

O&M of Irrigation Facilities (NRI-AF)

Contents

1.	Background of O&M of Irrigation Facilities	1
2.	O&M Situation	1
2.1	Phase I subprojects	1
2.2	Phase II subprojects	3
2.3	Phase III subprojects	3
2.4	Phase IV subprojects.....	4
3.	O&M monitoring for NRI Project Grant No. 0235-Lao (SF).....	5

1. Background of O&M of Irrigation Facilities

1. Establishment of WUGs: The compulsory associated initiatives include training of beneficiaries and selected DAFO staff in procedures for establishing WUGs outlining the roles and responsibilities for officials appointed to management positions therein. Training will cover essential steps needed but will also develop communications skills, ensure gender equity, address participation of disadvantaged households and be inclusive of all ethnic groups.

2. Operation and maintenance training for scheme managers and operators: While a gravity-fed system is essentially simple to operate, there are issues of water management, gate management, water release, reservoir cleaning etc. that need to be programmed and agreed to by all beneficiaries. Practical training will ensure those responsible for these functions are fully competent. All users need to understand and agree to water allocations so that downstream users have access to agreed water flows.

3. The steps from “completion of construction of the irrigation facilities” to “operation by WUG” are as follows. “(i) Construction completed” ⇒ “(ii) Defect Liability Works 1 year after completion” ⇒ (iii) MOU on O&M” ⇒(iv) O&M Manual” ⇒(v) O&M Training” ⇒ “(vi) O&M Transfer to WUG” ⇒ “(vii) Operation by WUG”

4. In order to ensure the ownership of beneficiaries, the Project has been focusing on the communities/WUGs as major participants in design, implementation and O&M of the irrigation facilities. Completed irrigation facilities of Nam Beng and Nam Oun are now being operated by the communities.

2. O&M Situation

5. In order to ensure the ownership of beneficiaries, the Project has straightening of Capacity building of WUG EC members through trainings on (1) administration, (2) financial management, and (3) O&M were carried out by PPO and DCO staffs for all WUG EC.

2.1 Phase I subprojects

6. WUG establishment: Three (3) WUGs for 2 subprojects (Nam Beng and Nam Oun) have been established with assist of PPO and DCO staff during February to March 2018. (See **Appendix 6.1 and 6.2: WUG Establishment**)

7. O&M training: All 2 subprojects (Nam Beng and Nam Oun) has been conducted Irrigation O&M training completed in 2018. Total 82 persons was participated on the training

which is 21 persons (or 26%) of them are females. The topic of O&M training includes:

- ... Preparation of the O&M plan, water delivery and distribution into the cropping area of each irrigation block for each irrigation sub-scheme;
- ... Listing up of irrigation facilities/ structures based on as built drawings, and how to operate each facility;
- ... Cropping plan of rice and commercial crop production in dry season;
- ... Use of Irrigation Block Map for i) cropping plan, and ii) water distribution plan for each irrigation block.

8. Detail of training date and number of participants on each subproject was show in the table below:

	Phase I	Date	Participant	Female	%
1	Nam Oun (Houn, ODX)	22-11-18	26	7	27%
2	Nambeng				
	Houay Lor	23-11-18	29	7	24%
	Nam Beng	26-11-18	27	7	26%
	Sub-total Phase 1		82	21	26%

9. As of 05 July 2019, the O&M of Nam Beng irrigation facilities have been completed and final inspection certified for the defect liability of the construction works. For Nam Oun Final inspection of defect liability (1 year) based contract of the Nam Oun subproject is completed in the Q2/2020 (7 May 2020).

10. The official process documentation for the Irrigation Management Transfer i) from DOI to PAFO, and ii) PAFO to DAFO and to WUG has been prepared, signed and official transfer organized at Nam Beng on 17 September 2021, and Nam Oun on 27 September 2021

11. ISF collection started in the wet season cropping 2018. The situation of ISF collection and expenditure on regular O&M, and ISF cumulated as of December 2022 is presented in the table below.

No.	Year	Subproject Name	ISF collection (LAK)			Brought forward (LAK)	Expenditure (LAK)	Balance (LAK)
			WS	DS	Total			
1	2018	Nam Beng	34,782,000	-	34,782,000	8,374,000	18,556,966	24,599,034
1.1	2018	Nam Beng + Nam Maed	16,810,000		16,810,000		10,750,966	6,059,034
1.2	2018	Houay Lo	17,972,000		17,972,000	8,374,000	7,806,000	18,540,000
2	2018	Nam Oun	7,822,000		7,822,000		2,641,000	5,181,000
1	2019	Nam Beng	50,185,276	3,000,000	53,185,276	24,599,034	40,154,276	37,630,034
1.1	2019	Nam Beng + Nam Maed	18,874,000		18,874,000	6,059,034	9,661,000	15,272,034
1.2	2019	Houay Lo	31,311,276	3,000,000	34,311,276	18,540,000	30,493,276	22,358,000
2	2019	Nam Oun	16,792,000		16,792,000	5,181,000	7,388,600	14,584,400
1	2020	Nam Beng	50,185,276	3,000,000	53,185,276	37,630,034	34,445,276	56,370,034
1.1	2020	Nam Beng + Nam Maed	18,874,000		18,874,000	15,272,034	11,598,000	22,548,034
1.2	2020	Houay Lo	31,311,276	3,000,000	34,311,276	22,358,000	22,847,276	33,822,000
2	2020	Nam Oun	20,438,400		20,438,400	14,584,400	6,131,520	28,891,280
1	2021	Nam Beng	-	-	-	56,370,034	-	56,370,034
1.1	2021	Nam Beng + Nam Maed			-	22,548,034		22,548,034
1.2	2021	Houay Lo			-	33,822,000		33,822,000

No.	Year	Subproject Name	ISF collection (LAK)			Brought forward (LAK)	Expenditure (LAK)	Balance (LAK)
			WS	DS	Total			
2	2021	Nam Oun	37,191,000		37,191,000	28,891,280	36,005,280	30,077,000
1	2022	Nam Beng	47,212,800	-	47,212,800	79,838,834	24,818,800	102,232,834
1.1	2022	Nam Beng + Nam Maed	17,470,800		17,470,800	29,824,034	9,650,800.00	37,644,034.00
1.2	2022	Houay Lo	29,742,000		29,742,000	50,014,800	15,168,000.00	64,588,800.00
2	2022	Nam Oun	46,007,800.00		46,007,800.00	30,077,000.00	25,298,444.00	50,786,356.00

Source: PPO quarterly progress reports

2.2 Phase II subprojects

12. WUG establishment: Establishment of total 28 WUGs of all 7 Phase II were approved by the relevant district governors from March to June 2019.

13. O&M training: Capacity building improvement for WUG EC members through trainings on (1) administration, (2) financial management, and (3) O&M were carried out by PPO and DCO staffs for all WUG EC Phase II subprojects. 10 Training courses for 7 subprojects of phase II was conducted by end of Feb., 2021. Total 392 persons was participated which is 137 persons (or 35%) were females. Detail of each subproject see the table below:

	Phase II	Date	Participant	Female	%
1	Nam Hao	30-03-20	71	18	25%
2	Nam Tong	22-25/3/2020	50	20	40%
3	Nam Ngene 2	26-28/3/2020	22	8	36%
4	Houay Xo 2	26-05-22	59	20	34%
5	Houay Bong	09-08-22	75	35	47%
6	Nam Sa (Long, LNT) (Phase II)	(1) 20 – 21 Jan 21	19	6	32%
		(2) 23 – 24 Jan 21	22	6	27%
7	Nam Lue – Nam Chang (LNT, LNT) (Phase II)	(1) 27 – 28 Jan 21	26	8	31%
		(2) 29 Jan 2021	26	9	35%
		(3) 31 Jan – 1 Feb 21	23	7	30%
Sub-total Phase 2			393	137	35%

14. Operation: By the end March 2023, All 7 subprojects of phase 2 construction works were completed.

15. IO&M Transfer expect to Completed in April - May 2023.

16. ISF collection: Only available for Luang Namtha.

Year	Subproject Name	ISF collection (LAK)			Cumulated (LAK)	Expenditure (LAK)	Balance (LAK)
		WS	DS	Total			
2022	Nam Sa	NA	N/A	N/A	4,852,000	1,455,000	3,397,000
2022	Nam Lue-Namchang	NA	N/A	N/A	4,208,000	1,000,000	3,208,000

Noted: Nam Gna 2 not yet available.

2.3 Phase III subprojects

17. WUG establishment: From October to December 2020, a total of 34 WUGs for all 7 subprojects of Phase III were established and approved by the relevant district governors.

18. Irrigation O&M training: Capacity building of Phase III WUG EC members through trainings on (1) administration, (2) financial management, and (3) O&M was conducted by March 2021. There are 12 training courses have been conducted for 7 subprojects under phase III. Total 861 persons participated on the training which is 321 person (37%) were females. Detail of each subproject see the table below:

	Phase III	Date	Participant	Female	%
1	Dong Nouak (Nyot Ou, PSL)	1 – 4 March 2021	37	13	35%
2	Nam Hoy – Nam Lou (Boun Neua, PSL)	6-10/3/2021	57	31	54%
3	Nam Ngaad (Houn, ODX)	25 – 26 Jan 2021	51	13	25%
4	Namkha (Nam Haad-Houay Lieng)	18-05-22	26	6	23%
	Namkha	01-05-19	280	120	43%
	Nam Kha (Pha Oudom, BKO)	12 – 23 Jan 2021	157	55	35%
5	Nam Satone (Houaixay, BKO)	8 – 17 Feb 2021	120	36	30%
6	Nam Gna 2 (Sing, LNT)	5 – 6 Mar 2021	43	14	33%
7	Nam Ma (Long, LNT)	(1) 24 – 25 Feb 21	34	12	35%
		(2) 26 – 27 Feb 21	17	6	35%
		(3) 28 Feb – 1 Mar 21	19	8	42%
		(4) 2 – 3 Mar 21	20	7	35%
Sub-total Phase 3			861	321	37%

19. By March 2023, civil works 7 subprojects construction completed 100%.

20. IO&M transfer expect to complete in April to May 2023.

21. ISF collection: In Oudomxay.

Year	Subproject Name	ISF collection (LAK)			Brought forward (LAK)	Expenditure (LAK)	Balance (LAK)
		WS	DS	Total			
2022	Nam Ngaad	18,034,000	-	18,034,000	18,034,000	4,580,000	13,454,000
2022	Nam Ngaad 1	670,000		670,000	670,000		670,000
2022	Nam Ngaad 2	3,000,000		3,000,000	3,000,000		3,000,000
2022	Nam Ngaad 3	670,000		670,000	670,000		670,000
2022	Nam Ngaad 4	670,000		670,000	670,000		670,000
2022	Nam Ngaad 5	8,774,000		8,774,000	8,774,000	4,180,000	4,594,000
2022	Namkham	4,250,000		4,250,000	4,250,000	400,000	3,850,000

2.4 Phase IV subprojects

22. WUG establishment: WUGs for all Phase IV subprojects were established and approved by the relevant district governors by the end of December 2021.

23. Construction works of all 6 Phase IV subprojects commenced and works progress see app 4.1. All ongoing construction works was suspended for wet season rice cropping.

24. Irrigation O&M training: Capacity building of Phase III WUG EC members through trainings on (1) administration, (2) financial management, and (3) O&M was provided by end of August 2022. There are 6 trainings courses was conducted with 400 persons participated on the training which is 113 persons (28%) were females. Detail date and number participant see the table below:

	Phase IV	Date	Participant	Female	%
17	Nam Ngay-Nam Boun	15-17/2/2022	40	18	45%
6	Houay Lap – Nam Ngai	19-26/2/22	74	23	36%

19	Nam Gna 1&3	7-11/6/2022	146	34	23%
20	Namtha 3	05-08-22	36	11	31%
21	Namtin 2	04-10-22	32	7	22%
22	Houay Sat 2	15-01-21	72	20	28%
	Sub-total Phase 4		400	113	28%

25. O&M Transfer. Recently, all construction completed in March 2022 and all subproject expect to transfer to WUGs in April – May 2023.

26. ISF collection:

Year	Subproject Name	ISF collection (LAK)			Cumulated (LAK)	Expenditure (LAK)	Balance (LAK)
		WS	DS	Total			
2022	Namtha 3	NA	N/A	N/A	51,203,769	16,778,000	35,018,000

3. O&M monitoring for NRI Project Grant No. 0235-Lao (SF).

27. Luang Namtha Province: In order to ensure sustainability of the NRI Project funded by ADB Grant 0235-Lao (SF). Luang Namtha PPO was continue straightening of capacity of the WUGs under the project year 1, 2 and 3 by continue conduct O&M training of WUGs executive committee and farmers. During the Q3/2022 (July – August 2022) 7 O&M trainings review was conducted which is total participant 179 persons (49 females) or 27%. The training topic included of:

- (1) WUG management (methodology on group management, review rule and regrualtion, review of ISF collection and financial accounting control, forms and reporting).
- (2) Water dustrubution and conttrol technique, Maintenance of Irrigation facility, budgeting for O&M.
- (3) Cropping Calendar and Pattern planin, including of varietion selection, and SRI technique cropping.
- (4) Contract farmin, marketing and negotiation

Subproject Name	Date of Training	Total participant	Female	Percentage
Nam Ma Oun	27/07/2022	23	9	39%
Nam Gna 4	28/07/2022	24	9	38%
Nam Gna 6	29/07/2022	30	8	27%
Houay Luang	30 /07/2022	23	4	17%
Nam Gna 5	31 /07/2022	22	5	23%
Nam Dai 5-6	01 /08/2022	32	8	25%
Namngene - Thongpiane	06 /08/2022	25	6	24%
Total		179	49	27%

28. ISF collection (NRI Subproject year 1,2&3)

No	Nam of subproject	Cumulated (LAK)	Expenditure (LAK)	Balance (LAK)
	Year 1			
1	Nam Dai	74,389,000	4,696,000	69,693,000
2	Hong Kong	32,643,500	5,162,000	27,587,500
3	Nam Ma Oune Irrigation	58,698,000	1,710,000	56,998,000

Appendix 5

No	Nam of subproject	Cumulated (LAK)	Expenditure (LAK)	Balance (LAK)
	<u>Year 2</u>			
1	Nam Gngang Irrigation	42,760,000	10.977.000	31,783,000
2	Nam Gna 6 – Houay Luang	54,669,330	22.573.000	32,096,330
3	Nam Bak Irrigation	12,614,000		12,614,000
	<u>Year 3</u>			
1	Nam Ngaen - TP Irrigation	31,563,000	6.942.000	24,621,000
2	Nam Gna 4 – 5 Irrigation	45,894,000	6.296.000	39,598,000
3	Houay Makmue Irrigation	8,325,000		8,325,000