Country Name	The Master Plan Study Project for Sustainable Irrigation and Farming in Southern Djibouti
Republic of Djibouti	The Master Plan Study Project for Sustainable Irrigation and Farming in Southern Djibouti

I. Project Outline

<u> </u>								
Background	Djibouti was a typical nation depending on transit trade economy, of which service sector such as intermediate trading, service activities at Djibouti port and others covered the large part of Djibouti's Gross Domestic Product (GDP). Because of its severe natural condition, its GDP from primary industry sector, agricultural production, was quite small. Thus, a rate of the food self-sufficiency was very low and most of food for the population depended on imports from outside. More than half of local population depended mainly on animal husbandry, however, the number of livestocks decreased partly due to the effects of climate change and the severe droughts which had caused the reduction of natural pastures in the grazing land. Thus, many livelihoods of pastoral people were supported by labor workings of family members such as works at the port in Djibouti City. Its chance and income of labor working, therefore, were not stable. In order to cope with these severe situations, the Government of Djibouti set a policy that livelihood of the local pastoral people should be improved through agricultural activities. Accordingly, the Ministry of Agriculture, Water, Fisheries, Livestock and Marine Resources (MAEPE-RH) instructed the project formation of irrigation and agriculture development in southern regions where water resources for agriculture products were not abundant with limited agricultural technology. Therefore, it was urgently needed to establish and develop sustainable irrigation farming by obtaining stable water resources and establishing farming system applicable to the local condition.							
Objectives of the Project	Through verification of the pilot projects, the project aims to formulate a Master Plan (M/P) of sustainable agriculture development, including water resources development in the arid area (southern three regions), thereby contributing to increasing the agricultural production and agricultural income for target areas by utilization of M/P. 1. Expected Goals through the proposed plan: Agricultural production volume in the target area and agricultural income for the people of target areas are increased. 2. Expected utilization of the proposed plan: Measures on irrigation and agriculture utilizing the Master Plan developed by the project are implemented and the program of actions by Djibouti government or development partners are implemented. *Above are translated from Japanese ex-ante evaluation sheet as no English versions are available.							
Activities of the Project	1. Project Site: Southern three regions of Djibouti, namely Arta, Ali Sabieh and Dikhil regions Pilot project site: Kourtimalei (Arta region), Hambokto (Ali Sabieh region), and Afka Arraba (Dikhil region) 2. Main Activities: (1) To formulate a Master Plan of sustainable agriculture development, including water resources development in the arid area, through verification of the pilot projects (2) To develop the capacity of concerned government organizations on planning and project implementation through the Master Plan study and the implementation of the pilot projects 3. Inputs (to carry out above activities) Japanese Side Djibouti Side 1) Mission members: 5 persons 1) Staff allocated from MAEPE-RH* 2) Trainees received* *The number of staff is not available in the Final Report. *The number is not available in the Final Report. 2) Land and facilities: Office space							
Project Period	January 2012 - December 2014 Project Cost (ex-ante) 240 million yen, (actual) 252 million yen							
Implementing Agency	Ministry of Agriculture, Water, Fisheries, Livestock And Marine Resources (MAEPE-RH)							
Cooperation Agency in Japan	NTC International Co., Ltd							

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

[Issues to be clarified for Effectiveness/Impact]

- 1) How to evaluate the Utilization Status of the Proposed Plan at the time of Ex-post Evaluation
- According to the Ex-ante Evaluation Summary Sheet, specific indicators to examine the progress of utilization status are stated as "Progress of measures on irrigation and agriculture utilizing the M/P developed by the project" and "Progress of program of actions implemented by Government of Djibouti or Development Partners". Considering the length of implementation of M/P stated as 20 years, in this evaluation study, the progress of implementation should be examined according to the overall schedule of the project implementation of M/P Study specified in Final Report.
- Sites of the M/P were classified based on its priorities for implementation. The first 5 years is used for the development of sites evaluated as Rank A. While the second 5 years is for the Rank B. Another 10 years is for the Rank C and Rank D. In order to examine project activities that may be carried out other than Rank A area, "Have any project activities been carried out outside of Rank A area?" is used as Supplemental Information 1. Furthermore, in order to examine the motivation of MAPEP-RH to proceed the project proposed by the M/P, "Has the implementing agency been satisfied with the M/P?" is used as Supplemental Information 2.
- 2) How to evaluate the Expected Goal to be achieved by utilization of the proposed plan at the time of Ex-post Evaluation
- Assuming that the Expected Goals are not yet realized within 3 years after the project completion (unless it is defined so clearly in the ex-ante evaluation), the status and its achievement level are examined based on the information collected from the project implementing agency. If no relevant information is collected, no further analysis is required under this evaluation study.

1 Relevance

<Consistency with the Development Policy of Djibouti at the Time of Ex-Ante Evaluation and Project Completion>

At the time of ex-ante evaluation, the project was consistent with the development plan such as "The National Initiative for Social Development (INDS) (2008-2012)" in which promoting harmonious, balanced local development/preserving the environment is listed as one of four pillars. At the time of project completion, the "National Food Security Program (PNSA) (2012-2017)" formulated by the government with supports from international agencies contains "the Ensuring the Food Security" as one of the priority subjects. Based on the basic concept of the INDS and PNSA, "The Development Plan for the Primary Sector (2010-2020) (PDDSP)" was formulated by MAEPE-RH containing the strategies for each sub-sector, such as water, agricultural production, animal husbandry and fishery sub-sectors. <Consistency with the Development Needs of Djibouti at the Time of Ex-Ante Evaluation and Project Completion >

This project was consistent with Djibouti's development needs for sustainable agriculture development at the time of ex-ante evaluation as described in "Background" above. No information or report indicates the change of Djibouti's development needs for sustainable agriculture development to the time of project completion.

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

The Japanese government set its policy of assistant on the basic infrastructure development to secure the basic human needs, which led to the overall economic and social development of the Republic of Djibouti.¹

<Evaluation Result>

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

2 Effectiveness/Impact

<Status of Achievement for the Objectives at the time of Project Completion>

Through verification of the pilot projects, the project achieved its purpose to formulate the M/P of sustainable agriculture development at the time of project completion. The M/P was developed and various trainings, such as onsite demonstration workshop and study tour on model farm visit, etc., were conducted, and the capacity of concerned government organizations on planning and project implementation was strengthened through implementation of the pilot project.

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The M/P has been utilized as planned by the time of ex-post evaluation. The M/P was authorized by the Government of Djibouti in 2014 and officially named as Master Plan of Irrigation. The implementation structure of the program of actions of the M/P has also been established as planned (Indicator 1). The program of actions was implemented in 9 out of 16 sites of the areas that are evaluated with the highest priority, namely as Rank A. The remains are on the preparation (Indicator 2). Also, the program of actions in some sites with lower priority (Rank B or C) was completed or in progress (Supplemental Information 1). Furthermore, the implementing agencies are quite satisfied with the M/P and the varieties of the fundamental research data accumulated by the project (Supplemental Information 2).

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

Through the proposed plan, the Expected Goal, "the agricultural production volume in the target area and agricultural income for the people of target areas are increased", has been progressed. On average for three regions, both of the agricultural production volume and agricultural income steadily increased during the years from 2014 to 2017 showing the increase by 112.4% (Indicators 1 and 2).

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

Several impacts were identified by the study. With thorough discussion among communities and MAEPE-RH, the land acquisition was successfully carried out to implement the irrigation system and agriculture. Interviews with Technical Adviser of MAEPE-RH revealed that local communities especially nomads or semi-nomads who had suffered from the effects of the climate change learned through the project on how to engage in agriculture and keep their lives. "Technical Manual for Establishing Irrigated Farmland" and "Farming Manual" developed by the project were so practical that the MAEPE-RH, with their owns funds and some assistance from external donors, made four hundred copies and distributed them to all agricultural groups, each of which contains 5 to 7 farmers. It is estimated that approximately 2,000 to 3,000 farmers have become manual users. In this way, farmers in non-targeted regions have learned through those manuals about the effective ways of living in rural areas. High officials of the MAEPE-RH commented that those manuals have also served to attract the various program funds of external donors who take advantage of using them at the workshops of their own programs.

It was identified by the study that the project also contributed to the women's participation. According to the interview with high officials of the MAEPE-RH, wells constructed by the project have made women in Djibouti, who used to spend six hours to fetch water, gain more time for other activities. The project encouraged women to actively participate in the workshops for planting and vegetable cultivation, so that they have acquired the farming techniques to gain income for their children's school fees.

<Evaluation Result>

In light of the above, through the project, the M/P was developed by the project completion, and it has been utilized by the time of ex-post evaluation. Furthermore, the Expected Goal, "the agricultural production volume in the target area and agricultural income for the people of target areas are increased" at the time of ex-post evaluation has shown some progress.

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

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

Aim	Indicators	Results
(Utilization Status of the	(marcator 1)	Status of the Achievement: Achieved.
Proposed Plan)	FIOSIESS OF HEASULES OF	(Ex-post Evaluation)
Measures on irrigation and	irrigation and agriculture	The M/P was authorized by the Government of Djibouti in 2014 and officially named as the
	utilizing the M/P	Master Plan of Irrigation. The implementation structure for the program of actions in the M/P
Master Plan developed by	U	(projects) has been established as planned. MAEPE-RH has executed the role as project
the project are implemented		promotion office as planned under the M/P by providing the allocation and execution of the
and the program of actions		project budget and management of project implementation and coordination among
		concerned agencies. Regional Sub-Directorates have also executed the role to confirm the
by Djibouti government or		implementation at each site, coordinate and consult with local authorities and those
development partners are		concerned, monitor the progress and select the participants for various trainings as well.

¹ Source: ODA Databook in 2012

implemented.		Current in	nplemer	ntatio	n st	ruct	ure o	fth	e nro	gran	ı of a	ction	s of t	he M	1 /P			
				ituti	JII 51	ıucı		1 111	c pro				mem		1/1			
		Organization				Planned					Actual							
		MAEPE-RH			(1	(1 Director and 1 assistant)					4							
		Regional	Arta							2		,			2			
		sub directorates	Ali Sab	ieh							irecto	r			2			
			Dikhil						nd 1	Assist	tant)				2			
	Status of the Achievement: Partially achieved (Ex-post Evaluation) It was confirmed through the study that the implementation has been completed or in progress for 9 out of 16 sites in Rank A which are supposed to be completed by next year (2019). Most of sites in Arta, and Ali-Sabieh region have shown the progress, however, some sites in Dikhil, a region far from Djibouti City, have not yet started the implementation. Because of its logistical difficulties, those sites are often considered as less attractive for the program of external donors which provide the funds for implementation. As for the sites of Rank B, C and D which are supposed to be completed by spending another five years or another ten years after 2019, the implementation of program of actions has already been completed or in progress for 7 of 10 sites in Rank B, 3 of 17 sites in Rank C and 1 of 6 sites in Rank D (Supplemental Information 1). What determines the implementation priorities are often the preference of the program of funds attached, urgencies deemed for sites, etc. The progress of implementation for the sites of Rank A is shown below by symbols such that the implementation is "completed" as "@", in progress "O", not yet started "\(\Delta \)", and the plan was not materialized "\(\Z'' \). Progress of Implementation of the program of actions for sites of Rank A (16 sites)																	
		Progress of Implementation of the program of actions for sites of Rank A (16 sites) Arta Region Ali Sabieh Dikhil Region																
		Component 1			site			gion						sites	T	I	ı	
		1-1 Construction of v resource/irrigation fa	cilities	0	0	0	0	0	0	Δ Δ	^ () ©	0	Δ	Δ	Δ	Δ	2
		2-1 Supply of seeds/f tools to beneficiaries	farming	0	0	0	0	×*	0	Δ Δ	Δ (0	0	Δ	Δ	Δ	Δ	2
		3-1 Implementation on-farm instruction	of	0	0	0	0	0	0	Δ Δ	Δ (0	Δ	Δ	Δ	Δ	4
		3-2 Study tour to adv	anced	0	0	0	0	0	0	Δ Δ	^ () ©	0	Δ	Δ	Δ	Δ	
		4-1 Study tour to agricultural cooperati	ives	0	0	0	0	0	0	Δ Δ	^ () ©	0	Δ	Δ	Δ	Δ	
		4-2 Leader trainings		0	0	0	0	0	© .	Δ Δ	<u> </u>) ©	0	Δ	Δ	Δ	Δ	
		4-4 Application of of registration of agricu cooperatives		0	0	0	0	0	© .	Δ Δ	<u> </u>) ©	0	Δ	Δ	Δ	Δ	2
(Expected Goals through	(Indicator 1)	Note: As for one site because the communistart again. (Ex-post Evaluation	ity decid															
the Proposed Plan)	Increase of agricultural	Agricultural Produc	ction Vo	olum							1	 		Unit: kg				
	production volume of		Year	•		st yea			2 nd	+	31			4 th		volu	erage me f	for
volume in the target area and agricultural income for		Regions Arta Region	_	_		2014	680		2015	77	20	16 750		2017	825	4 :	years 7	733
the people of target areas		Ali Sabeih Region					340			65		380	+		470			389
are increased.		Dikhil Region					250			02		320	+		350			306
		_ mm Region	,	Total		1	,270			44		1,450	+		645		1,4	
		Increase (%) since		. otal			,_ , 0	11	05.8%		114.		+	29.5%		11	2.4%	
	1	increuse (%) since	1 year		1	na		1 (15.0%	'	114.	.270	1.	.9.3%	U	11	2.470	,

(Indicator 2) Increase of agricultural	(Ex-post Evaluation) Agricultural Income	(Currency Unit: Djibouti Francs (DJF) in Millions						
income for the people of	V	1st year	2^{nd}	$3^{\rm rd}$	4 th	Average			
target area (Rank A)	Year	2014	2015	2016	2017	Income for 4 years			
	Arta Region	136	135.4	150	165	146.6			
	Ali Sabeih Region	68	73	76	94	77.8			
	Dikhil Region	50	60.4	64	70	61.1			
	Total	254	268.8	290	329	285.5			
	Increase (%) since 1st year	na	105.8%	114.2%	129.5%	112.4%			
	Note: Agricultural Income is calculated based on the Agricultural Production Volume as follows: Agricultural Income data = Agricultural Production Volume x 200DJF/kg								

Source: Final Report, Questionnaire and Interview with MAEPE-RH

3 Efficiency

While the project period was within the plan, the project cost slightly exceeded the plan (ratio against plan: 100%, 105%). Outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The national development program, PNIASAN (Programme National d'investissement Agricole et de Securite Alimentaire et Nutritionelle) (2016-2020), focuses on the expansion of agriculture for keeping peoples' life in rural areas. The program was created by MAEPE-RH with the support of international agencies by referring to "Comprehensive Africa Agriculture Development Program of African Union" and "New Partnerships for Africa's Development". Recently, Resilience Project against Dry Land is financed by Germany and European Development Fund. The idea of resilience is quite important for the dry land such as Djibouti. MAEPE-RH plans to include this idea in the PNIASAN and continue to implement the components of the M/P.

<Institutional Aspect>

The implementation structure of the program of actions has been established as planned under the M/P as MAEPE-RH deploys the necessary number of people for the implementation of the project component. Also, MAEPE-RH makes offices and directions to have its own roles and manages to keep good relations among them. The network among the M/P promotion office under MAEPE-RH and regional governments of three provinces has been functioned effectively to implement the program of action of the M/P.

<Technical Aspect>

MAEPE-RH successfully conducted the training for their staffs and the farming instructors, by using the manual developed by the project. As for the trainings in terms of project implementation and management, the training on "Irrigation System for Vegetable" was conducted for staff of MAEPE-RH. Best practical approaches for agriculture were shared among 140 participants who learned the techniques of irrigation system for vegetable planting and cultivation. As for the trainings in terms of technical instruction, the training on "Irrigation System and Economy of Water" was conducted and capacity development for 20 farming instructors was achieved. Combined with those trainings, the manuals developed by the project for the cultivation of vegetable which serve as the guidance of agriculture training for Nomad Djiboutiens have contributed to sustaining the technical aspect of project effects.

<Financial Aspect>

MAEPE-RH can keep the budget for payroll, administration, management and regional directorates. In terms of the implementation of the program of actions of the M/P. 20 over 49 sites have been implemented and finance for another 4 sites has already been secured by international agencies. Furthermore, it is likely that the financial support is continued from international agencies as they place the considerable emphasis on the M/P.

Budget of MAEPE-RH Unit of Currency: DJF in Thousands								
	Cost items	2009	2014	2015	2016	2017		
C1-	Payroll	372,000	450,000	462,000	531,000	na		
Government Funds	Administration & Management	133,000	213,000	302,000	302,000	na		
Donor's Contribution (Project in the M/P)		410,000	12,418,000	5,109,000	8,000,000	na		
	Total	1,355,000	13,082,000	5,874,000	8,835,000	na		

Source: MAEPE-RH

Unit of Currency: DIF in Thousands

Budget of regional directorate per year (budget related to	or ojects in the iv	1/1)	Omt	of Cuffchey. Da	or in Thousands
Regions	2014	2015	2016	2017	2018
Arta region	500	500	500	500	500
Ali Sabieh region	500	500	500	500	500
Dikhil region	500	500	500	500	500
Total	1,500	1,500	1,500	1,500	1,500

Source: MAEPE-RH

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional, technical and financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

Through verification of the pilot projects, the Master Plan of sustainable agriculture development, including water resources development in the arid area (southern three regions) was developed by the project as the proposed plan, and it has been utilized by the time of ex-post evaluation. Through the utilization of the proposed plan, the Expected Goal, "Agricultural production volume in the target area and agricultural income for the people of target areas are increased" have shown some progress at the time of ex-post evaluation. As for sustainability, no problems have been observed in terms of policy, institutional, technical and financial aspects. As for efficiency, the project cost slightly exceeded the plan.

Considering all of the above points, this project is evaluated to be highly satisfactory.



Overview of vegetable garden with pond irrigation, Didjan Der tributary in Arta region



A deputy leader of Agriculture Group explained the growth of Okra.

Didjan Der tributary in Arta region