

The efficiency of the project is evaluated as **Relatively High** based on the following factors:

(1) Achievement of Outputs

Out of 4 outputs, a part of output 1(production of CS for lowland rice), output3(productivity and quality improvement of lowland rice) and output4(post-harvest improvement of lowland rice) have been achieved, whereas the indicators for upland rice have not been achieved yet. The data for the indicator of purification of rice varieties (indicator 1-2) is not available at the time of Mid-term review, while DRCQ and SRCQ have found no problems.

(2) Japanese experts

Before the outbreak of COVID-19, the Japanese long-term and short-term experts were

dispatched as planned. After COVID-19, they keep close communication with C/P, providing appropriate suggestions and instructions for smooth implementation of project activities. Their roles and expertise were fully utilized for effective implementation of the project activities.

(3) Equipment and machineries

Most of the machines and equipment, vehicles, office equipment and machineries have been utilized at MINADER, the IRAD field, two seed production plots in South and East Regions, and plots in the Ndop field of UNVDA. Even though the security problem, the plots in Ndop are still utilized by UNVDA staff with remotely provided supports from the project.

The project monitors the usage of the diesel milling machines (SB-10) provided in 10 pilot sites by PRODERiP. Based on the monitoring result, the project provides advices to the milling operators in terms of milling technique, while there is a room to prove in management, such as keeping a record and reporting to the supervisor in an appropriate manner.

(4) Training

As shown in ANNEX 6, the project has provided a variety of training for officials, SS, Zonal Extension Agent (AVZ) of MINADER, MINEPIA, UNVDA, key/leader farmers, and general farmers in each pilot site in three target Regions and 3 sectors of UNVDA.

The Japanese experts and C/P have carefully elaborated on the training material 'The Guide for NERICA Production' and 'The Guide for Lowland Rice Production' based on the cultivation practices in the filed as well as some Japanese techniques. C/P takes part in developing contents and translating, and proof-reading French/English languages, which enhanced C/P's further understanding of upland and lowland rice cultivation.

(5) Inputs from Cameroonian side

The C/Ps were appointed as scheduled at its commencement. However, the post of the Deputy Project Manager has not been fulfilled either after the ex- Deputy Project Manager was transferred. MINADER has disbursed its budget for seed production since the season of 2017/2018.

Extension workers of UNVDA were appointed as planned, whereas the extension workers of MINADER has largely decreased since 2018 as the extension system has changed.

(6) Current situation of Important Assumptions to achieve the outputs by implementing project activities

1）The trained staffs and extension officers of MINADER and UNVDA continue engage in rice sector.
【Partially fulfilled】

While the number of extension workers has decreased as the vacancies are not be filled due

to a lack of budget, MINADER has tried to substitute the extension workers by empowering key farmers as well as allocate the staff of CEAC.

2) Means of transportation for extension officers are secured for their activities.

【Not fulfilled】

The transportation means is not problem for extension workers of UNVDA. However, worsening security in Northwest made it difficult for them to visit farmers' field to provide instructions and monitoring of farmers' performance. For the extension officers in three target Regions, the lack of fuel is discouraging their motivation to visit the farmers' field.

3) Damage by birds, pests nor diseases does not increase significantly.

【Partially fulfilled】

Bird attack has seriously damaged upland rice in some target areas[9]. Some staff were employed to mitigate the bird damage.

5-4 Impact

The impact of the project is evaluated as **High** based on the following factors:

(1) Prospect of achievement of the Overall Goal

As above stated, it is expected that UNVDA will increase its sale of milled rice in future considering the increasing lowland rice production. However, it is not easy to measure the precise amount of marketed lowland rice in entire UNVDA sectors, as there are a certain portion of rice to be legally and illegally exported to other countries through local buyers.

As for the sales of lowland paddy, farmers cannot fully sell the paddy to UNVDA, as it sometimes could not pay in cash, which farmers were in need for their payment for the expenses of family. This tendency will be affected for the future achievement of overall goal.

Considering the consumption volume is same as the production volume of upland rice, the Team identified that it is useful to check the annual paddy production recorded by extension workers, as well as the data at milling stations.

(2) Positive Impacts

Efforts are being made to achieve the overall goals, including dissemination by extension workers to non-target areas in three Regions.

The project contributes to Cameroon's policy of rice self-sufficiency and give a revision process for the NRDS II.

[9] The bird attack is not as serious in lowland rice areas and in Makenene and Batouri for upland rice.

The project is having a positive technological impact through the extensive cooperation on the Democratic Republic of the Congo, Republic of Congo, and Gabon by a periodical visit, and neighboring countries, such as Chad and Benin by an occasional visit. The project invites the government officers at Regional and field level who promote rice production from all five countries plus Burundi. This contributes to the CARD's goal to double the rice production in Sub-Sahara Africa. C/P also conducts rice cultivation training collaborating with UNDP in the Far North Region.

(3) Negative impacts

The Team did not identify any negative impact of the project.

(4) Current situation and prospect of Important Assumptions to achieve the Overall Goal by fulfilling the Project Purpose

1）Promotion of rice sector maintains its importance in the policies of Cameroon.

【Fulfilled】

The Cameroon's policy toward the achievement of rice self-sufficiency gives a strong support for the project.

2）International price of rice does not drop significantly.

【Fulfilled】

The Team identified that there is no significant drop in the international price of rice.

(5) Current situation and prospect of Important Assumptions to achieve the Super Goal by fulfilling the Overall Goal

1）Illegal export does not increase

【Precise situation is unknown】

It is reported that rice is illegally exported due to large demand of rice in domestic market and neighbourhood countries, particularly Nigeria and Chad. Small export companies illegally transport rice thorough by-paths by motorbike to avoid tariff. They sometimes transport small amount of rice to neighbourhood countries to store it[10]. During the Mid-term review survey, UNVDA's extension agent, key farmers informed that farmers are also selling some portion of paddy to local buyers.

2) Import tax on rice will remain effective

【Fulfilled】

[10] Source: Impact des Importations des produits alimentaires de grande consommation sur l'économie nationale en 2017, National Statistics Institute（INS）） 299 bags were illegally exported in 2018（Business in Cameroon, 14 November 2018）

The rate of the Common External Tariff (CET) has been re-established on some products, such as rice and cement. As such, the import of rice, which previously benefitted from the suspension of duties and taxes, is henceforth subject to the CET at the rate of 5%.

National Institute of Statistics of Cameroon (INS)[11] informs that Cameroon imported 728,443 tons of rice for a value of CFCF 183.7 billion in 2017. Despite the application of customs duties in this area since January 2016, these imports have increased by 18.6% in quantity and 27.9% in value compared to 2016.

3) Promotion of PPP policy is maintained in the future policy/strategy on rice sector development in Cameroon.

【Not known】

The Team identified that there is a need of high-quality rice seed of both upland and lowland rice, as the farmers gradually understand the importance of high-quality seed for the increase of production. While MINADER is requested by other Regions to provide PRODERIP made upland rice seed, which is a positive impact of the project, however, the scarcity of seed is becoming a challenge as well. The project considers they empower the good practicing farmers as seed farmers is not for selling the seed, but for dissemination of upland rice. UNVDA and SEMLY are the largest buyers of lowland rice paddy and seller to the market. PPP in rice sector is not much discussed at the time of Mid-term review.

5-5 Sustainability

The sustainability of PRODERIP is evaluated as **Relatively High** based on the following factors:

(1) Laws and Policies

MINADER is drafting the NRDS II, in which the rice production is targeted as one of the prioritized crops.

(2) Institutional and Financial Aspects

MINADER is producing rice seeds with its budget, which leads to the further increase of upland rice production in non-target Regions. Extension workers of MINADER is decreasing because of institutional reorganization of extension system as well as a lack of budget. The financial status of UNVDA is not satisfactory to cover the requirement of buying paddy from farmers.

(3) Ownership of Target Group

[11] Institut National de la Statistique du Cameroun

The ownership of MINADER is observed as significant from its initiative to expand upland rice seed distribution to non-pilot areas nationwide with its budget. UNVDA also has a strong ownership in conducting training for farmers by sharing the cost.

(4) Technical Aspect

All the stakeholders showed their willingness to maintain the rice cultivation, post-harvest techniques that they obtained from the project. MINADER and UNVDA officers appreciate their new skills of rice seed production. At the same time, they expressed their aspiration to learn more about post-harvest technique, which require more knowledges.

Chapter 6. Conclusion

The project has aimed to promote upland rice since PRODERiP commenced in 2011 and to improve the quality of paddy rice production that started with this project. The project's rice promotion has been supported by the GoC, which aims to improve self-sufficiency in rice, and the project has contributed to improve land preparation, cultivation, post-harvest handling, and rice milling technologies for both upland and lowland rice. The technologies which the project adapts meet the technical needs of MINADER, UNVDA, and other region, division, and extension workers.

The high-quality seeds produced by the project have been well received by rice farmers outside the project area, and the production volume has not been able to keep up with the demand. In addition, the technical exchange with neighboring countries through regional cooperation has provided a good technical and organizational stimulus for both parties involved.

The deteriorating security situation in the northwest in 2017, which has disrupted the Japanese experts from visiting to the field since 2018. The COVID-19 in 2020 has a significant impact on this project. With a much decrease in budget, farmers' farming operations were delayed, and the guidance of extension workers was also delayed, which will affect production in 2020. Despite this, Japanese experts are still supporting the project remotely from Japan, and the C/Ps and farmers have continued to plant and are beginning to harvest again this season. This indicates that the people involved in the project understand the importance of increasing the production of high-quality rice and that they are building the will to continue the project activities sustainably. However, due to delays in activities and lack of surveys, some indicators could not be measured. Therefore, the Team concludes that an extension of the project's duration is inevitable.

Chapter 7. Recommendation

7-1 Recommendations for all concerns

(1) Extension of project period

Due to COVID-19, Japanese experts have evacuated to Japan since March 2020. It causes delay of some project activities. In addition, the construction of milling plant including the procurement of a packing machine has been suspended. Since next phase is planned to launch from April 2022, it is recommended to extend the project period for 9 months until March 2022 to cover some delayed activities.

(2) Revision of PDM

The PDM has not been revised since the beginning of PRODERIP. Through the Mid-term review, the Team reviewed the current PDM and propose the revision version. The revised PDM is shown in ANNEX 7 to express the achievement of PRODERIP more precise. It is also expected that the target figure for the Overall Goal will be revised to measurable indicator.

7-2 Recommendations for MINADER and the Project

(1) Extraction of good practices

Some farmers abandon rice cultivation because of hard work, but others continuously cultivate rice. For further development of upland rice, the project has to identify these farmers and extract good practices for upland rice cultivation. In this case, the Project needs to monitor them rather than simply visiting farmers on a one-off basis.

(2) Seed production by farmers

Farmers now realize the importance of high quality seed and the demand of the seed which the Project produces is high. Consequently, the lack of high quality seed occurs. Thus, it is recommended to train good farmers that they can produce the high quality seeds by themselves and for community-based dissemination.

(3) Enhancement of group cultivation

Group cultivation is effective to combat bird damage. Thus, the Team recommends to bring together the elements of a functioning group and to conduct group enhancement training such as leadership training, accounting management training and so on.

(4) Tasting activities for new farmers

Many farmers said that the rice produced in their area is good taste and safe, and it is one of the motivations for them to grow rice. When the project approaches new farmers, it would be an

effective way to conduct tasting activities to introduce a good taste of rice. Currently, similar activities are carried out in big cities, but it should be done in other cities and even small villages.

(5) Regular monitoring on rice miller

Monthly reports of rice miller management from the extension workers are not always submitted in time. It is important to monitor rice miller on a regular basis for transparency and also encourage the extension workers to submit the reports in time.

7-3 Recommendations for UNVDA and the Project

(1) Improvement of financial sustainability

Lack of fund to buy rice from farmers is critical challenge for UNVDA. UNVDA must have financial sustainability to overcome it. The Team recommends setting precise grades of rice quality, and UNVDA buys rice from farmers at a higher price. In addition, UNVDA sells it at a higher price and gains profits from the trades. By improving the financial sustainability, more and more farmers will sell their rice to UNVDA.

(2) Improvement of quality check

There is still evaluation gap between UNVDA and Yaoundé. Some rice is passed by UNVDA's check, but it is not in Yaoundé. Since in the future, UNVDA has to be able to conduct quality check by its own, it is recommended to acquire the skills and knowledge to judge the grade of rice quality.

7-4 Recommendations for MINADER

(1) Securing C/P funds

PRODERIP is a technical cooperation project aiming at capacity development of C/P and is different from grant and loan projects. In the technical cooperation project, the C/P fund is very important to implement the project and MINADER has to cover some operational costs such as personnel expenses. Although the Project provides the necessary machineries for capacity development, the machineries for further development should be installed by MINADER. Furthermore, while MINADER secures the budget for seed production, the execution is late for planting. Timely budget execution, as well as securing budget is required.

(2) Appointment of Deputy Project Manager

The post of the deputy project manager is supposed to be fulfilled by the Chief of Agricultural Extension Service of DOPA or a person equivalent, but the post has been absent. It should be in place as soon as possible for the smooth implementation of project activities.

(3) Timely submission of monthly report

The Project gets a lot of information from the monthly reports to determine the nature and timing of cooperation. For effective and efficient management of project activities, MINADER should take an initiative to collect and submit the monthly reports in a timely and appropriate manner.

(4) Increase in seed production

Although the people in Cameroon are getting realized the importance of high quality seeds, a sufficient amount of it has not been produced. The Team recommends that the project and MINADER should organize challenges and consider solutions such as seed transportation, along with improving seed production capacity of key farmers.

Chapter 8. Lessons Learned

【Upland rice】

- Ten years have passed since the PRODERiP launched. Before the project, there were few people growing upland rice in central, eastern and southern regions, the PRODERiP first introduced upland rice cultivation in these regions. Considering the introduction of new corps, it takes more than 10 years to settle the new crops and technologies. New technical cooperation projects for promotion of new crops in other countries should be considered it and implemented with a long-term perspective.
- Most of farmers grow upland rice for self-consumption and they mentioned that the rice they grow is safe and good taste. The project has also promoted rice as subsistence crop. Yet, some famers sell their surplus and it additionally motivates them. Thus, for further development of upland rice the project needs to work on improvement of rice qualities to sell and in areas where it has been introduced to a certain extent, it is also a good idea to promote upland rice with sales in mind, so that farmers who have improved their skills can sell their surplus rice.

【Institutional Building】（For the next phase of PRODERIP）

- For further rice development, it is important that personnel in a centralized government obtain the knowledge and skills of rice cultivation. However, the personnel transfer sometimes disturb to pass them down the central government. Thus, technical manuals would be effective so that the technology is maintained even when these personnel are transferred.

  In addition, it is desirable to establish the specialized department for instance rice promotion department or conduct a national project that specializes in rice promotion in MINADER.

【Lowland rice】

- The improvement of the productivity of lowland rice was largely attributed to seed purification. Cooperation for lowland rice has commenced since this project decided to work on the seed purification at the beginning. According to experts, the seeds that farmers used before the project were hardly pure and it affected all processes of rice cultivation such as different maturity period and different height. Certainly, there were a lot of cultivation processes to improve, but the seed purification has brought great outcomes on lowland rice farmers. Although improving on the quality of seed is not easy and time-consuming, it is effective for the first step of the technical cooperation for increase in rice production.

(END)

ANNEXES:

Annex 1: Schedule of PRODERIP Mid-term review
Annex 2; Project Design Matrix (Version 1.0)
Annex 3: Plan of Operation (Version 1.0)
Annex 4: List of Equipment Provided
Annex 5: Counterparts' Participation in Training Overseas
Annex 6: List of Counterpart
Annex 7: Revision of PDM
Annex 8: Evaluation Grid

ANNEX 1

Schedule of the Mid-term Review

Day			Activities *West African Time (Japan +8hours)	Interviewees	Place	Tool
Nov	9	Mon				
	10	Tue	0930-1100 Kick-off Meeting/Courtesy call	Secretary General: Mme BAMBOT Grace Project Coordinator: MR.FOLEFACK TSOPKENG Emile UNVDA:Mr. Eric Akongnui Andangfung CARD: Mr. Ondoa Tobie Manga DEPC: MR MINDJOS MARTIN PAUL	JICA Cameroon Office	TV conference
	11	Wed	0800-0930 Interview to Technical Staff 0930-1100 Interview to Project Coordinator	Group Interview (All staff) MR.FOLEFACK TSOPKENG Emile	MINADER	Skype
	12	Thu	0800-0930 Interview to CARD forcal point	Mr. Ondoa Tobie Manga	JICA Cameroon Office	TEAMS
	13	Fri	0830-1000 DRCQ & DDA 1000-1130 Interview to DOPA	DRCQ: MR NYING CHARLES, DDA: MR FOUDAMA DOPA: MR KALGON PAGNA	JICA Cameroon Office	TEAMS
	14	Sat				
	15	Sun				
	16	Mon	0800-0900 Interview to GM in UNVDA 0900-1030 Interview to DAP & CPs in UNVDA	Mr. Eric Akongnui Andangfung Group Interview (Mr.Lemnsah Andrew, Yakum Ntaw Lilian, Mawo Mathias Lon, Rosemary NENGE, Nyingchuo Jerome)	JICA Cameroon Office	TEAMS
	17	Tue	0800-0900 Interview to Extension Workers in UNVDA① 0930-1100 Interview to Extension Workers in UNVDA②	Upper Bamunka: Fonteng Stanislaus Upper Bamunka: Yunji Ezekiel Lower Bamunka: Ngah Genesis Babungo : Galabe Magnus Samnitlube Bangolan: Wubenyi Daniel Monoun : Bawe Divine	JICA Cameroon Office	TEAMS
	18	Wed	0800-0900 Interview to key farmers in UNVDA① 0930-1100 Interview to key farmers in UNVDA②	Upper Bamunka-Ngweng : Gwe Lumumba Lower Bamunka-Munyam-1: Tiemunji Samuel Babungo-Babungo : Tisa Ignatius Upper Bamunka-Bamunka : Shu John Upper Bamunka-Bamunka : Mbuh Victorine Upper Bamunka-Ntenka : Yaneyubi Agnes	JICA Cameroon Office	TEAMS
	19	Thu	0900-1000 Interview to IRAD	Mr.Melie Feyem Marie Noël	JICA Cameroon Office	TEAMS
	20	Fri	0700-1100 Interview to Farmers in site①	Makenene- Makénéné Barriere: Mr TEGOFACK	Project site	Skype/WhatsApp
	21	Sat				
	22	Sun				
	23	Mon				
	24	Tue	0800-0900 Interview to AEP① 0900-1100 Interview to SS①	Group Interview to extension workers-1st season: Akono - Mfida : NGA MVOGO Sangmelima - AVEBE ESSE : MENDOMO SALOME Ebolowa 2 - MVAN-ESSAKOE: ASSOMO MARIE Group Interviwe to Délégués - 1st season: Akono : ANDELA AWONO, Sangmelima: KPWANG LUC, Ebolowa2 : MEKOU SUZEL	JICA Cameroon Office	TEAMS
	25	Wed	0800-0900 Interview to AEP② 0900-1100 Interview to SS②	Group Interview to extension workers - 2nd season: Lom et Djérem - Manjou - Adinkol: OLAMA Jean Louis, Batouri - Batouri Centre: NDABA Bell Jules Mauclair, Makenene - Nyngo: AWOUMOU ANSELME Group Interviwe to Délégués - 2nd season: Lom et Djérem: TCHOUA, Batouri : DANSO Golike, Makenene : NYEMB ILOGA ALBERT PIERRE	JICA Cameroon Office	TEAMS
	26	Thu	1000-1100 Interview to Délégués Régionale	Group Intervive o Délégués Régionale (3 Regions) Center: Ms. MINSO GISELE South : Mr. MESSI SIMON ALAIN East : Mr. NEK	JICA Cameroon Office	TEAMS
	27	Fri	0700-1100 Interview to Farmers in site②	Lom et Djérem-Bertoua I-Koumé/Bonis, Mr LONKENG	Project site	Skype/WhatsApp
	28	Sat				
	29	Sun				
	30	Mon	(All day) Drafting report			
DEC	1	Tue	13:30 Discussion with experts			TEAMS
	2	Wed	0900-1100 Discussion with CP	TBD		TEAMS
	3	Thu	(All day) Finalizing report and making presentation slides			
	4	Fri	1000-1100 Final report to MINADER/JICA Cameroon office	Secretary General: Mme BAMBOT Grace Project Coordinator: MR.FOLEFACK TSOPKENG Emile UNVDA:Mr. Eric Akongnui Andangfung CARD: Mr. Ondoa Tobie Manga DEPC: MR MINDJOS MARTIN PAUL	JICA Cameroon Office	TV conference

ANNEX 2

Project Design Matrix

Project Title : The Project for the Development of Irrigated and Rainfed Rice Cultivation (PRODERIP) **Version 1.0**
Implementing Agency : Ministry of Agriculture and Rural Development (MINADER) and Upper Nun Valley Development Authority (UNVDA) Dated 2018. 02. 28

Target Group : 15,000 Farming households in the Project Areas (3 Upland Regions 10,000/ Irrigation Sectors 5,000)

Beneficiaries: staff members/extension officers of MINADER and UNVDA, key/leader farmers and machine operators

Period of Project : 5 years from the despatch of the 1st Expert from Japan

Project Areas : The East, South, Centre Regions and UNVDA irrigation sectors.

Narrative Summary	Leading Entity	Objectively Verifiable Indicators	Baseline	Target Figure	Means of Verification	Important Assumption
Super Goal: Rate of rice self-sufficiency is improved in Cameroon.		Rate of Rice self sufficiency	-	more than XX%	Agricultural census	
Overall Goal: Sales of irrigated rice and consumption amount of upland rice are increased in the project areas		1. The amount of marketed irrigated rice ~~of~~ in UNVDA irrigation sectors.	-	1: more than XX tons	1. UNVDA Marketing Unit, Report of DRADER (Regional Delegation Agriculture and Rural Development) in North-West, Agrifood	・Illigal export does not increase ・Import tax on rice will remain effective.
		2. Annual consumption of self-grown upland rice increases in the targeted household.	2. 39 kg/ year	2: more than ~~XX~~ 45.5 kg/ year	2. ZEW (Zonal Extension Worker) report	・Promotion of PPP policy is maintained in the future policy/strategy on rice sector development in Cameroon.
Project Purpose: Production and quality of milled rice are improved in the project areas.		1. Rate of increase of amount of rice produced in the project areas	-	1: Irrigated rice more than 42 %, Upland rice more than 36 %	UNVDA Farm Statistics, PRODERIP report, ZEW/SS report (consolidated to DD report)	・Promotion of rice sector maintains its importance in the policies of Cameroon.
		2. Percentage of consumers who rate the taste of domestic rice as delicious ("OISHII")*1 increases.	2: 30.5 %	more than 50 %	3. Sample Survery 3 month before the end of Project	
		3. Rate of increase of whiteness of milled rice produced in UNVDA irrigattion sectors	3: 33	3: more than 38 ~~%~~	UNVDA Processing/Marketing Unit report, Sample survey	・International price of rice does not drop significantly.
		4. Different variety contamination rate of paddy produced in UNVDA irrigation sectors	4: 45 %	less than 10 %	UNVDA Processing/Marketing Unit report, Sample survey	
Outputs: 1. Production of high quality seeds of irrigated and upland rice varieties increased in the project areas.		1-1: The genetic purity of certified seed of target rice varieties, produced by the Project is maintained as established as the target in Rice Seed Strategy.	-	1-1: more than 99.8 %	Report from DRCQ Regional Chief of Service for Quality Control (UNVDA, Upland)	・Project areas are not seriously affected by natural disasters including droughts and floods.
		1-2: Certified seed production of target rice varieties in the project areas.	-	1-2: Lowland variety: more than 20 ton/ year (2018-) Upland variety: more than 60 ton (during the project period)	UNVDA seed multiplication farm (DAP) Upland, reports from regional seed multiplication farms. (submitted to Regional Office)	
2. The number of farmers who cultivate and consume upland rice increases in the project areas in the Centre, South and East Regions.		2-1: Rate of farmers cultivate upland rice two 2 times in 5 years in the monitoring areas.	2-1: 29.8 %	2-1: more than 35 %	PRODERIP Report (Survey report)	
		2-2: Out of farmers who recieved seed, ratio of farmers who repeat cultivation the following season with in-house produced seed	2-2: 16.6%	2-2: more than 20 %	PRODERIP Report (Survey report)	
3. Farmers' irrigated rice cultivation techniques are improved in the UNVDA irrigation sectors.		3-1: Average paddy yield per hector of trained farmers.	3.5 ton/ ha	more than 5.0 ton/ha	UNVDA Annual Reports	
4. Harvest, post-harvest processing are improved for marketing in the UNVDA irrigation sectors.		4-1. Broken rice rate of UNVDA marketed rice	45%	less than 30% (UNVDA)	UNVDA Processing/Marketing Unit report PRODERIP Report	
		4-2 Docakge (impurity) number of UNVDA marketed rice	Stone: 1 stone/ kg Paddy: 40 grains/ kg	stone: less than 1 stone/ 5kg, paddy: less than 20 grains/ kg (UNVDA)	UNVDA DAP, Processing/Market Unit report, Milling machine operator report PRODERIP Report (Project study)	

Activities	Inputs		
	The Japanese Side	The Cameroon Side	Important Assumption
1-1 Develop project strategy on rice seed production. 1-2 Produce irrigated rice variety seeds suitable for UNVDA irrigation sectors. 1-3 Establish seed production system of MINADER. 2-1 Develop project strategy to promote upland rice cultivation in the Centre, South and East Regions. 2-2 Conduct TOT on upland rice cultivation and post harvest processing in the Centre, South and East Regions. 2-3 Conduct extension of upland rice cultivation and post harvest processing techniques in the Centre, South and East Regions. 2-4 Monitor upland rice cultivation and post harvest processing practice by key farmers and general farmers. 2-5 Train and monitor operators and representatives of farmer associations/cooperatives on the operation and maintenance and management of post-harvest processing machinery. 3-1 Develop project strategy on irrigated rice cultivation in UNVDA irrigation sectors. 3-2 Conduct Training of Trainers (TOT) on irrigated rice cultivation in UNVDA irrigation sectors. 3-3 Conduct extension of irrigated rice cultivation techniques in UNVDA irrigation sectors. 3-4 Monitor irrigated rice cultivation practices by leader farmers and general farmers. 3-5 Introduce agricultural mechanization model in order to improve productivity of irrigated rice. 4-1 Conducting marketing survey (base line). 4-2 Conduct trainings and monitoring of farmers' on timely harvesting and post-harvest processing of selected rice varieties. 4-3 Improve capacity of UNVDA on post-harvest processing and marketing.	(1) Experts: Long or Short Term Experts in the follwoing expertise (One expert will cover multiple expertise) -Chief Advisor -Rice Sector Policy -Seed Production -Rice Cultivation -Farm Management -Extension -Monitoring -Project Coordination -Training -Rice Mill Operation and Management -Post-harvest -Agricultural Machinery -Marketing -Variety Purification and Selection -Seed Inspection and Certification -Civil Engineering -Construction Supervisor etc... (2)Training: ・Provision of training course in Japan or in the third countries. (3) Equipment: Machinery, equipment, vehicle, and other extension materials necessary for the effective implementation of the Project within budgetary limitations. (4) Local Cost :	(1) Administrative personnel and counterparts: 1) Project Supervisor Director, DEPC, MINADER 2) Project Manager Chief, Unit of Prospective Analysis and Agricultural Policies, DEPC, MINADER or a person equivalent, MINADER 3) Deputy Project Manager Director, Department of Agricultural Production, UNVDA Chief, Agricultural Extension Service / National Agricultural Extension and Resarch Programme, DOPA, MINADER or a person equivalent, MINADER (2) Counterpart personnel: ・Relevant agricultural officers in the Project areas (3) Facilities: ・Land, rooms or office space and necessary facilities in MINADER and UNVDA for the Japanese experts and related staff embers. ・Rooms and space necessary for installation and storage of the equipment. ・Other facilities mutually agreed upon as necessary. (4) Local costs ・Necessary expenditure for counterparts. ・Water and electricity charges necessary for operation and maintenance of the facilities. (5) Tax exemption measure (6) Support relating to import of equipment	・The trained staffs and extension officers of MINADER and UNVDA continue engage in rice sector. ・Means of transportation for extension officers are secured for their activities. ・Damage by birds, pests nor diseases does not increase significantly. **Pre-Conditions** ・The Cameroon policy on rice development is not changed. ・Machinaries and equipment used for PRODERIP are available. **<Issues and countermeasures>**

*1 "OISHII" is a Japanese word for "delicious". At the begening of the project consumer preferences on rice will be determined by surveys.
*2 After 1 years, xxx of measures taken to meet consumer preference.
自家採種 : in-house seed production (home seed-raising)
異品種混入率 : different variety contamination rate
異物 : dockage(impurity)

Plan of Operations

Project Monitoring Sheet II (Revision of Plan of Operation) — **Version 1** — **Dated 31 March, 2018**

Project Title:

Inputs	Plan / Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	2019 II	2019 III	2019 IV	2020 I	2020 II	2020 III	2020 IV	2021 I	2021 II	2021 III	2021 IV	2022 I	2022 II	2022 III	2022 IV	2023 I	2023 II	2023 III	2023 IV	2024 I	2024 II	2024 III	2024 IV	2025 I	2025 II	2025 III	2025 IV	Remarks	Monitoring: Issue	Monitoring: Solution
Expert																																											
Chief Advisor/ Rice Sector Policy	Plan																																								Evacuation and Work in Japan from March 2020	Pandemic of Covid 19	wait
	Actual																																										
Seed Production/ Rice Cultivation	Plan																																								Evacuation and Work in Japan from March 2020	Pandemic of Covid 19	wait
	Actual																																										
Training/ Rice Mill Operation and Management	Plan																																								Evacuation and Work in Japan from March 2020	Pandemic of Covid 19	wait
	Actual																																										
Extension/ Farm Management	Plan																																								Evacuation and Work in Japan from March 2020	Pandemic of Covid 19	wait
	Actual																																										
Project Coordination/ Monitoring	Plan																																								Evacuation and Work in Japan from March 2020	Pandemic of Covid 19	wait
	Actual																																										
- Short term -																																											
Agricultural Machine/ Post Harvest	Plan																																								Suspended	Pandemic of Covid 19	wait
	Actual																																										
Variety purification and selection	Plan																																								Suspended	Pandemic of Covid 19	wait
	Actual																																										
Seed inspection and certification method	Plan																																								Suspended	Pandemic of Covid 19	wait
	Actual																																										
Marketing	Plan																																								Delayed	Timing of input	
	Actual																																										
Irrigation and drainage planning/ Plot designing	Plan																																								Suspended	Security problems	None
	Actual																																										
Civil works supervision	Plan																																								Suspended	Security problems	None
	Actual																																										
Other Expert as necessary																																											
	Plan																																										
	Actual																																										
Equipment																																											
2 Vehicles (4 x 4 with winch)	Plan																																								Delayed	procedure	done
	Actual																																										
1 Pick up (4x4 with winch)	Plan																																								Delayed	procedure	done
	Actual																																										
Weather observation unit	Plan																																										
	Actual																																										
Tractor	Plan																																								arrived	security problems	wait or use in Yaounde
	Actual																																										
Rice processing unit	Plan																																								arrived	security problems	will be installed at Yaounde
	Actual																																										
Transplanter	Plan																																								impossible	Mekers don't sell	cancelled
	Actual																																									
Combaine harvester	Plan																																								impossible	security problems	cancelled
	Actual																																										
Office equipment	Plan																																										
	Actual																																										
Other equipment as necessary	Plan																																										
	Actual																																										
Training in Japan																																											
Rice Sector Policy	Plan																																										
	Actual																																										
In-country/Third country Training																																											
Rice Cultivation (Technical Exchange program)	Plan																																								will be cancelled	Pandemic of Covid 19	
	Actual																																										

Output 3: Farmers' irrigated rice cultivation techniques are improved in the UNVDA irrigation sectors.					
3.1 Develop project strategy on irrigated rice cultivation in UNVDA irrigation sectors.					
3-1-1 Conduct a base line survey on irrigated rice cultivation in the UNVDA sectors.	Plan Actual		Done	4	
3.2 Conduct Training of Trainers (TOT) on irrigated rice cultivation in UNVDA irrigation sectors.					
3-2-1 Develop a TOT plan for irrigated rice cultivation	Plan Actual		On-going and revise	3	continue
3-2-2 Develop a technical manual on irrigated rice cultivation including in-house seed production.	Plan Actual		On-going	Under development (collect information)	continue
3-2-3 Conduct trainings to UNVDA extension agents and leader farmers to strengthen technical capabilities of irrigated rice cultivation.	Plan Actual		On-going but suspended from March 2020	3	continue
3.3 Conduct extension of irrigated rice cultivation techniques in UNVDA irrigation sectors.					
3-3-1 Conduct trainings for general farmers by extension officers and leader farmers in the pilot sites	Plan Actual		just started by UNVDA	1	continue
3.4 Monitor irrigated rice cultivation practices by leader farmers and general farmers.					
3-4-1 Extension workers monitor rice cultivation by leader and general farmers	Plan Actual		Suspended	2	security problems
3.5 Introduce agricultural mechanization model in order to improve productivity of irrigated rice.					
3-5-1 Conduct trainings on operation and maintainance of agricultural machineries introduced to seed production plot of UNVDA.	Plan Actual		not started yet	1	not installed yet because of security problems
Output 4: Harvest, post-harvest processing are improved for marketing in the UNVDA irrigation sectors.					
4.1 Conducting marketing survey (base line). (for UNVDA)					
4-1-1 Develop a plan of marketing survey (UNVDA).	Plan Actual		On-going but suspended from March 2020	Under development (collect information)	Pandemic of Covid 19
4-1-2 Conduct survey.	Plan Actual		1st & 2nd surveys were done at PROMOTE		continue/ Pandemic of Covid 19
4-1-3 Present result of survey to the Project implementation unit.	Plan Actual		The results were shered		continue
4.2 Conduct trainings and monitoring of farmers' on timely harvesting and post-harvest processing of selected rice varieties.					
4-2-1 Identify appropriate harvest timings of selected rice varieties in each target region.	Plan Actual		Under observation	3	Continue data collection and accumulation
4-2-2 Identify appropriate post-harvest processing techniques.	Plan Actual		Under observation and consideration the techniques	3	Continue data collection and accumulation
4-2-3 Introduce equipment and tools as necessary	Plan Actual		They have arrived but not installed yet.	2	
4-2-4 Train extension officers, key/leader farmers and general farmers on the timely harvesting and post-harvest processing.	Plan Actual		On-going but suspended from March 2020		for mainly extension staff and leader farmers
4.3 Improve capacity of UNVDA on post-harvest processing and marketing.					
4-3-1 Improve procedure of paddy purchase practices of UNVDA	Plan Actual		Identifed paddy collection point & persons	3	continue
4-3-2 Identify issues and take measures to improve paddy strage capacity of UNVDA.	Plan Actual		Under consideration measure Temp & humid	under observation & discussion	continue
4-3-3 Train and monitor operators on the operation and mainenance and management of post-harvest processing machineries.	Plan Mini		Suspended		security problems

Activities / Sub-Activities	Plan / Actual	2016 I	2016 II	2016 III	2016 IV	2017 I	2017 II	2017 III	2017 IV	2018 I	2018 II	2018 III	2018 IV	2019 I	2019 II	2019 III	2019 IV	2020 I	2020 II	2020 III	2020 IV	2021 I	2021 II	2021 III	2021 IV	2022 I	2022 II	2022 III	2022 IV	2023 I	2023 II	2023 III	2023 IV	2024 I	2024 II	2024 III	2024 IV	2025 I	2025 II	2025 III	2025 IV	Remarks	Achievements	Issue & Countermeasures
Output 1: Production of high quality seeds of irrigated and upland rice varieties increased in the project areas.																																											
1-1 Develop project strategy on rice seed production.																																										
1-1-1 Conduct a base line survey on rice seed production in the project area.	Plan																																								Done	4	
	Actual																																										
1-1-2 Select target rice varieties for enhancing seed production (UNVDA).	Plan																																								1st series are released. Done & continue	4	2nd series are being selected by UNVDA CP
	Actual																																										
1-1-3 Develop a technical manual on rice seed production following certification/ quality control procedure (National).	Plan																																								Checking drafted Maual in Jaanese	On-going	
	Actual																																										
1.2 Produce irrigated rice variety seeds suitable for UNVDA irrigation sectors.																																										
1-2-1 Formulate UNVDA's seed production plan of irrigated rice varieties	Plan																																									On-going	Depend on extending varieties to farmers
	Actual																																										
1-2-2 Improve UNVDA seed production plot.	Plan																																								Suspended	1	security problems
	Actual																																										
1-2-3 Conduct training for UNVDA officers on production of Foundation Seed, Registered Seed and Certified Seed.	Plan																																								On-going	On-going	Continue
	Actual																																									
1-2-4 Conduct training for seed producing farmers on seed production	Plan																																								not started yet	1	not identified yet the best farmers
	Actual																																									
1.3 Establish seed production system of MINADER.																																										
1-3-1 Develop MINADERs a seed production plan of upland rice cultivation in the Center, South and East Regions.	Plan																																								On-going (Basic plan was developed at the end of phase I)	2	Refrected to National Seed Development Strategy
	Actual																																									
1-3-2 Improve the seed production farms of MINADER used for project activities.	Plan																																								not necessary		
	Actual																																									
1-3-3 Produce Foundation, Registered and Certified Seed in MINADER.	Plan																																								On-going	2	Budgetary problem demande Budget
	Actual																																									
1-3-4 Conduct training for MINADER officers on seed inspection and certification.	Plan																																								not started yet		
	Actual																																									
1-3-5 Conduct training for seed producers on seed production	Plan																																								not started yet		Under identifying target farmers & groups
	Actual																																									
Output 2:The number of farmers who cultivate and consume upland rice increases in the project areas in the Centre, South and East Regions.																																										
2.1 Develop project strategy to promote upland rice cultivation in the Centre, South and East Regions.																																										
2-1-1 Conduct a baseline survey on upland rice cultivation in the Center, South, and East Regions.	Plan																																								Done	4	
	Actual																																										
2-1-2 Conduct a preference survey on preferences on the taste of and rice cultivation in the Center, South, and East Regions.	Plan																																									Deleted	
	Actual																																										
2-1-2 Determine the pilot sites in the Center, South, and East Regions	Plan																																								Done	4	Sites to be changed accoriding to situation
	Actual																																										
2-1-3 Revise the "Guide for NERICA Cultivation" developed by PRODERiP as necessary	Plan																																								Still Under consideration		
	Actual																																										
2-1-4 Determine the contents of technology transfer and key issues in each pilot site.	Plan																																								On-going	3	Group work
	Actual																																										
2.2 Conduct TOT on upland rice cultivation and post harvest processing in the Centre, South and East Regions.																																										
2-2-1 Conduct TOT for SS/AVZ and key farmers on upland rice cultivation and post harvest processing.	Plan																																								On-going but suspended from March to October in 2020	3	continue
	Actual																																										
2.3 Conduct extension of upland rice cultivation and post harvest processing techniques in the Centre, South and East Regions.																																										
2-3-1 Conduct training for general farmers by extension officers and key farmers in the pilot sites	Plan																																								On-going	3	continue
	Actual																																										
2.4 Monitor upland rice cultivation and post harvest processing practice by key farmers and general farmers.																																										
2-4-1 Monitor rice cultivation and post harvest processing practice by extension officers and key farmers.	Plan																																								On-going	3	continue
	Actual																																										
2.5 Train and monitor operators and representatives of farmer associations/cooperatives on the operation and maintenance and management of post-harvest processing machineries.																																										
2-5-1 Train operators and representatives of farmer association/ cooperatives on the operation, maintenace, and management of post-harvest processing machineries.	Plan																																								On-going when short term expert comes	3	continue
	Actual																																										
2-5-2 Monitor by MINADER staff (SS/ Delegate) on use of equipment, skills and management of operators/associatioms/cooperatives for upland areas.	Plan																																								On-going and regular communication	3	continue
	Actual																																										

Duration / Phasing	Plan / Actual	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025			
	Plan													
	Actual													

Monitoring Plan	Plan / Actual	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Remarks	Issue	Solution
Monitoring														
Joint Coordinating Committee	Plan											once par year/ 4th JCC has not been doen yet	Budget problems Pandemic of Covid 19	wait
	Actual													
Set-up the Detailed Plan of Operation	Plan											Done		
	Actual													
Submission of Monitoring Sheet	Plan											Delayed		
	Actual													
Monitoring Mission from Japan	Plan													
	Actual													
Joint Monitoring	Plan													
	Actual													
Post Monitoring	Plan													
	Actual													
Reports/Documents														
	Plan													
	Actual													
Project Completion Report	Plan													
	Actual													
Public Relations														
Participation in PROMOTE (Salon International de l'Enterprise de la Pl	Plan											Postponed to April		
	Actual													
Participation in Mini-comice Agricole (Center, South, East, and North-	Plan													
	Actual													
Publication of News letter	Plan													
	Actual													
Presentation at scientific meeting / Publication to academic society	Plan													
	Actual													
Publication of FaceBook on project activities	Plan													
	Actual													

ANNEX 4

List of Provided Equipment

Item	Purchase date	Price(FCFA/JPY)	Name of currency	Place installed	Purpose of purchase	Current frequency of use	Price(JPY)
Platform scale	2016/7/29	77,490	FCFA	IRAD Warehouse	to weigh	Sometimes	450,000
Rice whiteness analyzer	2016/12/13	333,720	JPY	UNVDA	to analyze whiteness of rice	Often	333,720
Instrument shelter	2016/12/13	101,520	JPY	UNVDA	to shelter thermometer and rain gauses	Installed	101,520
Set of rain gauses	2017/1/13	91,800	JPY	UNVDA	to measure quantity of rainfall	Installed	91,800
Vehicle of PRODERIP	2017/3/30	5,817,839	FCFA	MINADER	to travel and transport	Often	32,201,467
Desktop PC	2016/12/8	89,131	FCFA	Office room (C/P)	to collect and organize data	Often	490,000
Scales	2017/1/10	84,182	FCFA	Ebolowa	to weigh	Often	450,000
Scales	2017/1/10	84,182	FCFA	Batouri	to weigh	Often	450,000
Scales	2017/1/10	84,182	FCFA	UNVDA	to weigh	Often	450,000
Desktop PC	2017/2/27	92,032	FCFA	UNVDA	to collect and organize data	Often	490,000
Video Projector	2017/9/11	53,946	FCFA	UNVDA	to make presentation on training	Sometimes	300,000
Testing rice huller	2017/9/19	912,600	JPY	IRAD field	to check hulling and bronw rice	Often	912,600
Tipping bucket rain gauge	2017/9/19	138,564	JPY	IRAD field	to measure quantity of rainfall	Installed	138,564
Harvest monitor	2017/10/2	57,499	JPY	IRAD field	to count growing degree days (GDD)	Used in ripened stage	57,499
Harvest monitor	2017/10/2	57,499	JPY	IRAD field	to count growing degree days (GDD)	Used in ripened stage	57,499
Digital scales	2017/10/2	152,841	JPY	IRAD field	to weigh	Sometimes	152,841
Testing rice mill	2017/10/2	162,129	JPY	IRAD field	to mill rice	Often	162,129
Video Projector	2017/9/11	53,946	FCFA	Office room	to make presentation on training	Often	300,000
Desktop PC	2017/11/21	75,044	FCFA	Office room (C/P)	to collect and organize data	Often	400,000
Three wheel motor cycle	2018/1/17	242,983	FCFA	IRAD Warehouse	to transport equipment and machineries fr	Often	1,300,000
Laser printer	2018/1/12	1,401,825	FCFA	Office room (C/P)	to print and copy	Often	7,500,000
40-foot Container	2018/11/27	63,018	FCFA	IRAD Warehouse	to use as warehouse	Often	322,459
Video Projector	2019/2/26	16,368	FCFA	Office room	to make presentation on training	Often	85,824
Tiller	2018/12/27	725,580	JPY	Container	to till fields	Not used	725,580
Instrument shelter	2018/12/27	109,400	JPY	Container	to shelter thermometer and rain gauses	Not used	109,400
Rice thresher	2018/12/27	715,780	JPY	Container	to thresher rice	Not used	715,780
Tractor	2018/12/27	3,067,200	JPY	IRAD Warehouse	to till fiels	Not used	3,067,200
Rice mill	2018/12/27	4,140,350	JPY	Container	to mill rice	Not used	4,140,350
Pickup truck	2018/10/29	803,650	FCFA	MINADER	to travel and transport	Often	3,988,339
Project car (4WD, SUV)	2019/1/8	1,213,858	FCFA	MINADER	to travel and transport	Often	6,293,986
①Subtotal FCFA		10,253,676					55,472,075
②Subtotal FCFA converted to JPY		55,472,075					10,766,482
③Subtotla JPY		10,766,482					66,238,557
Total JPY (②+③)		66,238,557					

ANNEX 5

Counterparts' Participation in Training Overseas (include Third Country Training Program)

Name	Position at that time	Current Position, Date of turnover	Period of Participation	Field/Name of the Course	Content	Implementing Institution
Jisle Nwoibo Tetha	Chief of Seed multiplication farm, BATOURI	Chief of Seed multiplication farm, BATOURI	August 12th, 2017 to September 30th, 2017	Post-Harvest Rice Processing for African Countries	Post-Harvest Rice Processing	JICA Tohoku & Yamagata Univ.
Folefack Tsopkeng Emile	Deputy coordinator	Coordinator	August 12th, 2017 to September 30th, 2017	Post-Harvest Rice Processing for African Countries	Post-Harvest Rice Processing	JICA Tohoku & Yamagata Univ.
Essono Nkoto Rodrigue Thomas	Technical staff	Technical staff	Jun 2nd, 2017 to Aug 9th, 2017		Rice production	JICA Thailand & Kasetsart University
Rose Marry Nenge	Chief of sector in Babungo	Chief of service for technical assistant	July 2nd, 2017 to August 9th, 2017	Participatory irrigation management system for paddies	Participatory irrigation management	JICA Sapporo
Essono Nkoto Rodrigue Thomas	Technical staff	Technical staff	Nov. 4th, 2019 to Dec. 21st, 2019	Promotion of Agricultural Mechanization for Africa	Strategy of Mechanization	IPFAD & JICA Tsukuba
Melie Feyem Marie Noël	Coordinator of Annual Crop	Coordinator of Annual Crop	Jun. 27th, 2019 to Aug. 10th 2019	Development of Core Agricultural Researcher for Promotion of Rice Production in Sub-Sahara Africa	Research work	JICA Nagoyo & Miyazaki University

Participants in the invitation program to Japan in 2019

	Name	Title
Mr.	KALGON PAGNA	DEPC, MINADER
Mr.	Fidèle Magloire VUNDI	Coordinator PRODERIP
Mr.	FISSOU KOUMA	DG SEMRY
Mr.	Eugène Ejolle EHABE	Director Scientific Research IRAD

ANNEX 6

List of Counterparts

Institution	Name, Position	Area of Specialty	Assigned Period	Name of Expert in Charge	Employment Period in the Institution		Remarks: e.g. level of involvement in project
					From	To	
MINADER	M. MVONDO NNA Patrick Secrétaire Général	Agricultural Economy	2016.06.26～now	SOKEI Yoshimi	1994	Up to now	Supervisor (often)
	VUNDI Fidèle Magloire Project coordinator	Seed multiplication	2016.06.26～now	SOKEI Yoshimi Fujioka Mihoko, SAKAI Masayoshi KURIHARA Kazutoshi	1989	Up to now	Coordinator (Full time)
	FOLEFACK TSOPKENG Emile (Deputy Project coordinator)	Assistant Agricultural Engineer	2016.06.26～now	SOKEI Yoshimi Fujioka Mihoko, SAKAI Masayoshi KURIHARA Kazutoshi Sugimoto Akira Yoshii Kenichiros	1994	Up to now	Deputy coordinator (Full time)
	Edang NOA Yves (Technical staff)	Crop production Follow-up Evaluation	2016.06.26～now	SOKEI Yoshimi Kurihara Kazutoshi Sakai Masayooshi	2011	Up to now	Technical staff (Full time)
	LANYUY MUNTANGHE Mirabel (Technical staff)	Agricultural Extension, rural sociology, Rice production, Post-harvest	2016.06.26～now	SOKEI Yoshimi Kurihara Kazutoshi SHIINA Suguru Sugimoto Akira Yoshii Kenichiro Sasage Teruhiko	2011	Up to now	Technical staff (Full time)
	KEPSU TATCHAGO Prisca Yollande (Technical staff)	Agricultural Extension, rural sociology, Rice production,	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi SHIINA Suguru SUGIMOTO Akira YOSHII Kenichiro SASAGE Teruhiko	20111	Up to now	Technical staff (Full time)
	ESSONO NKOTO	Post-harvest	2016.06.26～now	SOKEI Yoshimi	2009	Up to now	Technical staff

	Rodrigue Thomas	Mechanization		SASAGE Teruhiko KURIHARA Kazutoshi SUGIMOTO Akira YOSHII Kenichiro			(Full time)
	AWONO AWONO Bienvenu (Technical staff)	Seed Multiplication	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi SASAGE Teruhiko SAKAI Masayoshi	2010	Up to now	Technical staff (Full time)
UNVDA	Chin Richard	General Manager UNVDA	2016.06.26 ～ 2017.02	SOKEI Yoshimi	2011.09	2017	General Manager UNVDA
	Eric Andangfung	Economy	2017.02～now	SOKEI Yoshimi	2017	Up to now	General Manager UNVDA (Often)
	Waindim Francis (Director of Rural engineering)	Rural Engineer	2016.06.26～now	SOKEI Yoshimi Fujioka Mihoko SAKAI Masayoshi		Up to now	sometimes
	Lemnsah Andrew (Director of Agricultural Production)	Agronomy Bio-resource	2016.06.26～now	SOKEI Yoshimi KURIARA Kazutoshi SHIINA Suguru KASUYA Masahiro	2012.05	Up to now	often
	Chi Henry (Director of Marketing)		2016.06.26～now	SOKEI Yoshimi SASAGE Teruhiko KASUYA Masahiro	2012.05	Up to now	often
	Matias Mawo (Chief of service training)	Agronomy Extension	2016.06.26～now	SOKEI Yoshimi SHIINA Suguru SUGIMOTO Akira Kurihara Kazutoshi	2012.05	Up to now	often
	YAKAM NTAW Lilian Chief of service for Research & Development)	Agronomy	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi SASAGE Teruhiko KASUYA Masahiro	2012.05	Up to now	Technical staff (Almost Full time)
	Brillant Sisang (Seed Farm	Seed multiplication Agricultural	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi	2013.02	Up to now	Technical staff (almost Full time)

	Management)	Economy		SASAGE Teruhiko KASUYA Masahiro			
	NYINCHUO Jerome (Field Staff)	Agricultural Technician	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi SASAGE Teruhiko KASUYA Masahiro	2013.02	Up to now	Technical staff (almost Full time)
	Rose Marry Nenge (Chief of service for technical assistant)	Agricultural Technician Extension	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi SASAGE Teruhiko KASUYA Masahiro	2012.01	Up to now	Technical staff (Almost Full time)
IRAD	Melie Feyem Marie Noël (Researcher)	Agronomy & plant protection	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi	2011	Up to now	CP of IRAD (Part time)
MINADER	JISLE Nwoibo Tetha (Chief of Batouri seed production farm) Batouri	Agronomy	2016.06.26～now	SOKEI Yoshimi KURIHARA Kazutoshi	2010	Up to now	CP at Seed production farm

ANNEX7

Recommended PDM (DRAFT)

Project Design Matrix

Project Title : The Project for the Development of Irrigated and Rainfed Rice Cultivation (PRODERIP)
Implementing Agency : Ministry of Agriculture and Rural Development (MINADER) and Upper Nun Valley Development Authority (UNVDA)

Version 2.0
Dated 2020.12.04

Target Group : 13,000 Farming households in the Project Areas (3 Upland Regions 10,000/ Irrigation Sectors 3,000)

Beneficiaries: staff members/extension officers of MINADER and UNVDA, key/leader farmers and machine operators

Period of Project : 5 years from the dispatch of the 1st Expert from Japan + 9 months (until March, 2022)
Project Areas : The East, South, Centre Regions and UNVDA irrigation sectors.

Narrative Summary	Leading Entity	Objectively Verifiable Indicators	Baseline	Target Figure	Means of Verification	Important Assumption
Super Goal: Rate of rice self-sufficiency is improved in Cameroon.		Rate of Rice self sufficiency	37%	0 ~~more than XX tons~~ XX%	~~Agricultural census~~ , FAOSTAT	
Overall Goal: Sales of irrigated rice and consumption amount of upland rice are increased in the project areas		1. The sales of marketed irrigated rice in UNVDA irrigation sectors.	200million Fcfa	~~1. more than XX tons~~ XX Fcaf by 2025	1. UNVDA Marketing Unit, Report of DRADER (Regional Delegation Agriculture and Rural Development) in North-West, Agrifood	・Illegal export does not increase ・Import tax on rice will remain effective.
		2. Annual consumption of self-grown upland rice increases in the targeted household.	2. 39 kg/ year	2: more than 42 kg/year	2. AEP (Extension Worker) report(paddy production), Data of milling	・Promotion of PPP policy is maintained in the future policy/strategy on rice sector development in Cameroon.
Project Purpose: Production and quality of milled rice are improved in the project areas.		1. ~~Rate of increase of~~ Amount of rice produced in the project areas	1-1: – 1-2:–	1-1: ~~Irrigated rice more than 42 %,~~ 4,500t 1-2: ~~Upland rice more than 36 %~~ XXXt	1-1:UNVDA Farm Statistics (sample survey of paddy sales to UNDVA) 1-2:AEP/SS report (consolidated to DD report) 1-1 & 1-2: Project report	・Promotion of rice sector maintains its importance in the policies of Cameroon.
		2. Percentage of consumers who rate the taste of domestic rice as delicious ("OISHI")*1 increases.	2: 30.5 %	more than 50 %	3. Sample Survey 3 month before the end of Project	・International price of rice does not drop significantly.
		3. Rate of increase of whiteness of milled rice produced in UNVDA irrigation sectors	3: 33	3: more than 38	UNVDA Processing/Marketing Unit report, Sample survey	
		4. Different variety contamination rate of paddy produced in UNVDA irrigation sectors	4: 45 %	less than 10 %	UNVDA Processing/Marketing Unit report, Sample survey	farmers and front line staff are trained and continue to use improved seeds
Outputs: 1. Production of high quality seeds of irrigated and upland rice varieties increased in the project areas.		1-1: The genetic purity of certified seed of target rice varieties, produced by the Project is maintained as established as the target in Rice Seed Strategy.	-	1-1: more than 99.8 %	Report from DRCQ Regional Chief of Service for Quality Control (UNVDA, Upland)	・Project areas are not seriously affected by natural disasters including droughts and floods.
		1-2: Certified seed production of target rice varieties in the project areas.	-	1-2: Lowland variety: more than 20 ton/ year (every year from 2018) Upland variety: more than 60 ton (during the project period)	1-2. Lowland: UNVDA seed multiplication farm (DAP) Upland: reports from regional seed multiplication farms. (submitted to Regional Office)	
2. The number of farmers who cultivate and consume upland rice increases in the project areas in the Centre, South and East Regions.		2-1: Rate of farmers cultivate upland rice ~~two 2 time~~ more than twice in 5 years in the monitoring areas.	2-1: 29.8 %	2-1: more than 35 %	PRODERIP Report (Survey report)	
		2-2: Out of farmers who received seed, ratio of farmers who repeat cultivation the following season with in-house produced seed	2-2: 16.6%	2-2: more than 20 %	PRODERIP Report (Survey report)	
3. Farmers' irrigated rice cultivation techniques are improved in the UNVDA irrigation sectors.		3-1: Average paddy yield per ~~hector~~ hectare of trained farmers.	3.5 ton/ ha	more than 5.0 ton/ha	UNVDA Annual Reports	
4. Harvest, post-harvest processing are improved for marketing in the UNVDA irrigation sectors.		4-1. Broken rice rate of UNVDA marketed rice	45%	less than 30% (UNVDA)	UNVDA Processing/Marketing Unit report PRODERIP Report	
		4-2 Dockage (impurity) ~~rate~~ number of UNVDA marketed rice	Stone: 1 stone/ kg Paddy: 40 grains/ kg	stone: less than 1 stone/ 5kg, paddy: less than 20 grains/ kg	UNVDA DAP, Processing/Market Unit report, Milling machine operator report PRODERIP Report (Project study)	

Activities		Inputs: The Japanese Side	Inputs: The Cameroon Side	Important Assumption
1-1 Develop project strategy on rice seed production.		(1) Experts: Long or Short Term Experts in the following expertise (One expert will cover multiple expertise) -Chief Advisor -Rice Sector Policy -Seed Production -Rice Cultivation -Farm Management -Extension -Monitoring -Project Coordination -Training -Rice Mill Operation and Management -Post-harvest -Agricultural Machinery -Marketing -Variety Purification and Selection -Seed Inspection and Certification -Civil Engineering -Construction Supervisor etc...	(1) Administrative personnel and counterparts: 1) Project Supervisor Director, DEPC, MINADER 2) Project Manager Chief, Unit of Prospective Analysis and Agricultural Policies, DEPC, MINADER or a person equivalent, MINADER 3) Deputy Project Manager Director, Department of Agricultural Production, UNVDA Chief, Agricultural Extension Service / National Agricultural Extension and Research Programme, DOPA, MINADER or a person equivalent, MINADER (2) Counterpart personnel: ・Relevant agricultural officers in the Project areas	・The trained staffs and extension officers of MINADER and UNVDA continue engage in rice sector. ・Means of transportation for extension officers are secured for their activities. ・Damage by birds, pests nor diseases does not increase significantly. ・A polical stability is secured ・COVID-19 does not outbreaks
1-2 Produce irrigated rice variety seeds suitable for UNVDA irrigation sectors.				
1-3 Establish seed production system of MINADER.				
2-1 Develop project strategy to promote upland rice cultivation in the Centre, South and East Regions.				
2-2 Conduct TOT on upland rice cultivation and post harvest processing in the Centre, South and East Regions.				
2-3 Conduct extension of upland rice cultivation and post harvest processing techniques in the Centre, South and East Regions.				**Pre-Conditions**
2-4 Monitor upland rice cultivation and post harvest processing practice by key farmers and general farmers.				・The Cameroon policy on rice development is not changed. ・Machineries and equipment used for PRODERiP are available.
2-5 Conduct regional cooperation with neighbouring countries and develop training capacity through regional trainings in Cameroon and technical exchange.				
2-6 Train and monitor operators and representatives of farmer associations/cooperatives on the operation and maintenance and management of post-harvest processing machinerie~~es~~.			(3) Facilities: ・Land, rooms or office space and necessary facilities in MINADER and UNVDA for the Japanese experts and related staff embers. ・Rooms and space necessary for installation and storage of the equipment. ・Other facilities mutually agreed upon as necessary.	
3-1 Develop project strategy on irrigated rice cultivation in UNVDA irrigation sectors.		(2)Training: ・Provision of training course in Japan or in the third countries.		
3-2 Conduct Training of Trainers (TOT) on irrigated rice cultivation in UNVDA irrigation sectors.		(3) Equipment: Machinery, equipment, vehicle, and other extension materials necessary for the effective implementation of the Project within budgetary limitations.		
3-3 Conduct extension of irrigated rice cultivation techniques in UNVDA irrigation sectors.				
3-4 Monitor irrigated rice cultivation practices by leader farmers and general farmers.			(4) Local costs ・Necessary expenditure for counterparts. ・Water and electricity charges necessary for operation and maintenance of the facilities.	
3-5 Introduce agricultural mechanization model in order to improve productivity of irrigated rice.		(4) Local Cost :	(5) Tax exemption measure	
4-1 Conducting marketing survey (base line).				
4-2 Conduct trainings and monitoring of farmers' on timely harvesting and post-harvest processing of selected rice varieties.			(6) Support relating to import of equipment	
4-3 Improve capacity of UNVDA on post-harvest processing and marketing.				

*1 "OISHI" is a Japanese word for "delicious". At the beginning of the project consumer preferences on rice will be determined by surveys.
*2 After 1 years, xxx of measures taken to meet consumer preference.
自家採種 : in-house seed production (home seed-raising)
異品種混入率 : different variety contamination rate
異物 : dockage (impurity)
The actual target futures: 2-2:1,400farmers (out of 4, 106), 2-2: 821farmers (out of 4,106). Due to decrease of seed production caused by the decrease of its budget of MINADER, delivery of seed also decreases less than the Base line. The number of extension workers also decreased. Change in exchange institutional set up of the extension and duties for other projects leads to the decrease of extension services, which effects the number of upland rice farmers.

ANNEX8

Evaluation Grid

Verification of Performance

Evaluation Questions		Information needed	Information source	Survey Results
Main Questions	**Sub-Questions**			
Were the Inputs allocated as planned?	Have Japanese experts been dispatched as planned?	Comparison of plans and results	Project documents* Japanese experts	The following are being dispatched as scheduled. (1) Six long-term experts were dispatched to the following areas: chief advisor/rice promotion policy; seed production/rice cultivation, farm management/extension, monitoring/business coordination 1 and 2, and training/rice milling machine operation and management. (2) Short-term experts: 4 experts in the fields of variety purification and selection technology, seed inspection technology, post-harvest processing/agricultural machinery, and civil engineering The deteriorating security situation in UNVDA prevented the Japanese experts from visiting the site. COVID-19 made experts' visit to Cameroon suspended.
	Has the equipment required for the project been provided as planned?	Comparison of plans and results	Japanese Experts	There are equipment and machinery provided to PRODERIP. The total value of them is 66,238,557 JPY (equivalent to 351,435,288 FCFA). Out of 66,238,557 JPY (equivalent to 351,435,288 FCFA), 36,614,399JPY (equivalent to 194,261,355 FCFA) (55%) and 21,869,108 JPY (equivalent to 116,028,739 FCFA) (33%) were spent in 2017 and 2018, respectively.
	Has the installed/provided equipment been properly used and maintained?	Comments from experts Results of observation	Project documents Japanese Experts	Most of the equipment and machinery is properly used. All office supplies, such as a desktop PC and a laser printer, and means of transportation, such as vehicles and motorcycles, are frequently used. Out of equipment and machinery specialized for rice production and processing, a rice whiteness analyzer, scales, a testing rice huller, and a testing rice miller are often used. An instrument shelter is installed as a spare in IRAD and is replaced when the current one is damaged. The Project intended to use a tiller, a rice thresher, a tractor in the field in Ndop plots. But for safety reasons, it has not been accessible. A milling plant will be installed when the warehouse is ready.
	Were the C/P Trainings and the Third Country Trainings conducted as planned?	Comparison of plans and results Comments from participants	Project documents Japanese Experts	The counterpart training was conducted in Japan and the third country with 15 participants from MINADER and UNVDA as follows. Trainings in 2017 were Country-focused trainings, which 5 trainees participated. They were organized by Saga University. 4 trainees participated in invitation program to Japan in 2019. The objectives of the trainings were to learn Japanese/Thai rice production technology such as agricultural machineries, irrigation, and distribution and sales system of agricultural products. The participants also learnt the large-scale production process of high-quality rice seed and organizational structure, as well as inspection technology of high-quality rice seed production and seed certification, and how to reflect what they learnt on their agricultural policies.
	For what and how much were local costs paid by the Japanese side?	Comparison of plans and results	Project report	Total equivalent to 224,999,000 JPY (1,222,808,220 FCFA) has been provided to supplement a portion of local expenditure for Japanese Fiscal Year (JFY) 2016-2019 (up to the end of January 2019).
	Has the budget required for managing the project been allocated by the Cameroon side? Is it being executed efficiently?	Comparison of plans and results	Project documents	The Cameroonian side provided 390,000,000FCFA of C/P fund and 170,500,000FCFA of Public Investment Budget (PIB) as the operational costs. For PIB, the revenue was largely declined as the impact on the overall economy of the country due to COVID-19 and others.
	Were the C/P and management staffs arranged as planned?	Comparison of plans and results	Project documents Japanese Experts	In total 15 counterpart personnel, 9 officers were appointed from MINADER, and 6 officers from UNVDA. As for the division supervisors and extension workers, 171 extension workers and 14 division supervisors were appointed in the first cultivation season of 2019. In the second cultivation season of 2019, 83 extension workers and six division supervisors were appointed. In total, 274 of them are appointed.
	Were the Project office, furniture, telecommunication network, and facilities equipped as planned?	Result of observations	Project documents Japanese Experts IIGranos	The necessary office space and fields have been provided at the MINADER, UNVDA, and IRAD for daily activities of the Japanese experts and personnel hired by PRODERIP. For example, MINADER provided PRODERIP with the seed fields in Batouri. IRAD provided the seed fields of agricultural high school under MINADER in Bityili and Nkoemvone field in Ebolowa of South region to produce RS and CS. Some spaces to keep equipment and machinery were also provided.
	For what and how much were local costs paid by the Cameroon side?	Comparison of plans and results	Project document Project Stakeholders	The Cameroonian side provided 390,000,000FCFA of C/P fund and 170,500,000FCFA of Public Investment Budget (PIB) as the operational costs. For PIB, the revenue was largely declined as the impact on the overall economy of the country due to COVID-19 and others.
Comparing with indicators in PDM, have the **Outputs** been produced as planned?	**Output1** : High quality seeds production of irrigated rice and upland rice varieties increased in the target area is increased.	Comparison of targets and results	Project documents Japanese Experts MINADER UNVDA	**Partially achieved, but there are some indicators which need further data collection.** **【Indicator1-1】 The genetic purity of certified seed of target rice varieties, produced by the Project is maintained as established as the target in Rice Seed Strategy (more than 99.8%):**CS purity, stated in the Seed Strategy prepared by MINADER in 2015. The achievement of the target figure is not known yet, as the genetic purity was not measured due to the tentative return of the Japanese expert team. However, according to DR.CQ and SRSQ, any problems have not been detected by their inspections until the time of the Review survey. The Japanese experts will conduct survey to confirm the genetic purity with the C/P after returning to Cameroon. **【Indicator1-2】 Certified seed production of target rice varieties in the project areas will be more than 20 ton/ year (lopwland), and more than 60 ton (upland) :** **[Lowland rice seed]** PRODERIP multiplied a total of 30 tons of CS (20 tons of Tox 2 and 10 tons of Local 2), which exceeds to the target figure. **[Upland rice seed]** CS production of upland rice did not reach the target figure because (1) the continuous seed production causes the degradation of soil quality. Consequently, the brown spots were occurred, and 1 of 4 seed plots were severely damaged. In stinkbug-infested fields, yields were as low as 0.5ha. In Batouri, cultivation of 2 crop seasons were ruined, and (2) there is a lack of budget and its delay in disbursement for the activities.
	Output2 : The number of farmers who cultivate and consume upland rice increases in the project areas in the Centre, South and East Regions.	Comparison of targets and results	Project documents Japanese Experts MINADER extension workers Core/General farmers	**Not achieved yet.** **【Indicator2-1】 Rate of farmers cultivate upland rice two 2 times in 5 years in the monitoring areas increase from 29.8 % to 35% :** the indicator is not achieved yet, even though the rate of farmers who cultivated upland rice twice for the seeded farmers increased by 18.5% in 2017 and 28.1% in 2018 (23.9% on average) **【Indicator2-2】 Out of farmers who received seed, ratio of farmers who repeat cultivation the following season with in-house produced seed increase from 16.6% to 20%:** The percentage of farmers who collected seeds from their fields has been increasing since 2017 as below. However, it is resulted that the indicator is not achieved yet.(7.4%:2017, 13.1%:2018, 14.3%:2019)
	Output3: Farmers' irrigated rice cultivation techniques are improved in the UNVDA irrigation sectors.	Comparison of targets and results Presence and quality of field workers	Project documents Japanese Experts UNDVA extension workers Core/General farmers	**Achieved.** **【Indicator3-1】 Average paddy yield per hectare of trained farmers will be more than 5.0t/ha:** The indicator in 2019 is likely to be achieved at the project seed multiplication field in Ndop. (TOX2:7.5t/ha, Local2:6.0t/ha)
	Output4 : Harvest, post-harvest processing are improved for marketing in the UNVDA irrigation sectors.	Comparison of targets and results	Project documents Japanese experts MINADER UNVDA rice mill operator	**Achieved.** **【Indicator4-1】 Broken rice rate of UNVDA marketed rice will decrease from 45% to 30% :** The indicator has been achieved as shown in Table 6. The broken rice rate of higher quality rice (750 FCFA/kg) to sell for a supermarket is less than 30%, and the average of those rice and the acceptable quality rice (500FCFA/kg) is 26.04%. **【Indicator4-2】 Dockage (impurity) number of UNVDA marketed rice will decrease from 1 stone/ 5kg (Stone), 40 grains/ kg (paddy) to less than 1 stone/ 5kg, and less than 20 grains/ kg % (UNVDA)** The indicator in 2019 has already been achieved. 0 stone and 0.91 paddy grains/kg.
Comparing with the indicators in PDM, will objectives of the Project be achieved? -the Project Purpose[Production and quality of milled rice are improved in the project areas.]	**Indicator:** 1. Rate of increase in rice production in the target area 2. The increase in the percentage of consumers who rate the taste of domestic rice as "OISHI" 3. Whiteness of rice produced in UNVDA irrigation development area 4. Different variety contamination rate of milled rice paddy produced in UNVDA irrigation sectors	Target figure Comparison of targets and results	Project documents Japanese experts MINADER UNVDA rice mill operator	**Achieved or likely to be achieved except for indicator1** **【Indicator1】 Rate of increase of amount of rice produced in the project areas will be more than 42 % (lowland) and more than 36 % (upland):** [Lowland] The Prospect for the achievement is positive, even though the indicator 1 is not known. The Project plans to conduct a sample interview survey at farmers' field in 2021 to understand the yield performance, as well as to obtain the data for the indicator. [Upland] The production of the upland rice is 238 tons, which is 56.7% of the target figure, as shown in Table 9. The project speculates that the production will not reach its target by its end, even if the production in 2020/21 is added on top **>>A part of the indicators of PRODERIP Purpose is unlikely to be achieved** **【Indicator2】 Percentage of consumers who rate the taste of domestic rice as delicious ("OISHI")*1 increases from 30.5% to more than 50%.:** Indicator2 is expected to be achieved as the rate of 'OISHI' was 66.1% in 2019.**>>achieved** **【Indicator3】 :Rate of increase of whiteness of milled rice produced in UNVDA irrigation sectors will be from 33% to 38%** The Indicator3 is expected to be achieved as the average whiteness of milled rice was found as 37.9% in PRODERIP's survey in 2020. **>>achieved.** **【Indicator4】 : Different variety contamination rate of milled rice paddy produced in UNVDA irrigation sectors will decrease from 45% to 10%** The indicator is expected to be achieved as Table 11 shows that the mixture rate of each variety is less than 10%..**>>achieved.** Stone: Achieved (0 stone), Paddy: 0.91 paddy grains/kg A continuous investigation is necessary.

* Documents from the Project : MM, R/D, Report of Detailed Plan Survey: Monthly Report, documents provided by the Project for the Mid-term Review

Implementation Process				
Evaluation Questions		**Information needed**	**Information source**	**Survey Result**
Main Questions	**Sub-Questions**			
Were activities implemented as planned?	Have the Project activities been implemented in line with the PO?	Comparison of plans and results PO	Project documents Japanese experts MINADER UNVDA	Since its commencement, the project has implemented the activities generally as planned as indicated in PO. Some activities such as the selection of good farmers/groups as the possible participants of training for seed producers on seed production, and TOT for division supervisors/ extension workers and key farmers on upland rice, are not implemented in 2020 due to COVID-19.
Was the change in project plan appropriate?	Were the content of PDM and process appropriate?	Comments from Japanese side Comments from Cameroonian side JCC minutes	Project documents MINADER UNVDA JCC documents	At the first JCC (April 7, 2017), the revisions and additions of indicators and activities to the PDM were discussed between Japanese experts team and C/P and approved.
Is there any problem in the measures to transfer skill/knowledge/techniques ?	Are measures to transfer skill/knowledge/techniques appropriate? Are targets for skill/knowledge/techniques transfer appropriate?	Comments from Japanese experts, C/P, and T/G on the contents of training, method, and level of skill/knowledge/techniques transfer	Project documents Japanese experts MINADER UNVDA extension workers Core/General farmers	The Technical meeting have been held every two weeks among C/P of MINADER, UNVDA and Japanese expert team. Since the security problem occurred in Northwest Region, the C/P of UNVDA attend the meeting in Yaoundé. Even after the outbreak of COVID-19, the project team continues the meeting remotely.
Is there any problem in the project management system (monitoring system, decision-making process, functioning of JICA Cameroon, communication mechanisms among project staff)?	Does JICA Cameroon Office promptly adjust project activities, provide advice, and communicate with related agencies based on the monitoring result?	Comments from Japanese experts Comments from JICA Cameroon Office Comments from Economic Development Department of JICA Punctual submission of monitoring sheets and comments from JICA on it	Project documents Japanese experts Economic Development Department of JICA JICA Cameroon Office Project stakeholders JCC documents	Monitoring sheets have been submitted up to 4 versions as of October 2020.
	How is each activity of the Project monitored and what is improved as a result of the monitoring? Issues of the monitoring and actions to be taken to deal with the issues?	Measure and frequency of monitoring of each activity Submission of monitoring sheets from C/P	Project documents Japanese experts JICA Headquarters JICA Cameroon Office	[Land rice] The project monitors the implementation of upland rice cultivation and post-harvest processing among core and general farmers as Activity 2-4. The project has created a monitoring database and monitoring sheets for extension workers, which they submit to the project. The project has also visited rice mills to check the status of rice mills and equipment and address issues. The project visits the fields of upland rice farmers to check the progress of upland rice cultivation by the group and address the issues. [Paddy rice] The project has been monitoring the irrigated lowland rice cultivation of leader farmers and general farmers as Activity 3-4. The project changed the frequency of meetings from once a month to every other week following the voluntary restraint on corporate travel to the Northwest region. (April 2018) [Data collection using monitoring sheets from extension workers] Each extension workers writes on a monitoring sheet prepared by the project and sends a copy of it along with a monthly report to the project office. At present, the secretary (formerly CP) types it up and sends it by email. Extension workers send photos directly to CPs and secretaries via WhatsApp, but the Director of Agriculture in each division asks that the monthly report from the extension workers be compiled before sending it to them, so it's basically a direct mailing. It would be good if the extension workers could input data on the filed and upload photos and so on, but for now they have to write by hand because the screen of the mobile is too small to use, and there are few extension workers with computers. It takes time to go through the director of each agriculture bureau, and only about 20% of the sites are able to punctually submit a monthly report. Especially at the time of sowing and harvesting, extension workers are also very busy, so the submission tends to be delayed. Sites located on the way to Batouri and Ebolowa can be collected relatively quickly with advance notice, as they stop by on business trips to seed production plots, but this year the monthly reports were submitted later than usual because the number of business trips was limited. There are some cases that monitoring sheets are not submitted because of deterioration of relationship between core farmers and extension workers, or extension workers and director of department of agriculture in district and transfer of extension workers. There are a lot of successful farmers in charge of extension agents who fill out monitoring sheets neatly as they take detailed data.
Do the implementing agency, C/P, and T/G well understand/actively participate in the project?	How do MINADER and UNVDA recognize the Project activities?	MINADER's and UNVDA's recognition of the Project and involvement in the Project	Project documents MINADER UNVDA JCC documents	According to MINADER, there is a need to shift from import rice to export rice and to balance trade, and PRODERIP is getting a policy push from the government. The objective of the project is in line with the needs of respective level of Cameroonian society from the officers of MINADER and UNVDA to farmers of upland and lowland rice in the field. MINADER and UNVDA have a strong aspiration of upland rice and lowland rice development to achieve the national goal which increase self-sufficiency of rice.
	Does T/G actively participate in the activities?	Recognition of Core / General farmers for the Project Number of participants of each training	Project Report Japanese experts MINADER UNVDA Core/General farmers	Farmers that the project is effective to increase their rice production.
Are appropriate personnel assigned as C/P?	Are the C/P (employee for MINADER, UNVDA) arranged as planned?	Change in organizational structure such as establishment of extension section Role of C/P as a collaborator with other organizations and a technical collaborator	Projects documents Japanese experts MINADER UNVDA	With the reorganization of PNVRA, there was competition to higher extension workers between this project and the French project (AFD) (May 2018). Subsequently, it was decided to utilize MINADER internal personnel (CPA, CEAC, CFR) as new extension workers. (June 2018)
	Are the number of C/P, their roles, positions, capacity and assignment relevant?	Comments on organizational structure from project stakeholders Assignment in each organization	Projects documents Japanese experts MINADER UNVDA	The number of extension workers is insufficient.
	Is the number of T/G relevant?	Change in a size of T/G Reason and relevance of the change (If there is a change in a size of T/G)	Projects documents Japanese experts MINADER UNVDA	At the time of planning, the target group was "23,000 farmers (10,000 in three regions and 13,000 in irrigated areas) in the project area," but as of February 2018, the number of farmers in irrigated areas were reduced from 13,000 to 5,000.
	Which organizations are involved in this project other than the direct beneficiaries? How deeply are these organizations involved?	Organizations and activities closely related with the project apart from T/G Remarks	Projects documents Japanese experts MINADER UNVDA	Non-T/G benefit from the project using quality seed from the project.

Relevance					
Evaluation Questions		Judgment	Information needed	Information source	Survey Results
Main Question	Sub-Questions				
Needs	Is the Project's objective [Production and quality of milled rice are improved in the project areas], appropriate as a measure to solve issues of agricultural development in Cameroon?	Needs to increase rice production is still high The Project contributes to solve the development problem	Time series data of rice and paddy production	Reports indicated below (*1-*4) Reports on CARD	[Trend of rice production, consumption and imports] Rice production: 65,000 tons (2008: actual)*1 to 330,000 tons (2018: actual)*2 (970,000 tons (2018: target))*1 Rice consumption: 19 kg (2008)*3*4 to 35 kg (2018)*3*4 Rice import volume: 430,000 tons (2008)*2 to 750,000 tons (2017)*2 Demand of rice is increasing and the government of Cameroon would like to promote rice production, but it is not progressing due to economic challenges. Demand of rice is increasing and the profitability of rice is higher than other crops. The quality of the project's lowland rice is better than imported rice (300-400 FCFA/kg) sold in the general market. Number of private rice seed companies is limited and MINADER needs to produce rice seeds (private companies' entry is expected). In addition to seed production, the challenges include adoption of different production environments in different regions, and mechanization of land preparation and post-harvest processing. MINADER believes that 1,000 hectares of seed production plots are needed to grow 3,000 tons of rainfed rice seeds per year.
	Is the Project still in line with the needs of MINADER and UNDVA at present?	Objectives of the Project still match the needs of MINADER and UNVDA	Needs of MINADER and UNVDA	Project Report Japanese experts MINADER UNVDA National Policy Program Websites on CARD	TICAD7 (2019) launched CARD Phase 2 with the goal of "Doubling rice production by 2030 (from 28 million to 56 million tons). Cameroon is a target country for CARD Phase 1 and 2. The RICE approach in Phase 2 is focused on 1) stabilizing production, 2) promoting local industries (rice milling and agricultural machinery), and 3) improving the quality of domestic rice. MINADER has set a target to produce 150 tons of seeds per year. The selected varieties of both upland and lowland rice are suitable for the characteristics of the region.
	Is the Project still in line with the needs of related organizations at present?	Objectives of the Project still match the needs of the related organizations	Charge of needs of other related organizations but MINADER and UNVDA	Project Report	IRAD participates in seminars and trainings to enhance seed purification technology through cooperation in the production of basic seed (BS) and foundation seed (FS).
	Is the Project still in line with the needs of farmers in the target area?	Objectives of the Project still match the needs of the related organization	Charge of needs among Core/General farmers	Project Report Target Core/General farmers Japanese experts	The farmers who participated in the project have increased their yields. Seeds obtained from the project are of high quality with high disease resistance and high yields. In addition, overall cultivation techniques have improved, including sowing, fertilization, water management, storage after harvest, use of sickles, and drying methods. Core farmers provide free technology transfer to neighboring farmers, and their benefit is to receive training first. General farmers have received guidance from the core farmers to increase their yields. However, even if farmers learn the theory, there are cases when they cannot apply it in practice. Farmers want to mechanize cultivation and harvesting, but farm roads are not well facilitated and manufacturers are reluctant to sell them, making it difficult to implement.
	Is the Project in line with the direction of agricultural and rural development under the development policies of Cameroon?	Objectives of the Project match Cameroonian policies on seed production and human resource development	Contents of Related policies and strategies	MINADER UNVDA	[Agriculture and Rice Cultivation Policy] Regional Integration Strategy Paper (2019-2025): targets improved access to water resources leading to agricultural development in the Central African region Vision 2035: increases agricultural productivity, specifying the importance of agriculture in entering the middle-income nation. The introduction of 1.2 tractors per hectare of cultivated land is targeted (2035). Rice is identified as an important crop in Cameroon's rural development strategy.
		The varieties selected in the Project match the needs of C/P	Selected varieties	MINADER UNVDA	The upland rice varieties NERICA 3, NERICA 8 and lowland rice varieties the TOX, and local varieties were selected for the project. These are suitable for the environment of each target area.
	Is the project in line with Japan's country assistance policy and JICA's implementation strategy?	Objectives of the Project match Japanese Assistance Policy for Cameroon	Japanese Assistance Policy and priority areas	Country Assistance Policy (December 2012) Business Development Plan (April 2016) Ministry of Foreign Affairs HP, JICA Headquarters	The project is part of an agricultural promotion program in the Country Assistance Policy of GoJ that aims to enhance growth through economic diversification of the rural areas, including the improvement of agricultural technologies with attention to women's participation and utilization in the project development plan. Cameroon has been a member of CARD since Phase 1 and is considered as one of the most important countries for rice promotion. This project also supports lowland rice to increase production and improve its quality. As a leader in Central Africa, Cameroon is expected to promote lowland rice and upland rice production.
Adequacy as a measure	Is strategy of the Project appropriate to tackle development issues in agriculture sector of Cameroon?	Selection of target provinces, three provinces and irrigation area in Nun Valley, is appropriate for development of upland rice production and irrigated rice production	Production of rice production in target areas and its proportion in national production Security situation in irrigated rice area Number of upland rice farmers	Project Report Japanese experts MINADER UNVDA National Policy Program Websites on CARD	The upland rice continues to cover the three regions that were covered by the previous phase. Three sectors (Upper Bamunka, Lower Bamunka and Babungo) were selected for lowland rice out of the five UNVDA irrigated sectors, which account for 80% of farmland and farmers.
		Increase of rice seed production, cultivation and consumption of upland rice, improvement of irrigated rice technology, and improvement of technology of harvest and postharvest procedure contribute to increase of rice production and improvement of rice quality	Comparison between an approach used and the current situation	Project Report Japanese experts MINADER UNVDA National Policy Program Websites on CARD	The project is contributing to the promotion of rice farming in Cameroon by increasing production and improving quality.
	Is there any mutual benefit from coordinating with other development agencies?	There is a synergy from a collaboration with other development partners' projects	The latest situation of other development partners and examples of collaboration with them	Project Report Documents of other development partners Japanese experts	1. Autonomisation des Communautes et Consolidation de Paix Dans La Region de L'Extreme Nord Du Mameroun in the Far Northern Province of UNDP 2. FAO-MINADER Rice Farming Project (Partnership for Sustainable Rice System Development in Sub-Saharan Africa) 3. FAO's Partnership for Sustainable Rice Systems Development in Sub-Sahara Africa in the Northwest Province 4. KOICA's project in Central Province (name is unknown)
	Is the selection of C/P organizations (MINADER, UNVDA) appropriate?	Selection of C/P, MINADER and UNVDA, was appropriate	Process to select MINADER and UNVDA as C/P TOR of each organization Role and involvement in the Project	Project documents Japanese experts MINADER UNVDA	MINADER promotes upland rice and is appropriate as the CP institution. The UNVDA's role is mainly to maintain fields and farm roads, to buy, mill and sell rice paddy, and to supply production equipment and materials such as seeds and fertilizers, but they have never conducted cultivation-related training. They have been conducting training together with the project, which they had never conducted before.
	Is the selection of the target groups (rice farmers) appropriate?(Target, scale,ratio of male to female)	Selection, size, and gender ration of T/G were appropriate	Selection of target areas Criterias to select Core farmers	Project documents Japanese experts Extension workers Core farmers	In total, 10 sites, 17 sectors and 82 zones were selected. Of which, the project targets 8 sites, 11 sectors, and 62 zones, with the rest being implemented by the Cameroon side only. To promote the selection of core and general farmers highly motivated, the project distributed to AVZs: (1) Guidelines for selection of core farmers and evaluation table, (2) Guidelines for selection of general farmers, (3) documents on the role of AVZs, and (4) documents on the expected role of core farmers.
	Are Japanese technologies effective? (is the know-how of the necessary technology accumulated? Can Japanese experiences be effectively utilized?)	Japanese technology is applied in Cameroon	Utilization of experiences and know-how obtained through the Project	Project documents JICA website Japanese experts	Since 2012, Saga University and Saga Agricultural Testing Center have conducted training for senior managers, such as MINADER executives, almost every two to three years. In addition, they participated in the project as short-term experts in variety purification and seed production. This aims to understand the situation in the rice field in Cameroon and apply it to the training program in Japan, as well as conducting trials with rice varieties from different countries and providing guidance on variety selection. During the dispatch, IRAD researchers, university officials (they send student interns), and MINADER-related departments (DRCQ, DDA, DOPA, etc.) are invited to attend the seminars. With regard to variety purification, the experts have instructed on the degree of genetic fixation of varieties by pure line selection.
Other points	Is there any significant change in Japan's development policy for Cameroon?	There is no significant change in Japanese Assistance Policy for Cameroon	Changes in policies for Cameroon since April of 2016	Project documents Website of Ministry of Foreign Affairs of Japan JICA Headquarters	# Cameroon is one of the most important CARD countries. # No significant change was observed.
	Is there any significant change in policies for agricultural and rural development in Cameroon and trend of donors?	There is no significant change in Cameroon's agriculture policy and other development partners' policy	Changes in rice policies Trends of other development partners	Project documents MINADER UNVDA	MINADER plans to increase the area of upland rice area by 20,000 hectares each year (10,000 hectares each for upland rice and lowland rice), increasing by 100,000 hectares in five years. MINADER is financing the seed production costs for this (July, 2020)
	Is there any significant social / economic change in Cameroon?	There is no significant socioeconomic change in Cameroon	Changes in currency system Change in price of rice seeds, export quantity, and import countries	Project documents Japanese experts	The security situation has been worsened since 2018, and extension workers are also banned in two of the five irrigation sectors of UNVDA. The project invited division supervisors and extension workers from these areas to Yaoundé for training and they returned to their areas to implement dissemination activities. In 2018, due to the deterioration of Cameroon's economy (which was also a red light at the World Bank level in relation to loans), the budget was reduced based on the recommendations from the IMF. The budget was allocated to deal with COVID-19, which affected the CP Fund's allocation.

*1:The National Strategy for Rice Growing in Cameroon（2009） *2:FAOSTAT *3:United States Department of Agriculture *4:CIA Fact Book

Effectiveness (Estimation)					
	Evaluation Questions	Judgment	Information needed	Information source	Survey Results
Main Questions	Sub-Questions				
Achievement forecast for the Project Purpose	Is there a prospect to achieve the Project purpose? Project purpose: [Production and quality of milled rice are improved in the project areas]	The Project is likely to achieve target figures of each indicators	Relevance between objectives and target figures The current production quantity The number of Core farmers	Project documents Japanese experts Report of Detailed Plan	The reason why upland rice farmers do not continue to cultivate upland rice is heavy labor. Rain-fed upland rice cultivation is a new practice for many farmers. In the central, southern and eastern regions, rice cultivation itself was unfamiliar to them. Because of the high incidence of bird damage, they have to watch from morning to night. Rice farming is not the only option, and there are other crop choices. This discourages people to continue even if they have grown upland rice once. Access to the milling machine is also a challenge. CP believes that if there was an easier way to grow upland rice, more people would continue to grow it. Farmers are motivated to sell their rice in the market, not just for their own consumption. People buy it because it is of good quality and taste.
Causality	How much of the Outputs has been achieved (will be achieved)?	Four Outputs have been achieved	Contents of Outputs Goal of each indicator and achievement	Project document Japanese experts MINADER UNVDA	The achievement levels of the four Outputs are different between upland and lowland rice. The achievements of some indicators are also unknown. Two indicators out of four indicators are likely to be achieved.
	How each output contribute or limit the achievement of Project Purpose?	There is solid logic between Outputs and the Project Purpose	Logic between the Project Purpose and Outputs Contributing factors and constraint factors	Project documents Japanese experts MINADER UNVDA	The logic of the project purpose (increase of rice production and improvement of rice quality) and the four outputs ((1) increased production of high-quality seed, (2) increased number of farmers growing and consuming upland rice, (3) improved farmer's lowland rice cultivation techniques, and (4) improved harvesting and post-harvesting techniques for lowland rice for sale) are appropriate.
	What are contributing & constraint factors for achieving the Project Purpose other than outputs?	Contributing factors are clear	Policy support Factors which facilitate activities of extension workers and Core farmers	Project documents Japanese experts MINADER,UNVDA Extension workers, Core farmers	Participation in the training in other countries such as Gabon and Chad made it possible to exchange opinions with local officials, which strengthened participants' skills and knowledge. Showing them how the Japanese project works made themselves more confident.
		Constraint factors are clear	Activities of extension workers, CORE farmers, and operators of rice mill	Project documents Japanese experts MINADER,UNVDA Extension workers, Core/General farmers, Operators	Deterioration of security in the northwest region hindered lowland rice cultivation (e.g., extension workers could not teach in the fields, waterways were not be cleaned, and drains were clogged and flooded, etc.) and decreased young people's engagement in agriculture and increased labor wages Government budget was allocated in COVID-19 and the budget for PRODERIP decreased. Impact of COVID-19: Travel restrictions prevented farmers in eastern regions from purchasing inputs such as fertilizer and seeds, which affected sowing. Small-scale farmers had limited means of SNS and could not communicate with extension agents. Communication among farmer groups stopped temporarily and group activities did not function well. In some cases, lowland rice farmers do not sell their paddy to UNVDA, whose purchases are delayed by the economic crisis, but instead sell it to a local buyer at a lower price. UNVDA instructed farmers to form a water committee within their group to handle water management and disputes.
	Is there a prospect to fulfill the important assumptions to achieve the Project Purpose by attaining the Outputs?	Natural disasters such as drought and flood do not happen	Record of natural disasters and pest Response of the Project	Project documents Project stakeholders	Every year in October, there is a lot of rainfall and flooding. Sandbags are used to change the flow of upstream to the field to prevent water concentration in the field (October 2018 monthly report). Land fertility has not recovered and brown spot has occurred and spreaded (December 2018)
Usage of past lessons from similar projects	How does the Project use lessons learned from past similar project/survey?	The Project utilizes knowledges and experiences from past projects and surveys	Lessons from past similar project/survey(PRODERIP)	Project documents Japanese experts JICA Headquarters JICACameroon Office MINADER UNVDA Core farmers	In the previous phase, There were many farmers who were devastated by bird damage and who were not able to harvest suffering from drought damage because they were delayed in sowing or a mismatch between the rainy season and the planting period and a dry season came before ripening. They gave up and did not plant a second crop of upland rice. In this phase, considering the experience of the previous phase, the following measures were taken to lead them to the harvest: 1) Determination of the planting season based on the relationship between the length of the rainy season and the planting period, 2) Identification of the timing of bird damage and adjustment of the planting period, and 3) Promotion of grouping to increase efficiency and reduce the burden to drive away birds, etc. (April 2017 monthly report). In this phase, the amount of seed is distributed in groups according to the area planted, whereas in the previous phase, seed was distributed to all members of the group (reported in July 2017).

Efficiency					
Evaluation Questions		Judgment	Information needed	Information source	Survey Results
Main Question	Sub-Questions				
Achievement level of the Outputs	Has the Project been achieving the 4 Outputs?	Four Outputs are reaching each target figure	Contents of Outputs Logic between Project Purpose and Outputs Objectives of each indicators and target figures	Project document Japanese experts MINADER UNVDA	See "Performance". Output 1: Partially unconfirmed. Output 2: Not achieved. Output 3: Achieved Output 4: Achieved
Causality	Were the activities sufficient to achieve 4 Outputs?	There is no surplus and lack of activities There is no delay in progress of the Project	Contents and progress of each activity Ideas to improve efficiency of the Project	Project document Japanese experts MINADER UNVDA	Due to COVID-19, it is delayed to build a rice mill plant.
	Have the Japanese Experts been dispatched appropriately for achieving outputs in terms of its number, expertise, and timing?	The number, specialization and dispatch schedule of Japanese experts were appropriate and utilized to achieve Outputs	Comments from stakeholders on utilization of Japanese experts' knowledge	Project documents Japanese experts MINADER UNVDA JICA Headquarters JICA Cameroon Office	Until 2020, Japanese experts had been dispatched appropriately, but due to COVID-19, they are not able to visit Cameroon in 2020.
	Are C/P training appropriate in terms of the number of participants, target, field/sector, content, period, and timing?	The number and selection of participants of training were appropriate Sectors, contents, duration and timing of the training were appropriate	Implementation status of training Learning from training and utilization of it	Project documents Japanese experts Participants of trainings	The first training in Japan was conducted with GM of UNVDA and four MINADER officials (October 16-18, 2017). Themes were rice production improvement including agricultural machinery and irrigation structures in Japan, distribution and marketing of agricultural products, organizational structures and inspection techniques for high quality seed production and seed certification, methods for large-scale production of good quality rice, and reflection on these policies. The second training in Japan for 4 CPs (DOPA mechanics, coordinator, etc.) was held in 2019. They learned about strategic rice mechanization, etc.
	Have the C/P and staff for operation and management been allocated appropriately? Have the workload for other works, capacity and timing of appointment been appropriate?	Allocation of officers of MINADER and UNVDA is appropriate There is no problem in coordination of the Project and other tasks of C/P	TOR of MINADER and UNVDA officers The number of areas and farmers monitored by each extension workers	Project documents MINADER UNVDA Japanese experts	With the reorganization of PNVRA, there was competition for extension experts with this project and the French project (AFD) (May 2018), but it was decided to use MINADER's internal personnel (CPA, CEAC, CFR) as new extension workers (June 2018). The number of extension workers is decreasing. They are not motivated if MINADER does not pay for fuel and rewards. This makes it difficult to obtain information that should be collected every week or two when the extension workers go to the fields. This also prevents them from visiting when we want them to. The project trains extension workers and core farmers, but the core farmers does not know who grows lowland rice and what the problems are, and do not check the status of cultivation and problems in the same way as the extension workers do.
	Is the Project's budge appropriately allocated by C/P?	Budget allocation from MINADER and UNVDA is appropriate in terms of timing and size	Budget allocation into the Project and implementation of the budget by MINADER and UNVDA	Project documents MINADER UNVDA Japanese experts	Though registered seeds and certified seeds are produced with the budget of Cameroon, delays in preparation due to delays in the allocation of the budget and decreased production due to dry spell were concerned. The impact of the delay in the budget allocation on seed production was mentioned in the JCC agenda, but this has not been corrected and is not expected to be solved (January and February 2020). The CP's expenditures on training have been increasing. In 2017, the training budget is fully funded by the project budget. In 2019, only drinks and snacks are funded by the project budget. In 2020, drinks are funded by the project budget, and snacks and transportation are funded by the profits from the sale of rice at UNVDA. The large reduction in the Public Investment Budget from 2019 to 2020 is due to the economic impact of the new coronavirus outbreak.
	Are the provided equipment and machineries used effectively to produce each output?	Equipment and machineries provided by the Project are well utilized	Utilization of facilities and equipment provided by the Project Comments from stakeholders	Project documents MINADER, UNVDA Japanese experts	Japanese and Chinese tillers installed in seed production fields are maintained properly. Multiple burglaries (e.g., copy paper, motorized sprayer of MINADER items, one electric mower, three manual mowers, etc., in the project warehouse (IRAD) (October 2016), and mischief of the training building in the IRAD field, including one water pump and motorized mower (April 2017). Equipment worth about 1.2 million FCFA in total, including electrical tools and transformers in the project warehouse(IRAD)). Hiring security guards to prevent thief. (March 2018) It seems difficult to hand over jobs at rice mills because a number of equipment malfunctions. (February 2019)
	Has the Important Assumptions been fulfilled to achieve the outputs by implementing project activities?	1. MINADER officers and UNVDA extension workers are continuously involved in upland rice cultivation and irrigated rice cultivation 2. Meaning of transportation is secured for extension workers' activities 3. there is no rapid increase in bird damage and pest, which do damage to upland rice and irrigated rice	Observation of Important Assumptions Influence of Important Assumptions Responses of the Project Existence of a new Important Assumptions	Project documents MINADER, UNVDA Japanese experts	1. With the reorganization of PNVRA, competition for extension workers arose between this project and the French project (AFD) (May 2018), and it was decided to use MINADER internal personnel (CPA, CEAC, CFR) as new extension workers (June 2018). The number of extension workers has decreased from 2,500 to 600 compared with four years ago. They has not been able to fill the vacancies of retired staff. They are trying to solve the shortage of extension 1) asking the government to ask experienced extension workers to remain; 2) assigning the head of CEAC (Center for Education and Community Action) and community representatives on the role of extension staff; and 3) letting core farmers teach neighboring farmers. It is difficult for the core farmers to know all farmers. 13 targeted paddy collection centers can not collect paddy and only UNVDA collects it. 2. Due to deteriorating security in the northwest region, it is difficult to use motorcycles and other vehicles to transport paddy to UNVDA (April 2019). 3.# Personnal to drive away birds were assigned to the tilting season (November 2016). Bird damage (Ellison's bird) was identified in all monitoring plots. (July 2019) Although it is not mentioned in the PDM, due to the deteriorating security situation in the northwestern region since October 2017, Japanese experts have not been able to travel there since March 2018, which has affected their training of field extension workers.
Contributing/Hindering factors to achievements of the Outputs	Are there contributing factors related to inputs and activities for the achievement of the Outputs?	Project stakeholders clarify contributing factors	Comments from stakeholders	Project documents MINADER,UNVDA Japanese experts	Following factors were mentions as contributing factors to in-house seed production; close communication, extension workers visiting the fields, and proper selection of core farmers (December 2018).
	Are there contributing factors other than project inputs for the achievement of the Outputs?	Input which is not written in PDM and important assumptions contribute to achieve Outputs	Comments from stakeholders	Project documents MINADER UNVDA Japanese experts Core farmers	・UNVDA used 949,600 FCFA for trainings in 2020 which was a part of benefits from the sales of project rice (120,000 FCFA for snacks and 829,600 FCFA for transport allowances to farmers.
	Is there any hindering factor for the achievement of Outputs?	Bird damage, pest, and flood do not happen in a scale that limits achievement of Outputs There is constraint factors not written in PDM as important assumptions	Comments from stakeholders Trends of bird damage, pest, and flood	Project documents MINADER UNVDA Japanese experts Core farmers	Refugees from Central Africa (Farmers in Batouri) included in the dissemination target cannot sow due to lack of available farmland after receiving seeds (November 2017). In response to heavy rainfall in October every year, the project uses sandbags to adjust the water flow of upstream to the fields to avoid concentrating water in the fields. Due to the political uncertainty in the UNVDA region (Northwest) where lowland rice has been grown since 2018, the entry of Japanese experts was restricted, and subsequently the entry of CPs was restricted, which greatly hindered their activities. The CPs had a hard time in the first month when Japanese experts returned to Japan due to COVID-19 in March 2020. In addition, due to the lack of budget from MINADER, they were not able to receive fuel and transportation allowance. It was also the time of seed production, which had an impact. Initially there was a stock of seeds, but now the activity is stagnant. The project has not been able to visit the sites and conduct continuous follow-up surveys. There are problems at various levels, such as not being able to produce rice even after training. Some people's motivation is low, and this is not good for the activity as a whole.
Cost	Have the Outputs been appropriately achieved in comparison of the project cost?	The Project is achieving similar Output spending less money compared with other similar projects	Cost of the Project Cost of similar projects Comments from stakeholders	Project documents MINADER UNVDA Japanese experts Core farmers	No data
	Are the human resources, outcomes, and equipment of former/ other on-going projects utilized?	Equipment and machines	Examples of utilization of former/other on-going projects' resources	Project documents Japanese experts	The reason why there are some equipment unused is that they were intended to be used in Ndop/UNVDA in the Northwestern region. CPs of UNVDA understand that it is their own goods, that the equipment in Yaoundé was sufficient at the time of the mid-term review, and that it would be uncomfortable for UNVDA to use it in Yaoundé. It is stored in a container in Yaoundé. (project). They need to consider the utilization of equipment in Yaoundé or remotely in Northwest region. The rice milling plant is planned to be installed and used in Yaoundé (Kawarce).
	・Was there any duplication with projects implemented by other donors? ・Was there any collaboration with other projects? If there was,was the collaboration cost effective? ・Was there any collaboration with other organizations related to Cameroon?	There is no duplication of activities and areas of the Project with other development partners' projects There is an example of collaboration of the Project with other development partners	Assistance policy of other development partners The latest situation of their programs Demarcation and collaboration of equipment and training	Project documents Japanese experts Development Partners	The project was asked to conduct a training by FAO and MINADER rice farming project (May-June 2017). The project conducted a training of extension workers in the Far North with UNDP's Autonomisation des Communautes et Consolidation de Paix dans la region de l'Extreme Nord du Cameroun. The project traveled to Chad with CP to share information on rice farming in Chad, collect information on post-harvest processing and quality of milled rice in the Northwestern region. It also conducted seminars. (June 4-7, 2018 and December 2019)

Impact (Estimation)					
Evaluation Questions		Judgment	Information needed	Information source	Survey Results
Main Questions	Sub Questions				
Achievement forecast for the super goal	Is there a high probability that the Rice sufficiency be increased in Cameroon?	Rice sufficiency is estimated to increase by XX% They hold on the Super Goal Access to indicator is clarified	Trend of rice sufficiency Comments from stakeholders	Japanese experts MINADER UNVDA CARD Final Review Assessment Africa Region Final Report	Self-sufficiency is stagnant: 13.0%(2008), 22.1%(2009), 21.5%(2010), 21.6%(2011), 18.0%(2012), 18.2%(2012), 20.4%(2014), 18.7%(2015), 17.6%(2017)(Coalition for African Rice Development (CARD) Final Review Assessment Africa Region Final Report, JICA, 2018) The reasons for the sluggish growth include: 1) the population is growing faster than the total rice production, and 2) production is not keeping up with the amount of rice consumed as more and more people prefer it. In Cameroon, annual demand for rice is estimated to be about 407,000 tons, while production is about 105,000 tons per year. Nearly three quarters of the consumption is covered by large imports, especially from Asian countries. Domestic rice is not reaching consumers due to (1) lack of marketing strategies and distribution networks, and (2) traders who seek their profit prefer to deal relatively cheap imported rice.
	Is there a high probability that important assumptions are fulfilled?	1. There is no increase of illegal rice export 2. There is a tariff on import rice 3. Cameroonian government keeps policy and strategy to promote PPP in rice sector	1. Quantity of illegal rice export 2. Tariff on import rice 3. Position of PPP in rice sector policy such as NRDS	Project documents Japanese experts MINADER UNVDA INS	1. High demand of rice in Cameroon and in neighboring countries, especially in Nigeria and Chad, causes illegal re-export of rice. Smaller exporters usually use bypass roads by motorcycles to avoid tariffs and sometimes transport small amounts of rice to stock across borders (Impact des importations des products alimentaires de grande consommation sur l'economie nationale en 2017, National Statistics Institute (INS)). 299 bags of rice were illegally exported in 2018 (Business in Cameroon, November 14, 2018) 2. The removal of import tariffs on highly consumed imported foods (rice, frozen fish, and wheat) resulted in a cumulative shortfall of about 443 billion CFAF between 2008 and 2015. Since 2016, taxes on these items have been restored (INS). Rice imports, which previously benefited from the suspension of tariffs and taxes, will now be subject to the Common External Tariff (CET) at a rate of 5 percent (January 23, 2020). (https://taxsummaries.pwc.com/republic-of-cameroon/corporate/other-taxes, PWC Worldwide Tax Summaries) According to INS, in 2017, Cameroon imported 728,443 tons of rice with a value of 18.7 billion CFAF. Although rice import tariff has been applied since January 2016, rice imports have increased by 18.6% in volume and 27.9% in value compared to 2016 (Investor au Cameroun, Sept, 2018). As of 2020, tax revenues from tariffs is used to subsidy rice purchase by consumers.
Achievement forecast for the overall goal	Will the Overall goal, 'Sales of irrigated rice and consumption amount of upland rice are increased in the project areas.' be achieved three years after the completion of the Project?	Sales of rice in irrigated area of UNVDA increase Annual consumption of target farmers' own upland rice reaches more than 42kg	Sales of irrigated rice in UNVDA irrigated area Annual upland rice consumption	Project documents Japanese experts MINADER UNVDA Related documents	MINADER is involved in only four regions in PRODERIP. The project has not been able to produce a sufficient amount of seeds for these areas. But due to the good quality of the project seeds, other regions will ask for them. There is no capacity to supply the entire country. Lack of seed production is a challenge, but it's also a sign that we are having a positive impact. With the help of Japanese experts, the MINADER is able to produce good quality seeds. Due to lack of budget, it is unable to supply even when we receive petitions from other regions.
	Are important assumptions appropriate to achieve overall goal by fulfilling the project purpose? Is there a high probability that important assumptions are fulfilled?	Following Important Assumptions are likely to be satisfied 1. Rice policy does not change 2. International rice price does not drop sharply	1. Comments of MINADER on rice policy 2. Trend of international rice price	Project documents MINADER UNVDA	1. The Cameroon's policy toward the achievement of rice self-sufficiency gives a strong support for the project. 2. Rice price has been decreasing since 2013, mainly due to the release of stocks in Thailand. However, it has been on an upward trend since 2017. The Team identified that there is no significant drop in the international price of rice.
Ripple effects	Is there any influence of the Project other than overall goal? - Effects on policy making, legal and judicial institution and regulations - Effects on social and cultural aspects such as gender, human rights and poverty - Economic influence on environment, technology, society, project stakeholders and beneficiaries	Influences of related laws, regulations, and cabinet orders is identified Participation of women in rice production increases Technology of rice cultivation in non-target areas and neighborhood countries improves	Influences on policies, laws, institutions, and standards Influences on environment such as pest and soil pollution Changes of involvement of women and the poor Influences in non-target areas in Cameroon and neighborhood countries in terms of technology	Project documents Japanese experts MINADER UNVDA Related documents	The project is promoting rice cultivation technology thorough local training in DRC, Republic of the Congo, Gabon and Chad, and regional training in Central African Republic on rice cultivation. NGOs, trainees studying agriculture, and farmers of rubber plantations (EVEA) come to receive training in upland rice cultivation. The project provides seeds to prisons where prisoners grow rice. PRODERIP continues to influence the revision of the NRDS, and CP is part of the team that will produce the NRDS version 2. Phase 1 aimed to increase rice production through rain-fed upland rice cultivation, but yields were not as high as expected. In Phase 2, they started both irrigated and rain-fed lowland rice cultivation. For lowland rice, the project wants to fill the gap between production and demand expecting rice exports. This is reflected in the NRDA2 drafting process. The DRCQ was sometimes called upon to certify rain-fed varieties in central, southern, and western regions where it was not previously called upon.
	If there is any negative impact, has the Project dealt with it?	There is no negative impact If there is a negative impact, it is properly dealt	Economic inequality among provinces generated by the Project Example of resolution of negative impacts	Japanese experts Project stakeholders	No negative effect was identified.

Sustainability (Prospects)					
Evaluation Questions		Judgment	Information needed	Information source	Survey results
Main Questions	Sub-Questions				
Policies and Institutions	Will policy support continue after JICA's cooperation is finished?	Political supports are likely to continue after the Project	Comments from MINADER and UNVDA	MINADER UNVDA	The strategy document published in 2019 and updated every five years or so, specifies rice promotion.
	Are related policies and institutions formulated?/ Will they be formulated?	There are regulations related with rice cultivation that support the Project The regulations will be sustained	Regulations under cabinet order Seed inspection standard	Project documents	The PAPMAV-Q, which defines strategic seeds such as corn seeds, includes rice as a strategic seed from 2018.
	How will the technology be transferred to general farmers?	Core farmers keep providing technology assistance to General farmers Mechanism to transfer technology will be improved Irrigated rice cultivation technology manual will be utilized	Comments from Japanese experts, MINADER, UNVDA, extension workers, and Core farmers	Project documents Japanese experts MIDER UNVDA extension workers Manual of Tensui Cultivation Technology	The core farmers will continue to provide instruction to general farmers after the project. The cultivation manuals for upland rice and lowland rice are being prepared in the project. They will be completed by the end of the project.
Organization and Finance	In order to continue project activities to achieve positive impacts after the completion of the Project, is capacity of the implementing agency sufficient? Can implementing agency allocate sufficient human resource, maintain decision-making process, and coordinate with other organizations?	C/P allocates human resource to improve a impact of the Project after the Project C/P has a decision-making process to improve a impact of the Project after the Project C/P has a capacity to collaborate with other organization after the Project	Comments from MINADER, UNVDA, and extension workers	Project documents Japanese experts	The implementing agencies for both upland and lowland rice will continue the activities of the project. The budget for extension workers training is small, and its sustainability is unclear. It is less likely to increase the number of training.
	Is the ownership of core farmers sufficiently confirmed for future?	Ownership of the Core farmers are secured for future development	Comments from extension workers Comments from seed farmers about distribution of CS	Project documents Japanese experts T/G	Core farmers have the advantage to receive training first. Since they are willing to teach neighboring farmers, even if it is free of charge, it is expected that they will continue to teach.
	Are there measures to secure future budget to sustain the impact of the Project?	Previous budget allocation will be clearly proposed Prospect of the future budget allocation is clear	Budget flow of MINADER and UNVDA related with seed production and distribution Long-term prospect about budget	Project documents MINDER UNVDA	The CP's expenditures on training have been gradually increasing. In 2017, the training budget is fully funded by the project budget. In 2019, only drinks and snacks are funded by the project budget. In 2020, drinks are funded by the project budget, and snacks and transportation are funded by the profits from the sale of rice at UNVDA. Though registered seeds and certified seeds are produced with the budget of Cameroon, delays in preparation due to delays in the allocation of the budget and decreased production due to dry spell were concerned. The impact of the delay in the budget allocation on seed production was mentioned in the JCC agenda, but this has not been corrected and is not expected to be solved (January and February 2020).
Technology	Will the know-how transferred from the Project be shared after the completion of the Project?	Willingness to transfer technology after the Project is observed The rice cultivation technology guideline will be utilized	Progress of elaboration of manual and action plan and universality of them The cultivation technology guideline is used	Project documents Japanese experts MINADER, UNVDA Extension workers Manual of Tensui Cultivation Technology	To strengthen relationship between extension workers and core farmers, an action plan was developed for four goals (increase in sowing rate, increase in harvest opportunities, increase in in-house seed production rate, and increase in sowing rate of in-house seeds) in addition to extension and technical training.(February and March 2017)
	Will the equipment of the Project be maintained appropriately after the completion of the Project?	Equipment provided by the Project is highly likely to be utilized after the Project	Frequency of use of equipment Structure and members of maintenance team after the Project	Person in charge of MINADER and UNVDA	As the project plots are located at IRAD, the equipment is located at IRAD, but not all the equipment will be undertook by IRAD after the project is completed, and equipment related to dissemination and agriculture will be placed at MINADER and equipment related to research will be placed at IRAD. The distribution of warehouses, buildings, rice milling machines, etc. will be considered.
Society, culture and environment	Is there any possibility that effects of the Project are not sustainable due to the lack of attention to women, the poor, the socially vulnerable and traditional organizations?	Impacts on women, the poor, vulnerable people, and traditional organization are considered	Probability to increase inequality among provinces The number of women participated in trainings	Project documents Japanese experts Project stakeholders	No significant impact was observed.
	Is there any possibility that effects of the Project are not sustainable due to the lack of attention to the environment?	Impacts on environment are considered	Long-term prospect of influences of pesticide on environment such as soil	Project documents Japanese experts Project stakeholders	Expanding the area of upland rice leads to deforestation. Machineries cannot enter renewable forests. If we put in machines, it will take a long time to recover the forest. This is not only bad for the environment, but also technically difficult.

Necessity of adjustment				
Evaluation Questions		Information needed	Information source	Survey results
Main questions	Sub-questions			
Discussion points based on the survey results	Does the project design need to be revised?	Future strategy of C/P Inconsistency of logic Feasibility	Project documents Japanese experts Project stakeholders	The PDM needs to be revised.
	Do C/P, T/G, and target areas need to be revised?	Future strategy and capability of C/P The number of target farmers of T/G Change in size of target areas	Project documents Japanese experts Project stakeholders	The T/G needs to be revised. The definition of the T/G for lowland rice farmers needs to be revised from the farmers who participated in training to those who bring their paddy to UNVDA. The number of the T/G for upland rice farmers needs to be changed from 5,000 to 3,000.
	Does the content of overall goal need to be revised?	Logic between the Overall Goal and the Project Purpose Appropriateness judging from the current situation	Project documents Japanese experts Project stakeholders	The content of the Overall Goal does not need to be revised.
	Do the indicators of the super goal need to be revised?	Logic between Overall Goal and Project Purpose Feasibility of the Overall Goal Availability of ??	Project documents Japanese experts Project stakeholders	The target figure of the Super Goal needs to be revised to a figure based on SND30 and NRDS 2.
	Do the indicators of the overall goal need to be revised?	Logic between Overall Goal and Project Purpose Feasibility of the Overall Goal Availability of ??	Project documents Japanese experts Project stakeholders	The Overall Goal for lowland rice needs to be revised from "The amount of marketed irrigated rice of in UNVDA irrigation sectors." to "The sales of marketed irrigated rice in UNVDA irrigation sectors. "
	Are important assumptions required to keep placing next to the overall goal?	Necessity to set new important assumptions Contents of new important assumptions	Project documents Japanese experts Project stakeholders	Important assumptions to Overall Goal need to be placed as they are.
	Does the project purpose need to be revised?	No change in the Project Purpose	Project documents Japanese experts Project stakeholders	The Project Purpose does not need to be changed.
	Do the indicators of project purpose need to be revised?	Relevance of indicators Relevance of target figures	Project documents Japanese experts Project stakeholders	The indicator 1 needs to be changed from "Rate of increase of Amount of rice produced in the project areas" to "Amount of rice produced in the project areas"
	Do the outputs need to be revised?	Result of discussion on appropriateness of logic among expression, structure, and activities	Project documents Japanese experts Project stakeholders	The Outputs do not need to be changed.
	Do the indicators of the outputs need to be revised?	Result of discussion on necessity to change target figures taking into account achievement of each Outputs	Project documents Japanese experts Project stakeholders	The indicator 2-1 needs to be revised from "Rate of farmers cultivate upland rice two 2 times in 5 years in the monitoring areas." to "Rate of farmers cultivate upland rice more than twice in 5 years in the monitoring areas." The indicator 3-1 needs to be revised from "Average paddy yield per hector of trained farmers." to "Average paddy yield per hectare of trained farmers."
	Following the changes in the outputs and indicators, do any of activities need to be added or deleted?	Reflection of influences on activities taking into account progress of the Project Result of discussion	Project documents Japanese experts Project stakeholders	To strengthen the capacit of the C/P, "Conduct regional cooperation with neighboring countries and develop training capacity through regional trainings in Cameroon and technical exchange." needs to be added as activity 2-5.
	Following the changes in activities, does any of inputs need to be revised?	Comments from project stakeholders Comments from Japanese side	Project documents Japanese experts JICA Headquarters JICA Cameroon Office	No input needs to be revised.
New important assumptions influential to the Project	Is there any new important assumptions to affect the project?	Result of discussion	Report of Detailed Plan Japanese experts Project stakeholders	Following two important assumptions need to be added; ・A pollical stability is secured ・COVID-19 does not outbreaks
Further recommendation	Suggestions to MINADER, UNVDA, JCC, Project and etc.	Result of discussion	Project documents Japanese experts Project stakeholders	Recommendations for all concerned (1)Extension of project period (2)Revision of PDM Recommendations for MINADER and the Project (3)Extraction of good practices (4)Seed production by farmers (5)Enhancement of group cultivation (6)Tasting activities for new farmers (7)Regular monitoring on rice miller Recommendations for UNVDA and the Project (8)Improvement of financial sustainability (9)Improvement of quality check Recommendations for MINADER (10)Securing C/P funds (11)Appointment of Deputy Project Manager (12)Timely submission of monthly report (13)Increase in seed production


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