

Appendix 7: Reference to Output 2

- 7-1 Result Report
- 7-2 Technical drawing of Manual seeder

Activity code: 2-1/11/12**Title of activity**

Establishment of direct sowing rice cultivation techniques

Activity realized

- a) Improvement of upland direct sowing method
- b) Improvement of wet land direct sowing method
- c) Elaboration of prototype of manual seeder

Responsible person: SDAE/DPA Gaza/JICA

Objectives

- a) To identify adequate direct sowing method
- b) Improvement of manual seeder

Methodology applied

- a) Design and performance test of prototype of manual seeder.
- b) Manufacturing prototypes of seeders are manufactured for the verification and diffusion to the farmers.

Results obtained

- a) Prototype production 8 units
- b) Field work performance verified
- c) OJT prototype making; 4 courses (38 days), 19 participants
- d) Manual for manufacture of seeder has been elaborated

Self-evaluation (accomplishment % as compared with the indicator of PDM): 90%

Observations (problems observed if any)

Flood of 2013 affected field test of manual seeder

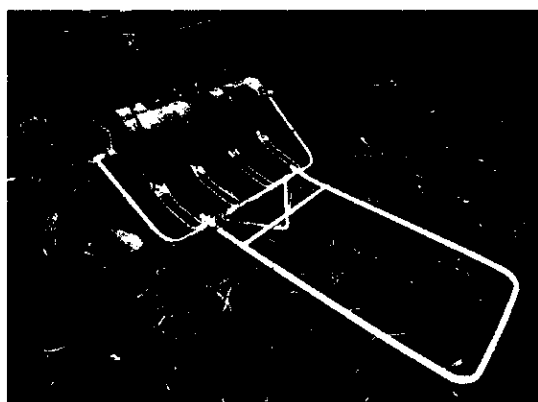
10. Activity in continuation

Modification of manual seeder (animal traction)

Reference data

a) Detail of field work performance shown in results report of 1-1/11/14

b) Prototype of manual seeder



c) Line sowing by manual seeder D5



d) Cost of manual seeder

Material	Specification	Unit price (Mt.)	Quantity required for 1 unit of seeding machine	Quantity used and cost (Mt.)
Iron pipe	Ø 21mm, 5m	481	1unit	481
Iron pipe	Ø 27mm, 5m	772	1/2 unit	386
PC pipe	Ø 27mm, 5m	184	1/4 unit	46
Reinforced iron bar	Ø 10mm, 6m	152	2 pieces	304
Reinforced iron bar	Ø 8mm, 6m	100	1piece	100
Galvanized sheet	Thickness0.2mm, 2×1m,	550	1sheet	550
clamping band	Medium size	25	4 pieces	100
Aluminum rivet	3×13mm, 50pieces/box	120	2 boxes	240
Hinge (small)	Small size	30	4 pieces	120
Bolt & nut	Ø 8mm, length 8cm	50	1piece	50
Bolt & nut	Ø4mm, length 6cm	20	8 pieces	160
Rectangular iron pipe	3cm×3cm, 4m	300	1unit	300
Iron plate	Thickness 0.8mm, 1.2×2m	880	1/5 sheet	176
Chain	Ø 25mm, 1m	280	1m	280
Paint	White, 500cc	280	1/5 can	56
Painting brush	Medium size	150	1 piece	150
Thinner	500cc/bottle	80	1/5bottle	16
welding cost	-	500	-	500
Labor cost (estimated)	5MD(Man·day)	Mt.300	5MD	1,500
			Total	5,515

Activity code: 2-2-(1)11/12**Title of activity**

Analysis of limiting factors of technical components of traditional direct sowing rice cultivation

Activity realized

- Field survey of traditional direct sowing rice cultivation of the farmers
- Yield survey of traditional direct sowing rice cultivation in the project area
- Identification of critical technical components of direct sowing rice cultivation

Responsible person: SDAE/DPA Gaza/JICA

Objectives

- To identify factors prevent the expansion of direct sowing in the project area
- To establish direct sowing rice cultivation techniques by using manual seeder

Methodology applied

- Farmers' traditional cultural practices of direct sowing are studied to identify critical technical components.
- The productivity of rice cultivation is studied in the project area.
- Limiting factors of direct sowing method is identified through the field survey in the project area.

Results obtained

- Limiting factors of traditional direct sowing observed in Chokwe Irrigation Scheme are;
 - * Heterogenetic seeding density in the field
 - * High seeding rate than the proper amount
 - * Decrease in seed germination and seedling establishment due to extreme seeding depth

- * Difficulty in weeding after germination and seedling establishment
- * Intensification of competition within plant population
- * Reduction of photosynthetic capacity by mutual shielding
- b) High yielding in line sowing (2013)
- c) High yielding in line sowing but no significant difference as compare to that of broadcasting (2014)
- d) Macassane and ITA312 responded in different way of sowing method (2014)

Self-evaluation (accomplishment % as compared with the indicator of PDM): 100%

Observations (problems observed if any)

None

Activity in continuation

None

Reference data

a) Limiting factors identified of traditional direct sowing and technical countermeasures

Type of work	Traditional practice	Forecasted problems	Technical countermeasure
Field cleaning	Disk plowing and harrowing Deep plowing depth Dry weed and crop residue not removed	Poor harrowing performance Poor seed covering Germination problem due to deep plowing Nitrogen loss due to incorporated weed and crop residue	Cleaning field (weed and crop residue to be taken out from the field) Adequate soil clod crushing by harrowing
Seed procurement	MIA and private shop Neighboring farmer	Mixture of different variety (Neighbouring farmer) No seed treatment	Acquisition of pure seed Seed treatment before sowing

Type of work	Traditional practice	Forecasted problems	Technical countermeasure
Seed rate	Traditional seed rate (kg/ha) observed (a) 100 to 150kg/ha: 61% (b) 150 to 200kg/ha: 36% (c) More than 200kg/ha: 3%	High plant population and over shading Nutrient competition among plant	Adequate seed rate: 100 to 150 kg/ha Adequate land preparation Proper irrigation
Land preparation	Uneven Disk plowing and harrowing (plowing depth more than 30 cm) Traditional land preparation (a) Disk plowing + disk harrowing + seed sowing + seed covering by harrow: 62% (b) Disk plowing + seed sowing + seed covering by harrow: 38%	Poor germination Improper irrigation	Adequate plowing (even plowing not too deep) Soil clod crushing (4cm diameter of soil clod) Introduction new machinery for land preparation
Soil clod crushing	Poor harrowing No harrowing before seed sowing	Big soil clod size (10 cm) of traditional harrowing	Adequate harrowing to reduce soil clod size Introduction of new machinery
Leveling	No leveling practiced	Poor seed covering due to poor leveling of the field	Good seed covering Introduction sowing machine
Irrigation furrow making	Supplementary furrow for small partition not prepared	Poor germination due to flood irrigation and water standing in the field	Leveling of field Supplementary furrow making to avoid flood irrigation
Plotting	Traditional plotting (a) Split 1 hectare into 4 marachas (b) Divide 1 maracha into 8 canteros No leveling of cantero practiced	Poor germination and seedling establishment due to standing water in the field Heavy weed infestation due to poor leveling and improper water management	Leveling of cantero (less than 10 cm difference) Make small division to obtain good leveling
The fist irrigation after sowing	Flood irrigation Water standing in the field	Poor germination and seedling establishment Heavy weed infestation	Proper irrigation to avoid water standing in the field No flood irrigation
Weed control	Application of Propail and MCPA (50% of farmers)	Weed infestation due to inadequate herbicide application (doses and time of application)	Adequate herbicide application (a) 4 to 5 leaf stage of seedling (around 30 days after 1st irrigation) (b) application of recommended doses
Water management till seedling establishment	Flood irrigation Water standing in the field	Poor seedling establishment due to flood irrigation and water standing Salt injury due to dry up of field Weed infestation	Proper irrigation to avoid water standing in the field No flood irrigation Maintain filed wet
Initiation of flood irrigation	Poor attention of initiation of flood irrigation	Poor seedling establishment due to early initiation Weed infestation due to late initiation	Adequate flood irrigation (a) 4-5 leaf stage (after herbicide application and 1st Urea application) (b) plant height more than 10 cm
Fertilizer application	Traditional fertilizer application of farmers (a) No fertilizer application (30% of farmers) (b) Urea 50 to 100 kg/ha (60% of farmers) (c) Apply all amount fertilizer at late tillering stage	Poor panicle production Elongation of internode and lodging of plant Infestation of insect damage	Urea 100 to 150 kg/ha Split application (3 times) (a) 1st: 4 to 5 leaf stage (b) 10 days after 1st application (c) 30 to 35 days after 2nd application

b) Yield and yield components of direct sowing field in D11, 12

Sample No.	Number of panicle/m ²	Av. Spikelet/panicle	Number of spikelet/m ²	Filled spikelet percentage (%)	Weight of 1000 grains (g)	Yield (ton/ha)
DSF-1	451	60.5	27286	54.4	26.31	3.04
DSF-2	351	70.9	24886	54.7	25.35	3.45
DSF-3	356	62.1	22108	51.9	25.78	3.92
DSF-4	298	86.9	25926	49.6	28.27	3.81
DSF-5	132	104.7	13820	38.5	23.01	1.43
DSF-6	247	61.3	15289	59.2	24.17	2.16
DSF-7	201	78.5	15778	67.8	25.84	2.72
DSF-8	162	91.9	14904	72.9	24.23	2.71
DSF-9	140	108.4	15176	68.2	21.71	2.21
DSF-10	286	66.3	18961	68.1	24.48	3.18
	262	79.2	19464	58.5	24.92	2.88

Note:DSF= Direct sowing field of the general farmer.

c) Yield and yield components of direct seeding trial field in experimental station

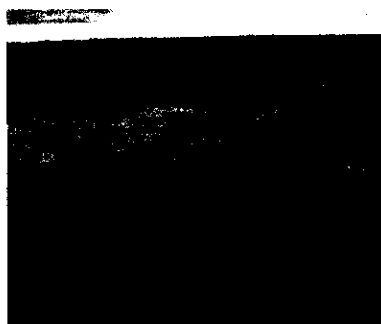
Sample No.	Number of panicle/m ²	Av. Spikelet/panicle	Number of spikelet/m ²	Filled spikelet percentage (%)	Weight of 1000 grains (g)	Yield (ton/ha)
DSS-1	269	81.7	21,977	74.4	26.31	4.31
DSS-2	356	62.1	22,108	71.9	25.78	4.09
DSS-3	298	86.9	25,896	69.6	26.27	4.73
DSS-4	261	81.3	21,219	89.2	24.17	4.57
DSS-5	291	88.5	25,753	77.8	25.84	5.18
DSS-6	262	91.9	24,078	82.9	24.23	4.84
DSS-7	319	89.1	28,423	78.2	25.71	5.71
DSS-8	186	96.3	17,912	88.1	24.48	3.86
	280	84.7	23,421	79.0	25.35	4.66

Note: DSS= Direct sowing field of the Experimental Station.

d) Farmer's field in D11



High seed rate of broadcasting



Poor germination by water standing



Deep seeding depth (4-5cm)

Activity code: 2-2-(2) /12/13

Title of activity

Verification of the efficiency of mechanized rice cultivation

Activity realized

- a) Study on the efficiency of land preparation by tractor
- b) Study on the efficiency of land preparation by power tiller

Responsible person: SDAE/DPA Gaza/JICA

Objectives

- a) To establish mechanized rice cultivation system of transplanting
- b) To improve seed germination performance by mechanized land preparation of direct sowing.

Methodology applied

- a) Test of the efficiency of land preparation system of the combination of power tiller and rotary cultivator for transplanting
- b) Test of efficiency of land preparation system of tractor and rotary cultivator for direct sowing.

Results obtained

- a) Field work performance of rotary cultivation, chisel plowing, puddling and sowing by manual seeder are verified. Detail results are shown in Activity report 1-1/11/14.

Self-evaluation (accomplishment % as compared with the indicator of PDM): 80%

Observations (problems observed if any)

None

Activity in continuation

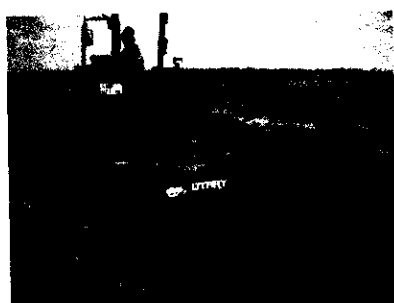
None

Reference data

- a) Field work performance of agricultural machinery

Type of work	Rotary cultivation	Chisel plow cultivation	Puddling by power tiller	Manual seeder
Name of attachment	NIPL0 MXK2000	SGANO MSC8PSL	Yanmar YZC-D	Chokwe made
Field work performance (ha/hour)	0.28	0.35	0.07	0.31
Field work efficiency (hour/ha)	3.62	3.94	17.52	3.59
Fuel consumption (lit/h)	7.95	3.91	0.76	0.00

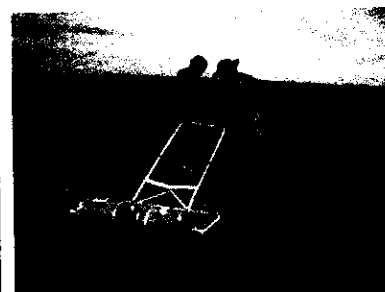
Note: rotary and chisel plow by tractor JD5503 75HP



Rotary cultivation



Chisel plowing



Sowing by manual seeder

Activity code: 2-2-(3) /112/14

Title of activity

Elaboration direct sowing rice cultivation manual

Activity realized

a) Elaboration of direct sowing rice cultivation manual for technology transfer to the beneficiaries of the project.

Responsible person: SDAE/DPA Gaza/JICA

Objectives

- a) To establish high yielding direct sowing method
- b) To develop appropriate direct sowing method to expand surface area of rice cultivation in the project area.

Methodology applied

- a) Results of experiment and verification trial are analyzed
- b) Technical components of direct sowing method are examined
- c) Direct sowing rice cultivation manual is elaborated for the technology transfer to the beneficiaries of the project

Results obtained

Direct sowing rice cultivation manual was prepared.

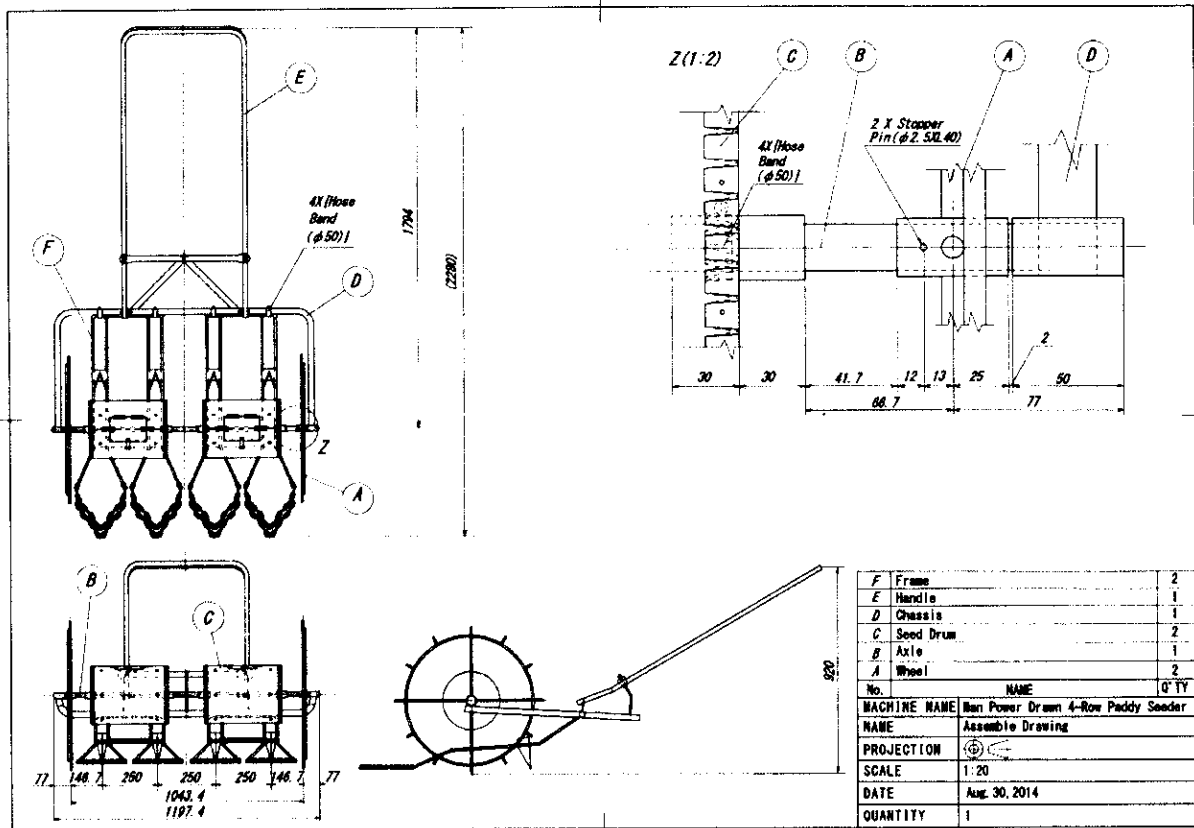
Self-evaluation (accomplishment % as compared with the indicator of PDM): 100%

Observations (problems observed if any)

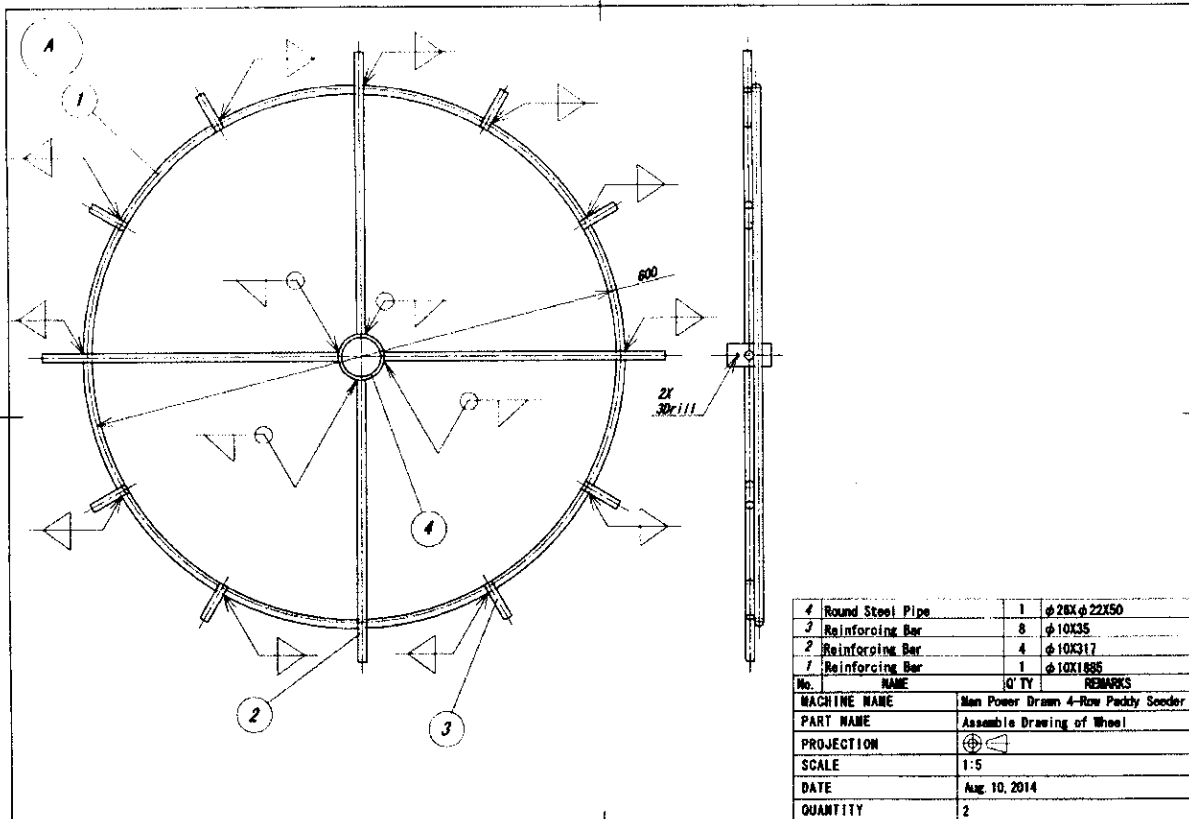
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Activity in continuation

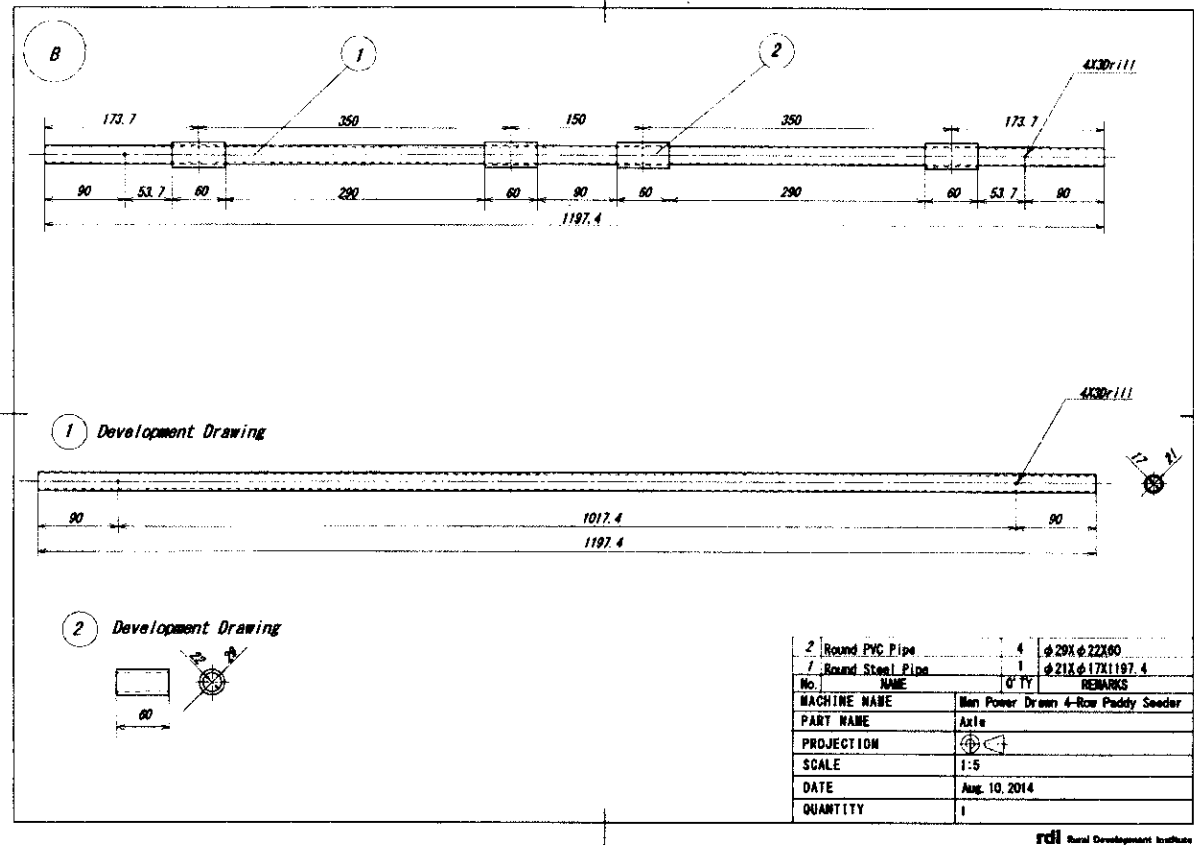
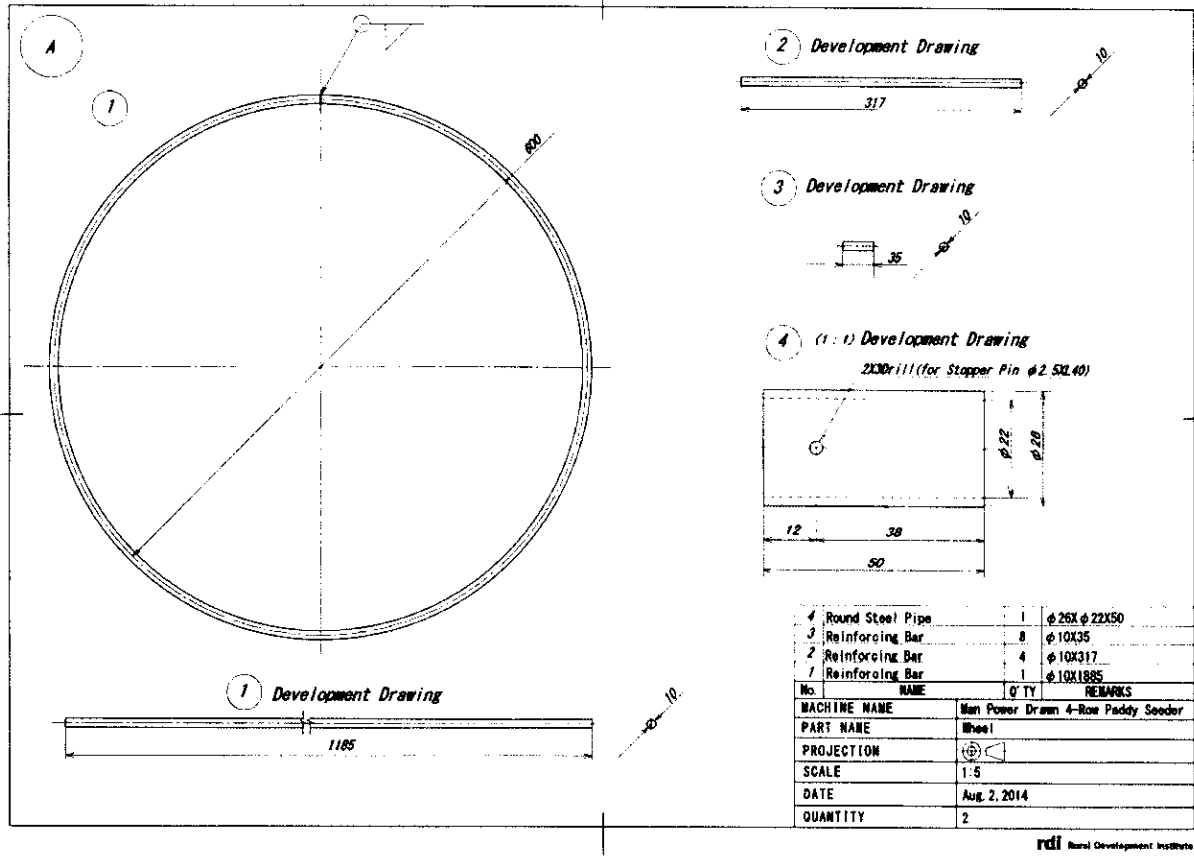
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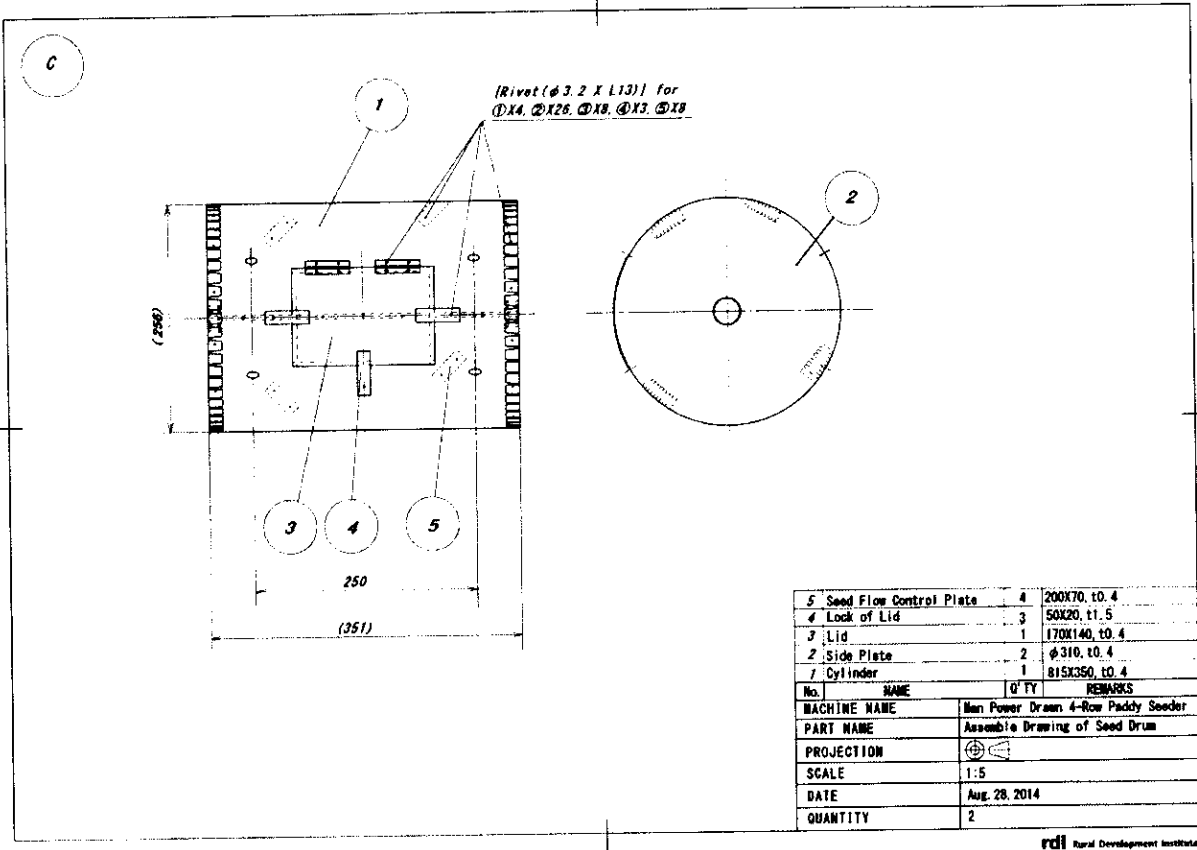


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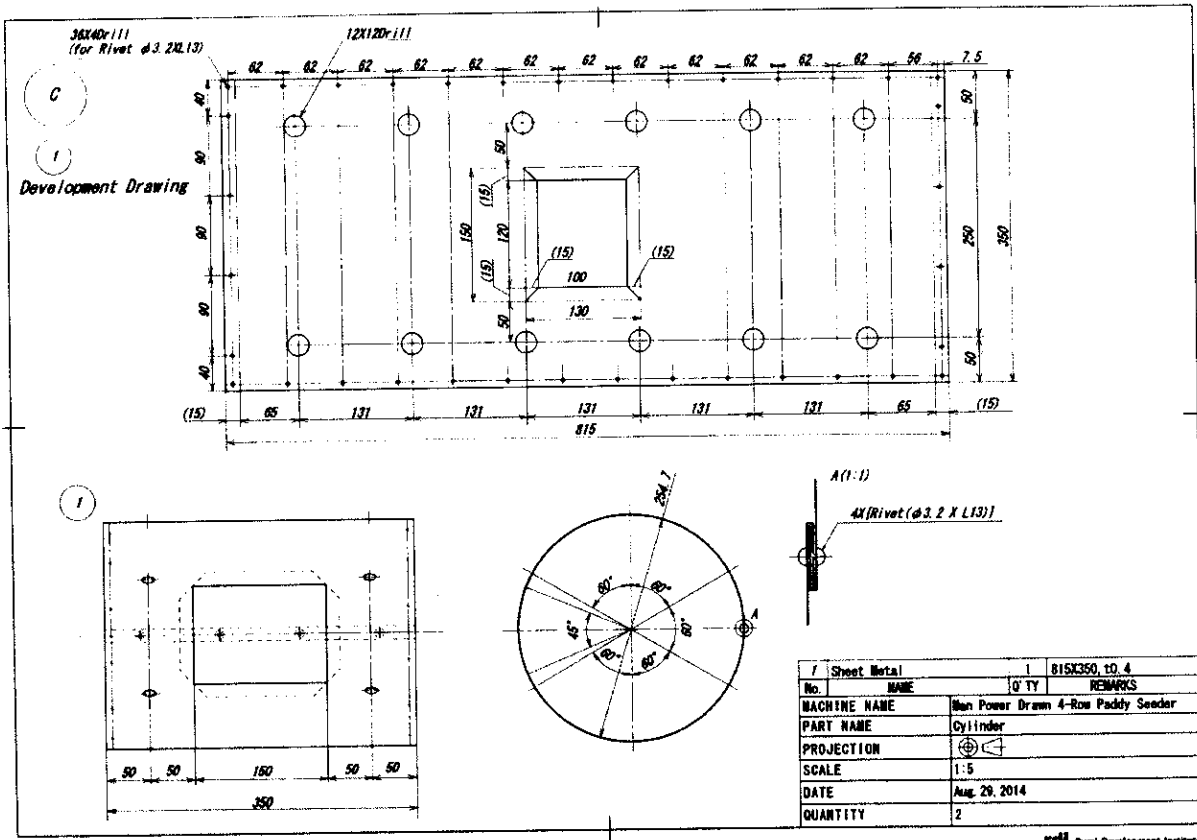


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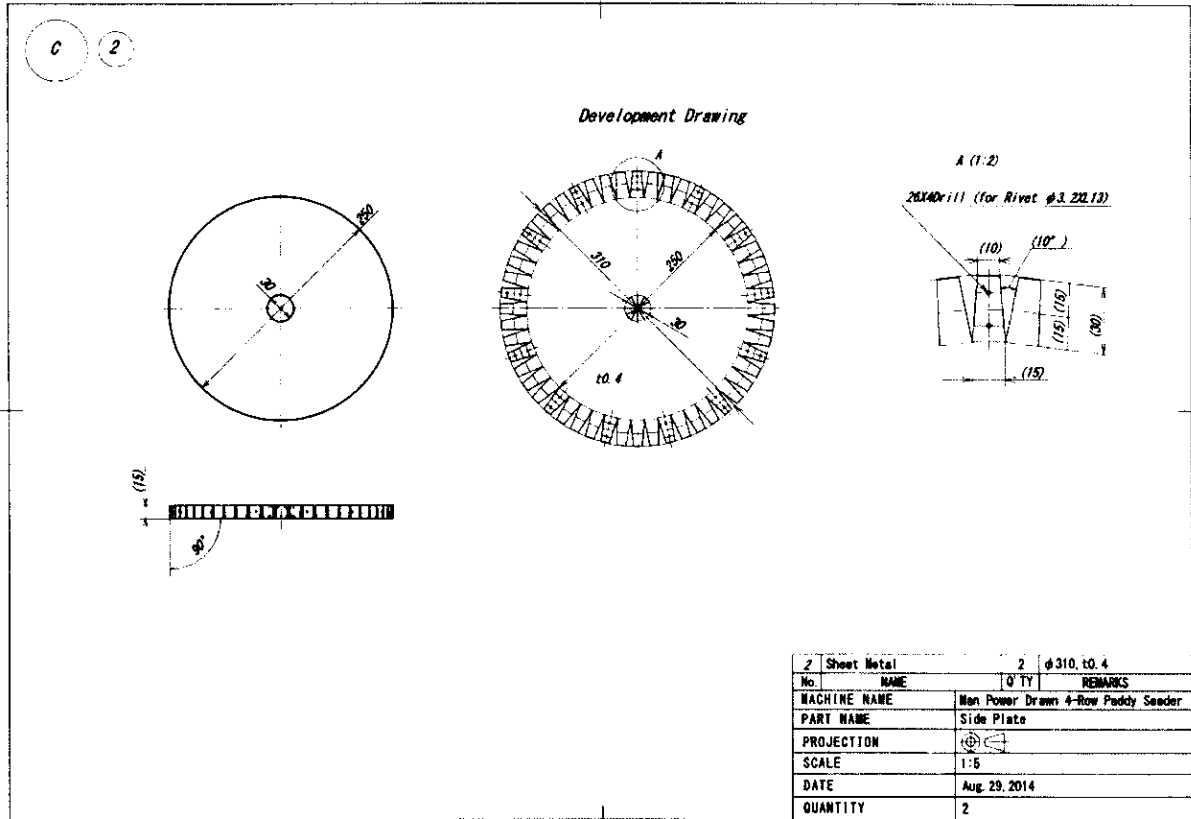




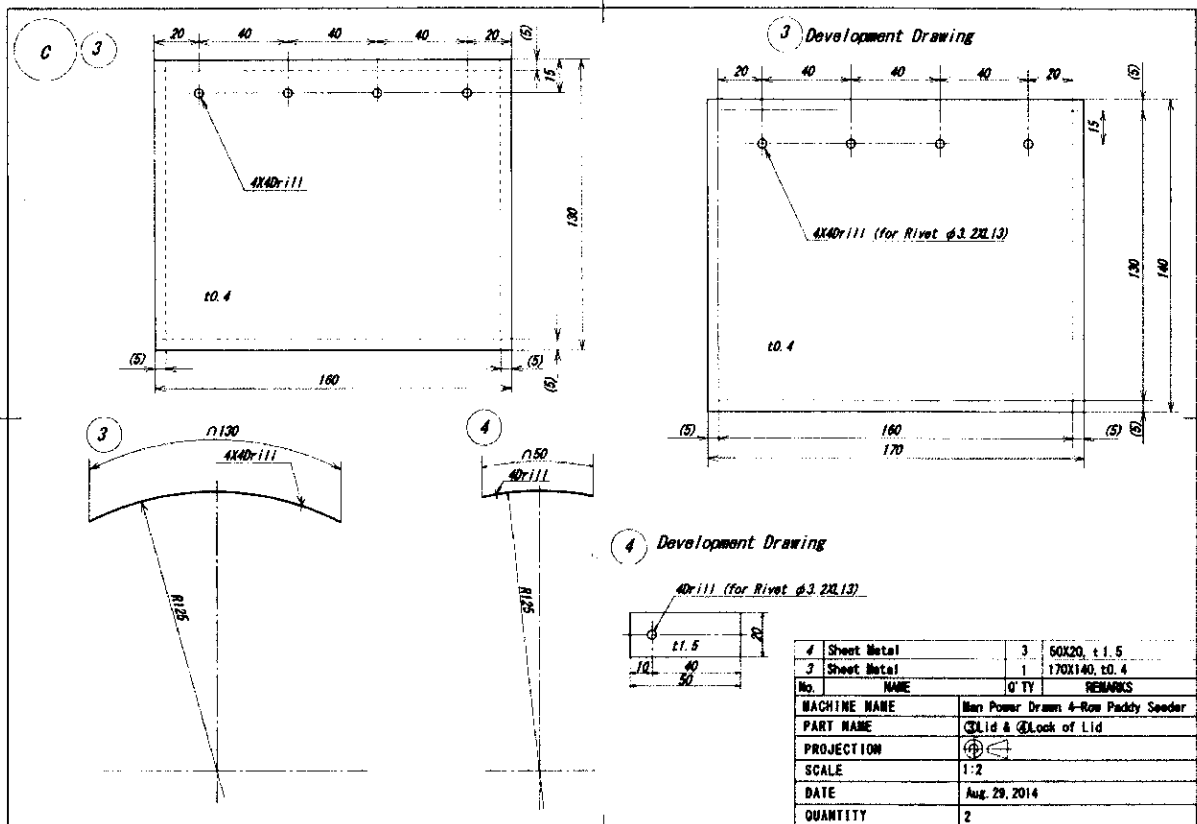
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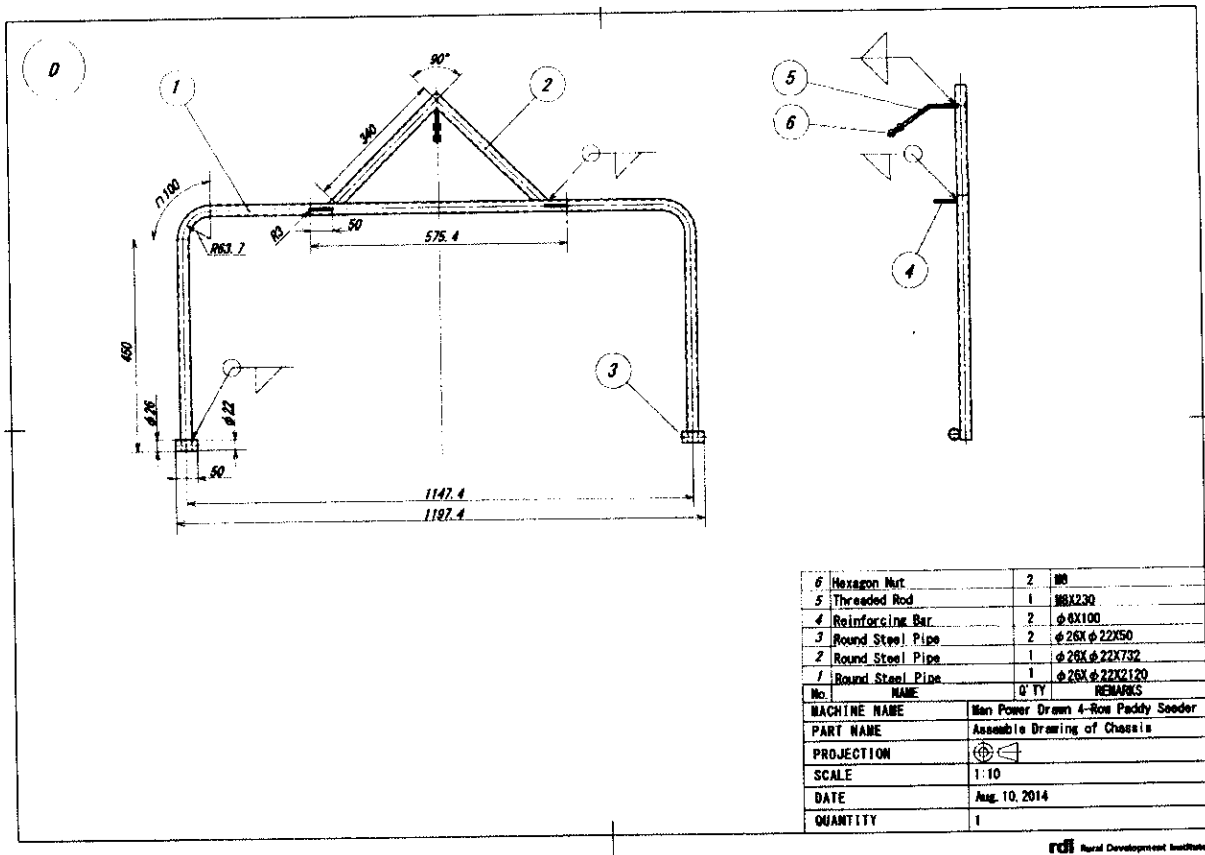
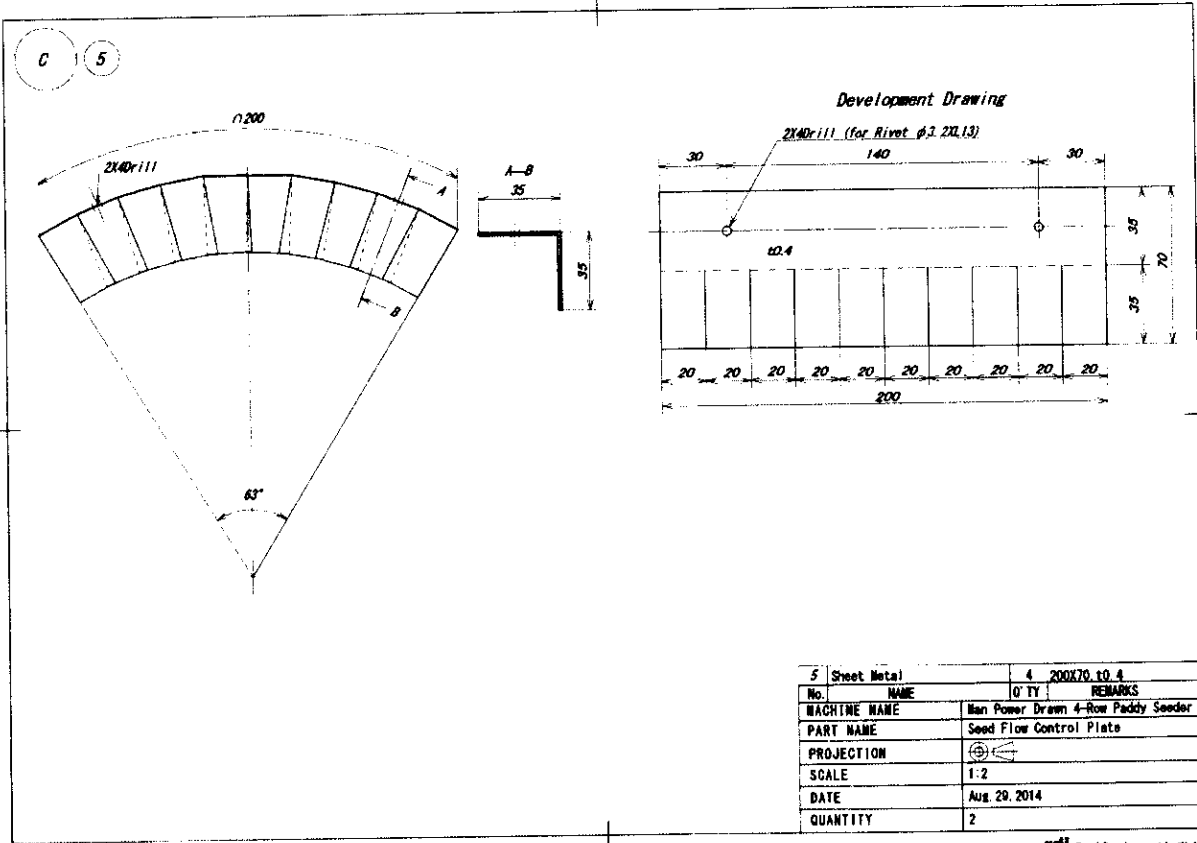
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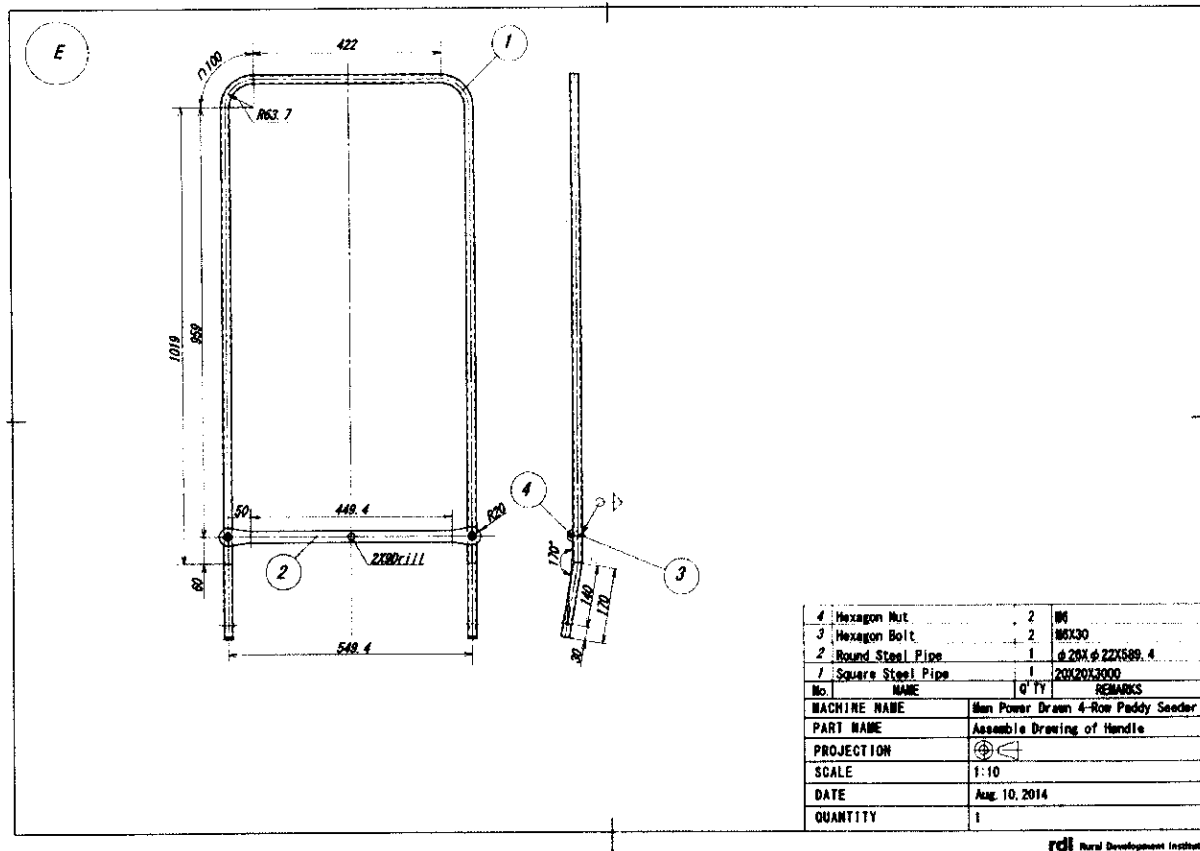
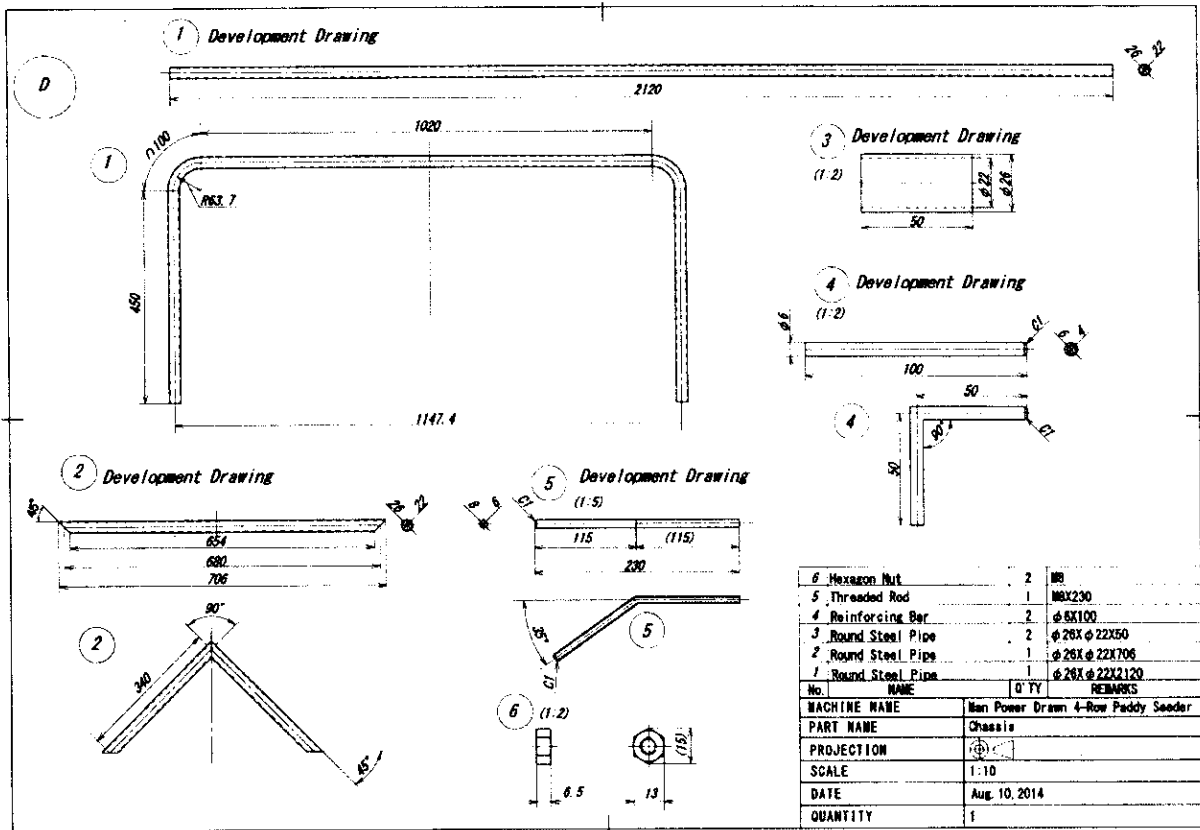


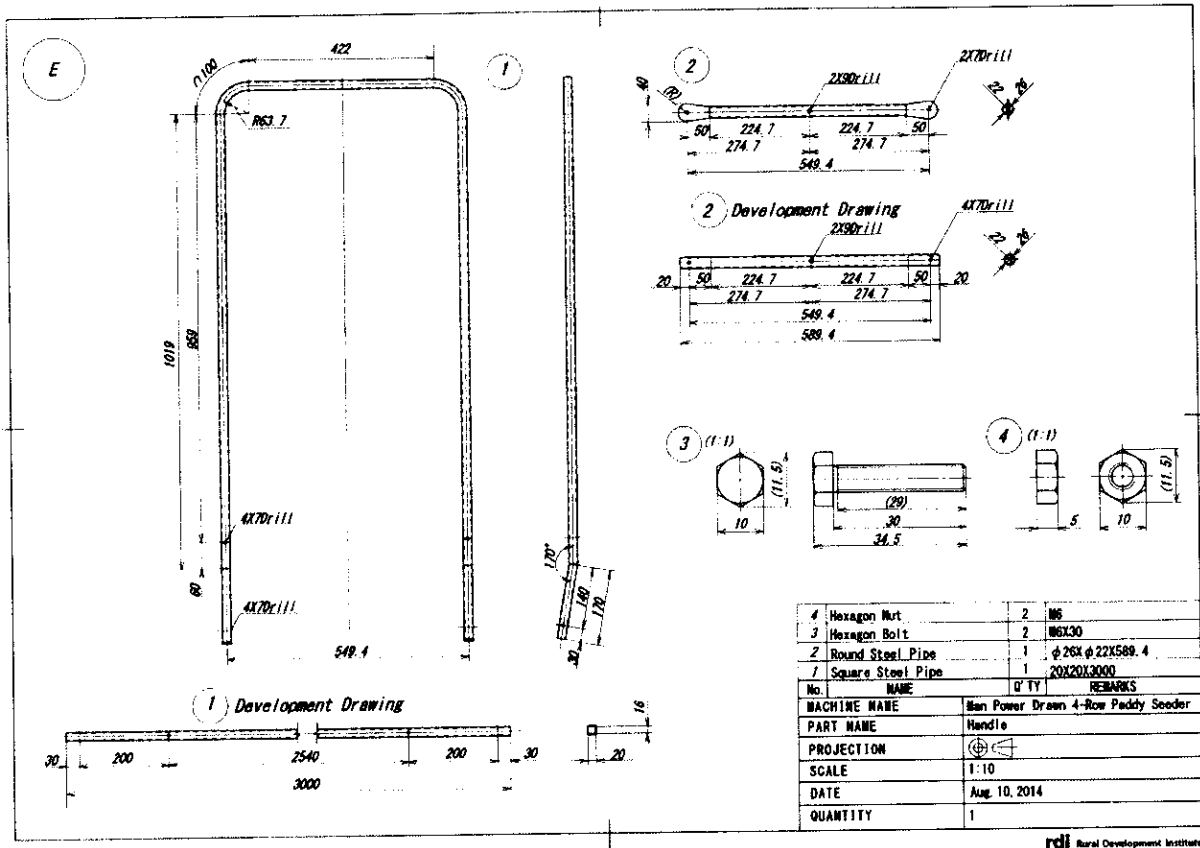
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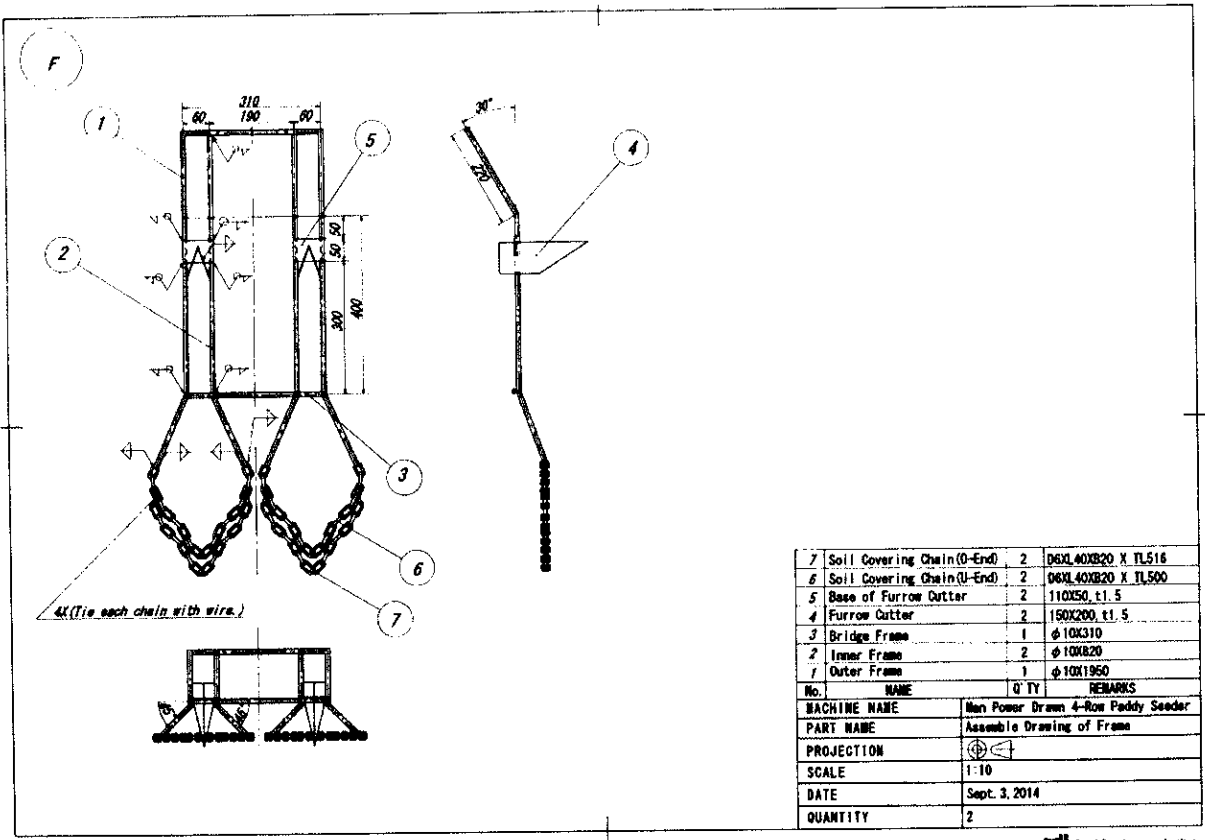
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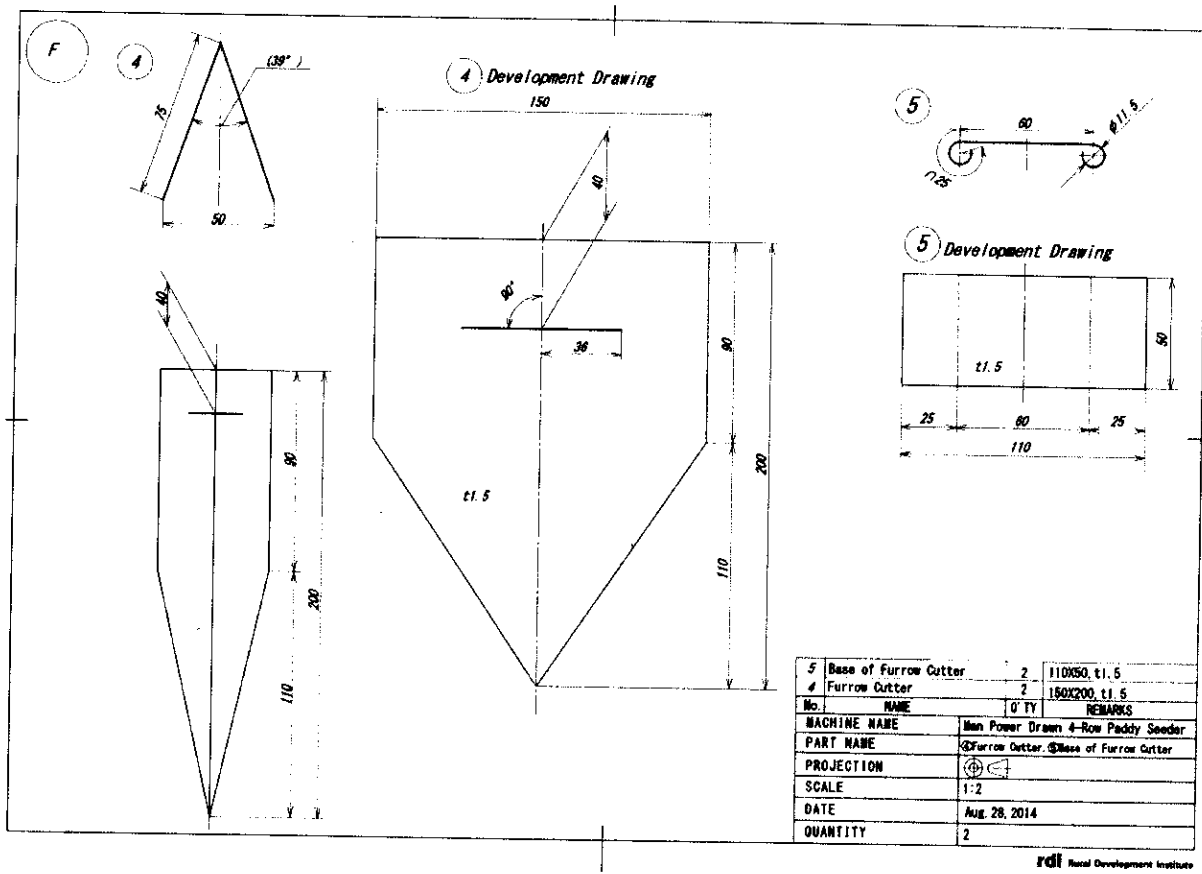
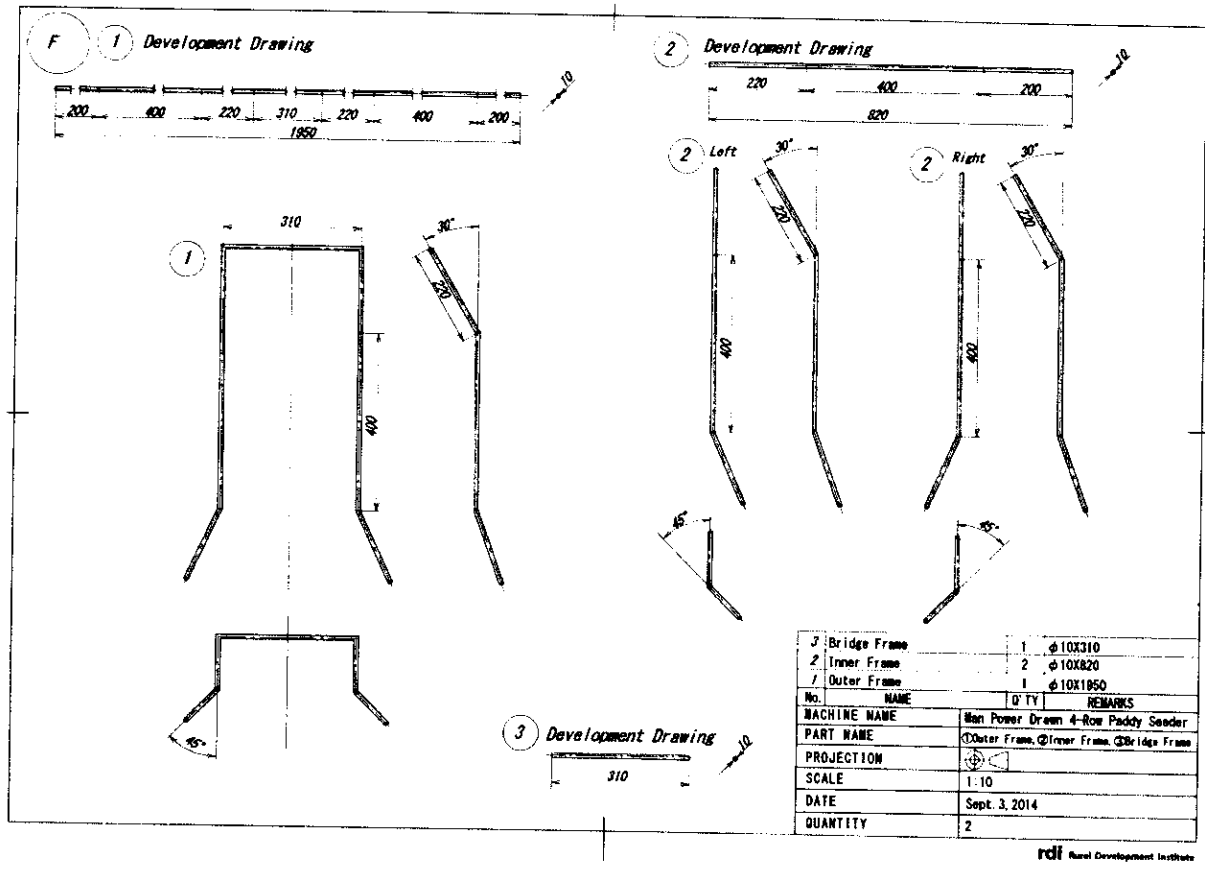


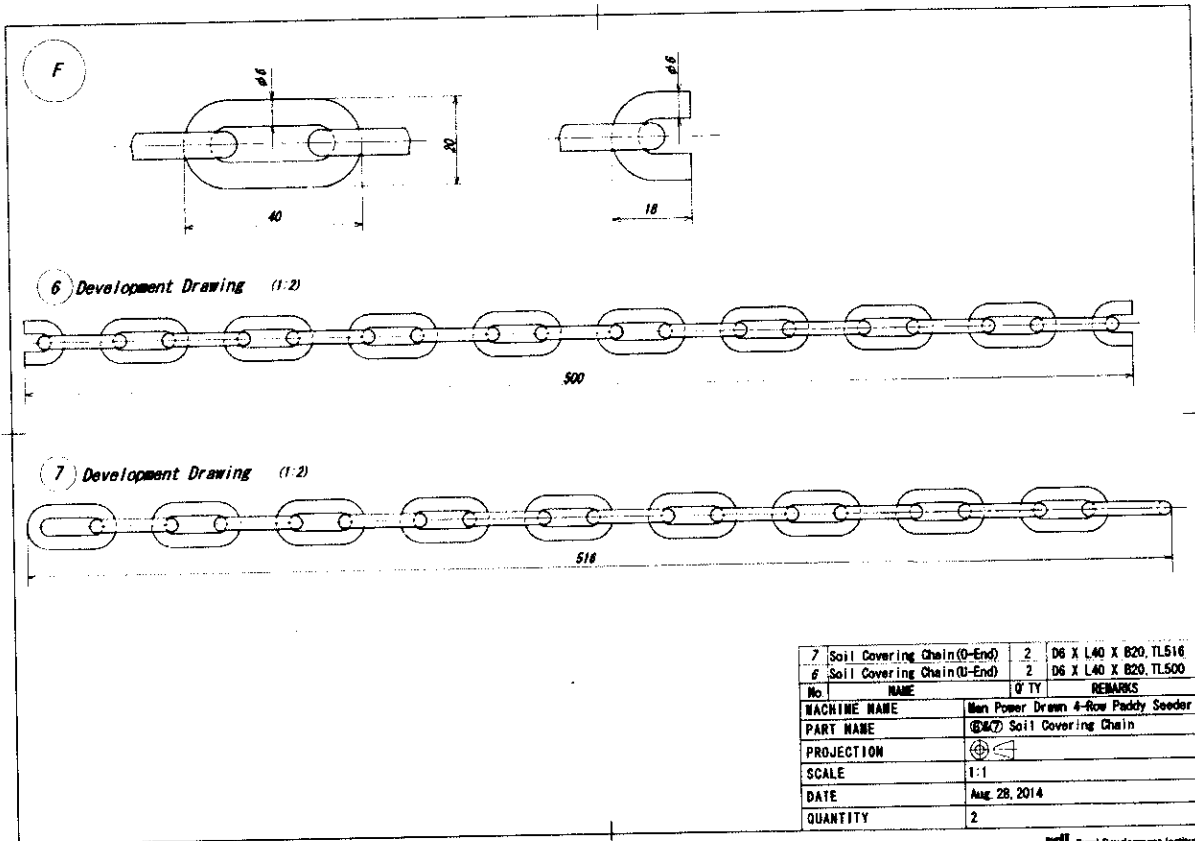


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Appendix 8: Reference to Output 3

- 8-1 Result Report
- 8-2 Detail of Direct sowing Demonstration Field
- 8-3 Result of farm management survey

Activity code: 3-1/12/14**Title of activity**

Training of extension leaders on improved rice cultivation techniques of direct sowing.

Activity realized

- a) To train extension agents on direct sowing rice cultivation techniques.
- b) To Introduce of basic and simple direct sowing rice cultivation techniques to farmers by OJT at demonstration farms of FSGs.

Responsible person: SDAE/DPA Gaza/JICA**Objectives**

Important and basic techniques of rice cultivation techniques of direct sowing are acquired by extension leaders and extension agents.

Methodology applied

- a) Conduct training on Improved rice cultivation techniques of direct sowing to extension leaders and extension agents.
- b) Conduct OJT for extension leaders and extension agents at demonstration farms at FSGs on improved rice cultivation techniques of direct sowing.

Results obtained

Installation of verification plots in FSG farmer's field.

- a) 2013 (variety: ITA312)
 - D5: One verification plot (0.30 ha), line sowing
 - D6: One verification plot (0.32 ha), line sowing (0.21 ha) + broadcasting (0.11 ha)
 - D11: One verification plot (0.39 ha) of line sowing (0.26 ha) + broadcasting (0.13 ha)
 - D12: One verification plot (0.38 ha), line sowing (0.22 ha) + broadcasting (0.17 ha)
- b) 2014 (variety introduction and sowing method)
 - D5: 4 locations, 8 plots (1.13ha), 5 varieties, line sowing and broadcasting
 - D11: 3 locations (1.44 ha), 5 varieties, line sowing and broadcasting
 - D12 : 3 locations (1.44ha), 5 varieties, line sowing and broadcasting
- c) Training of extension agents, FSG farmers and Non FSG farmers
 - 2013: 9 courses, 196 participants, 2014: 7 courses, 276 participants

Self-evaluation (accomplishment % as compared with the indicator of PDM): 99%

Observations (problems observed if any)

Flood of January 2013

Activity in continuation

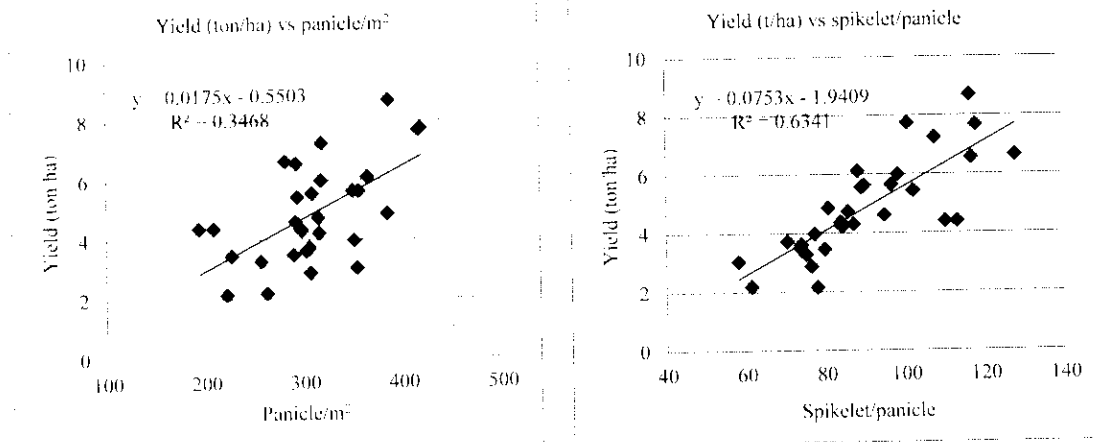
- a) Demonstration of direct sowing (ITA312 and promising variety)
- b) Demonstration of line sowing and line sowing
- c) Organization of field day

Reference data

- a) Results obtained in 2013
 - Yield of traditional and improved line sowing in D11 and D12

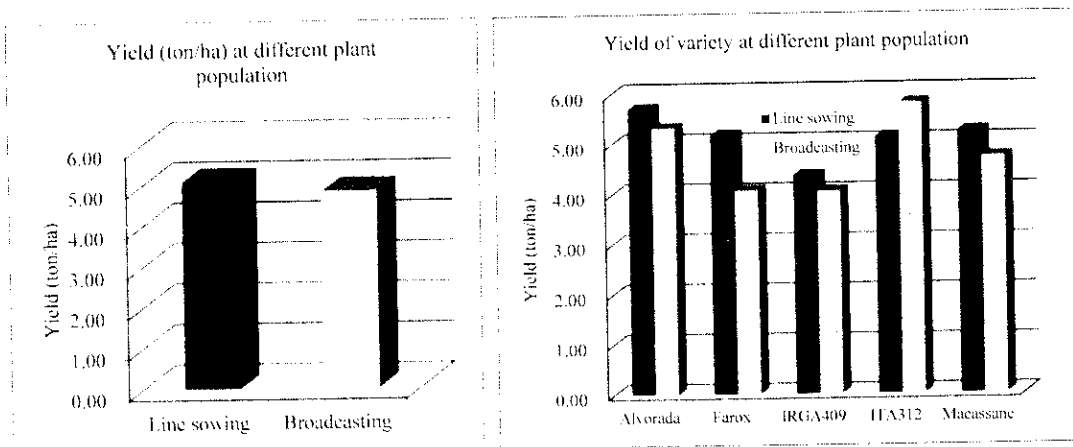
Grain yield (ton/ha)			
Sowing method	D11	D12	Av.
Line sowing (verification plot)	6.80	8.02	7.41
Broadcasting (verification plot)	4.70	5.98	5.34
Line sowing (FSG farmer's field)	4.83	4.72	4.78
Broadcasting (FSG farmer's field)	3.72	3.60	3.66
Broadcasting (Out of model area)	2.40	3.25	2.83
Significance	1%	1%	
C.V. (%)	12.0	7.9	

• Regression of yield and yield component



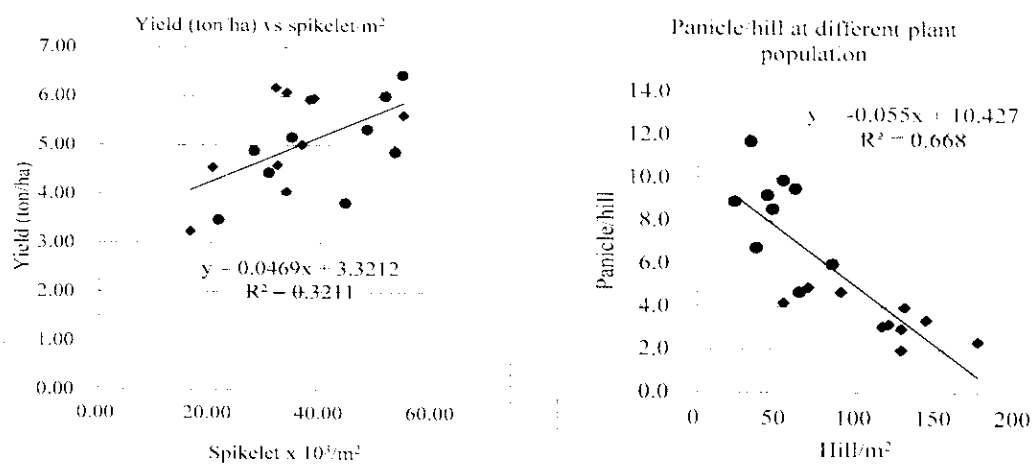
b) Results obtained in 2014

• Interaction between variety and sowing method (2014)



Sowing	Yield (ton/ha)	Variety	Yield (ton/ha)
Line sowing	5.11	Alvorada	5.51
Broadcasting	4.79	Farox	4.61
CV(%): 12.8		ITA312	4.20
		Macassane	5.46
		IRGA409	4.97
		CV(%): 24.7	

• Regression of yield and yield component



c) Training of extension agents, FSG farmers and Non FSG farmers

• Farmer's interest in direct sowing

Question	D5 D6 FSG				D11 D12 FSG			
	Yes, understood well	Yes, understood	Not understood	No answer	Yes, understood well	Yes, understood	Not understood	No answer
Concept of training	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Interest in rotary cultivation	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Function and operation of manual seeder	38.5	19.2	42.3	0.0	100.0	0.0	0.0	0.0
Advantage of manual seeder	76.9	0.0	7.7	15.4	90.3	9.7	0.0	0.0
Interest in manual seeder	69.2	15.4	3.8	11.5	83.9	9.7	6.3	0.0

Number of answer: n 57

d) Training course conducted

Name of the Course	Date	No. of Participants	Target Participants	Remarks
Line sowing by manual seeder	8 Nov. 2012	15	FSG member of D11	Demonstration and OJT of line sowing
Line sowing by manual seeder	23 Nov. 2012	17	FSG member of D12	Demonstration and OJT of line sowing
Line sowing by manual seeder	30 Nov. 2012	34	FSG member of D5 and D6	Demonstration and OJT of line sowing
Productivity of improved direct sowing rice cultivation	22 March 2012	51	FSG member of D11, D12, D5 and D6	Result of demonstration plot of improved direct sowing (line sowing)
Manual seeder production workshop	4 Nov. 2013	7	Project C/P, extension agent and farmer	Production of manual seeder (2 units of prototype produced)
Line sowing by manual seeder	8 Nov. 2013	19	FSG member of D11	Demonstration and OJT of line sowing
Line sowing by manual seeder	15 Nov. 2013	23	FSG member of D12	Demonstration and OJT of line sowing
Manual seeder production workshop	28 Nov. 2013	4	Technician of private workshop and EAC, project C/P	Production of manual seeder (2 units of prototype produced)
Line sowing by manual seeder	4 Dec. 2013	26	FSG member of D5	Demonstration and OJT of line sowing
Manual seeder production workshop	29 Jan. 2014	3	Technician of private workshop and farmers	Production of prototype of seeder conducted (2 units) by project C/P
Improved rice cultivation techniques ^{*(1)}	7 Feb. 2014	18	Extension agent, Lieder farmers of FSG	Lecture of improved rice cultivation techniques of transplanting and direct sowing by C/P
Field day of direct sowing rice cultivation	18 Feb. 2014	33	FSG member farmers and non FSG member farmers at D11 demonstration field	Technology transfer of improved direct sowing cultivation conducted by project C/P
Manual seeder production workshop	25 Feb. 2014	5	Farmers of D11 and D12	Production of prototype of seeder conducted (2 units) by project C/P
Field tour	28 Feb. 2014	88	Member of FSG of D11, D12, D5 and D6	Exchange experience and technical information of direct sowing among FSG at D11 and D12 demonstration field
Field day of direct sowing rice cultivation	6 March 2014	64	FSG member farmers and non FSG member farmers at D12 demonstration field	Technology transfer of improved direct sowing cultivation conducted by project C/P
Improved rice cultivation techniques ^{*(2)}	3 July 2014	65	FSG member farmers of D5, D6, D11, and D12	Variety characteristics and grain production of promising variety of transplanting, result of verification of promising variety of direct sowing, and yield of demonstration plot of direct sowing

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Note: ^{*}(1) and (2) overlapped with transplanting rice cultivation training**Activity code: 3-2/12/14****Title of activity**

Establishment of demonstration farms for direct sowing with initiative of extension leaders.

Activity realized

a) To demonstrate direct sowing rice cultivation techniques recommended by the project for the further dissemination.

Responsible person: SDAE/DPA Gaza/JICA**Objectives**

To set up demonstration farms to demonstrate improved direct sowing rice cultivation techniques

at D11 and D12.

Methodology applied

- Select farmers based on the criteria to set up demonstration farms.
- To explain farmers the means of demonstration farms.

Results obtained

- Installation of demonstration field

- 2013 (variety ITA312)

D11: 3 demonstration plots of line sowing (0.9 ha) and 13 demonstration plots of broadcasting (14.71 ha)

D12: 1 demonstration plot of direct sowing (0.18 ha) and 10 demonstration plots of broadcasting (15.44 ha)

- 2014 (variety ITA312)

D5: 50 plots (25 ha)

D11 : 24 demonstration plots (32 ha)

D12 : 17 demonstration plot (25 ha)

Accomplishment: $(32+25)/(32+6) = 98\%$

- Training for extension agent, FSG farmers and Non FSG farmers

2013: 9 courses, 196 participants, 2014: 7 courses, 276 participants

Accomplishment: 100%

- Results of yield survey

Large variation of grain yield among demonstration plots was observed and low production plots are located at the end of water inlet of the field. Low yield is caused by poor germination and severe weed outbreak in 2013 and 2014.

Self-evaluation (accomplishment % as compared with the indicator of PDM): 99%

Observations (problems observed if any)

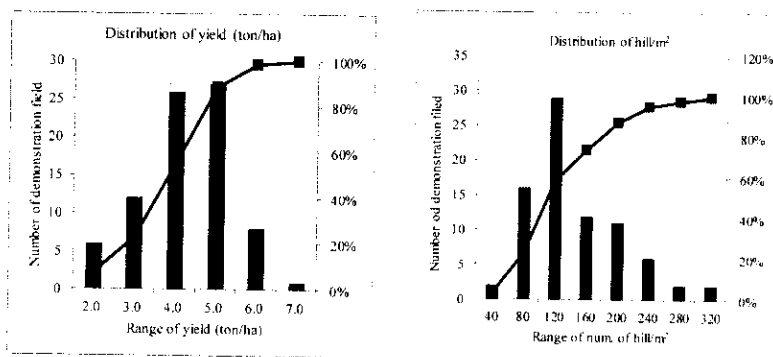
None

Activity in continuation

- Demonstration of direct sowing (ITA312 and promising variety)
- Demonstration of line sowing and line sowing)
- Organization of field day

Reference data

- Yield distribution and hill/m² of demonstration field (D5 ,D11 and D12) 2014

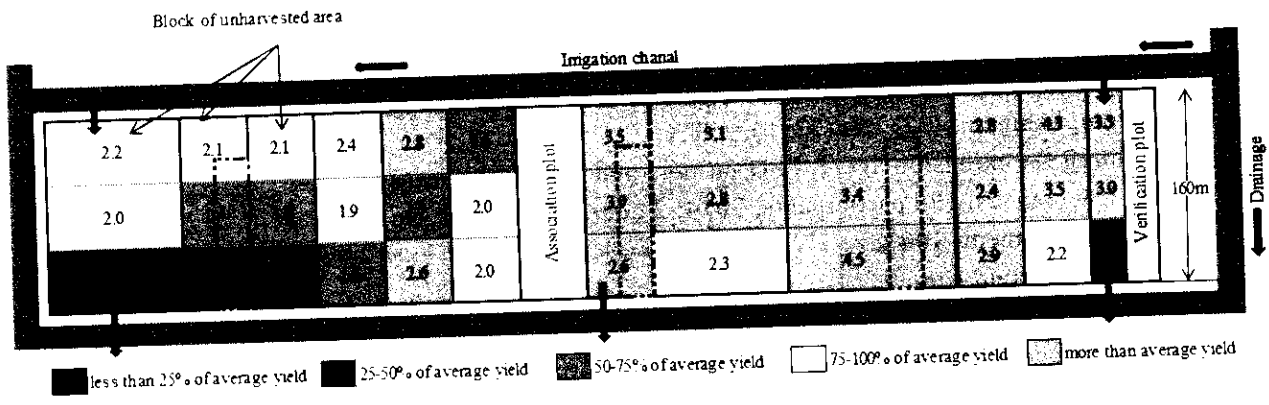


b) Yield and yield component of demonstration field

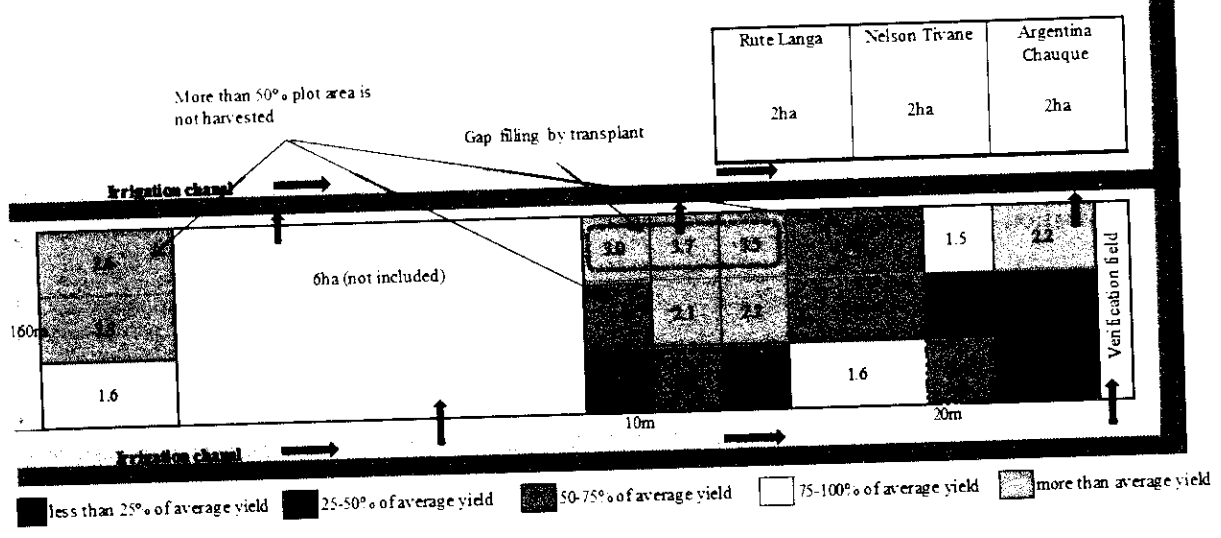
Plot	Hill m ²	Panicle hill	Spikelet per panicle	Filled spikelet (%)	1000 grain weight	Yield (ton ha)	Spikelet x10 ³ m ²
D8	149.0	3.0	96.2	79.4	24.5	3.6	36.7
D11	98.1	4.2	110.9	81.3	24.1	4.0	38.9
D12	90.8	4.3	107.2	85.2	24.5	4.0	37.0
n = 80	-	0.8332	0.3893	0.3166	0.0719	0.1003	0.0259
		**	**	**	ns	ns	ns

c) Yield map of demonstration field of FSG farmers

• 2013
D11



D12



Yield of demonstration field (D11: left, D12: right)

Farmer's name	Sampling survey		Questionnaire survey				
	Sample No.	Yield (t/ha)	Ave. planting date	Ave. harvested date	Harvest area (ha)	Yield harvested area (t/ha)	
Azerino	D11-1	3.3	2.5	1.5	8	1.7	3.46
	D11-2	1.1					
	D11-3	1.1					
Luisa Soto	D11-4	3.3	3.4	1.06	1.6	1.8	1.89
	D11-5	2.4					
	D11-6	2.2					
Cabrera Urrut	D11-7	2.8	2.7	1.06	1.06	1.0	1.39
	D11-8	2.4					
	D11-9	2.9					
Milagro Urrut	D11-10	1.2	3.1	2.05	3.0	3.1	3.26
	D11-11	3.4					
	D11-12	4.2					
Luzmila Ponce	D11-13	3.1	2.8	2.06	2.0	1.88	2.44
	D11-14	2.8					
	D11-15	2.3					
Alba Charbel	D11-16	3.2	3.3	1.06	1.06	1.49	2.39
	D11-17	1.9					
	D11-18	2.8					
Hera Muñoz	D11-19	1.5	1.8	3.06	1.06	1.88	1.88
	D11-20	2.0					
	D11-21	2.0					
Agripa Carrasco	D11-22	2.8	2.2	1.0	1.0	1.1	2.3
	D11-23	1.1					
	D11-24	2.6					
Luzmila Urrut	D11-25	2.4	1.9	1.0	1.0	1.2	2.2
	D11-26	1.9					
	D11-27	1.6					
Argelia Urrut	D11-28	2.1	1.5	1.0	0.8	1.4	1.7
	D11-29	1.6					
	D11-30	0.9					
Aberlina Narvaiz	D11-31	2.1	1.5	1.0	0.4	0.8	1.9
	D11-32	1.4					
	D11-33	0.9					
Milagros Urrut	D11-34	2.2	1.2	1.5	0.5	0.4	0.7
	D11-35	1.0					
	D11-36	0.6					
Ave.		2.5					2.19

* Yield is converted to 14% moisture contents.
 ** Calculated based on questionnaire survey

Farmer's name	Sampling survey		Questionnaire survey			
	Yield (t/ha)	Area planted (ha)	Ave. harvested date	Harvest area (ha)**	Yield harvested area (t/ha)**	
Concepción Macanaza	2.2	1.0	1.8	1.0	1.26	1.26
	3.0					
	0.7					
Leticia Alberto	3.4	1.3	1.0	0.5	1.25	2.90
	0.3					
	1.7					
Lidia Najarro	1.1	1.1	2.0	1.0	1.30	1.20
	1.1					
	1.6					
Antonio Hernandez	3.8	1.1	1.0	0.75	1.00	1.33
	2.2					
	2.4					
Natalia Carr	3.0	2.2	1.0	0.44	0.55	1.70
	1.2					
	0.9					
Luzmila Najarro	3.0	2.2	1.0	0.27	1.00	3.76
	1.1					
	1.1					
Helen Soto	1.6	2.1	2.0	1.0	2.48	2.48
	3.3					
	1.6					
Ave.		1.8				2.02

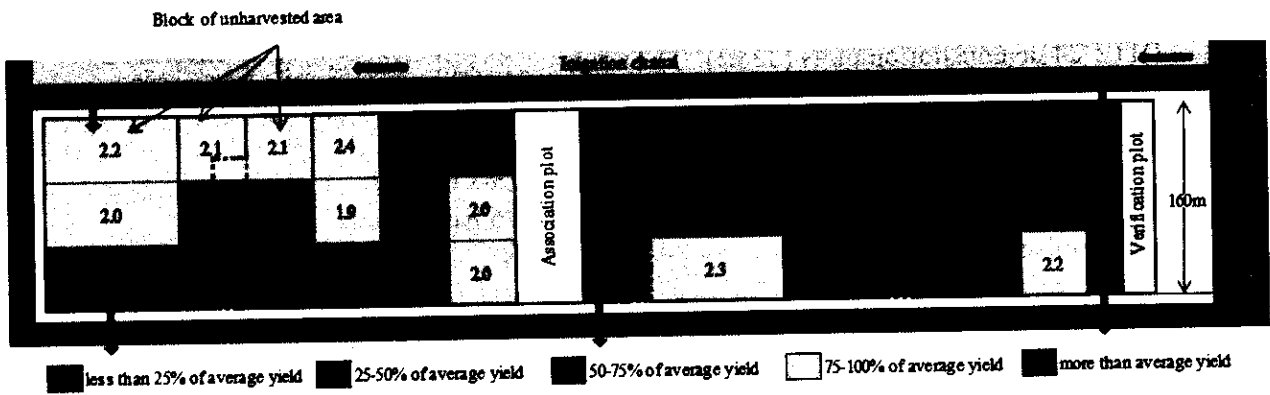
* Yield is converted to 14% moisture contents.
 ** Calculated based on questionnaire survey

b) Yield and yield component of demonstration field

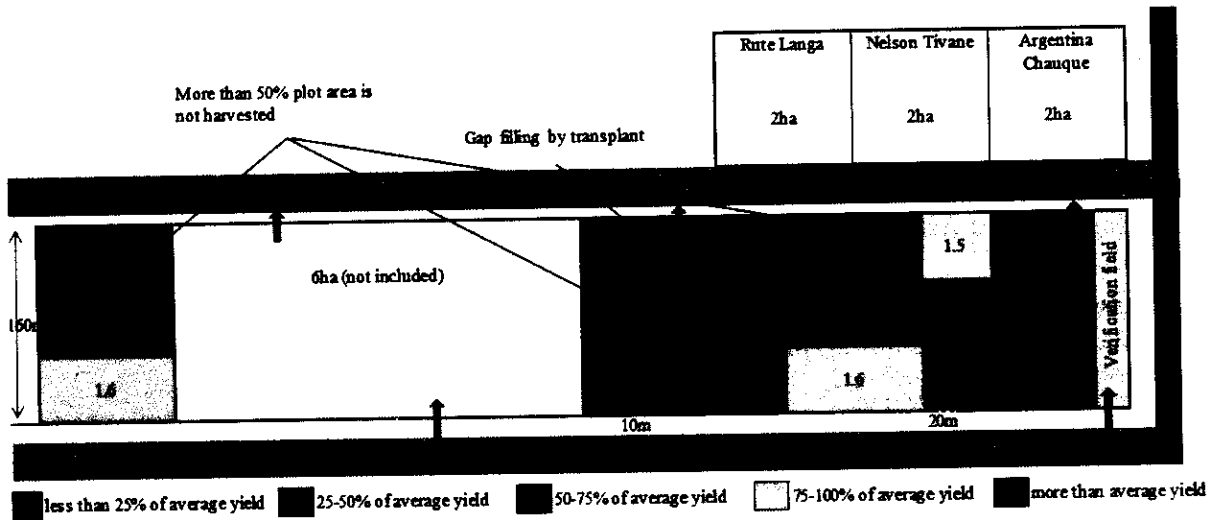
Plot	Hill/m ²	Panicle/hill	Spikelet per panicle	Filler spikelet (%)	1000 grain weight	Yield (ton/ha)	Spikelet x10 ³ /m ²
D5	149.0	3.0	96.2	79.4	24.5	3.6	36.7
D11	98.1	4.2	110.9	81.3	24.1	4.0	38.9
D12	90.8	4.3	107.2	85.2	24.5	4.0	37.0
n = 80	-	0.8332	0.3893	0.3166	0.0719	0.1003	0.0259
		**	**	**	ns	ns	ns

c) Yield map of demonstration field of FSG farmers

• 2013
D11



D12



Yield of demonstration field (D11: left, D12: right)

Farmer's name	Sample No	Sampling survey		Questionnaire Survey			
		Yield (t/ha)*		Area planted (ha)	Area harvested (ha)	Harvest (t)**	Yield: harvested area (t/ha)**
Gerinho	D11-1	3.3					
	D11-2	3.0	2.5	0.50	0.50	1.70	3.40
	D11-3	1.1					
Laisa Sítio	D11-4	4.3					
	D11-5	3.5	3.3	1.00	1.00	1.80	1.80
	D11-6	2.2					
Carolina Ubisse	D11-7	2.8					
	D11-8	2.4	2.7	1.00	1.00	3.00	3.00
	D11-9	2.9					
Milagre Tivane	D11-10	1.5					
	D11-11	3.4	3.1	2.00	2.00	7.13	3.56
	D11-12	4.5					
Ercilia Lumbela	D11-13	3.1					
	D11-14	2.8	2.8	2.00	2.00	4.88	2.44
	D11-15	2.3					
Alfeu Chambel	D11-16	3.5					
	D11-17	3.9	3.3	1.00	1.00	2.40	2.40
	D11-18	2.6					
Helia Muthobene	D11-19	1.5					
	D11-20	2.0	1.8	1.00	1.00	1.88	1.88
	D11-21	2.0					
Ágida Cambaco	D11-22	2.8					
	D11-23	1.3	2.2	1.0	1.0	2.3	2.3
	D11-24	2.6					
Filipe Ubisse	D11-25	2.4					
	D11-26	1.9	1.9	1.0	1.0	1.2	1.2
	D11-27	1.6					
Angelina Ubisse	D11-28	2.1					
	D11-29	1.6	1.5	1.0	0.8	1.4	1.7
	D11-30	0.9					
Albertina Nuvunga	D11-31	2.1					
	D11-32	1.4	1.5	1.0	0.4	0.8	1.9
	D11-33	0.9					
Milagrosa Tivane	D11-34	2.2					
	D11-35	1.0	1.2	1.5	0.5	0.4	0.7
	D11-36	0.6					
Ave.		2.3					2.19

* : Yield is converted to 14% moisture contents.

** : Calculated based on questionnaire survey.

• 2014

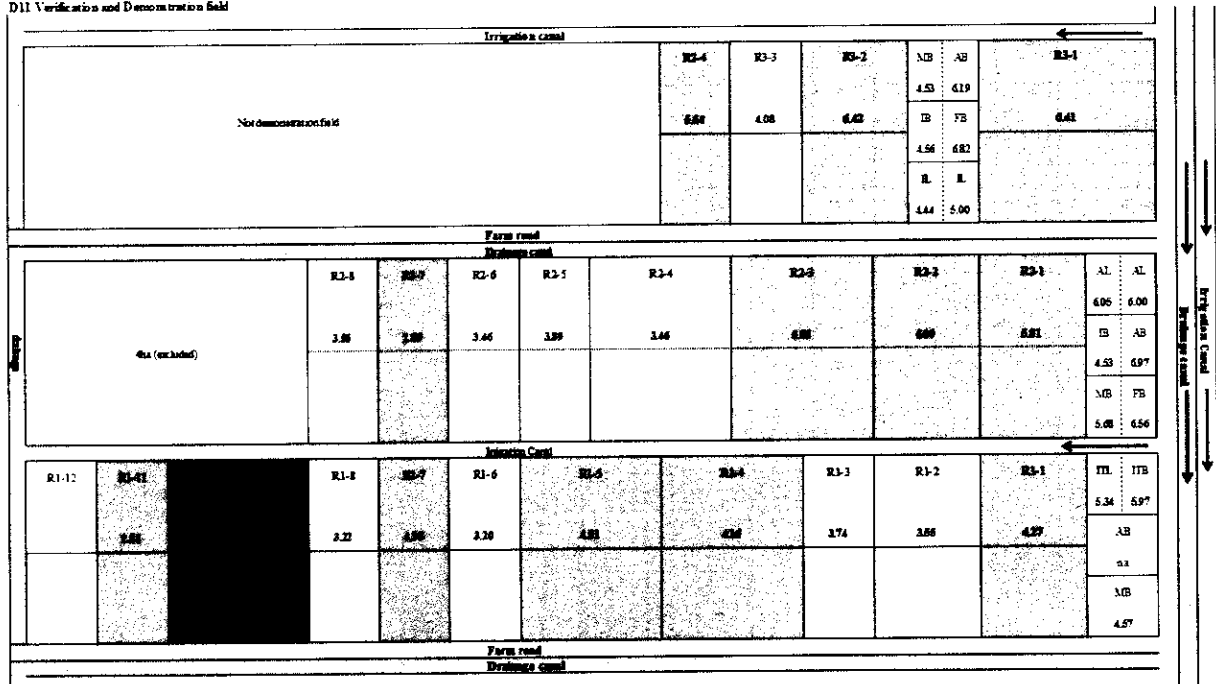
Farmer's name	Sampling survey		Questionnaire survey			
	Yield (t/ha)*		Area planted (ha)	Area harvested (ha)	Harvest (t)**	Yield / harvested area (t/ha)**
Griciesia Macuanaze	2.2					
	0.7	1.0	1.50	1.00	1.20	1.20
	0.1					
Feliciano Alberto	1.5					
	0.3	1.0	1.00	0.50	1.25	2.50
	1.1					
Lidia Nhacumbe	1.1					
	1.4	1.4	2.00	1.00	1.20	1.20
	1.6					
Antonio Chirindza	3.5					
	2.2	2.7	1.00	0.75	1.00	1.33
	2.4					
Natalia Cuna	3.7					
	2.1	2.2	1.00	0.44	0.75	1.70
	0.9					
Lucrencia Nhavane	3.0					
	1.4	2.2	1.00	0.27	1.00	3.76
	2.2					
Helena Sítio	2.6					
	2.3	2.1	2.00	1.00	2.48	2.48
	1.6					
Ave.		1.8				2.03

* : Yield is converted to 14% moisture contents.

** : Calculated based on questionnaire survey.

D11

D11 Verification and Demonstration Field



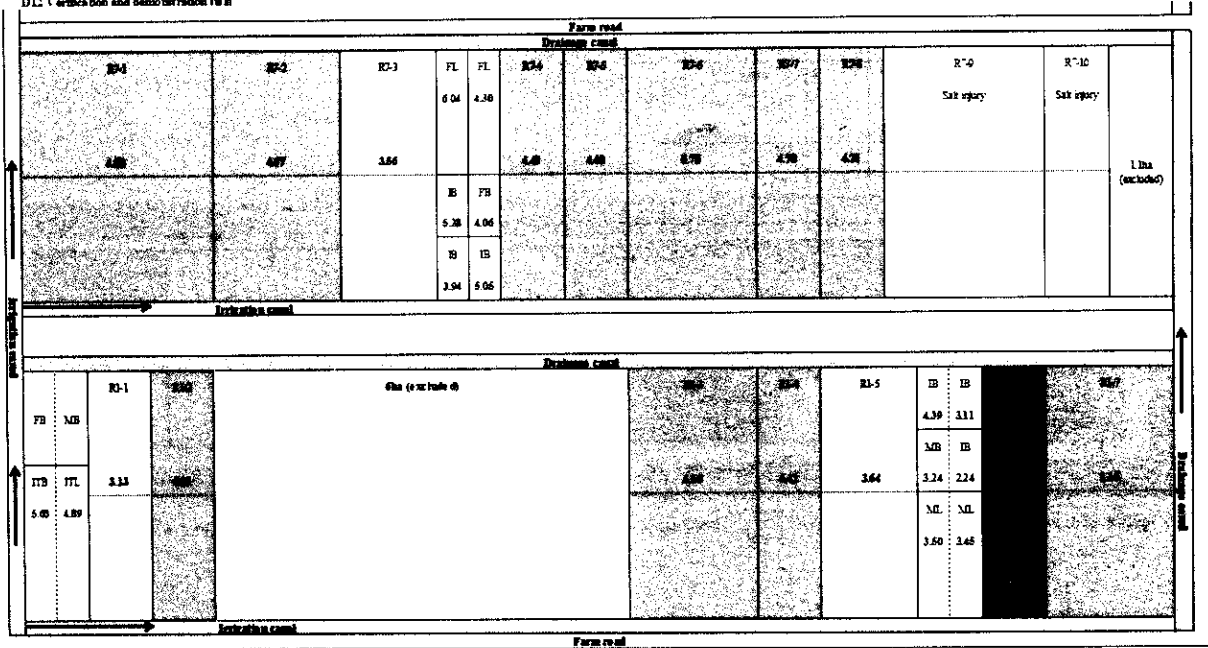
Average yield: 4.12 ton/ha

Figure in plot yield ton/ha

less than 25% of average yield
 25 - 50% of average yield
 50 - 75% of average yield
 75 - 100% of average yield
 higher than average yield

D12

D12 Verification and demonstration Field



Average yield: 4.04 ton/ha

Figure in plot yield ton/ha

less than 25% of average yield
 25 - 50% of average yield
 50 - 75% of average yield
 75 - 100% of average yield
 higher than average yield

D5

DS Verification and Demonstration field

		Farm road																			
		Drainage canal																			
		R2-20	R2-19	R2-18	R2-17	R2-16	R2-15	R2-14	R2-13	R2-12	R2-11	R2-10	R2-9	R2-8	R2-7	R2-6	R2-5	R2-4	R2-3	R2-2	R2-1
R2-25 (suspended)																					
R2-26	2.70	2.20	1.60	2.69	2.60	3.12	3.25		4.20		3.70	2.90	2.60	2.97	2.20	2.60	2.70	2.60	3.15	4.20	3.60
R2-23	2.80																				
R2-24	2.80																				
R2-21	2.80																				

		Farm road																			
		Drainage canal																			
		R2-20	R2-19	R2-18	R2-17	R2-16	R2-15	R2-14	R2-13	R2-12	R2-11	R2-10	R2-9	R2-8	R2-7	R2-6	R2-5	R2-4	R2-3	R2-2	R2-1
R2-27	1.90			4.62	2.80	4.18	3.25														
R2-28	2.80	2.80	2.80					4.40	2.70	2.20	4.30	4.80	4.80	4.80	2.20	4.80	4.20	2.20	4.80	4.80	2.40
R2-29	2.80			AB: AL	FB: FL	IB: IL	MB: ML														
R2-22	2.80			5.8: 4.8	5.90	4.6: 3.54	5.94: 4.74														
R2-21	2.80																				

Average yield: 3.51 ton/ha
 Figure in plot yield ton/ha
 ■ less than 25% of average yield ■ 25 - 50% of average yield ■ 50 - 75 % of average yield ■ 75 - 100 % of average yield ■ higher than average yield

Yield of demonstration field (D11)

Irrigation Block	Farmer's name	Sampling survey		Questionnaire survey		Remarks
		Yield (t/ha)*		Harvested Area (ha)	Yield (t/ha)	
D11	1 Cereinho Cumbe	4.59	4.27	2.00	100.00	2.69
	2 Luísa Jaime Siteo	3.05	3.80	1.00	100.00	2.96
	3 Afifeu Obced Chambel	4.05	3.74	1.00	100.00	2.80
	4 Milagrosa A. Liviane	4.41	4.16	2.00	100.00	2.81
	5 Irecilia A. G. Umbela	5.37	4.81	2.00	100.00	2.81
	6 Aguida Issau	2.94	3.20	1.00	100.00	2.73
	7 Helia Lino Muthobene	4.28	4.38	1.00	100.00	2.44
	8 Angelina Ubisse	3.63	3.21	1.00	100.00	2.40
	9 Filipe Eduardo	0.69	1.72	1.00	100.00	1.44
	10 Irene Cambuso	2.14	1.78	0.50	50.00	0.80
	11 Fenias Combo Siteo	2.05	2.60	0.25	25.00	0.40
	12 Tomas Chambel Ave.	3.15		1.00	100.00	2.64
Ave.		3.42		89.58		2.24

* : Yield is converted to 14% moisture contents.
 **: Percentage of harvested area against planted area

Irrigation Block	Farmer's name	Sampling survey		Questionnaire survey		Remarks	
		Yield (t/ha)*		Harvested Area (ha)	Yield (t/ha)		
D11	13 Rubem Ubisse	5.50	5.80	1.90	95.00	4.47	
	14 Carolina Rubem	6.35	5.99	1.00	100.00	4.00	
	15 Olinda Maleane	4.91	5.22	2.00	100.00	5.37	
	16 Cristina Jacabe Cossa	3.26	3.45	2.00	100.00	2.80	
	17 Otmiel Carlos	3.49	4.15	1.00	100.00	2.51	
	18 Armenicki Eduardo	3.50	3.46	1.00	100.00	2.70	
	19 Damilao Ernesto	3.59	2.89	0.50	50.00	1.28	
	20 Bautoloneu Ave.	3.90	3.54	1.00	100.00	2.32	
	Ave.		4.31		93.13		3.18
	D11	21 Sebastião Mbeydzane	5.53	6.41	2.00	100.00	4.36
22 Milagre A. Machava		5.51	6.42	2.00	100.00	4.98	
23 Ivone Alfredo		3.61	4.08	1.00	100.00	4.48	
24 Zaida Madise		5.93	5.54	1.00	100.00	4.00	
Ave.		5.61		100.00		4.45	
Overall Ave.		4.11		92.50		2.92	

* : Yield is converted to 14% moisture contents.
 **: Percentage of harvested area against planted area

Yield of demonstration field (D12)

Irrigation Block	Farmer's name	Sampling survey		Questionnaire survey		Remarks	
		Yield (t/ha)*		Harvested Area (ha)	(%)**		Yield (t/ha)
D12	1 Helena Siteo	3.56	3.13	1.00	1.00	2.56	Drainage problem
		2.70					
	2 Argentina Chauque	3.82	5.01	0.88	0.88	1.04	Drainage problem
		6.20					
	3 Nataria Cuna	2.83	4.16	1.75	0.88	1.32	Irrigation problem
		5.49					
	4 Antonio Chirindza	4.66	4.42	1.00	1.00	1.59	Irrigation problem
		4.18					
	5 Lidia Zacaria	3.35	3.55	1.88	0.94	2.11	Irrigation problem
		3.74					
6 Feliciano Tivane	1.27	1.78	1.00	1.00	1.36	Irrigation problem	
	2.29						
7 Griciosa Macunnaze	2.97	2.15	1.25	0.63	0.80	Irrigation problem	
	1.33						
	Ave.	3.46			0.90	1.54	

* : Yield is converted to 14% moisture contents.

** : Percentage of harvested area against planted area

Irrigation Block	Farmer's name	Sampling survey		Questionnaire survey		Remarks	
		Yield (t/ha)*		Harvested Area (ha)	(%)**		Yield (t/ha)
D12	1 Marta Macaringue	5.06	4.59	2.00	1.00	2.12	Drainage problem
		4.12					
	2 Rute Langa	3.58	4.67	2.00	1.00	3.92	Drainage problem
		5.76					
	3 Anglica Cossa	3.29	3.56	1.00	1.00	2.80	
		3.83					
	4 Lucrencia Nhavane	4.71	4.49	1.00	1.00	3.20	
		4.26					
	5 Nelson Tivane	4.21	4.48	2.00	1.00	4.96	
		4.74					
6 Antonio Tivane	5.27	5.74	2.00	1.00	3.20		
	6.22						
7 Moises Tivane	4.89	4.78	1.00	1.00	3.12		
	4.67						
8 Raufa Omar	3.61	3.89	1.00	1.00	3.20		
	4.18						
9 Margarida Chambal			0.00	0.00	0.00	Heavy salinity problems due to drainage problems	
10 Azelia Biza			0.38	0.38	0.60		
	Ave.	4.53			0.84	2.71	
	Overall Ave.	4.03			0.86	2.23	

* : Yield is converted to 14% moisture contents.

** : Percentage of harvested area against planted area

Yield of demonstration field (D5)

Irrigation Block	Farmer's name	Sampling survey		Questionnaire survey		Remarks	
		Yield (t/ha)*		Harvested Area (ha)	(%)**		Yield (t/ha)
D5	1 Florinda Mucavele	3.09	3.17	0.50	100.00	3.50	
		3.26					
	2 Júlio Mucavele	3.23	3.99	0.50	100.00	2.60	
		4.76					
	3 Beatriz Chauque	3.76	4.68	0.50	100.00	3.00	
		5.60					
	4 Palmira Mabunda	3.19	3.19	0.47	94.72	4.50	
		3.19					
	5 Melecina Siteo	4.86	4.72	0.50	100.00	4.10	
		4.59					
	6 Flora Simango	4.32	4.67	0.50	100.00	4.50	
		5.02					
	7 Alina Cossa	4.57	5.02	0.50	100.00	2.80	
		5.48					
	8 Leonor Chauque	4.80	4.68	0.50	100.00	4.30	
		4.55					
	9 Maria S. Matusse	5.40	4.51	0.47	94.72	4.50	
		3.63					
	10 Adelina Masinguque	5.08	4.65	0.50	100.00	4.60	
		4.22					
	11 Talvina Ubisse	4.25	4.15	0.50	100.00	4.20	
		4.05					
	12 Saulina Simango	3.55	3.28	0.50	100.00	4.80	
		3.01					
	13 Inora J. Machava	3.38	2.79	0.50	100.00	2.40	
		2.20					
	14 Alice Machava	4.52	4.45	0.50	100.00	4.60	
		4.37					
15 Palmira Matusse	4.12	3.35	0.50	100.00	5.10		
	2.58						
16 Flora Chauque	3.76	4.16	0.50	100.00	4.71		
	4.56						
17 Delfina Siteo	3.99	3.80	0.50	100.00	4.20		
	3.61						
18 Regina Siteo	5.31	4.42	0.50	100.00	4.20		
	3.53						
19 Sara Nhavane	3.28	2.84	0.50	100.00	4.30		
	2.39						
20 Atalia Utue	3.93	3.61	0.50	100.00	4.16		
	3.28						
21 Adelina Mutuzi	3.23	3.10	0.50	100.00	2.10		
	2.96						
22 Ana Chunguane	3.08	2.72	0.50	100.00	2.60		
	2.36						
23 Rosa Vicente	2.80	3.06	0.50	100.00	2.88	Irrigation problem	
	3.31						
24 Ofélia Manhica	2.25	2.43	0.20	39.46	1.00	Irrigation problem	
	2.61						
25 Catarina Novela	2.01	1.72	0.25	50.00	0.50	Irrigation problem	
	1.43						
26 Lembranç Chunguane	1.94	1.96	0.20	39.46	0.50	Irrigation problem	
	1.98						
	Ave.	3.66		93.01	3.49		

* : Yield is converted to 14% moisture contents.

** : Percentage of harvested area against planted area

Irrigation Block	Farmer's name	Sampling survey		Questionnaire survey		Remarks	
		Yield (t/ha)*		Harvested Area (ha)	(%)**		Yield (t/ha)
D5	1 Rosalia Maposse	1.78	1.98	0.50	100.00	0.50	
		2.19					
	2 Cecilia Mazoleli	4.17	4.22	0.50	100.00	4.10	
		4.27					
	3 Adiladia Mathe	3.08	3.15	0.50	100.00	3.30	
		3.22					
	4 Aositia Silvia	5.54	5.54	0.50	100.00	3.00	
		5.55					
	5 Saulina Agerene	4.63	4.71	0.50	100.00	3.00	
		4.78					
	6 Lucia Novela	3.95	3.67	0.50	100.00	2.00	
		3.40					
	7 Anita Neucinica	3.50	3.85	0.46	92.10	1.80	
		4.21					
	8 Violela Ngerene	3.78	4.12	0.50	100.00	4.30	
		4.46					
	9 Alici Mabunda	4.40	3.87	0.50	100.00	3.90	
		3.35					
	10 Julie Laghaice	2.63	3.02	0.50	100.00	3.10	
		3.41					
	11 Diolinda Mabunda	3.22	3.71	0.50	100.00	2.00	
		4.20					
	12				0.00		Not demonstration
	13 Agelia Chiradze	4.82	4.38	0.50	100.00	4.70	
		3.94					
	14 Flora Mabunda	2.41	1.69	0.50	100.00	1.40	
		0.96					
	15 Hortencia Malene	3.52	3.21	0.50	100.00	1.70	
	2.90						
16 Clara Chauque	3.54	3.10	0.50	100.00	2.40		
	2.65						
17 Flesimina Malamule	3.46	2.43	0.50	100.00	1.90		
	1.40						
18 Pomina Ubisse	2.83	2.57	0.50	100.00	2.00		
	2.30						
19 Eliza Chauque	2.81	3.05	0.50	100.00	4.16		
	3.28						
20 Inora Novela	3.27	3.19	0.50	100.00	3.10		
	3.11						
21 Melecina Siteo	2.99	3.53	0.50	100.00	1.20		
	4.08						
22 Vilania Maiane	2.61	2.48	0.44	88.14	1.20		
	2.34						
23 Rostalina Chauque	3.26	2.80	0.41	81.58	1.80	Irrigation problem	
	2.35						
24 Celeste Mucerele	1.36	2.29	0.13	26.32	0.40	Irrigation problem	
	3.22						
25 Jelwdes Tamele			0.00	0.00	0.00	Irrigation problem	
	Ave.	3.33		87.53	2.37		
	Overall Ave.	3.50		90.32	2.95		

* : Yield is converted to 14% moisture contents.

** : Percentage of harvested area against planted area

Activity code: 3-3/12/14**Title of activity**

Training of farmers on improved rice cultivation techniques of direct sowing with initiative of extension leaders.

Activity realized

Extension leaders disseminate improved rice cultivation techniques of direct sowing to other farmers through demonstration farms of FSGs.

Responsible person: SDAE/DPA Gaza/JICA**Objectives**

Extension leaders play important roles in disseminating improved rice cultivation techniques of direct sowing.

Methodology applied

- a) Extension leaders explain about the recommended techniques to farmers at demonstration farms of FSGs.
- b) Conduct OJT on the recommended techniques at demonstration farms of FSGs.

Results obtained

a) 2013 (variety ITA312)

D11: 3 demonstration plots of line sowing (0.9 ha) and 13 demonstration plots of broadcasting (14.71 ha)

D12: 1 demonstration plot of direct sowing (0.18 ha) and 10 demonstration plots of broadcasting (15.44 ha)

b) 2014 (variety ITA312)

D5: 50 plots (25 ha)

D11 : 24 demonstration plots (32 ha)

D12 : 17 demonstration plot (25 ha)

Accomplishment: $(32+25)/(32+6) = 98\%$

c) Training for extension agent, FSG farmers and Non FSG farmers

• 2013: 9 courses, 196 participants

• 2014: 7 courses, 276 participants (field day of direct sowing, 18 Feb. 2014, 33 participants of FSG and non FSG at D11 demonstration field, 6 March 2014, 64 participants of FSG and non FSG at D12 demonstration field)

Accomplishment: 100%

Self-evaluation (accomplishment % as compared with the indicator of PDM): 99%

Observations (problems observed if any)

Flood of January 2013

Activity in continuation

a) Demonstration of direct sowing (ITA312 and promising variety)

D5: 25ha→50ha

D11: 32ha→64ha

D12: 25ha→50ha

b) Demonstration of line sowing and line sowing)

c) Organization of field day

Reference data

Field day (direct sowing) D11, Feb. 2014



Field day (direct sowing) D12, March 2014



8-2 Detail of Direct sowing Demonstration Field

D5

member from 2014	25 Melecina Sitoe 21 V. Iania Maijane 22 Rostalina Chauque 23 Celeste Mucavele 24 Jelwdes Tamele	13 Hesimona Malamule 17 Pomina Ubisse 18 Eliza Chauque 19 Inora Nove a	11 Digiinda Mabunda 12 Agela Chradze 13 Flare Mabunda 14 Hortencia Malene 15 Cara Chauque	6 Lucia Novela 7 Anita Ncuinica 8 Viole a Ngerene 9 Aiici Mabunda 13 Julie Lagha ce	1 Rosalia Maposse 2 Cicila Maolet 3 Adiladia Mathe 4 Aovita Silvia 5 Saulina Agerene
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	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
24																			
23																			
22																			
21																			
20																			

	10	9	8	4	5	7	1	2	9	10	8	6	3	7	6	5	4	3	2	1
16																				
15																				
14																				
13																				
12																				
11																				

- 11 Adelina Mutuz
- 12 Ana Chunguane
- 13 Rosa Vicente
- 14 Ofélia Manhiça
- 15 Catarina Novela
- 16 Lembrang Chunguane

- 8 Regina Sitoe
- 4 Delfina Sitoe
- 5 Flora Chauque
- 7 Palmira Matusse
- 1 Alice Machava

- 2 Inora J. Machava
- 9 Saulina Simango
- 10 Talvina Ubisse
- 6 Maria S. Matusse
- 3 Leonor Chauque

- 1 Horina Mucavele Magnssa
- 2 Julia Mucavele
- 3 Beatriz Chauque
- 4 Palmira Mabunda
- 5 Melecina Sitoe
- 6 Flora Simango
- 7 Alina Cossa
- 8 Adelina Massinguque
- 9 Sara Nhavane
- 10 Atufa Utue

Black : Members from 2011

italic Members from 2012

D11

- 21 Sebastion Mbevdzane
- 22 Milagre A. Machava
- 23 Ivone Alfredo Chiridza
- 24 Zaida Madisre

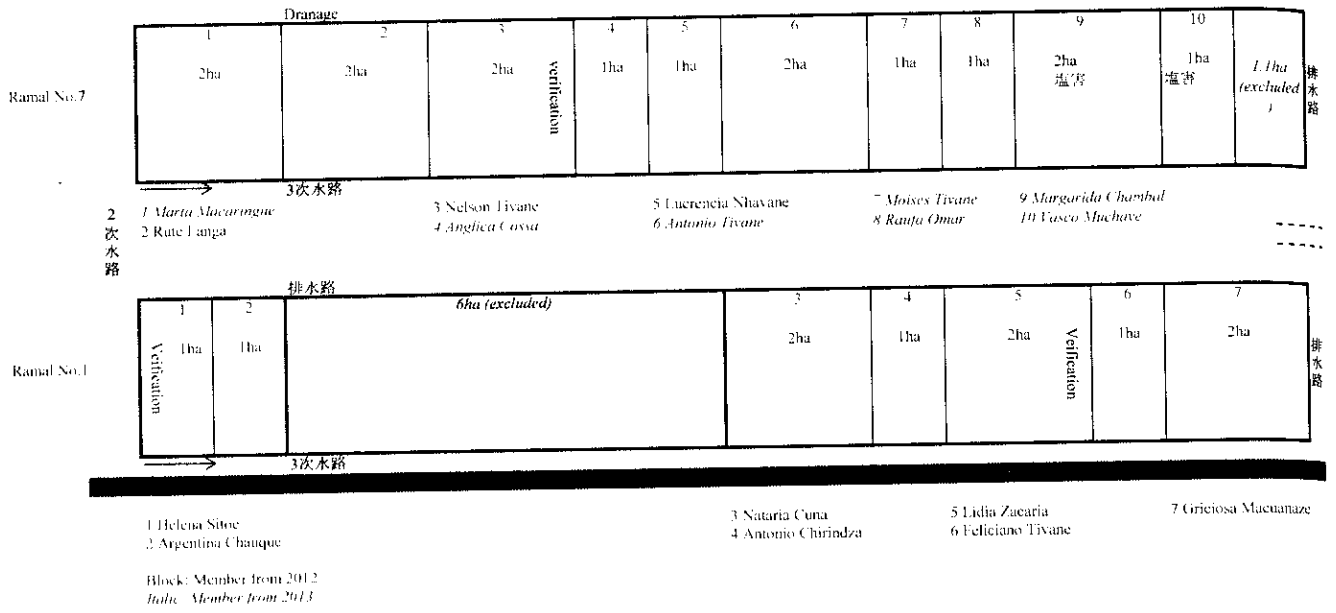
irrigation																					
Not demonstration field										24	23	22	21								
										1ha	1ha	2ha	2ha								
drainage																					
drainage	4ha (excluded)										20	19	18	17	16	15	14	13			
											1ha	1ha	1ha	1ha	2ha	2ha	1ha	2ha			
irrigation																					
										12	11	10	9	8	7	6	5	4	3	2	1
										1ha	1ha	1ha	1ha	1ha	1ha	1ha	2ha	2ha	1ha	1ha	2ha
drainage																					
				1	2	3	4					1	2	3	4						
				1 Filipe Eduardo Ubisse	2 Ercilia A. G. Lumbela	3 Gerinho Cumbe	4 Irene Cambaco					1 Gerinho Cumbe	2 Luisa Jaime Sitoe	3 Alfeu Obed Chambal	4 Milagrosa A. Tivane						
				5 Fenias Combo Sitoe	6 Águida Issau Cambaco	7 Helia Lino Muthobene	8 Tomas Chambal					5 Alfeu Obed Chambal	6 Milagrosa A. Tivane	7 Helia Lino Muthobene	8 Tomas Chambal						
				9 Angelina Ubisse																	

- 13 Rubem Ubisse
- 14 Carolina Rubem Ubisse
- 15 Olinda Maleane
- 16 Cristina Jacabe Cossa
- 17 Otmiel Carlos Chambal
- 18 Armenida Eduardo Ubisse
- 19 Damião Ernesto Chambal
- 20 Bautolouca Simbani

D11 Demonstration field

8-2 Detail of Direct sowing Demonstration Field

D12



1. The farming situation

		D5 FSG member (50)	D11 FSG member (24)	D12 FSG member (17)	D11 FSG Non-member (20)	D12 FSG Non-member (17)	R1-3 FSG Non-member (15)	D5 FSG Non-member (36)	R1-3 FSG Non-member (15)	Total (194)
Cultivation method		Direct sowing	Direct sowing	Direct sowing	Direct sowing	Direct sowing	Direct sowing	Transplanting	Transplanting	
Rice (ha)	Mean	0.53	1.17	1.35	1.73	1.24	1.27	0.53	0.50	0.92
	S.D.	0.12	0.64	0.61	1.03	0.44	0.75	0.27	0.00	0.67
Maize (ha)	Mean	0.52	0.23	0.24	0.65	0.35	0.73	0.53	0.50	0.48
	S.D.	0.10	0.36	0.26	0.54	0.34	0.94	0.27	0.00	0.40
Tomato (ha)	Mean	0.00	0.15	0.35	0.00	0.35	0.07	0.00	0.00	0.09
	S.D.	0.00	0.31	0.42	0.00	0.46	0.26	0.00	0.00	0.26
Beans (ha)	Mean	0.30	0.02	0.09	0.30	0.21	0.00	0.20	0.00	0.17
	S.D.	0.25	0.10	0.20	0.41	0.31	0.00	0.36	0.00	0.29
Onion (ha)	Mean	0.00	0.35	0.00	0.20	0.00	0.00	0.00	0.00	0.06
	S.D.	0.00	0.52	0.00	0.41	0.00	0.00	0.00	0.00	0.25
Cabbage (ha)	Mean	0.00	0.02	0.00	0.00	0.06	0.00	0.00	0.00	0.01
	S.D.	0.00	0.10	0.00	0.00	0.24	0.00	0.00	0.00	0.08
Cattle (No.)	Mean	1.66	1.96	1.82	3.60	2.47	3.73	1.64	2.53	2.21
	S.D.	5.89	4.60	5.15	6.75	5.93	5.80	3.66	3.14	5.20
Goat (No.)	Mean	0.92	1.58	0.00	3.10	1.94	3.00	2.14	1.00	1.63
	S.D.	3.82	4.29	0.00	8.37	4.71	6.46	4.75	2.30	4.79
Chicken (No.)	Mean	0.38	1.00	0.00	0.65	0.00	3.33	0.28	0.67	0.65
	S.D.	2.18	4.13	0.00	2.06	0.00	9.00	1.19	2.58	3.31
Pig (No.)	Mean	0.00	0.54	0.47	1.00	0.94	0.67	0.00	0.40	0.38
	S.D.	0.00	1.84	1.94	3.08	2.75	1.84	0.00	1.55	1.68

2. The income of farmers

Item		D5 FSG member (49) ¹⁾	D11 FSG member (24)	D12 FSG member (16) ¹⁾	D11 FSG Non-member (20)	D12 FSG Non-member (17)	R1-3 FSG Non-member (15)	D5 FSG Non-member (36)	R1-3 FSG Non-member (15)	Total
Cultivation method		Direct sowing	Direct sowing	Direct sowing	Direct sowing	Direct sowing	Direct sowing	Transplanting	Transplanting	192
Rice Income (Mt/household)	Mean	-1,542.31	1,197.27	-5,622.39	2,731.18	6,235.44	1,657.78	2,042.29	6,162.71	1,118.02
	S.D.	5,360.18	16,038.56	17,038.48	10,287.18	10,206.88	10,665.97	5,829.28	4,926.81	10,344.22
Farm Income (Mt/household)	Mean	20,354.84	38,283.35	28,925.04	45,276.18	76,883.97	22,407.78	13,821.35	14,439.04	29,335.52
	S.D.	32,705.38	78,481.67	58,023.46	41,633.63	85,748.60	50,293.28	16,472.26	12,667.95	51,297.50
Off-farm Income (Mt/household)	Mean	37,980.00	38,333.33	35,058.82	61,050.00	53,882.35	39,200.00	47,777.78	28,666.67	42,731.96
	S.D.	26,369.81	53,019.00	28,854.10	43,759.48	37,519.80	68,104.12	24,010.37	39,116.43	38,961.74
Household Income (Mt/household)	Mean	58,334.84	76,616.68	63,983.87	106,326.18	130,766.33	61,607.78	61,599.12	43,105.71	72,067.47
	S.D.	47,753.36	94,530.86	67,835.94	56,131.86	103,459.88	99,130.20	32,143.91	40,641.46	69,421.71
Rice income : Farm income	Mean	-0.26	0.30	-0.34	0.30	0.23	0.65	0.41	0.61	0.17
	S.D.	1.38	0.95	2.97	0.48	0.69	1.18	6.94	0.32	3.22
Rice income : Household income	Mean	0.05	0.14	-0.74	0.15	0.12	0.60	0.02	0.32	0.07
	S.D.	0.93	0.87	2.65	0.40	0.34	1.08	0.13	0.33	1.05
Farm income : Household income	Mean	0.36	0.54	0.42	0.46	0.50	0.70	0.20	0.62	0.43
	S.D.	0.34	0.60	0.55	0.32	0.31	0.45	0.20	0.45	0.42

Note: 1) Farmers who did not harvest are not included in the analysis.

: () indicates the number of farmers

3. Yield, net income, production costs in rice cultivation

Item	Irrigation Block	D5 FSG member	D11 FSG member	D12 FSG member	D11 FSG Non-member	D12 FSG Non-member	R1-3 Non-member	D5 FSG Non-member	R1-3 Non-member	Total
		No.	49	24	16	20	17	15	36	
Cultivation method		Direct sowing	Direct sowing	Direct sowing	Direct sowing	Direct sowing	Direct sowing	Transplanting	Transplanting	192
Management expenses (total) (M/ha)	Mean	28,840.39 a	26,265.04 ab	24,889.06 abc	22,040.95 c	20,894.18 c	13,042.13 d	23,842.03 bc	8,379.87 d	23,007.44
	S.D.	6,222.79	2,587.54	3,780.45	3,283.30	5,045.76	3,364.81	6,639.98	7,015.23	7,935.32
Yield (kg/ha)	Mean	2,990.47 a	2,915.25 a	2,368.19 ab	2,885.50 a	2,935.71 a	1,758.13 b	3,214.44 a	2,400.00 ab	2,813.02
	S.D.	1,381.96	1,261.40	1,215.29	553.48	982.59	823.77	979.31	873.38	1,157.29
Net Income (M/ha)	Mean	-3,084.63 b	-1,095.17 b	-4,284.69 b	2,129.00 b	4,041.94 ab	2,102.27 ab	3,604.50 ab	12,325.47 a	1,101.48
	S.D.	11,177.55	10,682.48	9,547.12	5,821.33	6,442.35	7,082.58	8,498.58	9,853.63	10,136.06
Production Cost (M/ha)	Mean	40,689.10 a	26,151.08 bc	25,086.29 bc	24,103.35 c	24,661.76 c	23,306.67 bc	30,670.73 b	39,021.03 ab	31,980.84
	S.D.	8,628.26	1,937.30	4,038.71	2,871.80	4,211.45	6,850.34	5,476.73	7,334.14	9,630.78

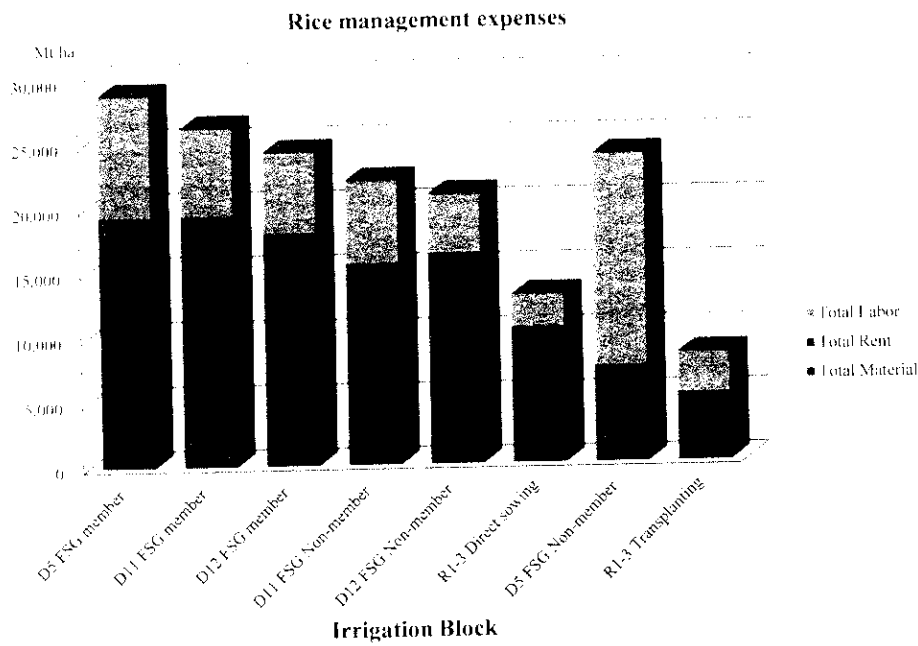
Note: * Mean in the same row with the same letter are not significantly different (P < 0.05)

: † Farmers who did not harvest are not included in the analysis.

4. The breakdown of rice cultivation management expenses

Unit: Mt/ha

Cultivation Method			Direct Sowing					Transplanting			Total (194)	
			D5 FSG member (50)	D11 FSG member (24)	D12 FSG member (17)	D11 FSG Non- member (20)	D12 FSG Non- member (17)	R1-3FSG Non- member (15)	D5 FSG Non- member (36)	R1-3 FSG Non- member (15)		
Seed	Mean		2,550.00	2,550.00	2,550.00	1,197.30	1,200.00	1,178.67	871.11	565.33	1,721.22	
	S.D.		0.00	0.00	0.00	103.02	0.00	106.76	366.62	372.13	821.01	
Fertilizer	Mean		2,396.00	2,000.00	2,000.00	825.05	748.53	166.67	331.94	0.00	1,265.34	
	S.D.		533.36	0.00	0.00	527.80	747.94	523.27	691.80	0.00	1,059.67	
Herbicide	Mean		2,820.00	2,440.00	2,440.00	2,479.50	2,691.18	640.00	0.00	0.00	1,783.40	
	S.D.		0.00	0.00	0.00	1,273.29	1,302.62	1,330.75	0.00	0.00	1,365.12	
Interest	Mean		1,332.00	1,332.00	1,332.00	0.00	0.00	0.00	0.00	0.00	624.80	
	S.D.		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	666.44	
Water fee	Mean		800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00	
	S.D.		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rent	Tractor	Mean	5,350.00	5,350.00	5,350.00	5,465.00	5,997.06	3,660.00	2,691.67	1,346.67	4,485.05	
		S.D.	0.00	0.00	0.00	492.07	916.60	1,516.48	1,800.14	2,048.65	1,795.65	
	Cow	Mean	0.00	0.00	0.00	0.00	0.00	320.00	633.33	1,666.67	271.13	
		S.D.	0.00	0.00	0.00	0.00	0.00	1,038.68	1,346.74	2,126.92	979.84	
	Harvester	Mean	1,842.80	3,258.33	2,000.00	3,400.00	3,000.00	3,173.33	0.00	0.00	1,912.06	
		S.D.	1,668.26	1,082.94	1,588.53	0.00	1,129.16	877.88	0.00	0.00	1,693.47	
	Transportation	Mean	1,083.00	531.04	530.88	290.00	679.41	564.33	1,270.83	577.67	804.90	
		S.D.	483.57	620.60	258.53	179.81	524.12	563.33	417.88	584.10	574.49	
	Transportation for sale	Mean	1,218.34	1,192.29	1,026.82	1,175.00	1,215.29	41.67	856.25	304.67	964.78	
		S.D.	854.28	697.61	954.00	293.85	525.52	1,068.25	740.42	629.41	834.80	
	Labor	Plow	Mean	0.00	0.00	0.00	0.00	0.00	0.00	311.44	0.00	57.79
			S.D.	0.00	0.00	0.00	0.00	0.00	0.00	900.41	0.00	402.20
Nursery preparation		Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		S.D.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Seed sowing		Mean	0.00	187.50	188.24	266.70	188.24	20.00	0.00	0.00	85.23	
		S.D.	0.00	33.78	69.66	158.94	85.75	56.06	0.00	0.00	120.74	
Transplanting		Mean	14.94	333.96	121.18	89.10	0.00	0.00	3,754.64	755.80	820.14	
		S.D.	105.64	438.86	136.74	181.10	0.00	0.00	2,049.13	1,523.88	1,724.63	
Weeding		Mean	3,481.46	2,552.63	1,418.53	1,831.10	1,323.82	1,071.13	1,643.69	512.00	2,069.58	
		S.D.	1,907.47	575.33	618.43	851.91	1,314.46	1,510.51	918.91	1,372.65	1,613.20	
Fertilizer application		Mean	0.00	562.50	441.18	170.00	44.12	0.00	2.78	0.00	130.15	
		S.D.	0.00	134.53	262.34	149.03	82.69	0.00	16.67	0.00	230.86	
Bird scaring		Mean	3,194.00	2,583.33	3,058.82	3,696.65	2,029.41	200.00	733.33	0.00	2,121.30	
		S.D.	3,482.11	1,717.35	2,135.14	1,702.88	2,374.81	774.60	2,008.55	0.00	2,644.22	
Harvest		Mean	1,234.22	116.71	386.29	0.00	256.53	173.33	5,278.50	423.07	1,414.49	
		S.D.	2,085.75	305.83	717.36	0.00	660.22	471.27	2,448.03	1,178.58	2,452.68	
Carrying paddy		Mean	541.20	394.79	394.71	353.75	526.47	313.00	1,705.56	266.67	666.83	
		S.D.	998.65	305.74	322.20	89.32	368.75	826.24	932.26	837.23	893.37	
Threshing		Mean	972.00	67.50	270.00	0.00	164.71	720.00	2,956.94	1,161.33	991.13	
		S.D.	1,424.99	230.22	327.18	0.00	382.33	1,972.38	1,534.28	1,570.78	1,572.78	
Transport	Mean	0.00	12.50	0.00	1.90	29.41	0.00	0.00	0.00	4.32		
	S.D.	0.00	44.84	0.00	8.50	84.89	0.00	0.00	0.00	30.35		
Total	Mean	28,840.39	26,265.04	24,889.06	22,040.95	20,894.18	13,042.13	23,842.03	8,379.87	23,007.44		
	S.D.	6,222.79	2,587.54	3,780.45	3,283.30	5,045.76	3,364.81	6,639.98	7,015.23	7,935.32		



5. Comparison in yield, gross income, management expense, income between FSG farmers who have and do not have irrigation problem.

Item	Irrigation and drainage problem											
	Without problem						With problem					
	D5 (43)		D11 (19)		D12 (6)		D5 (7)		D11 (11)		D12 (11)	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Yield (t/ha)	3,268 a	1,219	3,291 a	1,054	3,412 a	772	857 b	707	1,488 ab	964	1,584 b	1,071
Gross Income (Mt/ha)	28,164 a	10,703	28,447 a	9,098	29,548 a	7,373	7,286 b	6,008	12,718 ab	8,273	13,853 b	9,256
Rice management expense (Mt/ha)	30,026 ab	5,664	26,688 ab	2,340	26,780 b	1,463	21,485 c	3,469	24,657 abc	3,127	22,961 ab	4,885
Net income (Mt/ha)	-1,862 ab	11,285	1,759 ab	9,416	2,768 b	8,651	-14,199 c	7,704	-11,940 abc	8,455	-9,108 ab	7,443

Note: *Mean in the same row with the same letter are not significantly different ($P < 0.05$)

: () at the Irrigation and drainage problem indicates the number of farmers.

Appendix 9: Reference to Output 4

- 9-1 Result Report
- 9-2 Internal regulation of farmers' management group
for rice milling machine (English and Portuguese)
- 9-3 Challenges and Distribution of imported rice and local rice

Activity code: 4-1/11/13

Title of activity

Organization of farming support group (FSG) in each target area.

Activity realized

- a) To select farmers based on the criteria.
- b) To explain objective of FSG and organize it.

Responsible person: SDAE/DPA Gaza/JICA

Objectives

To set up FSGs in order to support farming activities of members by providing revolving funds.

Methodology applied

- a) Select farmers based on the criteria.
- b) Explain farmers means and roles of FSGs.

Results obtained

D5: 3 FSGs with 50 members

D6: 1 FSG with 16 members

D11: 1 FSG with 24 members

D12: 1 FSG with 17 members

Self-evaluation (accomplishment % as compared with the indicator of PDM): 100%

Observations (problems observed if any)

None

Activity in continuation

- a) Continue to organize FSGs

Reference data

- a) No. of FSGs and their members

Irrigation block		Year						
		1st	2nd		3rd		4th	
			No.	%	No.	%*	No.	%*
D5	FSG	0	1	2	200	3	300	
	Members	0	10	26	260	50	500	
	Area (ha)	0	5	13	260	25	500	
D6	FSG	0	1	1	100	1	100	
	Members	0	10	16	160	16	160	
	Area (ha)	0	5	8	160	0	-	
D11	FSG	0	1	1	100	1	100	
	Members	0	12	12	100	24	200	
	Area (ha)	0	0	16	-	32	200	
D12	FSG	0	1	1	100	1	100	
	Members	0	10	10	100	17	170	
	Area (ha)	0	0	16	-	25	156	
Total	FSG	0	4	5	125	6	150	
	Members	0	42	64	152	107	255	
	Area (ha)	0	10	53	530	82	820	

* : Increasing rate based on the time of establishment

Activity code: 4-2/11/14

Title of activity

Training of farming support groups (FSGs).

Activity realized

- To strengthen activities of FSGs through OJT.
- To train FSGs on revolving fund management.

Responsible person: SDAE/DPA Gaza/JICA

Objectives

To make FSGs understand the management of revolving funds such as providing the fund on time to members, keeping account book, holding regular meetings, recovery of funds from members, keeping the funds in the bank, and so on.

Methodology applied

Conduct training as well as OJT to FSG members about roles of farmers group and its management such as revolving fund management, bookkeeping and activities record keeping.

Results obtained

9 course, 159 participants. Skill of bookkeeping has been improved.

Self-evaluation (accomplishment % as compared with the indicator of PDM): 100%

Observations (problems observed if any)

Flood of January 2013.

Activity in continuation

- Conduct training on bookkeeping to FSGs and extension agents.

Reference data

- Training conducted

Name of the course	Date	No. of Participants	Target Participants	Remarks
Collaboration work case study of rice cultivation of small scale farmers in Ghana	25 Nov. 2011	19	Extension agent, SDAE, EAC	Rice cultivation for small scale farmers
Managing the account book for credit system	4 Jan. 2012	12	Extension agent, MIA, FSG	bookkeeping for FSG
Book keeping on revolving fund management	14 Jun. 2013	22	D5	Lecture on bookkeeping
Book keeping on revolving fund management	18 Jun. 2013	10	D11	Lecture on bookkeeping
Book keeping on revolving fund management	19 Jun. 2013	8	D12	Lecture on bookkeeping
Training for extension agents and leader farmer 1	28 Jan. 2014	24	Extension agents, FSG, Farmers' management group for rice milling machine	Follow-up training
Training on bookkeeping	11 Feb. 2014	11	FSG (D12)	Follow-up training
Training on bookkeeping	12 Feb. 2014	13	FSG (D11)	Follow-up training
Training on bookkeeping	20 Feb. 2014	40	FSG (D5)	Follow-up training
Total		159		

Activity code: 4-3(1)/11/14**Title of activity**

Support of the activities of Farming Support Group (FSG) revolving fund management

Activity realized

To visit FSGs regularly to support their management of revolving funds.

Responsible person: SDAE/DPA Gaza/JICA**Objectives**

To support FSGs to improve their management of revolving funds.

Methodology applied

After conducting training regarding revolving fund management, conduct OJT to support management of revolving funds.

Results obtained

a) Rate of repayment (as of 15th September, 2014)

D5: 64.4%

D6: 24.8%

D11: 38.4%

D12: 31.8%

- Some farmers who got lower yields have difficulties to refund full amount.
- Some farmers who planted vegetables after rice harvesting are planning to refund after harvesting vegetables

b) Skills of bookkeeping have been improved, but need continual support.

Self-evaluation (accomplishment % as compared with the indicator of PDM): 45%

Observations (problems observed if any)

Flood of January 2013

Activity in continuation

- Provide revolving fund for newly organized FSGs (Counterpart funds)
- Support and monitor collecting revolving funds.
- Support bookkeeping management (OJT)

Reference data

a) Result of the refunding of revolving funds

2nd year

FSG Revolving Fund Repayment in 2011/12 season

FSG D5	I. Prepa. (Mt.)	Seeds (Mt.)	Ferti. (Mt.)	Total (Mt.)	Interest	Total (Mt.)	Pay back (Mt.)	Date
Alice Machava	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Inora Jorge Ngovene	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Leonor Chauque	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Delfina Siteo	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Flora Chanque	2,000	510	1,550	4,060	10%	4,466	4,466	29/06/2012
Maria Simao Matusse	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Palmira Matusse	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Regina Siteo	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Saulina Simango	2,000	510	1,550	4,060	10%	4,466	4,466	11/06/2012
Talvina Ubisse	2,000	510	1,550	4,060	10%	4,466	4,466	15/06/2012
Total	20,000	5,100	15,500	40,600		44,660	44,660	100.0%
FSG D6	I. Prepa.	Seeds	Ferti.	Total	Interest	Total	Pay back	Date
Albino Mucavel	2,000	510	1,550	4,060	10%	4,466	4,466	17/05/2012
Altimiza Machavane	2,000	510	1,550	4,060	10%	4,466	4,466	17/05/2012
Boavida V. Mondlane	2,000	510	1,550	4,060	10%	4,466	4,466	17/05/2012
Catarina Chauque	2,000	510	1,550	4,060	10%	4,466	1,000	17/05/2012
Celeste Chivose	2,000	510	1,550	4,060	10%	4,466	4,466	14/06/2012
Janete Chauque	2,000	510	1,550	4,060	10%	4,466		*
Luis Siteo	2,000	510	1,550	4,060	10%	4,466	4,466	17/05/2012
Raulina Siteo	2,000	510	1,550	4,060	10%	4,466	4,466	17/05/2012
Valente Mucavel	2,000	510	1,550	4,060	10%	4,466		*
Violeta Maposse	2,000	510	1,550	4,060	10%	4,466	4,466	14/06/2012
Total	20,000	5,100	15,500	40,600		44,660	32,262	72.2%
								86.1%

*: Pay back in August

4th year (as of Sep. 15 2014)

D5

No.	Name	Plan				Total Paid	Balance	Re-payment rate (%)	No.	Name	Plan				Total Paid	Balance	Re-payment rate (%)		
		Previous year		This year							Total	Previous year		This year				Total	
		2013 Oct	2014 April	2013 Oct	2014 April							2013 Oct	2014 April	2013 Oct					2014 April
D501	Alice Machava	491	491	7,326	8,308	7,326.0	982.0	88.2	D527	Rosalina Maposse			7,326	7,326	2000	5,326.0	27.3		
D502	Inora Jorge Ngovene	491	491	7,326	8,308	7,826.0	482.0	94.2	D528	Cicilia Mabeleli			7,326	7,326	4000	3,326.0	54.6		
D503	Leonor Chauque	491	491	7,326	8,308	8,000.0	308.0	96.3	D529	Adilada Mathe			7,326	7,326	7300	26.0	99.6		
D504	Delfina Siteo	491	491	7,326	8,308	7,900.0	408.0	95.1	D530	Rosita Silvia			7,326	7,326	6500	826.0	88.7		
D505	Flora Chanque	491	491	7,326	8,308	7,826.0	482.0	94.2	D531	Saulina Ngovene			7,326	7,326	6000	1,326.0	81.9		
D506	Maria Simao Matusse	491	491	7,326	8,308	7,826.0	482.0	94.2	D532	Lucia Novela			7,326	7,326	3500	3,826.0	47.8		
D507	Palmira Matusse	491	491	7,326	8,308	7,900.0	408.0	95.1	D533	Anita Ncuimica			7,326	7,326	7300	26.0	99.6		
D508	Regina Siteo	491	491	7,326	8,308	7,700.0	608.0	92.7	D534	Violela Ngovene			7,326	7,326	4000	3,326.0	54.6		
D509	Saulina Simango	491	491	7,326	8,308	8,000.0	308.0	96.3	D535	Alici Mabunda			7,326	7,326	2000	5,326.0	27.3		
D510	Talvina Ubisse	491	491	7,326	8,308	7,300.0	1,008.0	87.9	D536	Julieta Uhaice			7,326	7,326	3000	4,326.0	41.0		
	Total		9,820	73,260	83,080	77,604.0	5,476.0	93.4	D537	Diolinda Mabunda			7,326	7,326	7326	0.0	100.0		
									D538	Azelia Chivodze			7,326	7,326	6000	1,326.0	81.9		
									D539	Flora Mabunda			7,326	7,326	0	7,326.0	0.0		
									D540	Hortencia Malene			7,326	7,326	4000	3,326.0	54.6		
									D541	Clara Chauque			7,326	7,326	4000	3,326.0	54.6		
									D542	Felesina Malamule			7,326	7,326	3000	4,326.0	41.0		
									D543	Pomina Ubisse			7,326	7,326	7326	0.0	100.0		
									D544	Elvira Chauque			7,326	7,326	3700	3,626.0	50.5		
									D545	Inora Novela			7,326	7,326	5000	2,326.0	68.3		
									D546	Melecina Siteo			7,326	7,326	7326	0.0	100.0		
									D547	Victoria Motiane			7,326	7,326	2000	5,326.0	27.3		
									D548	Rosalina Chauque			7,326	7,326	0	7,326.0	0.0		
									D549	Celeste Mucavele			7,326	7,326	0	7,326.0	0.0		
									D550	Jetrides Tamele			7,326	7,326	0	7,326.0	0.0		
									Total				175,824	95278	80,546.0	54.2			
									Grand Total				386,008	248,434.0	137,574.0	64.4			

D6

No.	Name	Plan			Total Paid	Balance	Repayment rate (%)
		Previous year		Total			
		2013 Oct	2014 April				
D601	Albino Mucavel	491	491	982	0	982	0
D602	Altimiza Machavane	491	491	982	500	482	51
D603	Boavida V. Mondlane	491	491	982	500	482	51
D604	Catarina Chauque	491	491	982	200	782	20
D605	Celeste Chivose	491	491	982	150	832	15
D606	Janete Chauque	491	491	982	0	982	0
D607	Luis Siteo	491	491	982	1,000	-18	102
D608	Raulina Siteo	491	491	982	0	982	0
D609	Valente Mucavel	491	491	982	300	682	31
D610	Violeta Maposse	491	491	982	0	982	0
D611	Rosalina Armando Chivambo	309	309	618	300	318	49
D612	Salmira Matavel	309	309	618	0	618	0
D613	Janeta Mavundla	309	309	618	0	618	0
D614	Regina Almerante Mucavel	309	309	618	0	618	0
D615	Lidia Ernesto Cossa	309	309	618	200	418	32
D616	Lucia Ernesto Cossa	309	309	618	200	418	32
	Total			13,528	3,350	10,178	25

D11

No.	Name	Area (ha)	Plan				Total Paid	Balance	Re-payment rate (%)	No.	Name	Area (ha)	Plan				Total Paid	Balance	Re-payment rate (%)		
			Previous year		This year								Total	Previous year		This year				Total	
			2013 Oct	2014 April	2014 April	Total								2013 Oct	2014 April	2014 April					Total
D1101	Gerinho Combe	2	2,500	1,419	29,304	33,223	25,500	7,723	76.8	D1113	Armenida Eduardo Ubisse	1			14,652	14,652	2,797	11,855	19.1		
D1102	Luisa Sitoe	1	2,500	1,574	14,652	18,726	11,050	7,676	59.0	D1114	Bautoloneu Simbani	1			14,652	14,652	0	14,652	0.0		
D1105	Carolina Ubisse	1	2,500	1,574	14,652	18,726	18,726	0	100.0	D1115	Ivone Alfredo Chiridza	1			14,652	14,652	8,000	6,652	54.6		
D1104	Milagre Muchava	2	2,500	3,504	29,304	35,308	13,400	21,908	38.0	D1116	Olinda Maleane	2			29,304	29,304	28,000	1,304	95.6		
D1105	Elcilia Limbela	2	2,500	3,504	29,304	35,308	14,500	20,808	41.1	D1117	Cristina Jacobe Cossa	2			29,304	29,304	10,000	19,304	34.1		
D1106	Alfeu Chambal	1	2,500	1,574	14,652	18,726	9,300	9,426	49.7	D1118	Danião Eme Chambal	1			14,652	14,652	0	14,652	0.0		
D1107	Helia Muthombene	1	2,500	1,574	14,652	18,726	8,000	10,726	42.7	D1119	Orniel Carlos Chambal	1			14,652	14,652	0	14,652	0.0		
D1108	Aguida ombaco	1	2,500	1,574	14,652	18,726	5,800	12,926	31.0	D1120	Tomas Chambal	1			14,652	14,652	0	14,652	0.0		
D1109	Filippe Ubisse	1	2,500	1,224	14,652	18,376	0	18,376	0.0	D1121	Fenias Combo Sitoe	1			14,652	14,652	0	14,652	0.0		
D1110	Irene Cambaco	1	2,500	1,574	14,652	18,726	0	18,726	0.0	D1122	Ruben Santos Ubisse	2			29,304	29,304	23,304	6,000	79.5		
D1111	Albertina Nuvunga	1	2,500	1,574	14,652	18,726	0	18,726	0.0	D1123	Sebastiao Mbedzane	2			29,304	29,304	8,047	21,257	27.5		
D1112	Milagrosa Tivane	2	2,500	2,540	29,304	34,344	9,500	24,844	27.7	D1124	Zaida Madisre	1			14,652	14,652	4,647	10,005	31.7		
Total		16	53,208	234,432	287,640	115,776	171,864	40.3	Total		16			522,072	522,072	200,571	321,501	38.4			
Grand Total										Grand Total											

D12

No.	Name	Area (ha)	Plan				Total Paid	Balance	Re-payment Rate (%)	No.	Name	Area (ha)	Plan				Total Paid	Balance	Re-payment Rate (%)		
			Previous year		This year								Total	Previous year		This year				Total	
			2013 Oct	2014 April	2014 April	Total								2013 Oct	2014 April	2014 April					Total
D1201	António M. Chirindza	1		2,704	14,652	17,356	5,000	12,356	28.8	D1211	Marta Macaringue	2			29,304	29,304	0	29,304	0.0		
D1202	Argentina M. Chisone	1		4,952	14,652	19,604	5,900	14,604	25.5	D1212	Antonio Tivane	2			29,304	29,304	20,000	9,304	68.3		
D1203	Feliciano A. Tivane	1		2,704	14,652	17,356	0	17,356	0.0	D1213	Moises Tivane	1			14,652	14,652	4,000	10,652	27.3		
D1204	Rute Simão Lunga	2		4,952	29,304	34,256	10,000	24,256	29.2	D1214	Raufa Omar	1			14,652	14,652	5,000	9,652	34.1		
D1205	Graciosa Macanaze	2		4,055	29,304	33,359	10,000	23,359	30.0	D1215	Anglica Cossa	1			14,652	14,652	5,000	9,652	34.1		
D1206	Helena M. Sitoe	1		5,407	14,652	20,059	4,000	16,059	19.9	D1216	Azelia Biza	1			14,652	14,652	2,000	12,652	13.7		
D1207	Lúcio Z. B. Nhacumbe	2		5,407	29,304	34,711	10,000	24,711	28.8	D1217	Margarita Chambal	2			29,304	29,304	0	29,304	0.0		
D1208	Lucrecia Nhvane	1		2,704	14,652	17,356	10,000	7,356	57.6	Total		10			146,520	146,520	36,000	110,520	24.6		
D1209	Nalúcia G. A. Cunu	2		2,704	29,304	32,008	10,000	22,008	31.2	Grand Total					406,841	406,841	129,305	277,536	31.8		
D1210	Nelson P. Tivane	2		4,952	29,304	34,256	29,305	4,951	85.5												
Total		15		40,541	219,780	260,321	93,305	167,016	35.8												

b) Values of damage and loss caused by flood.

Item	Irrigation Block	Unit: Mt/household	
		Mean	S.D.
	D5 (26)	0	0
Gross income	D6 (16)	0	0
(Harvest * price of paddy)	D11 (12)	20,382	16,022
	D12 (10)	7,498	6,391
Production Expenses	D5 (26)	5,760	730
(Cash Expenses)	D6 (16)	5,638	1,290
	D11 (12)	24,853	7,991
	D12 (10)	24,014	7,038
Net income	D5 (26)	-5,760	730
(Gross income - operating expenses)	D6 (16)	-5,638	1,290
	D11 (12)	-4,471	10,763
	D12 (10)	-16,516	6,953
Values of damage and loss for food, livestock and agricultural material	D5 (26)	11,310	11,153
	D6 (16)	11,804	10,630
	D11 (12)	6,965	7,893
	D12 (10)	0	0
Total values of damage and loss	D5 (26)	-17,070	11,564
	D6 (16)	-17,443	11,049
	D11 (12)	-11,436	10,452
	D12 (10)	-16,516	6,953

Note: () at irrigation block indicates the number of farmers.

Source: Questionnaire survey (2013).

Activity code: 4-3(2)/11/14**Title of activity**

Support of the activities of Farmers' Group (for rice milling machine)

Activity realized

To train member of the group regarding operation, maintenance and bookkeeping.

Responsible person: SDAE/DPA Gaza/JICA**Objectives**

To strengthen activities of farmers' groups for operation, maintenance and management of the rice milling machines.

Methodology applied

- a) Establish Farmers' Groups for the operation, maintenance and management of the rice milling machines at Massavasse (D11) and Muianga (R1-3) and conduct training.
- b) Formulate regulation for the operation, maintenance and management of the rice milling machines.
- c) Visit the groups regularly to support their activities.

Results obtained

- a) Rice milling machines were installed at Massavasse and Muinga
- b) Farmers' management groups for rice milling machine were organized at Massavasse and Muianga.
- c) Training as well as OJT on the operation, maintenance and bookkeeping was conducted. 6 courses, 62 participants
- d) OJT on the bookkeeping was conducted regularly. Need continual support.
- e) Regulation was prepared and approved
- f) Activities were reported to Water Users' Association

Self-evaluation (accomplishment % as compared with the indicator of PDM): 80%

Observations (problems observed if any)

Flood of January 2013

Activity in continuation

- a) Support bookkeeping management (OJT)
- b) Support operation and maintenance
- c) Install de-stoner and length grader (counterpart fund)

Reference data

- a) Training conducted

Name of the course	Date	No. of Participants	Target Participants	Remarks
Farm mechanization (rice milling machine)	19 Oct. 2011	4	Operator for SDAE, HICEP, EAC and FDA	Operation of rice milling machine Mechanization of milling activity
Operating rice milling machine	27 June 2012 - 29 June 2012	12	Rice milling group for D11	OJT
Bookkeeping on rice milling operation	05 July 2011	19	Rice milling group for D11 and R1-3	Lecture on bookkeeping
Operating rice milling machine	8 Nov. 2012	5	Rice milling group for R1-3	Operation and maintenance
Operating rice milling machine	19 Nov. 2012	16	Rice milling group for R1-3	Operation and maintenance
Bookkeeping on rice milling operation	11 Jan. 2013	6	Rice milling group for R1-3	Lecture on bookkeeping

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b) Milling amount at Massavasse (D11) and Muianga (R1-3)

Month	Year					
	2012		2013		2014	
	Massavasse	Muianga	Massavasse	Muianga	Massavasse	Muianga
January	-	-	3,343	1,162	0	0
February	-	-	0	0	0	0
March	-	-	1,301	0	0	0
April	-	-	3,228	229	0	0
May	-	-	5,159	7,261	4,219	2,871
June	-	-	6,112	7,357	13,960	9,751
July	12,882	-	0	0	13,041	8,553
August	11,715	-	0	0	11,222	8,284
September	8,633	-	0	0		
October	7,309	-	0	0		
November	7,087	195	0	0		
December	8,503	1,439	0	0		
Total	56,129	1,634	19,143	16,009	42,442	29,459

Massavasse 117,714 kg
 Muianga 47,102 kg
 Total 164,816 kg

c) Estimation of profit and loss

Yammer YMM20 Profit-Loss Table		Period: 5 year			Milling capacity: 200kg/h				
		50	60	70	75	80	85	100	110
1	Milling amount (t/year)	50	60	70	75	80	85	100	110
2	Operation hour (h/year)	250	300	350	375	400	425	500	550
3	Depreciation (587,436Mt./5 year)	117,487	117,487	117,487	117,487	117,487	117,487	117,487	117,487
4	Repair cost (Mt/year) ¹⁾	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
5	Other cost (Mt/year) ²⁾	42,000	42,000	42,000	42,000	42,000	42,000	42,000	42,000
6	Fuel (Mt/year, 37.8Mt./L) ³⁾	9,450	11,340	13,230	14,175	15,120	16,065	18,900	20,790
7	Personnel (Mt/year, 8750Mt./month) ⁴⁾	52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500
8	Total cost (Mt/year)	245,437	247,327	249,217	250,162	251,107	252,052	254,887	256,777
9	Income (Mt/year, Milling fee: 3Mt/kg)	150,000	180,000	210,000	225,000	240,000	255,000	300,000	330,000
10	Profit (Mt/year)	-95,437	-67,327	-39,217	-25,162	-11,107	2,948	45,113	73,223

Yammer YMM20 Profit-Loss Table		Period: 7 year			Milling capacity: 200kg/h				
		50	60	70	75	80	85	90	100
1	Milling amount (t/year)	50	60	70	75	80	85	90	100
2	Operation hour (h/year)	250	300	350	375	400	425	450	500
3	Depreciation (587,436Mt./5 year)	83,919	83,919	83,919	83,919	83,919	83,919	83,919	83,919
4	Repair cost (Mt/year) ¹⁾	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
5	Other cost (Mt/year) ²⁾	42,000	42,000	42,000	42,000	42,000	42,000	42,000	42,000
6	Fuel (Mt/year, 37.8Mt./L) ³⁾	9,450	11,340	13,230	14,175	15,120	16,065	17,010	18,900
7	Personnel (Mt/year, 8750Mt./month) ⁴⁾	52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500
8	Total cost (Mt/year)	211,869	213,759	215,649	216,594	217,539	218,484	219,429	221,319
9	Income (Mt/year, Milling fee: 3Mt/kg)	150,000	180,000	210,000	225,000	240,000	255,000	270,000	300,000
10	Profit (Mt/year)	-61,869	-33,759	-5,649	8,406	22,461	36,516	50,571	78,681

Yammer YMM20 Profit-Loss Table		Period: 10 year			Milling capacity: 200kg/h				
1 Milling amount (t/year)		50	60	65	70	75	80	85	100
2 Operation hour (h/year)		250	300	325	350	375	400	425	500
3 Depreciation (587,436Mt./5 year)		58,744	58,744	58,744	58,744	58,744	58,744	58,744	58,744
4 Repair cost (Mt/year) ¹⁾		24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
5 Other cost (Mt/year) ²⁾		42,000	42,000	42,000	42,000	42,000	42,000	42,000	42,000
6 Fuel (Mt/year, 37.8Mt./L) ³⁾		9,450	11,340	12,285	13,230	14,175	15,120	16,065	18,900
7 Personnel (Mt/year, 8750Mt./month) ⁴⁾		52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500
8 Total cost (Mt/year)		186,694	188,584	189,529	190,474	191,419	192,364	193,309	196,144
9 Income (Mt/year, Milling fee: 3Mt/kg)		150,000	180,000	195,000	210,000	225,000	240,000	255,000	300,000
10 Profit (Mt/year)		-36,694	-8,584	5,471	19,526	33,581	47,636	61,691	103,856

Source: Result from survey at Massavasse and Muianga (2014)

Note: 1) Estimated 4% of purchasing price.

: 2) Calculated from average cost of Massavasse and Muianga

: 3) Fuel consumption is estimated at 1L/h

: 4) 6 months, from May to October

Activity code:4-3(3)/13/14

Title of activity (sub title if any)

Support of the activities of Farmers' Group (for trial of marketing of milled rice)

Activity realized

Milled rice is marketed in collaboration with FSGs and Rice Milling Group. .

Responsible person: SDAE/DPA Gaza/JICA

Objectives

a) Market milled rice on the trial bases in order to identify the effect to the income of farmers.

Methodology applied

- Select some members from FSG who are willing to sell their milled rice and organize marketing group
- Produce milled rice in collaboration with Farmers' Management Group of Milling Machine (Massavasse or Muianga).
- Market milled rice in collaboration with SDAE and DPA Gaza.
- Cost and benefit of this activity is calculated in order to verify the effect on farmers' income.

Results obtained

- FSG of D11 and Rice milling group of D11 worked together to market milled rice.
 - Sold 78 bags (5kg bags, 4days)
 - Sold 23 bags (5kg bag, 3 local shops, 3 days)
- Some weak points were identified for future improvement
 - Milled rice quality need to be improved
 - Cleaning and grading cost and selling cost should be reduced.

Self-evaluation (accomplishment % as compared with the indicator of PDM): 100%

Observations (problems observed if any)

- Low quality of milled rice
- High milling cost (grading and selling)
- Assess to packing material

Activity in continuation

- Support FSGs to market milled rice

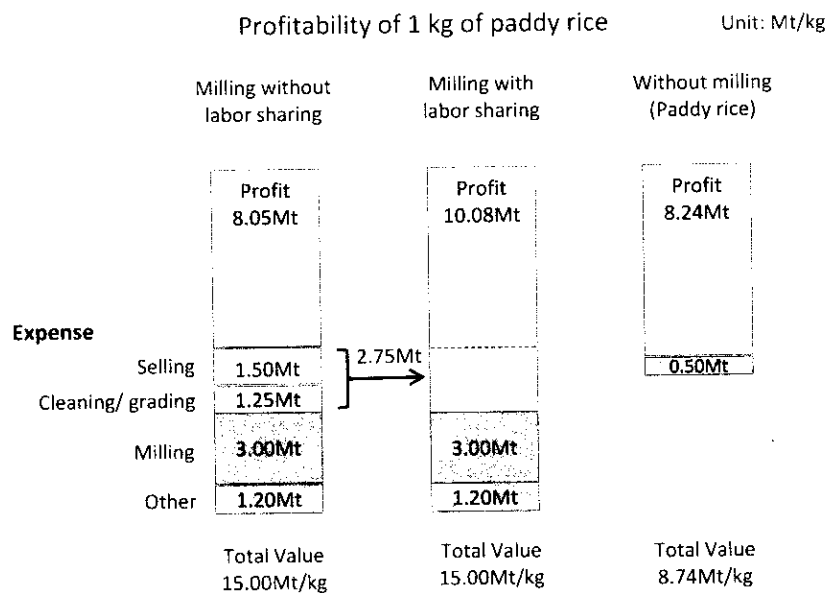
- Planning, monitoring and evaluation
 - Milling and distributing
 - Connecting FSGs with rice millers and local shop
 - Distributing profit to FSG members
 - Collaboration with rice milling group at Massavasse and Muianga
 - Calculate profitability of farmers
- b) Support rice milling group at Massavasse and Muianga
- Installing de-stoner and length grader (if possible)
 - Planning, monitoring and evaluation
 - Collaboration with FSGs

Reference data

a) Profitability of 1kg of paddy rice

Unit: Mt/kg

	Milling without labor sharing	Milling with labor sharing	Without milling (paddy rice)
Total value	15	15	8.74
Milling cost	3	3	0
Cleaning and grading	1.25	0	0
Packaging	0.7	0.7	0
Transportation	0.5	0.5	0.5
Selling cost	1.5	0	0
Total cost	6.95	4.2	0.5
Profit	8.05	10.8	8.24



b) Findings

Strong Point	Weak Point
<p>Demand</p> <p>There is a high demand of rice consumption.</p> <p>Local rice is popular because of its freshness and taste.</p> <p>Consumers prefer local rice even it is higher price</p> <p>Marketing</p> <p>If labor costs are shared, they can get more profit than selling paddy rice.</p>	<p>Distribution</p> <p>Imported rice has already certain system of distribution.</p> <p>Distribution channel for local rice is dominated by large scale milling station.</p> <p>It is difficult for consumers to find local rice.</p> <p>Marketing</p> <p>The quality of local rice can not compete with the that of the imported rice..</p> <p>Access to the packaging material is difficult.</p> <p>Labor costs for cleaning and selling are expensive</p>

c) Some improvement points

Reducing the production cost

- Grading and cleaning cost
 - Involving medium scale milling station
 - Sharing labor
- Selling Cost
 - Sharing labor
 - Involving local grocery store

Improvement of product quality

- Utilizing medium scale milling station
- Packaging rice with logos and information is difficult.

Exploitation of rice marketing

- Working as a group in rice production including milling
- Involving local grocery store
- Providing producer and product information to local grocery store. (With Simple package)

English version

INTERNAL REGULATION OF FARMERS' MANAGEMENT GROUP FOR RICE MILLING MACHINE OF D11

I. OBJECTIVES

The management of rice milling machine was entrusted with the Water Users' Association (WUA) of D11 by SDAE through a contract agreed to June 27, 2012, between the Director of SDAE (District Service for Economic Activities, Chókwe) and the president of IA of D11. However, this rice milling machine is run by a farmers' management group of rice milling machine selected from WUA of D11.

This regulation not only defines the functions and roles of the farmers' management group of rice milling machine regarding the operation and maintenance of the rice milling machine but also clarifies on the management of funds generated from rice milling activities.

II. FORM OF ORGANIZATION

1. Functions and roles of farmers' management group of rice milling machine

(1) Member

As a rule, members will play the roles referenced below and are selected once a year in the General Assembly and its terms of subscriptions are renewable.

1. President
2. Accountant
3. Assistant Administrator
4. Operator
5. Assistant Operator
6. Auditor (Appointed by WUA)

(2) Farmers' management group of rice milling machine

The group is entrusted by the WUA to operate the rice milling machine to help members of the WUA of D11.

(3) Roles of farmers' management group of rice milling machine

Through the effective operations of the milling machine and management of funds, the group will provide milling service for the members of WUA.

2. Role of members of the farmers' management group of rice milling machine

1) President

- Plans, directs and controls the activities through consultation with other members and extension staff.

2) Accountant

- Record all revenue and expenditures to the account book related to the operation of the rice milling machine.
- Deposit and withdraw cash with approval of the president.

3) Assistant Administrator

- Record daily operation and maintenance of the rice milling machine.
- Manage daily activities such as revenues, expenditures in relation to the daily operation of the machine.
- Keep record of meetings

4) Operator

- Operate and maintain the rice milling machine.
- Weigh paddy rice brought by customer
- Clean paddy rice before starting milling

5) Assistant Operator

- Support Operator

.

6) Auditor (appointed by the WUA)

- The auditor is appointed by the WUA and
- Attend regular meetings to verify and audit the accounts of the farmers' management group of rice milling machine.
- Verify and approve the annual accounts prepared for the general assembly.

7) Extension staff as technical supervisor of the group

- Extension staff is not member of the group.
- Participate in any meetings of the farmers' management group for rice milling machine and provides necessary technical advice to the group in relation to operation, maintenance management and financial affairs.

.

3. Terms of the members

The terms of the members of the farmers' management group for rice milling machine is one year. All members should be approved by the General Assembly of WUA of D11.

III Obligations of farmers' management group for rice milling machine

1. Provide milling services for both members and non-members of WUA of D11.

1. Users (customer)

Users need to request milling to the Assistant Administrator. Assistant Administrator and Operator will check the condition of paddy and remove unnecessary object such as stones, metals, and grass seeds together with the user and if it is acceptable conditions, the operator will start milling. The users must comply with the payment of the amount stipulated for milling before starting milling. Only cash will be accepted.

2. Price

1) Rice Milling

Members of IA: xxMt/kg

Non-member of IA: xxMt/kg

2) Rice bran (for sale)

Members of IA: xxMt/kg

Non-member of IA: xxMt/kg

3. Control and record of the payment

The assistant Administrator must keep daily records of the operation of the rice milling machine based on the hours of operation, amount of milling, money received and expenses such as fuel, oil, salary and so on. The Assistant Administrator is entrusted with the control of daily work and passes all receipts to accountant every two working days.

4. Control money on accountant of the association to avoid risks

The Assistant Administrator must maintain daily activities of revenues and expenditures in the register while the accountant must verify and control the income and expenditure every week. Accountant is also deposit money into the bank account of the farmers' management group for rice milling machine once a week or twice to avoid the risk of theft.

2. Operate and maintain milling machine

1. Daily and periodic maintenance of the rice milling machine

The Operator as well as the Assistant Operator must make a daily inspection of the rice milling machine before starting the operation. The amount of oil, diesel and water remaining, condition of oil and diesel and condition of the straps etc. are to be inspected based on inspection sheet attached to the machine.

Any defects or failures occurring during the inspection should be reported to the extension staff through the President. If these defects or failures are difficult to manage, the president or extension staff should report immediately to the Director of SDAE for taking necessary measures.

3. Saving maintenance cost

Farmers' management group must save 2,000 Mt every month for the purpose of maintenance of the rice milling machine.

4. Hold Regular Meetings

The Farmers' Management Group of Rice Milling Machine will hold a meeting every month in order to review the milling activities (milling amount), to check account book (income, expenditure, balance) with auditor and to discuss any problems to be solved.

5. Report activities of the Farmers' Management Group for Rice Milling Machine to General Assembly of IA of D11 and get approval.

Items to be reported and approved are as described below;

1. Submit milling amount, income, expenditure and balance to be approved.
2. Milling price
3. Remuneration to members
4. Approve members of Farmers' Management Group for Rice Milling Machine.
5. Discuss any problems to be solved

IV. Rights of Farmers' management group for rice milling machine

1. Remuneration

The members of the farmers' management group for rice milling machine will perform their duties with a symbolic compensation based on the amount which is approved by the general assembly of IA D11 as indicated

below:

Manager	2,500 MT/month
Accountant	2,500 MT/month
Assistant administrative	2,500 MT/month
Operator	2,500 MT/month
Operator Assistant	2,500 MT/month

2. Allocation of office and meeting place

The office for the farmers' management group for rice milling machine can be allocated where the machine is installed and all meetings are held in that place

Portuguese version

REGULAMENTO INTERNO DE AGRICULTORES DO GRUPO DE GESTÃO DA MÁQUINA DE DESCASQUE DE ARROZ DE D11

OBJECTIVOS

A gestão da máquina de descasque de arroz foi confiada a Associação de regantes (AR) de D11 por SDAE através de um contrato celebrado a 27 de Junho de 2012, entre o Director do SDAE (Serviço Distrital de Actividades Económicas de Chókwe) e o gestor do PROMPAC (Projecto do melhoramento da Produtividade de arroz no sistema de regadio de Chokwe) e o presidente da AR do D11. No entanto, esta máquina de descasque do arroz é operado pelo grupo de agricultores de gestão da máquina de descasque de arroz seleccionados pela AR de D11.

Este regulamento não só define as funções e papel de agricultores do grupo de gestão da máquina de descasque de arroz em relação à operação e manutenção da máquina de descasque de arroz, mas também esclarece sobre a gestão dos recursos gerados pelas actividades de descasque de de arroz.

II. FORMA DE ORGANIZAÇÃO

1. Funções e papel de agricultores do grupo de gestão da máquina de descasque de arroz

(1) Membro

Como regra geral, os membros irão desempenhar os papéis referenciados abaixo e são seleccionados uma vez por ano em Assembléia Geral e seus termos de assinaturas são renováveis.

7. Presidente
8. Contabilista
9. Assistente Administrativo
10. Operador
11. Assistente do Operador
12. Auditor (Indicado pela AR)

(2) Agricultores do Grupo de gestão da máquina de descasque de arroz

O grupo é confiada pela AR para operar a máquina de descasque de arroz para ajudar os membros da associação de regantes de D11.

(3) Papel de agricultores do grupo de gestão da máquina de descasque de arroz
Através da função efectiva da máquina de descasque de arroz e gestão de fundos, o grupo irá fornecer o serviço de descasque para os membros da AR..

2. Papel dos membros do grupo de agricultores de gestão da máquina de descasque de arroz

1) Presidente

- Planifica, dirige e controla as actividades por meio de consultas com outros membros e técnicos de extensão.

2) Contabilista

- Regista todas as receitas e despesas para o livro de conta relacionadas com o funcionamento da máquina de descasque de arroz.
- Depósito e levantamento de dinheiro com a aprovação do presidente.

3) Assistente Administrativo

- Registo da operação diária e manutenção da máquina de descasque de arroz.
- Gerir as actividades diárias, como receitas, despesas em relação ao funcionamento diário da máquina.
- Manter registo de reuniões

4) Operador

- Operar e manutenção da maquina de descasque de arroz
- Pesar o arroz trazido pelo cliente
- Limpar o arroz antes de iniciar o descasque

5) Assistente do operador

- Apoia o operador

6) Auditor (indicado pela AR)

- O Auditor é indicado pela AR e
 - Participar em reuniões regulares para verificar e auditar as contas do grupo de agricultores de gestão da máquina de descasque de arroz.
 - Verificar e aprovar as contas anuais preparadas para a assembleia geral.

7) Pessoal de extensão como supervisor técnico do grupo

- Pessoal de extensão não é membro do grupo.
- Participar nas reuniões do grupo de agricultores de gestão da máquina de descasque de arroz fresadora arroz e presta assessoria técnica necessária para o grupo em relação à operação, manutenção e gestão de assuntos financeiros.

3. Termos de membros

Os mandatos dos membros do grupo de agricultores de gestão da máquina de descasque de arroz é de um ano. Todos os membros devem ser aprovadas pela Assembléia Geral da AR de D11.

Obrigações de agricultores do grupo de gestão da máquina de descasque de arroz

1. Providenciar serviços de descasque para ambos os membros e não membros da AR de D11.

1. Usuários (clientes)

Os usuários precisam de solicitar o descasque ao Assistente Administrativo. O Assistente Administrativo e o Operador Administrativo irão verificar a condição de arroz e remover objectos desnecessários, como pedras, metais e ervas juntamente com o usuário e se as condições forem aceitáveis, o operador irá iniciar o descasque. Os utilizadores devem respeitar o pagamento do valor estipulado para o descasque antes de iniciar o descasque. Será aceite apenas o dinheiro.

2. Preço

1) Descasque de arroz: 3Mt/kg

2) Preço de farelo: 2 Mt/kg

3. Controle e registro de pagamento

O assistente administrativo deve manter os registos diários da operação da máquina de descasque de arroz baseado sobre as horas de funcionamento, a quantidade de descasque, o dinheiro recebido e despesas, tais como gasóleo, óleo, salário e assim por diante. O assistente administrativo é confiada com o controle do trabalho diário e passa todos os recibos para o contabilista a cada dois dias úteis.

4. Controle do dinheiro pelo contabilista da associação, para evitar riscos

O assistente administrativo deve manter as actividades diárias de receitas e despesas no registo enquanto o contabilista deve verificar e controlar as receitas e despesas a cada semana. O Contabilista também deposita o dinheiro na conta do grupo de agricultores de gestão da máquina de descasque de arroz uma vez por semana ou duas vezes para evitar o risco de roubo.

2. Operação e manutenção da máquina de descasque

1. Manutenção diária e periódica da máquina de descasque de arroz

O operador, bem Como o assistente do operador devem fazer uma inspeção diária da máquina de descasque de arroz antes de iniciar a operação. A quantidade de óleo, gasóleo e a água restante, a condição de óleo para motores diesel e condição das correias, etc, são para ser inspeccionadas com base na folha de inspeção ligados à máquina.

Quaisquer defeitos ou falhas que ocorram durante a inspeção deve ser comunicada ao pessoal de extensão através do presidente. Se estes defeitos ou falhas são difíceis de gerir, o presidente ou extensionista devem comunicar imediatamente ao Director do SDAE para tomar as medidas necessárias.

3. Economia de custos de manutenção

Os Agricultores do Grupo de gestão deve economizar 2.000 Mt cada mês com o objetivo de manutenção da máquina de descasque de arroz.

4. Realizar reuniões regulares

Os agricultores do grupo de gestão da máquina de descasque de arroz devem realizar uma reunião a cada mês, a fim de rever as actividades de descasque(quantidade de descasque), para verificar o livro de conta (receita,

despesas, saldo) com auditor e discutir todos os problemas a serem resolvidos.

5. Relatório de Actividades de agricultores do grupo de descasque de arroz para Assembleia Geral da AR de D11 e obter aprovação

Os itens a serem apresentados e aprovados são como descrito a seguir:

1. Enviar a quantidade de descasque, receita, despesas e saldo a ser aprovado.
2. Preço de descasque
3. Remuneração aos membros
4. Aprovar os membros de agricultores do Grupo de gestão da máquina de descasque de arroz.
5. Discutir quaisquer problemas a serem resolvidos

IV. Direitos dos Agricultores do grupo de gestão da máquina de descasque de arroz

1. Remuneração

Os membros do grupo de agricultores de gestão da máquina de descasque de arroz irá exercer as suas funções com uma remuneração simbólica com base no valor que é aprovado pela assembleia geral de AR de D11 conforme indicado abaixo:

Gestor.....	2500 MT/month
Contabilista	2500 MT/month
Assistente administrativo	2500 MT/month
Operador	2500 MT/month

2. Alocação de escritório e local de encontro

O escritório para os agricultores do grupo de gestão da máquina de descasque de arroz funciona ao lado onde foi instalado a máquina e todas as reuniões são realizadas naquele lugar

Data: 15/09/ 2014

Presidente, GRUPO DE GESTÃO DA
MAQUINA DE DESCASQUE DE ARROZ DE
D11

(Milagre Amosse Machava)

Vice - Presidente, Associação de Regantes de
D11
(Sebastião Mbandzane)

Director, SDAE, Chókwe
(Inácio Mateus Mugabe)

Rice distribution around Gaza Province, the Southern Region of Mozambique

1. Rice distribution in the southern region of Mozambique with a focus on the Chokwe Irrigation Scheme

Although the Chokwe Irrigation Scheme is the (principle/main?) rice production area in Mozambique, imported rice is overwhelming marketed there and domestically produced rice has little impact now in that market. Not only that, but domestically produced rice is also very difficult to find, because the volume of production is so low, its distribution is rather limited and only dealt with by large scale mill companies. On the other hand, the tax for the imported rice is as low as 7.5% and its distribution system is well-established and so efficient that imported rice is easily found everywhere at a reasonable price. Under these circumstances, there is no competition between the two.

1) Distribution route of the rice produced in the Chokwe Irrigation Scheme

There are three distribution routes for the rice produced in the Chokwe Irrigation Scheme: 1) through large scale mill companies, 2) through rice retailers dealing with middle scale mill companies and 3) through direct sales or giving to relatives for their home consumption (Figure 9-3-1). Most of the rice produced here takes route 1). Very little rice takes route 2) and 3).

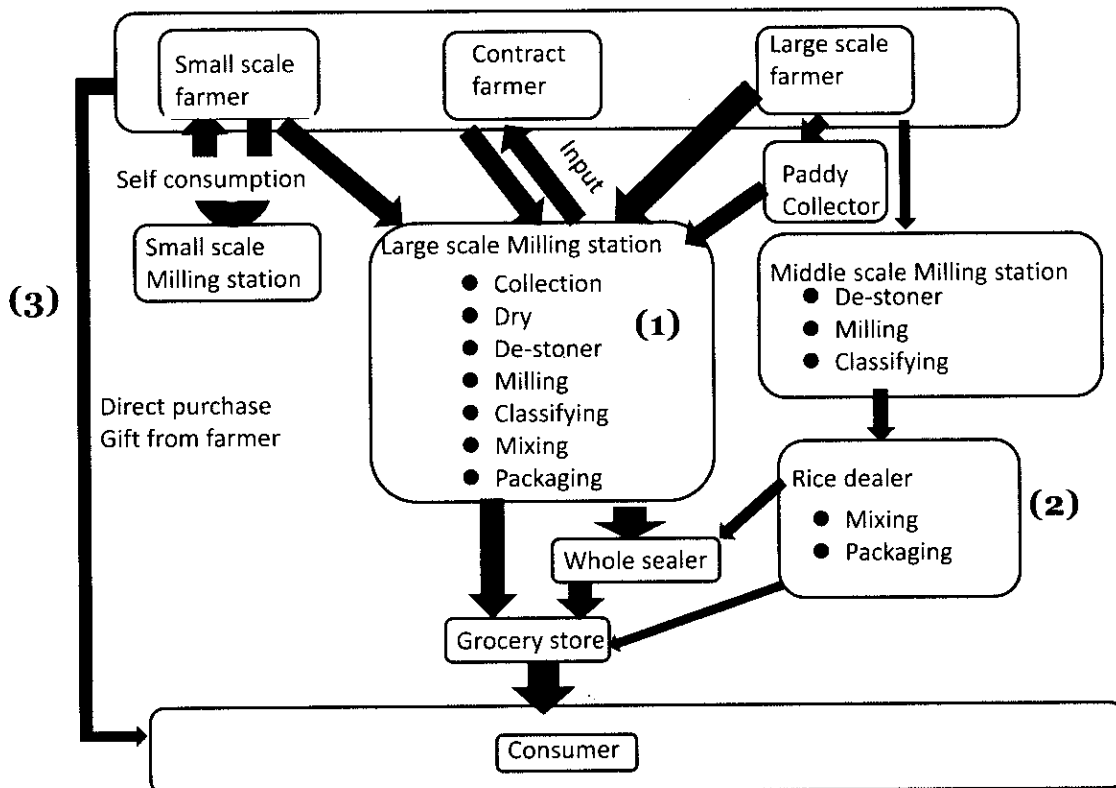


Figure 9-3-1 Distribution Routes in the Chokwe Irrigation Scheme for Domestically Produced Rice

2) Rice distribution through large scale mill companies

Most of the rice produced in the Scheme is bought by the large scale mill company called Inanacio de Sousa, and it is dried, milled, cleaned, sorted and packaged before being distributed in the market

through wholesale and/or retail shops under the product name "Palmeira." Inanacio de Sousa is a large scale mill company established in the late 1960's, with a milling capacity of 20,000t/year. The company is located in a town called Palmeira, about one and a half hours drive from Chokwe, in the direction of Maputo. Other than the rice selling business, this company also deals with a range of other businesses including sugarcane cultivation, restaurant and petro station management, etc.

At the time of harvesting rice, Inanacio de Sousa goes around farmers with a truck and buys their paddy usually at purchasing price of 9Mt/kg (this price is without transportation fees and also only applicable to rice with 14% moisture content) and makes the shipment to Palmeira where milling takes place. There, the rice is left to dry naturally, milled, cleaned, sorted and packaged.

The company is equipped with the sorting and cleaning machines, so makes its own quality control to be competitive with imported rice. Packaged rice is shipped to wholesale and/or retail shops after being categorized into four grades according to the percentages of broken rice content (Table 9-3-1). The price is set for each category at almost the same standard as with the imported rice of the same quality.

Nonetheless, the rice shipped by Inanacio de Sousa has very little impact in the rice market. The shipment volume is only 3,000 tons annually which, it is assumed, is only a 4% share of the annual consumption in Gaza Province. This indicates that the 96% share of the rice market in Gaza Province is dominated by the imported rice and that the presence of domestically produced rice is invisible.

On the other hand, Inanacio de Sousa recognizes the need to handle a larger quantity of rice in order to increase its milling operation rate. The company have been dealing with only 4,000 tons of paddy every year when there is the capacity for 6,000 tons. It should be an urgent and necessary issue for the company to attempt a reduction in the cost of milling by operating at a better rate. As a strategy to tackle this matter, the company has a contract with some farmers to acquire their rice in return for the services of seeding, fertilizer applying, weeding and tractor related work. The company also has a high interest in the Project rice production improvement techniques.

Table 9-3-1 Rice Grades of Inanacio de Sousa

Grade	Rate of broken rice	Price (Mt / kg)	Price of the imported rice at the same quality (Mt / kg) ⁽¹⁾
1 st	5 ~ 6 %	24.8	25
2nd	25 %	17	21
3 rd	100 %	12.6	-
Abortive rice (animal feed)	100 %	10.4	-

Note ⁽¹⁾ Price of Mariana, produced in Thailand and sold in Chokwe

3) Rice retailer using middle scale mill

Some rice retailers purchase paddy from large scale rice farmers and sell them through milling, sorting and packaging at middle scale mills equipped with a sorting machine. In Chokwe, the Global Investment, run by people of Indian origin, is currently the only rice retailer known for selling rice in this manner. This company uses a middle scale mill located in a town called Lionde, about thirty minutes drive from Chokwe in the direction of Maputo.

Since the mill has a sorting machine, it is possible to process rice to the same quality as that of imported rice. The company buys paddy from farmers, uses the mill for milling, sorting and packaging, then selling the packaged rice to retailers. Yet, the volume of this distribution process is so little that the presence is unnoticeable.

4) Direct rice sales or giving relatives rice for home consumption

There are a few farmers who sell their rice directly to consumers. Other farmers give rice to their relatives as a gift to be consumed at home. Farmers are usually milling their rice at a small scale mill in their community and store the rice at home for their own use. Some of them give this rice to their relatives who may live in urban areas or directly sell it to people who come from urban areas to buy rice directly from them.

An interview with rice consumers in Maputo found that many of them get rice from their relatives in Chokwe and Xaixai as a gift or buy rice directly from local farmers. This is also such a minor distribution route for rice, and is quite ineffective in its impact on the whole rice market.

Inanacio de Sousa buys all of its paddy from farmers in the Chokwe Irrigation Scheme, according to an interview. If the annual cultivation area is approximately 5,000ha in the Scheme, producing the average of 2.9t/ha (the yield amount ascertained through an interview in 2014), the paddy yield must be 14,500t/year. And if approximately 5,000tons of that paddy must be sold to Inanacio de Sousa, then approximately 9,500tons of paddy is consumed within the Scheme. At the same time, the same interview also found that there are seven small scale rice milling machines and two middle scale rice milling machines operating in the Scheme. The total capacity of these milling machines was 6.46t/hour, which means it is possible to mill 9,500ton of paddy in approximately 1,470hours. Say it operates for ten hours every day, it would take approximately one-hundred and forty-seven days to finish the task. The available rice milling machines can operate more than they are doing now so there is already in place a basic facility to process and distribute milled rice.

5) Distribution of imported rice

The distribution system for the imported rice has been established with a focus on large scale importing companies (Figure 9-3-2). There are eight main importing companies, and the top three of them deal with equal to or more than 80% of all imported rice. They handle the processes of milling and packaging in the exporting countries, before actually importing the rice. The imported rice is sold to wholesale and/or retail shops through an importing company called 'cash and carry supermarket' (something like a wholesale supermarket for retailers in Japan). Those importing companies have

storage space in Chokwe and/or Xaixai and sell their rice to wholesale and retail shops in the area.

Generally, such imported rice is sold in packages of 5kg, 10kg, 25kg and 50kg at daily food shops. At local markets, the imported rice is sold by weight and the price is set relatively higher than the pre-packaged rice (Figure 9-3-2).

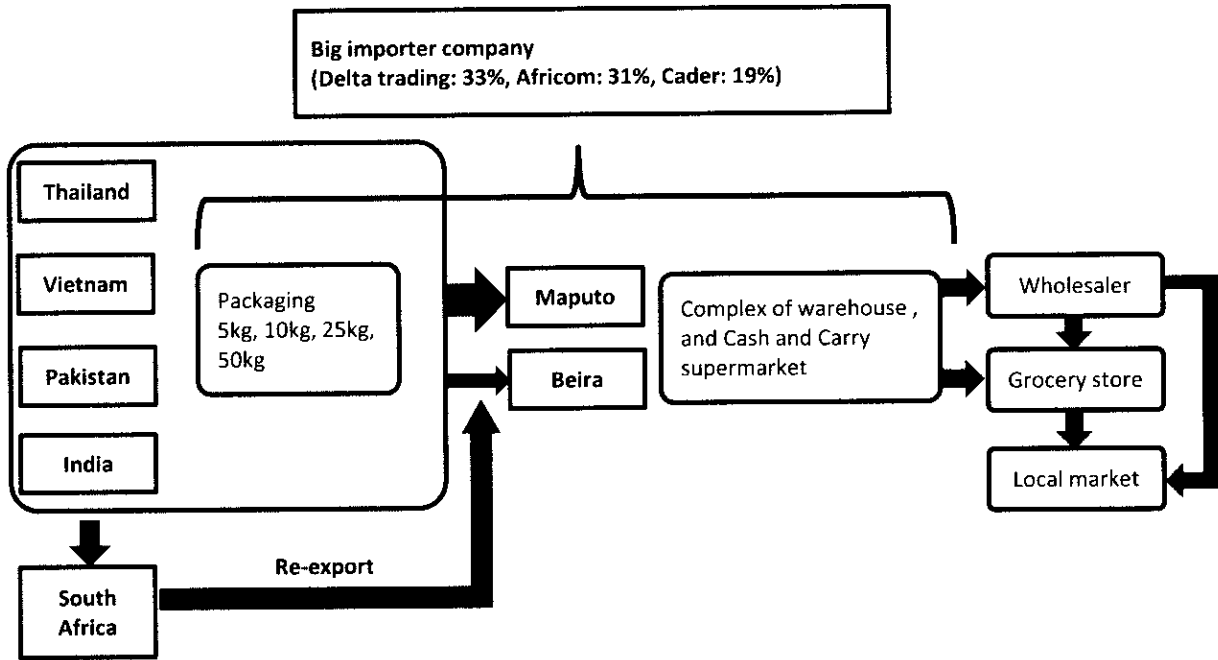


Figure 9-3-2 Distribution Route for Imported Rice

6) Challenges of distributing rice

The rice market in Gaza Province is dominated by imported rice at the moment, whereas domestically produced rice shares so little of the market that its presence is almost invisible. Under these circumstances, the price of imported rice will influence the price of domestically produced rice to a large degree. Regardless the great flood of 2013, which severely damaged the rice production of the Chokwe Irrigation Scheme, the rice price has stayed the same and there has been no difference in paddy purchase price before and after the flood. This could be one of the reasons for low motivation toward rice cultivation seen among rice farmers.

As for sales contacts for rice farmers in the Scheme, there is only the one option, the company Inanacio de Sousa. Up until last year, another company called MIA, a large scale milling company, was in Chokwe, but it withdrew from the business due to the deficit in its milling operation. That is why there is only Inanacio de Sousa left available in the community. Many farmers feel that the purchase price by Inanacio de Sousa is unreasonably low. Again, this adds another reason for their low motivation.

2. Survey on consumers' taste and tendency of shopping for rice

It is absolutely necessary to understand the taste and tendency of consumers in order for domestically produced rice to enter a rice market that is completely dominated by imported rice. So the things that should be acknowledge are that consumers buy rice 1) with what kind of standard in

mind, 2) with what kind of quality in mind and 3) how they actually buy rice. It is also important to understand the advantages and disadvantages of domestically produced rice against imported rice. So a survey was conducted to understand such consumers' shopping tendency.

As a result, in general, consumers 1) give importance to the taste and quality of rice at the time of purchase, 2) preferred to buy the domestically produced rice but this is not easily available so 3) buy the imported rice in quantities of 25kg to 50kg every month from the grocery shop.

Many consumers prefer domestically produced rice over imported rice, as it is fresher and better in taste. At the same time, many consumers also said that it is awfully difficult to find domestically produced rice in the shops whereas imported rice is easy to find and priced reasonably. Therefore, it is assumed that the disadvantage of domestically produced rice is this poor accessibility within the market.

A large number of farmers are actually not taking advantage of the demand for domestically produced rice and are therefore missing a business chance. In other words, there is a great possibility of selling their rice at a higher price, if enough consideration is given thoroughly to overcome the poor accessibility.

1) Survey methodology and target persons

The Survey quite randomly chose anyone that was shopping in the local supermarkets and/or grocery shops and who looked like they might be housewives: in Chokwe, the rice production region; XaiXai, the provincial capital of Gaza, and in Maputo, the capital of the country, and also the largest rice market. The number of those sampled was seven-hundred and thirty-two in total: one-hundred and eighty-two from Chokwe, three-hundred and eleven from XaiXai and two-hundred and forty-two from Maputo.

Most of persons who answered to the survey questions were women (93%) and 85% of these women were housewives who take charge of domestic issues at home. The largest number of them (61%) said their families consisted of five to ten members, followed by equal to or less than four members (31%). As for their net income, 47% belonged to the lower income class of equal to or less than 30,000Mt, 35% were in the middle class between 30,000 and 150,000Mt and no one answered their household net income is equal to or more than 150,000Mt.

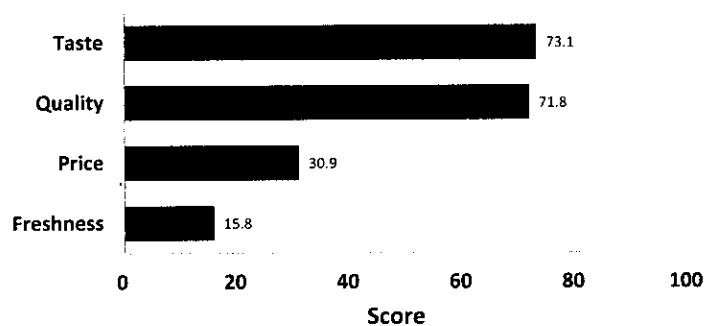


Figure 9-3-3 Criteria for buying rice

Note: Three most popular answers were chosen and weighed to its order. The Score is a relative points to the highest point as 100.

2) Criteria for buying rice

Being asked for their criteria when they buy rice, it was found that they had in mind taste and quality as a priority (Figure 9-3-3). Taste and quality was more of a priority than the price. This result

indicated that it is quite difficult to compete with imported rice by price, but instead, farmers need to produce good quality, highly tasty rice.

3) Rice that consumers wish to buy or actually bought

Most of consumers answered that they wish to buy domestically produced rice, when they were asked which do they wish to buy, imported or domestically produced rice. Indeed, there was an overwhelming preference, 92%, for domestically produce rice (Figure 9-3-4). Their reasons were good taste and freshness (Figure 9-3-5). These are advantages for domestically produced rice and this kind of domestically produced rice would be competitive against imported rice.

However, almost all of them bought imported rice. The percentage was 99% (Figure 9-3-6). The reason why they can not buy domestically produced rice is simply because such rice is usually not available in the market. This is the disadvantage of domestically produced rice.



Figure 9-3-4 Consumers preference to buy

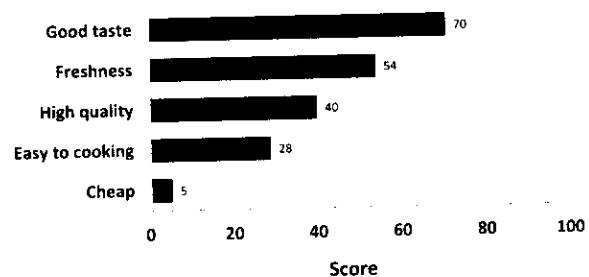


Figure 9-3-5 Reason why prefer domestic rice to buy

Note: Three most popular answers were chosen and weighed to its order. The Score is a relative points to the highest point as 100.

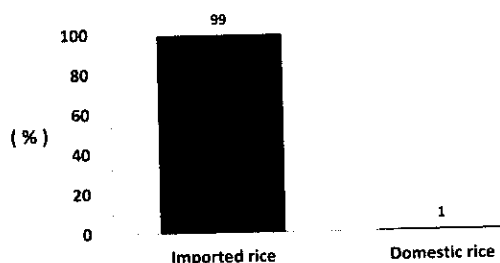


Figure 9-3-6 Rice actually bought

4) The volume of rice and place that consumers buy rice from

Many consumers go to grocery stores to buy rice. According to the survey, 87% were buying rice at grocery stores and not the local market (Figure 9-3-7). Grocery stores are preferred for their convenience and selection of higher quality goods (Figure 9-3-8). There are also a number of grocery stores, run by people of Indian origin, in the target area, who sell not only rice but also other foods and daily goods.

The survey also found that many people buy 25kg to 50kg of rice every month; approximately 60% said 25kg where 35% said 50kg. This indicates that many consumers buy one rice package of either 25kg or 50kg once a month.

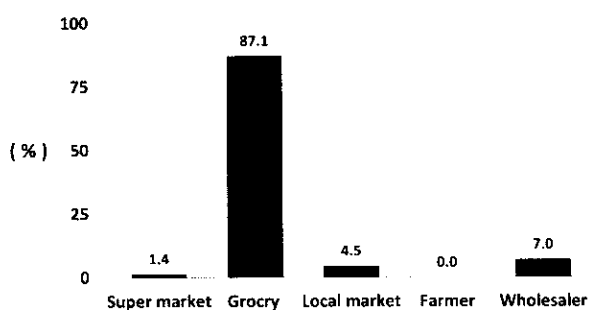


Figure 9-3-7 Place to Buy Rice

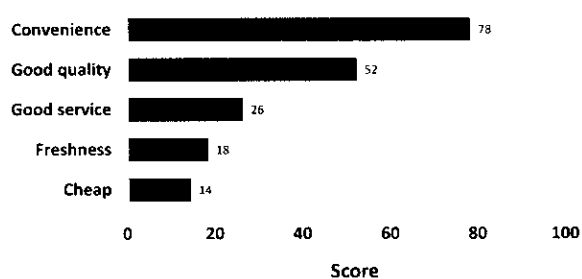


Figure 9-3-8 Reason for the choice of place to buy

Note: Three most popular answers were chosen and weighed to its order. The Score is a relative points to the highest point as 100.

5) Advantages and disadvantages of domestically produced rice

For the purpose of understanding the advantages and disadvantages of domestically produced rice, the survey asked questions about the price, quality, taste and option availability etc. As a result, the domestically produced rice had a higher reputation for its good taste than imported rice (Table 9-3-2). This result matches with the previous study where consumers replied that the reason for their favoring the domestically produced rice is for its taste and fresh quality. Again, there is an emphasis that the domestically produced rice has the advantage of good taste and fresh quality.

Nevertheless, the domestically produced rice was also known for its poor availability (Table 9-3-3). Indeed, as many consumers pointed out, they cannot buy domestically produced rice because it is simply not available. At the same time, a number of rice consumers in Maputo, as large as 23% of the people targeted, said that they had never had domestically produced rice. Here, the disadvantage of domestically produced rice is highlighted for its poor availability. As for the price and quality, both domestically produced rice and imported rice were thought to be about the same (Table 9-3-4 and Table 9-3-5).

Table 9-3-2 Taste Evaluation

	Domestic rice	Imported rice
very good	69.6 %	5.4 %
good	18.1 %	60.4 %
average	1.6 %	32.4 %
bad	0.3 %	1.4 %
very bad	0.1 %	0.3 %
unknown	9.3 %	0.1 %

Table 9-3-3 Availability Evaluation

	Domestic rice	Imported rice
Very good	0.7 %	59.9 %
good	1.9 %	37.8 %
average	2.1 %	1.8 %
bad	31.7 %	0.3 %
very bad	56.8 %	0.3 %
unknown	6.8 %	0.0 %

Table 9-3-4 Price Evaluation

	Domestic rice	Imported rice
very high	3.5 %	1.8 %
high	23.5 %	46.4 %
average	38.5 %	44.3 %
low	8.0 %	7.2 %
very low	0.0 %	0.0 %
unknown	26.5 %	0.3 %

Table 9-3-5 Quality Evaluation

	Domestic rice	Imported rice
very good	7.4 %	13.8 %
good	66.1 %	71.7 %
average	14.7 %	14.0 %
bad	3.4 %	0.4 %
very bad	0.1 %	0.1 %
unknown	8.2 %	0.0 %

3. Summary

The Survey on consumers' taste and tendency of shopping for rice clearly identified the high demand for domestically produced rice and the scarcity of its availability. These two factors indicate the great sales potential for domestically produced rice at a higher price. If this sales possibility is verified, the agriculture related profit would rise and farmers would certainly be more motivated towards cultivating rice.

Appendix 10: Reference to Output 5

- 10-1 Result Report

Activity code: 5-1/11-14

Title of activity

Project management through the periodic meetings to mutually review activities of SDAE, EAC, HICEP and related organizations

Activity realized

- a) To review the advances and accomplishment of outputs of project activity.
- b) To share the results obtained and obstacles observed during project implementation among executing institutions of SDAE, EAC, HICEP and related organizations.

Responsible person: SDAE/DPA Gaza/JICA

Objectives

- a) To make follow up of project implementation
- b) To share the information among project executing institutions.

Methodology applied

- a) Periodic meetings to mutually review activities
- b) Monitoring of advances and results of project activity

Results obtained

As shown in annex

Self-evaluation (accomplishment % as compared with the indicator of PDM): 92%

Observations (problems observed if any)

Flood of Jan. 2013 caused damage in demonstration of transplanting and revolving fund management

Activity in continuation

- a) Coordination meeting of 3 institutions: twice/year
- b) Evaluation of implementation process and results

Reference data

Monitoring result of project activity

Monitoring of activity and results (July 2012 - Aug. 2014)

1. Dissemination of improved rice cultivation techniques of transplanting to the target farmers.

date: Aug 2014

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (1-1/1/14)																																																											
1-1. Examination and development of effective extension method	Identification of useful materials for effective extension	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• Field survey of production cost and machinery operation cost • Field test of field working performance of machinery • Constraints of cultivation method • Demonstration of improved transplanting rice cultivation (EAC variety trial) * Estimated accomplishment of the target: 78%	None																																																							
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Title of activity (1-2/1/12)																																																											
1-2. Training of extension leaders on improved rice cultivation techniques of transplanting	Transfer of basic techniques of transplanting rice cultivation to extension leaders and extension agent	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• Verification (variety introduction) D5: 4 location (8plots) 4 variety (1.13 ah) line sowing/broadcasting D6: no verification plot • Demonstration field (ITA312) D5: 50 field (25 ha) Direct sowing D6: No demonstration field * Estimated accomplishment of the target: 65%	None																																																							
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1-3. Establishment of demonstration farm for transplanting with initiative of extension leaders	Establishment of demonstration farm in D5 and D6. * 26 demonstration plots (13 ha) in D5 * 16 demonstration plots (8 ha) in D6	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• Verification (variety introduction) D5: 4 location (8plots) 4 variety (1.13 ah) line sowing/broadcasting • Demonstration field (ITA312) D5: 50 field (25 ha) Direct sowing • Training FSG Field day: 1course, 39 participants Verification results: 1 course, 65 participants * Estimated accomplishment of the target: 77%	None																																																							
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1. Dissemination of improved rice cultivation techniques of transplanting to the target farmers.

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (1-3(2)11/14)																																																											
1-3. Establishment of demonstration farm for transplanting with initiative of extension leaders (Variety trial for transplanting rice cultivation)	variety trial	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• Variety Trial * EAC, 1 plot 6 varieties, RCBD, 3 Rep, 450m ² * Estimated accomplishment of the target: 100%	None																																																							
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1-4. Training of farmers on improved rice cultivation techniques with initiative of extension leaders	(1) Identification of technical component of traditional rice cultivation (2) Diffusion of new technical component of rice cultivation	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• Demonstration field (1FA312) D5: 50 field (25 ha) Direct sowing • Training FSG Field day: 1course, 39 participants Verification results: 1 course, 65 participants * Estimated accomplishment of the target: 88%	None																																																							
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Title of activity (1-4(2)11/14)																																																											
1-4. Training of farmers on improved rice cultivation techniques with initiative of extension leaders (Demonstration of variety for transplanting rice cultivation)	Variety demonstration	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• Verification (variety introduction) D5: 4 location (8plots) 4 variety (1.13 ah) line sowing/broadcasting D6: no verification plot * Estimated accomplishment of the target: 54%	None																																																							
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1. Dissemination of improved rice cultivation techniques of transplanting to the target farmers.

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (1-5/11/14)																																																											
1-5. Training of farmers on irrigation facility maintenance and water management.	(1) Recognition of farmers on the effect of keeping paddy field under submerged condition. (2) Reduction of flood area by poor drainage.	1-1 Three (3) important techniques of 8 technical components of transplanting rice cultivation are adopted by 15% of farmers in the target area for transplanting 1-2 More than 50% of the farmers in the target areas where transplanting method is widely practiced are trained on appropriated techniques for irrigation facility maintenance and water use.	• OJT of simple leveling method for canal maintenance and field leveling: 766 participants (DSD6D11D12R1R3) • Training simple leveling method: 15 Cantoneiro (HICFP) * Estimated accomplishment of the target: 100%	None																																																							
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
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J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
programed			(1) Equipment utilized	Vehicle, fuel, field worker, materials for irrigation and drainage, article of stationery.																																																							
realized	x x		(2) Cost	Mt. 144,000/year																																																							

2. Development and verification of Improved rice cultivation techniques of direct sowing

2-1. Establishment of trial and verification plots

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (2-1/11/12)																																																											
2-1 Establishment of direct sowing rice cultivation techniques	(1) Identification of adequate sowing method (2) Improvement of manual seeder	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six (6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared.	• Manual seed production: 8 units • Field test of seeder, field work performance • OJT manual seeder production 4 courses (38 days), 19 participants * Estimated accomplishment of the target: 90%	None																																																							
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
2013												2014																																															
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
programed			(1) Equipment utilized	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools, apparatus for analysis of yield components, article of stationery																																																							
realized	x x		(2) Cost	Mt. 178,000/year																																																							

2-2. Development and verification of rice cultivation techniques of direct sowing.

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (2-2/11/12)																																																											
(1) Analysis of limiting factors of technological components of traditional direct sowing rice cultivation	(1) Identification of factors prevent the expansion of direct sowing (2) Establishment of direct sowing techniques	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six (6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared. 3-1 More than 25% of the farmers in the target areas are trained on six (6) technical components of direct sowing rice cultivation.	Limiting factors identified * Estimated accomplishment of the target: 100%	None																																																							
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
2013												2014																																															
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
programed			(1) Equipment utilized	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools, apparatus for analysis of yield components, article of stationery																																																							
realized	x x		(2) Cost	Mt. 178,000/year																																																							

2. Development and verification of improved rice cultivation techniques of direct sowing

2-2. Development and verification of rice cultivation techniques of direct sowing.

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																								
Title of activity (2-2(2)/12/13)																																																												
(2) Verification of the efficiency of mechanized rice cultivation	(1) Study on the efficiency of land preparation by tractor (2) Study on the efficiency of land preparation by power tiller	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six (6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared. 3-1 More than 25% of the farmers in the target areas are trained on six (6) technical components of direct sowing rice cultivation.	• Field test of machinery (chisel plow, rotary) field working performance, fuel consumption, operation cost • Yield and yield component analysis of verification plot • Field test of power tiller (field working performance, fuel consumption, operation cost) * Estimated accomplishment of the target: 80%	None																																																								
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs		
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programmed			(1) Equipment utilized	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools, apparatus for analysis of yield components, article of stationery																																																								
realized	<table border="1"> <tbody> <tr> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> </tr> </tbody> </table>		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(2) Cost	Mt. 178,000/year																																					
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																										
Title of activity (2-2(3)/12/13)																																																												
(3) Elaboration direct sowing rice cultivation manual	(1) Elaboration of direct sowing rice cultivation manual	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six (6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared. 3-1 More than 25% of the farmers in the target areas are trained on six (6) technical components of direct sowing rice cultivation.	Draft of direct sowing cultivation manual was prepared. * Estimated accomplishment of the target: 100%	None																																																								
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs		
2013												2014																																																
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																										
programmed			(1) Equipment utilized	Vehicle, fuel, field worker, article of stationery, printing materials																																																								
realized	<table border="1"> <tbody> <tr> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> </tr> </tbody> </table>		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(2) Cost	Mt. 178,000/year																																					
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																										

3. Dissemination of improved rice cultivation techniques of direct sowing to the target farmers.

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																								
Title of activity (3-1/12/14)																																																												
3-1 Training of extension leaders on improved rice cultivation techniques of direct sowing	Transfer of direct sowing rice cultivation techniques to extension leaders and extension agents	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six (6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared. 3-1 More than 25% of the farmers in the target areas are trained on six (6) technical components of direct sowing rice cultivation.	• Verification (promising variety and line sowing) D11: 4 varieties and ITA312, line sowing/broadcasting, 3 locations 18 plots (1.44 ha) D12: 4 varieties and ITA312, line sowing/broadcasting, 3 locations 18 plots (1.44 ha) • Demonstration field (ITA312) D11: 24 demonstration plots (32 ha) D12: 17 demonstration plot (25 ha) * Estimated accomplishment of the target: 99%	Flood of Jan. 2013																																																								
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs		
2013												2014																																																
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																										
programmed			(1) Equipment utilized	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery																																																								
realized	<table border="1"> <tbody> <tr> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> </tr> </tbody> </table>		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(2) Cost	Mt. 270,000/year																																					
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																										

3. Dissemination of improved rice cultivation techniques of direct sowing to the target farmers.

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																	
Title of activity (3-2/12/14)																					
3-2 Establishment of demonstration farms for direct sowing with initiative of extension leaders	(1) Installation of two demonstration farms in D11 and D12	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six(6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared. 3-1 More than 25% of the farmers in the target areas are trained on six(6) technical components of direct sowing rice cultivation.	• Demonstration field (ITA312) D11: 24 demonstration plots (32 ha) D12: 17 demonstration plot (25 ha) • Training FSG Field day: 3 courses, 185 participants * Estimated accomplishment of the target: 99%	None																	
Activities (implementation)	2013		2014																		
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs	
																				(1) Equipment utilized	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery
programed realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(2) Cost	Mt.270,000/year

Title of activity (3-3/12/14)																					
3-3 Training of farmers on improved rice cultivation techniques of direct sowing	(1) Installation of two demonstration farms in D11 and D12	2-1 The yield in trial verification plots is increased by 60% compared to the farmers' plots at the beginning of the Project. 2-2 Six(6) kinds of techniques are developed. 2-3 Direct sowing manual is prepared. 3-1 More than 25% of the farmers in the target areas are trained on six(6) technical components of direct sowing rice cultivation.	• Demonstration field (ITA312) D11: 24 demonstration plots (32 ha) D12: 17 demonstration plot (25 ha) • Training FSG Field day: 3 courses, 185 participants * Estimated accomplishment of the target: 99%	None																	
Activities (implementation)	2013		2014																		
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs	
																				(1) Equipment utilized	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery
programed realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(2) Cost	Mt.270,000/year

4. Strengthening of activities of farmers groups in the areas of the demonstration farms

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																	
Title of activity (4-1/1/14)																					
4-1. Organization of farming support group in each target area	(1) Formation of FSG in D5, D6, D11 and D12 (2) Establishment of demonstration farm	4-1 The number of farmer's group members increases by 60%. 4-2 Account records on the operations of the rice milling machines are properly maintained and annually reported to the WUA members. 4-3 Records of the revolving fund program are properly maintained and annually reported to the FSG members.	Total FSG member of D5 increased to 50 Estimated accomplishment of the target: 100%	None																	
Activities (implementation)	2013		2014																		
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs	
																				(1) Equipment utilized	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery
programed realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(2) Cost	Mt. 250,000/year

4. Strengthening of activities of farmers groups in the areas of the demonstration farms

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (4-2/11/14)																																																											
4-2. Training of farming support group	OJT to farmers on improved rice cultivation method	4-1 The number of farmer's group members increases by 60%. 4-2 Account records on the operations of the rice milling machines are properly maintained and annually reported to the WUA members. 4-3 Records of the revolving fund program are properly maintained and annually reported to the ESG members.	(1) FSG members have understood roles and duties of FSG such as problem solving, arranging land preparation, distributing seeds, fertilizer and herbicide through OJT. (2) Conducted training on revolving funds management and bookkeeping. (3) All FSGs member cannot refund the revolving fund because their field and house were damage by flood. All of them have agreed to refund all within 5 years. * Estimated accomplishment of the target: 100%	None																																																							
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
2013												2014																																															
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
			(1) Equipment utilized	Vehicle, fuel, field worker, funds for rice cultivation, article of stationery																																																							
programed			(2) Cost	Mt. 250,000/year																																																							
realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																									
Title of activity (4-3(1)/11/14)																																																											
(1) Support of the activities of Farming Support Group (FSG) of revolving fund management	OJT on revolving fund management (bookkeeping) to farmers and extension agents	4-1 The number of farmer's group members increases by 60%. 4-2 Account records on the operations of the rice milling machines are properly maintained and annually reported to the WUA members. 4-3 Records of the revolving fund program are properly maintained and annually reported to the FSG members.	Revolving fund management (1) Recovering fund initiated (3rd year and 4th year) (2) Training of book keeping and annual reporting to the member * Estimated accomplishment of the target: 100%	None																																																							
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
2013												2014																																															
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
			(1) Equipment utilized	Vehicle, fuel, field worker, funds for rice cultivation, article of stationery																																																							
programed			(2) Cost	Mt. 281,000/year																																																							
realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																									
Title of activity (4-3(2)/11/14)																																																											
(2) Support of the activities of Farming Support Group (FSG) of rice milling machine operation	Installation of rice milling machine in Massavase (D11) and Muianga (R1-3)	4-1 The number of farmer's group members increases by 60%. 4-2 Account records on the operations of the rice milling machines are properly maintained and annually reported to the WUA members. 4-3 Records of the revolving fund program are properly maintained and annually reported to the FSG members.	Support for rice milling group (1) Repairing rice milling (2) Training of book keeping (3) Elaboration of internal regulation of the group (3) Annual reporting to WUA * Estimated accomplishment of the target: 100%	None																																																							
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
2013												2014																																															
J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
			(1) Equipment utilized	Vehicle, fuel, field worker, equipment for rice milling, article of stationery																																																							
programed			(2) Cost	Mt. 158,000/year																																																							
realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																									

4. Strengthening of activities of farmers groups in the areas of the demonstration farms

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (4-3(3)/11/14)																																																											
(3) Support of the activities of Farming Support Group (FSG) of rice milling machine operation	Market exploration of polished rice	4-1 The number of farmer's group members increases by 60%. 4-2 Account records on the operations of the rice milling machines are properly maintained and annually reported to the WUA members. 4-3 Records of the revolving fund program are properly maintained and annually reported to the FSG members.	Market exploration of polished rice (1) Study on commercialization (2) Study on milling performance (cost, profitability, polishing quality) (3) Extraction of critical issue of commercialization (4) Extraction of critical issue of rice selling * Estimated accomplishment of the target: 100%	None																																																							
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
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J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																																									
			(1) Equipment utilized	Vehicle, fuel, field worker, equipment for rice milling, article of stationery																																																							
programed			(2) Cost	Mt. 158,000/year																																																							
realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																									

5. Promotion of implementation process of the Action Plan

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (5-1/11/14)																																																											
5-1. Project management through the periodic meetings to mutually review activities of SDAE, EAC, HICEP and related organizations	Monitoring system of project activity is introduced in the project management and monitoring results are shared among implementation institution of the project	5-1 The progress review meetings are held at least twice a year. 5-2 Joint monitoring sheets on the progress are prepared.	• Steering Committee organized Programed: 6/realized: 5 • Monitoring action plan Programed: 1/realized: 1 • Monitoring of project activity Programed: 1 JCC/realized: 1 JCC(8h) Estimated accomplishment of the target: 94%	None																																																							
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
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			(1) Equipment utilized	Vehicle, article of stationery																																																							
programed			(2) Cost	Mt. 101,000/year																																																							
realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																									

Activity realized	Target of the year (2011-2013)	indicator (PDM)	Results obtained	Problems caused the failure to accomplish the target																																																							
Title of activity (5-2/11/14)																																																											
5-2. Monitoring of the progress of activities conducted by SDAE, EAC, HICEP based on the Action Plan	Monitoring system of implementation of the action plan is introduced in the project management and monitoring results are shared among implementation institution of the project	5-1 The progress review meetings are held at least twice a year. 5-2 Joint monitoring sheets on the progress are prepared.	As shown in the monitoring result of the Action Plan Average of estimated accomplishment of the target was 57 % .	As shown in the monitoring result of the Action Plan																																																							
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																				Inputs	
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			(1) Equipment utilized	Vehicle, fuel, article of stationery																																																							
programed			(2) Cost	Mt. 101,000/year																																																							
realized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																									

Activity code: 5-2/11-14

Title of activity

Monitoring of the progress of activities conducted by SDAE, EAC, HICEP based on the Action Plan

Activity realized

- a) To review the advances and accomplishment of activities specified in the action plan
- b) To share the results obtained and obstacles observed during implementation of the action plan among executing institutions of SDAE, EAC, HICEP and related organizations.

Responsible person: SDAE/DPA Gaza/JICA

Objectives

- a) To make follow up of progress of implementation of the action plan
- b) To share the information among project executing institutions.
- c) To accomplish the outputs of the first and the second 3 years of the action plan

Methodology applied

- a) Periodic meetings to mutually review activities
- b) Monitoring of advances and results of project activity

Results obtained

As shown in annex.

Self-evaluation (accomplishment % as compared with the indicator of PDM):86%

Flood of Jan. 2013

Observations (problems observed if any)

Activity in continuation

- a) Coordination meeting of 3 institutions: twice/year
- b) Evaluation of implementation process and results

Reference data

Result of monitoring of the action plan

Monitoring of activity and results of the Action Plan (July 2013 - June 2014)

date: August 2014

Activity realized	Target of the year (2011-2013)	Indicator	Results obtained	Problems caused the failure to accomplish the target																																																																		
Title of activity (5-2/11/14)																																																																						
(1) Techniques for small scale farmers in the target area are improved. (output-1)	Consolidation of transplanting rice cultivation techniques for small scale farmers in upper stream zone (output 1-a)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha . (c) Eventually paddy production in the scheme reaches 28,000 ton .	RELATÓRIO DE BALANÇO DA 1ª ÉPOCA DA CAMPANHA AGRÍCOLA 2013/14 Abril de 2014 (a) Rice cultivation: programed; 2,500ha/cultivated: 2,579ha. Accomplishment (103.2%) (b) Rice cultivation of small scale farmers: no information available. Accomplishment (n.a.%) (c) Average yield of rice: programed; 4.0 ton/ha, yield of 2013/14; 2.27 ton/ha. Accomplishment (56.8%) (d) Upland crops cultivation: programed; 1,000ha/accomplished; 983ha. Accomplishment (98.5%) (e) Estimated damage of the flood 2013 - Paddy: 2,233ha/3773 ha = 58.9% - Upland crops (maize, tomato and others): 872ha/872ha = 100% (f) Total paddy production of the scheme in 2011: no information available, Accomplishment (n.a.%) * Average accomplishment: (86.2%)	(a) Precarious condition of drainage (b) Dissemination of salinity soil (c) Poor leveling condition of the field (d) Flood of Jan. 2103																																																																		
Activities (implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="12">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		2013												2014												J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																								Inputs	
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programed			(1) Equipment utilized	seed, fertilizer, fitosanitary products, agricultural machinery, farming tools, vehicles and consumable materials																																																																		
realized	<table border="1"> <tbody> <tr> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																																													
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Activity realized	Target of the year (2011-2013)	Indicator	Results obtained	Problems caused the failure to accomplish the target																																							
Title of activity (5-2/11/14)																																											
(2) Techniques for small scale farmers in the target area are improved.(output-1)	Development and improvement of direct sowing rice cultivation techniques for small scale farmers (1 to 4 ha farm land) through application of in station and on farm research trials (output 1-b)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) 8 prototype of manual seeder have been manufactured and working performance has been tested in ESG farmer's field: Accomplishment (90%) (b) Limiting factors of traditional direct sowing cultivation in Chokwe Irrigation Scheme have been identified and technical countermeasures proposed: Accomplishment (90%) (c) Installation of verification plot, Accomplishment (75%) - D5: 4 locations of 8 plots (1.13 ha) of 4 varieties (line sowing and broadcasting) - D6: No verification plot installed (due to the flood effect of 2013) - D11: 3 locations of 18 plots (1.44 ha) of ITA312 and 4 varieties (line sowing and broadcasting) - D12: 3 locations of 18 plots (1.44 ha) of ITA312 and 4 varieties (line sowing and broadcasting) (d) Installation of demonstration plot, Accomplishment (98%) - D5: 50 plots (25 ha) - D6: No demonstration plots installed due to the flood effect of 2013 - D11: 24 demonstration plots (32 ha) - D12: 17 demonstration plot (25 ha) * Average accomplishment: (87.6%)	Flood of Jan. 2013																																							
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs				
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Title of activity (5-2/11/14)																																											
(3) Techniques for small scale farmers in the target area are improved.(output-1)	Development and improvement of paddy field preparation techniques including plowing and leveling/paddling (output 1-c)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) Field work efficiency of rotary, chisel plow, power tiller and manual seeder were verified in ESG farmer's field and EAC experimental field: Accomplishment (80%)	None																																							
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs				
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Title of activity (5-2/11/14)																																											
(4) Techniques for small scale farmers in the target area are improved. (output-1)	Development and improvement of annual cropping pattern 2 cultivation seasons (output 1-d)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) No information available: Accomplishment (n.a. %)	Unknown																																							
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs				
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Activity realized	Target of the year (2011-2013)	Indicator	Results obtained	Problems caused the failure to accomplish the target																																																																													
Title of activity (5-21114)																																																																																	
(5) Techniques for small scale farmers in the target area are improved. (output-1)	Demonstration plot on new agricultural technology are established by the extension services in the 3 strategic agriculture development zone (output 2-a) for: (a) Consolidation of transplanting rice cultivation in transplanting zone (D4-D7) (b) Development of direct sowing cultivation techniques in mid stream/adjacent area (c) Development of irrigated upland crop cultivation techniques in low stream area	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) No demonstration plot of transplanting installed in D5 and D6 due to effect of the flood 2013. Instead of transplanting, demonstration plot of direct sowing was installed in D5, D11 and D12. Accomplishment (98%) - D5: 50 plots (25 ha) - D6: No demonstration plots installed due to the flood effect of 2013 - D11: 24 demonstration plots (32 ha) - D12: 17 demonstration plot (25 ha) (b) One variety experiment (450m ²) was installed in EAC and data analysis ongoing. Accomplishment (100%) (c) Installation of verification plot of promising varieties of direct sowing. Accomplishment (75%) - D5: 4 locations of 8 plots (1.13 ha) of 4 varieties (line sowing and broadcasting) - D6: No verification plot installed (due to the flood effect of 2013) - D11: 3 locations of 18 plots (1.44 ha) of ITA312 and 4 varieties (line sowing and broadcasting) - D12: 3 locations of 18 plots (1.44 ha) of ITA312 and 4 varieties (line sowing and broadcasting) (d) Member of FSG has been increased 255 % from 42 of 2 groups in 2012 to 107 of 7 groups in 2014. Accomplishment (100%) (e) Information of development of irrigated upland crop cultivation not available: Accomplishment (n.a.%) Accomplishment: (93.3%)	Flood of Jan. 2013																																																																													
Activities (Implementation)	<table border="1"> <thead> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> </tr> </tbody> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J																					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Inputs (1) Equipment utilized		seed, fertilizer, fitosanitary products, agricultural machinery, farming tools, vehicles and consumable materials
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Title of activity (5-21114)																																																																																	
(6) Techniques for small scale farmers in the target area are improved. (output-1)	Technical capacity of personnel on research, extension and irrigation is strengthened. (output 2-b)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) Training course and field day conducted (till the end of March 2014) - OJT direct sowing by manual seeder in D5 (4 Dec. 2013, 26 participants), D11 (8 Nov. 2013, 19 participants) and D12 (15 Nov. 2014, 23 participants) - OJT manual seeder manufacturing, 4 training courses, 19 participants, 8 manual seeder manufactured - Transplanting and direct sowing rice cultivation, 7 Feb. 2014, for extension agent and extension leader, transplanting and direct sowing rice cultivation, 18 participants - Field day of direct sowing to non FSG farmers in D11 (18 Feb. 2014, 33 participants) and in D12 (6 March 2014, 64 participants) - Field tour and field visit of demonstration plot in D11 and D12, 28 Feb. 2014, D5, D6, D11 and D12, 88 participants - Field day at EAC field, 11 March 2014, for FSG farmers of D5 and D6, transplanting rice cultivation, 39 participants - Revolving fund management and book keeping 28 Jan. 2014 for extension agent and extension leader, 18 participants - Revolving fund management and book keeping, 11 Feb. 2014 in D12 (11 participants), 12 Feb. 2014 in D11 (13 participants) and 20 Feb. 2014 in D5 (40 participants) Estimated target accomplishment: 88% (1) Examination and development of effective extension method: 78% (2) Training of transplanting rice cultivation: 65% (3) Variety trial for transplanting rice cultivation: 100% (4) Training of extension leaders on direct sowing: 99% (5) Establishment of demonstration farm for direct sowing: 99% (b) Technical training in Japan - No technical training in Japan: 0% Accomplishment: (73.5%)	None																																																																													
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(7) Management of irrigation facilities and water use in the target area is improved. (output 2)	600 house holds of farmers are benefited in unused almost 600 ha in the scheme under HICEP land management through a fair and transparent rearrangement of land (output 3)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) Number of farmers benefited in unused almost 600 ha in the scheme under HICEP land management: no information available; Accomplishment (n.a. %)	Unknown																																																																																					
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(8) Management of irrigation facilities and water use in the target area is improved. (output 2)	Irrigation efficiency is enhanced through improving rotational irrigation techniques (such as canal operation, water distribution and water management techniques) coping with a tendency of increased cropping area. (output 4)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	<p>RELATÓRIO DE BALANÇO DA 1ª ÉPOCA DA CAMPANHA AGRÍCOLA 2013/14</p> <p>(1) Rehabilitation of 7,000 ha (BID)</p> <table border="1"> <thead> <tr> <th>Atividade</th> <th>Us</th> <th>Orçado</th> <th>Realizado</th> <th>Atendido (%)</th> </tr> </thead> <tbody> <tr> <td>Mauisanga</td> <td>us</td> <td>96</td> <td>95</td> <td>99</td> </tr> <tr> <td>Muianga</td> <td>us</td> <td>84</td> <td>82</td> <td>98</td> </tr> <tr> <td>Teranga</td> <td>us</td> <td>84</td> <td>84</td> <td>100</td> </tr> <tr> <td>Muungu</td> <td>us</td> <td>53</td> <td>54</td> <td>102</td> </tr> <tr> <td>Muungu</td> <td>us</td> <td>54</td> <td>54</td> <td>100</td> </tr> <tr> <td>Total</td> <td>us</td> <td>271</td> <td>269</td> <td>99</td> </tr> </tbody> </table> <p>Investimentos em conservação</p> <table border="1"> <thead> <tr> <th>Infraestrutura</th> <th>Programado (R\$)</th> <th>Realizado (R\$)</th> <th>Atendido (%)</th> </tr> </thead> <tbody> <tr> <td>Engenharia</td> <td>200</td> <td>200</td> <td>100</td> </tr> <tr> <td>Outras</td> <td>200</td> <td>200</td> <td>100</td> </tr> <tr> <td>Total</td> <td>400</td> <td>400</td> <td>100</td> </tr> </tbody> </table> <p>Infraestrutura em operação</p> <table border="1"> <thead> <tr> <th>Infraestrutura</th> <th>Programado (R\$)</th> <th>Realizado (R\$)</th> <th>Atendido (%)</th> </tr> </thead> <tbody> <tr> <td>Canal</td> <td>80</td> <td>80</td> <td>100</td> </tr> <tr> <td>Total</td> <td>80</td> <td>80</td> <td>100</td> </tr> </tbody> </table> <p>Atividades de campo</p> <table border="1"> <thead> <tr> <th rowspan="2">Atividade</th> <th rowspan="2">Cada</th> <th colspan="2">Cada</th> <th rowspan="2">Atendido (%)</th> </tr> <tr> <th>Numero</th> <th>Length (m)</th> </tr> </thead> <tbody> <tr> <td>Projetos</td> <td>1</td> <td>1</td> <td>1</td> <td>100</td> </tr> <tr> <td>Seções</td> <td>5</td> <td>528</td> <td>528</td> <td>100</td> </tr> <tr> <td>Total</td> <td>6</td> <td>529</td> <td>529</td> <td>100</td> </tr> </tbody> </table> <p>Estimated target accomplishment: 62.9%</p>	Atividade	Us	Orçado	Realizado	Atendido (%)	Mauisanga	us	96	95	99	Muianga	us	84	82	98	Teranga	us	84	84	100	Muungu	us	53	54	102	Muungu	us	54	54	100	Total	us	271	269	99	Infraestrutura	Programado (R\$)	Realizado (R\$)	Atendido (%)	Engenharia	200	200	100	Outras	200	200	100	Total	400	400	100	Infraestrutura	Programado (R\$)	Realizado (R\$)	Atendido (%)	Canal	80	80	100	Total	80	80	100	Atividade	Cada	Cada		Atendido (%)	Numero	Length (m)	Projetos	1	1	1	100	Seções	5	528	528	100	Total	6	529	529	100	(a) Budget allocation (b) Difficulty of the liquidity of the water use fee (c) Increased risk of climate on the viability of agricultural production
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Title of activity (5-2/11/14)																																																																																									
(9) Farming support activities provided by extension officers for small scale farmers in the target area are strengthened.	Farming support service (rice milling, sale/purchase of products, and microfinance) are strengthened by the producer group through its legalization as agriculture association and the support from the 3 partner institutions. (output 5)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) 2 groups of rice milling established (b) 2 OJT on operation, maintenance and book keeping were conducted (c) Milling amount: Massavase: 75 ton (July 2012/June 2013), Muanga: 17.6 ton (Nov. 2012/June 2013) - Revolving fund management and book keeping 28 Jan. 2014 for extension agent and extension leader, 18 participants - Revolving fund management and book keeping, 11 Feb. 2014 in D12 (11 participants), 12 Feb. 2014 in D11 (13 participants) and 20 Feb. 2014 in D5 (40 participants) Accomplishment: (100%) (1) Organization of farming support group in each target area: 100% (2) Training of farming support group: 100% (3) Support of the activities of Farming Support Group (revolving fund, milling and marketing): 100%	None																																																																																					
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="6">2014</th> </tr> <tr> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th><th>A</th><th>S</th><th>O</th><th>N</th><th>D</th> <th>J</th><th>F</th><th>M</th><th>A</th><th>M</th><th>J</th><th>J</th> </tr> <tr> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> <td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td> </tr> </table>	2013												2014						J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	(1) Equipment utilized	seed, fertilizer, fitosanitary products, agricultural machinery, farming tools, vehicles and consumable materials																														
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Activity realized	Target of the year (2011-2013)	Indicator	Results obtained	Problems caused the failure to accomplish the target																																				
Title of activity (5-2/11/14)																																								
(10) Collaboration among SDEA, EAC and HICEP is strengthened.	Steering committee is functioned to implement the action plan (output 6-a)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) - SC Steering Committee organized - Programed: 6 times - Realized: 5 (b) Monitoring of implementation of the Action Plan - Programed: Third/year - Realized: Third/year (c) JCC - Programed: Third/year - Realized: 2 (work plan, final evaluation), final JCC programed * Estimated target accomplishment: 94.0%	None																																				
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs	
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(11) Collaboration among SDEA, EAC and HICEP is strengthened.	Extension staff from SDA are strengthened. (output 6-b)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) Training course and field day conducted (till the end of March 2014) - OJT direct sowing by manual seeder in D5 (4 Dec. 2013, 26 participants), D11 (8 Nov. 2013, 19 participants) and D12 (15 Nov. 2014, 23 participants) - OJT manual seeder manufacturing, 4 training courses, 19 participants, 8 manual seeder manufactured - Transplanting and direct sowing rice cultivation, 7 Feb. 2014, for extension agent and extension leader, transplanting and direct sowing rice cultivation, 18 participants - Field day of direct sowing to non FSG farmers in D11 (18 Feb. 2014, 33 participants) and in D12 (6 March 2014, 64 participants) - Field tour and field visit of demonstration plot in D11 and D12, 28 Feb. 2014, D5, D6, D11 and D12, 88 participants - Field day at EAC field, 11 March 2014, for FSG farmers of D5 and D6, transplanting rice cultivation, 39 participants - Revolving fund management and book keeping 28 Jan. 2014 for extension agent and extension leader, 18 participants - Revolving fund management and book keeping, 11 Feb. 2014 in D12 (11 participants), 12 Feb. 2014 in D11 (13 participants) and 20 Feb. 2014 in D5 (40 participants) (1) Examination and development of effective extension method: 78% (2) Training of transplanting rice cultivation: 65% (3) Variety trial for transplanting rice cultivation: 100% (4) Training of extension leaders on direct sowing: 99% (5) Establishment of demonstration farm for direct sowing: 99% (b) Technical training in Japan - No technical training in Japan: 0% accomplishment Accomplishment: (73.5%)	None																																				
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(12) Collaboration among SDEA, EAC and HICEP is strengthened.	Necessary facility and agricultural machinery are arranged/procured (such as (1) rice milling station, (2) grain storage, (3) drying yard, (4) office, (5) meeting/training center for agricultural association, (6) tractors, (7) power tillers, (8) combine harvester, (9) rice miller, (10) grain selection, (11) threshers, (12) transporting vehicles and (13) others. (output 7)	(a) Irrigated rice production area in the Chokwe Irrigation Scheme expands to 7,000 ha (3,000 ha for small scale farmers) with average yield of 4 ton/ha. (b) Irrigated upland crop cultivation area expands to 5,000 ha. (c) Eventually paddy production in the scheme reaches 28,000 ton.	(a) Updated information of 2012. Facility and agricultural machinery available * Rice milling station: 11 * Grain storage: 1 * Drying yard: 1 * Office: 0 * Meeting/training center for agricultural association: 0 * Tractors: 40 units (MIA 10, OP23, HICEP0, SDAE1, Muzafira5, EA 1) * Power tillers: 7 * Combine harvester 19 units (MIA 4, OPS, HICEP7, SDAF2, Casagro 1) * Rice miller: 11 * Grain selector: 0 * Threshers: 0 * Transporting vehicles: 20 units (MIA 3, OP17) * Others: 0 Accomplishment: (46.0%)	(a) Budget allocation (b) Difficulty of the liquidity of the water use fee																																				
Activities (implementation)	<table border="1"> <tr> <th colspan="12">2013</th> <th colspan="5">2014</th> </tr> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td> </tr> </table>		2013												2014					J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	Inputs	
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x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																							
			agricultural machinery, vehicles and others																																					

Appendix 11: Post-Project Work Plan

- 11-1 Summary of Post-Project work Plan
- 11-2 Activity log sheet

11-1 Summary of Post-Project work Plan

Activity code	Activity title	Activities to be realized	Responsible institution	Priority	2015			2016			2017			Estimated operation cost (M/yr)				Remarks
					I	II	III	IV	I	II	III	IV	I	II	III	IV	2015	
1-1/15/16	Examination and development of effective extension methods	•Verification of field work performance of agricultural machinery •Verification of promising variety of line planting and random planting (EAC)	SDAE EAC	High										205,000	205,000	0	410,000	•High priority of verification of productivity and characteristics of promising variety
1-2/15/16	Training of FSG farmers on improved rice cultivation techniques of transplanting.	•Demonstration of promising variety •Organization of field day	SDAE	Low										205,000	205,000	0	410,000	•Target farmer: Non FSG farmers of D5 and D6
1-3/15/16	Establishment of demonstration farms for transplanting with initiative of FSG farmers	•Demonstration of promising variety •Organization of field day	SDAE	Low										205,000	205,000	0	410,000	•Target farmer: Non FSG farmers of D6 Demonstration farms: 8ha
1-4/15/16	Training of farmers on improved rice cultivation techniques of transplanting with initiative of FSG farmers	•Demonstration of promising variety •Organization of field day	SDAE	Low										205,000	205,000	0	410,000	•Target farmer: Non FSG farmers of D6
1-5/15/17	Training of farmers on irrigation facility maintenance and water management.	•OJT of canal maintenance •Improvement of manual	SDAE HICTP	High										152,000	152,000	152,000	456,000	-
2-1/15/17	Establishment of direct sowing rice cultivation techniques	•Modification of manual seeder (animal traction)	SDAE EAC	High										188,000	188,000	188,000	564,000	-
3-1/15/17	Training of FSG farmers on improved rice cultivation techniques of direct sowing.	•Demonstration of direct sowing (ITA312 and promising variety) •Demonstration of line sowing and line sowing •Organization of field day	SDAE	High										284,000	284,000	284,000	852,000	-
3-2/15/17	Establishment of demonstration farms for direct sowing with initiative of FSG farmers	•Demonstration of direct sowing (ITA312 and promising variety) D5: 25ha→50ha, D11: 32ha→64ha, D12: 25ha→50ha •Demonstration of line sowing and line sowing •Organization of field day	SDAE	High										615,000	587,000	573,000	1,775,000	1st year: D5 (9ha), D11 (11ha), D12 (9ha), Total (29ha) 2nd year: D5 (8ha), D11 (11ha), D12 (8ha), Total (27ha) 3rd year: D5 (8ha), D11 (10ha), D12 (8ha), Total (26ha) * Revolving fund: 14,000 M/ha
3-3/15/17	Training of farmers on improved rice cultivation techniques of direct sowing with initiative of FSG farmers	•Demonstration of direct sowing (ITA312 and promising variety) •Demonstration of line sowing and line sowing •Organization of field day •Establishing demonstration farms D5: 25ha→50ha D11: 32ha→64ha D12: 25ha→50ha	SDAE	High										264,000	264,000	264,000	792,000	1st year: D5 (9ha), D11 (11ha), D12 (9ha), Total (29ha) 2nd year: D5 (8ha), D11 (11ha), D12 (8ha), Total (27ha) 3rd year: D5 (8ha), D11 (10ha), D12 (8ha), Total (26ha)

11-1 Summary of Post-Project work Plan

Activity code	Activity title	Activity to be realized	Responsible institution	Priority	2015			2016			2017			Estimated operation cost (M/yr/year)				Remarks
					I	II	III	IV	I	II	III	IV	I	II	III	IV	2015	
4-1/15/17	Organization of farming support group (FSG) in each target area	<ul style="list-style-type: none"> Organizing FSGs for further dissemination of rice cultivation techniques Target: Increase at least 100% members by 2017. D5: 50 -100 D6: 16 -32 D11: 24 -48 D12: 17 -34 Total: 107 -214 	SDAE	High										264,000	264,000	264,000	792,000	1st year: D5: 2 FSGs, D11: 1 FSG, D12: 1 FSG, Total: 4 FSGs 2nd year: D5: 1 FSG, D11: 1 FSG, D12: 1 FSG, Total: 3 FSGs 3rd year: D5: 1 FSG, D11: 1 FSG, D12: 1 FSG, Total: 3 FSGs
4-2/15/17	Training of farming support groups (FSGs)	<ul style="list-style-type: none"> Provide revolving fund for newly organized FSGs (Counterpart fund) Support and monitor collecting revolving funds. Support bookkeeping management (OJT) 	SDAE	High										264,000	264,000	264,000	792,000	1st year: 1 Training on bookkeeping x 4 FSG 2nd year: 1 Training on bookkeeping x 3 FSG 3rd year: 1 Training on bookkeeping x 3 FSG Conduct follow-up training and OJT every year.
4-3(1)/15/17	Support of the activities of Farming Support Group (FSG) revolving fund management	<ul style="list-style-type: none"> Provide revolving fund for newly organized FSGs (Counterpart fund) Support and monitor collecting revolving funds. Support bookkeeping management (OJT) 	SDAE	High										297,000	297,000	297,000	891,000	-
4-3(2)/15/17	Support of the activities of Farmers' Group (for rice milling machine)	<ul style="list-style-type: none"> Support bookkeeping management (OJT) Support operation and maintenance Install de-stoner and length grader (counterpart fund) 	SDAE	High										167,000	167,000	167,000	501,000	Cost of de-stoner and length grader not included in operation cost
4-3(3)/15/17	Support of the activities of Farmers' Group (for trial of marketing of milled rice)	<ul style="list-style-type: none"> Support FSGs to market milled rice Planning, monitoring and evaluation Milling and distributing Connecting FSGs with rice millers and local shop Distributing profit to FSG members Collaboration with rice milling group at Massavasse and Muianga Calculate profitability of farmers Support rice milling group at Massavasse and Muianga Installing de-stoner and length grader (if possible) Planning, monitoring and evaluation Collaboration with FSGs 	SDAE	High										169,000	169,000	170,000	508,000	<ul style="list-style-type: none"> Conduct marketing survey (confirm demand) Prepare plan with FSG (Amount, variety, milling place, selling place etc.) Market milled rice as planned Monitoring and evaluation of marketing activity Prepare plan for next season 1st year: D5: 3 FSG, D11: 1 FSG, D12: 1 FSG, 64.2t 2nd year: D5: 4 FSG, D11: 2 FSG, D12: 2 FSG, 81.6t 3rd year: D5: 5 FSG, D11: 3 FSG, D12: 3 FSG, 97.8t *De-stoner and length grader not included in operation cost

11-1 Summary of Post-Project work Plan

Activity code	Activity title	Activity to be realized	Responsible institution	Priority	2015			2016			2017			Estimated operation cost (M/year)				Remarks	
					I	II	III	IV	I	II	III	IV	I	II	III	IV	2015		2016
5-1/15/17	Project management through the periodic meetings to mutually review activities of SDAE, EAC, HICEP and related organizations	Coordination meeting of 3 institutions: twice a year Evaluation of implementation process and results of project activity Reporting advance and results of activity to DPA Gaza, DNEA, JICA Mozambique	SDAE HICEP EAC	Moderate											107,000	107,000	107,000	321,000	Preparation of Monitoring Sheet twice a year and submit to JICA Mozambique Office for sharing information
5-2/15/17	Monitoring of the progress of activities conducted by SDAE, EAC, HICEP based on the Action Plan	Coordination meeting of 3 institutions: twice/year Evaluation of implementation process and results of the action plan	SDAE HICEP EAC	Low											107,000	107,000	107,000	321,000	Preparation of Monitoring Sheet once a year and submit to JICA Mozambique Office for sharing information
6-1/15/17	Seed production	Study on demand of seed (variety and quantity) Establishment of seed production system with EAC	EAC SDAE	High											239,000	239,000	239,000	717,000	1st year: Study on demand of seed (variety and quantity) and establishment of seed production system EAC and SDAE 2nd year: Initiation of seed production
													3,941,030	3,913,032	3,080,034	10,922,000			

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	1-1/15/16
2. Title of activity	Examination and development of effective extension methods
3. Activity to be realized	<ul style="list-style-type: none"> • Verification of field work performance of agricultural machinery • Verification of promising variety of line planting and random planting (EAC)
4. Responsible institution:	SDAE/EAC
5. Background	<p>Since 2012, field test on field work performance of agricultural machinery for land preparation has been conducted. Field test should be repeated at least for 3 year to obtain precise data to calculate operation cost of machinery. Five varieties, two from EAC and three from MIA have been verified and introduced to farmer's field of direct sowing since 2013 but performance of these varieties are not verified in transplanting.</p>
6. Objectives	<ul style="list-style-type: none"> • To verify operation cost of agricultural machinery and production cost of rice cultivation • To verify productivity and characteristics of promising variety of transplanting
7. Methodology	<ul style="list-style-type: none"> • To measure field work performance, working speed, fuel consumption of rotary cultivation, chisel plowing, puddling by power tiller and sowing by manual seeder • To conduct verification plot of promising variety in FSG farmer's field
8. Period of implementation (years):	2015-2016
9. Expected results	<ul style="list-style-type: none"> • Field work performance and operation cost of rotary cultivation, chisel plowing, puddling by power tiller and sowing by manual seeder • Selection of high yielding and farmer's favorite variety
10. Estimated cost	Mt. 205,000 Mt /year (410,000 Mt in two years)
11. Equipment and materials required	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery

Activity Log Sheet	
	Date: Sept. 2014
1. Activity code: 1-3/15/16	
2. Title of activity	Establishment of demonstration farms for transplanting with initiative of FSG farmers
3. Activity to be realized	<ul style="list-style-type: none"> • Demonstration of ITA312 and promising variety • Organization of field day
4. Responsible institution: SDAE	
5. Background	FSG member of D5 and D6 changed their cultivation method from transplanting to direct sowing since 2014, however there are still many farmers who practice transplanting. Introduction of promising variety in transplanting can assure good yielding.
6. Objectives	<ul style="list-style-type: none"> • To verify productivity and varietal characteristics of promising variety • To diffuse improved transplanting cultivation to non FSG farmers
7. Methodology	<ul style="list-style-type: none"> • Install demonstration field of improved transplanting cultivation • Organization of field day to diffuse improved transplanting rice cultivation to non FSG farmers
8. Period of implementation (years): 2015-2016	
9. Expected results	<ul style="list-style-type: none"> • Identification of productivity and varietal characteristic of promising variety • Diffusion of improved transplanting cultivation to FSG and non FSG farmers
10. Estimated cost	205,000 Mt/year (410,000 Mt in two years)
11. Equipment and materials required	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools, apparatus for analysis of yield components, article of stationery

Activity Log Sheet	
	Date: Sept. 2014
1. Activity code: 1-4/15/16	
2. Title of activity	Training of farmers on improved rice cultivation techniques of transplanting with initiative of FSG farmers
3. Activity to be realized	<ul style="list-style-type: none"> • Demonstration of ITA312 and promising variety • Organization of field day to diffuse improved transplanting rice cultivation to non FSG farmers
4. Responsible institution: SDAE	
5. Background	FSG member of D5 and D6 changed their cultivation method from transplanting to direct sowing since 2014, however there are still many farmers who practice transplanting. Introduction of promising variety in transplanting can assure good yielding.
6. Objectives	<ul style="list-style-type: none"> • To demonstrate productivity and varietal characteristics of promising variety • To diffuse improved transplanting cultivation to non FSG farmers
7. Methodology	<ul style="list-style-type: none"> • Installation of demonstration field of improved transplanting cultivation • Organization of field day to diffuse improved transplanting rice cultivation to non FSG farmers
8. Period of implementation (years): 2015-2016	
9. Expected results	<ul style="list-style-type: none"> • Diffusion of improved transplanting rice cultivation to non FSG farmers
10. Estimated cost	205,000 Mt/year (410,000 Mt in two years)
11. Equipment and materials required	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools, apparatus for analysis of yield components, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	1-5/15/17
2. Title of activity	Training of farmers on irrigation facility maintenance and water management.
3. Activity to be realized	<ul style="list-style-type: none"> • OJT of canal maintenance • Improvement of manual
4. Responsible institution:	SDAE/HICEP
5. Background	Maintenance of tertiary drain canal and leveling field are critical issue for rice cultivation in Chokwe Irrigation Scheme. During previous project implementation, OJT on canal maintenance, improvement of tertiary drainage and leveling of canal and field by using simple leveling were conducted.
6. Objectives	<ul style="list-style-type: none"> • Continuous maintenance of tertiary drainage by farmers under instruction of HICEP • Field leveling by simple leveling method
7. Methodology	<ul style="list-style-type: none"> • OJT on maintenance of tertiary drainage
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • Maintenance of tertiary drainage canal • Improvement of leveling of canal and field
10. Estimated cost	152,000Mt/year (456,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, materials for canal maintenance, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	2-1/15/17
2. Title of activity	Establishment of direct sowing rice cultivation techniques
3. Activity to be realized	<ul style="list-style-type: none"> • Modification of manual seeder (animal traction)
4. Responsible institution:	SDAE/EAC
5. Background	During implementation of previous project, prototype of manual seeder for line sowing was produced and studied field work performance. High yielding by line sowing has been proved however, many farmers requested to modify and redesign seeder for animal traction to reduce field workload.
6. Objectives	<ul style="list-style-type: none"> • Modification and redesign of seeder for animal traction
7. Methodology	<ul style="list-style-type: none"> • Redesign wheel, furrow cutting and seed covering of seeder • Production of prototype • Test on field work performance and seed covering • Establishment of mass production system of animal traction seeder
8. Period of implementation (years):	2015/2017
9. Expected results	<ul style="list-style-type: none"> • Production of new animal traction seeder • Diffusion of animal traction seeder
10. Estimated cost	188,000 Mt/year (564,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, tools, materials for seeder, field worker, article of stationery, seed, fertilizers, chemical products

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	3-1/15/17
2. Title of activity	Training of FSG farmers on improved rice cultivation techniques of direct sowing.
3. Activity to be realized	<ul style="list-style-type: none"> • Demonstration of direct sowing (ITA312 and promising variety) • Demonstration of line sowing • Organization of field day
4. Responsible institution:	SDAE
5. Background	During implementation of previous project, many FSG farmer of D5, D11 and D12 recognized advantage of direct sowing. For further expansion of direct sowing area, it is indispensable to train more farmers of improved direct sowing cultivation techniques to accomplish overall goal of the project.
6. Objectives	<ul style="list-style-type: none"> • Introduction and diffusion of improved direct sowing cultivation • Verification of advantage of line sowing • Verification of productivity of promising variety in broadcasting and line sowing
7. Methodology	<ul style="list-style-type: none"> • Installation of demonstration field of direct sowing. • Introduction of promising variety • Demonstration of line sowing
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • Identification of productivity of line sowing and broadcasting • Identification of productivity of interaction between variety and sowing method
10. Estimated cost	284,000 Mt/year (852,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools, apparatus for analysis of yield components, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	3-2/15/17
2. Title of activity	Establishment of demonstration farms for direct sowing with initiative of FSG farmers
3. Activity to be realized	<ul style="list-style-type: none"> • Demonstration of direct sowing (ITA312 and promising variety) D5: 25ha→50ha, D11: 32ha→64ha, D12: 25ha→50ha • Demonstration of line sowing and line sowing • Organization of field day
4. Responsible institution:	SDAE
5. Background	During implementation of previous project, direct sowing cultivation has been adopted by FSG farmers of D5, D11 and D12. For further expansion of rice cultivation area, more demonstration field of direct sowing must be installed to accomplish overall goal of the project.
6. Objectives	<ul style="list-style-type: none"> • Installation of demonstration field of improved direct sowing • Expansion of rice cultivation area
7. Methodology	<ul style="list-style-type: none"> • 82 ha of demonstration field of improved direct sowing are installed in three years as indicated below. 1st year: D5 (9ha), D11 (11ha), D12 (9ha), Total (29ha) 2nd year: D5 (8ha), D11 (11ha), D12 (8ha), Total (27ha) 3rd year: D5 (8ha), D11 (10ha), D12 (8ha), Total (26ha)
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • Installation of demonstration field of improved direct sowing
10. Estimated cost	1,775,000 Mt in three years (revolving fund support of 14,000 Mt/ha)
11. Equipment and materials required	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	3-3/15/17
2. Title of activity	Training of farmers on improved rice cultivation techniques of direct sowing with initiative of FSG farmers
3. Activity to be realized	<ul style="list-style-type: none"> • Demonstration of direct sowing (ITA312 and promising variety) D5: 25ha→50ha, D11: 32ha→64ha, D12: 25ha→50ha • Demonstration of line sowing and line sowing • Organization of field day
4. Responsible institution:	SDAE
5. Background	During implementation of previous project, direct sowing cultivation has been adopted by FSG farmers of D5, D11 and D12. For further expansion of rice cultivation area, more demonstration field of direct sowing must be installed to accomplish overall goal of the project.
6. Objectives	<ul style="list-style-type: none"> • Installation of demonstration field of improved direct sowing • Expansion of rice cultivation area • Diffusion of improved direct sowing cultivation to non FSG farmers
7. Methodology	<ul style="list-style-type: none"> • Installation of 82ha of demonstration field in three years • Organization of field day for diffusion of improved direct sowing cultivation
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • Installation of demonstration field of improved direct sowing • Technology transfer of improved direct sowing to non FSG farmers
10. Estimated cost	264,000 Mt/year (792,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery

Activity Log Sheet	
	Date: Sept. 2014
1. Activity code:	4-1/15/17
2. Title of activity	Organization of farming support group (FSG) in each target area
3. Activity to be realized	<ul style="list-style-type: none"> • Organizing FSGs for further dissemination of rice cultivation techniques Target: Increase at least 100% members by 2017. D5: 50→100, D6: 16→32, D11: 24→48, D12: 17→34; Total: 107→214
4. Responsible institution:	SDAE
5. Background	During implementation of previous project, FSGs were organized in order to establish demonstration fields and to receive revolving funds. It is important to continue to organize FSGs for further dissemination of rice cultivation techniques.
6. Objectives	<ul style="list-style-type: none"> • Establishment of demonstration fields • Receiving and managing revolving funds in order to establish demonstration fields
7. Methodology	No. of FSGs to be established. 1 st year: D5 (2 FSGs), D11 (1 FSG), D12 (1 FSG), Total (4 FSGs) 2 nd year: D5 (1 FSG), D11 (1 FSG), D12 (1 FSG), Total (3 FSGs) 3 rd year: D5 (1 FSG), D11 (1 FSG), D12 (1 FSG), Total (3 FSGs)
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • FSGs are organized and demonstration fields are established.
10. Estimated cost	264,000 Mt/year (792,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	4-2/15/17
2. Title of activity	Training of farming support groups (FSGs)
3. Activity to be realized	<ul style="list-style-type: none"> • Provide revolving fund for newly organized FSGs (Counterpart fund) • Provide training on bookkeeping • Support and monitor collecting revolving funds. • Support bookkeeping management (OJT)
4. Responsible institution:	SDAE
5. Background	Revolving funds are indispensable for establishment of demonstration fields. It is important for FSGs to manage their revolving funds.
6. Objectives	<ul style="list-style-type: none"> • Improving management of revolving funds by FSGs.
7. Methodology	<ul style="list-style-type: none"> • Providing training on bookkeeping. • Conduct OJT on management of revolving funds (collecting, bookkeeping, expenditure)
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • FSGs improve their revolving funds management,
10. Estimated cost	264,000 Mt/year (792,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, materials for demonstration plot, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	4-3(1)/15/17
2. Title of activity	Support of the activities of Farming Support Group (FSG) revolving fund management
3. Activity to be realized	<ul style="list-style-type: none"> • Provide revolving fund for newly organized FSGs (Counterpart fund) • Support and monitor collecting revolving funds. • Support bookkeeping management (OJT)
4. Responsible institution:	SDAE
5. Background	Revolving funds are indispensable for establishment of demonstration fields. It is important for FSGs to manage their revolving funds.
6. Objectives	<ul style="list-style-type: none"> • Improving management of revolving funds by FSGs.
7. Methodology	<ul style="list-style-type: none"> • Conduct OJT on management of revolving funds (collecting, bookkeeping, expenditure)
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • FSGs improve their revolving funds management,
10. Estimated cost	297,000 Mt/year (891,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	4-3(2)/15/17
2. Title of activity	Support of the activities of Farmers' Group (for rice milling machine)
3. Activity to be realized	<ul style="list-style-type: none"> • Support bookkeeping management (OJT) • Support operation and maintenance • Install de-stoner and length grader (counterpart fund)
4. Responsible institution:	SDAE
5. Background	During implementation of previous project, 2 Farmers' management group for rice milling machine were organized. These 2 groups are needed continual support to improve their activities.
6. Objectives	Improving their activities (bookkeeping, operation and maintenance of rice milling machine)
7. Methodology	Conduct OJT on bookkeeping, operation and maintenance of rice milling machine.
8. Period of implementation (years):	2015-2017
9. Expected results	Activities of farmers' management groups for rice milling machines are improved.
10. Estimated cost	167,000 Mt/year (501,000 Mt in three years)
11. Equipment and materials required	Vehicle, fuel, field worker, article of stationery

Activity Log Sheet				
				Date: Sept. 2014
1. Activity code: 4-3(3)/15/17				
2. Title of activity Support of the activities of Farmers' Group (for trial of marketing of milled rice)				
3. Activity to be realized				
<ul style="list-style-type: none"> • Support FSGs to market milled rice Planning, monitoring and evaluation, Milling and distributing, Connecting FSGs with rice millers and local shop, Distributing profit to FSG members, Collaboration with rice milling group at Massavasse and Muianga, Calculate profitability of farmers, Support rice milling group at Massavasse and Muianga, Installing de-stoner and length grader (if possible), Planning, monitoring and evaluation, Collaboration with FSGs • Estimated amount of rice milling in three year 				
Year	1st	2nd	3rd	Total
Estimated cultivation area (ha)	107	136	163	406
Harvest (t)	428	544	652	1,624
Paddy for milling	128	163	196	487
4. Responsible institution: SDAE				
5. Background At 4 th year of previous project, it was proved that selling in milled rice will make an increase in the farmers' income. Milled rice marketing activities should be carried out larger scale to increase farmers' income.				
6. Objectives Increasing farmers' income through marketing milled rice.				
7. Methodology				
<ul style="list-style-type: none"> • Planning, implementing, monitoring and evaluation by FSGs together with SDAE • Milling at Massavasse, Muianga or private milling station • Install de-stoner and length grader to improve milling quality • Distributing to local shop or local market 				
8. Period of implementation (years):2015-2017				
9. Expected results Farmers' income will increase through marketing milled rice.				
10. Estimated cost 508,000 Mt in three years (cost of de-stoner and length grader not included)				
11. Equipment and materials required Vehicle, fuel, field worker, equipment for rice milling, article of stationery				

Activity Log Sheet	
	Date: Sept. 2014
1. Activity code: 5-1/15/17	
2. Title of activity	Project management through the periodic meetings to mutually review activities of SDAE, EAC, HICEP and related organizations
3. Activity to be realized	<ul style="list-style-type: none"> • Coordination meeting of 3 institutions: twice/year • Evaluation of implementation process and results of project activity • Reporting progress and results of activity to DPA Gaza, DNEA, JICA Mozambique
4. Responsible institution: SDAE/ /HICEP/EAC/DEA Gaza/DNEA/JICA Mozambique	
5. Background	Monitoring of implementation process and results is indispensable to assure the continuation of the post project activity and to accomplish overall goal of the project. During implementation of previous project, monitoring system of project activity and the action plan has been established.
6. Objectives	<ul style="list-style-type: none"> • Monitoring progress and results of activity • Sharing information of implementation and progress of activity among institutions concerned
7. Methodology	<ul style="list-style-type: none"> • Holding of regular meetings among SDAE, HICEP and EAC to review progress and results of activity • Elaborating monitoring sheet of activity • Reporting results of monitoring to DEA Gaza, DNEA and JICA Mozambique
8. Period of implementation (years): 2015-2017	
9. Expected results	<ul style="list-style-type: none"> • Biannual information of progress and result of activity
10. Estimated cost	107,000 Mt/year (321,000 Mt in three years)
11. Equipment and materials required	Vehicle, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	5-2/15/17
2. Title of activity	Monitoring of the progress of activities conducted by SDAE, EAC, HICEP based on the Action Plan
3. Activity to be realized	<ul style="list-style-type: none"> • Coordination meeting of 3 institutions: twice/year • Evaluation of implementation process and results of the action plan • Reporting progress and results of activity to DPA Gaza, DNEA, JICA Mozambique
4. Responsible institution:	SDAE/ /HICEP/EAC/DEA Gaza/DNEA/JICA Mozambique
5. Background	Monitoring of implementation process and results is indispensable to assure the continuation of the post project activity and to accomplish overall goal of the project. During implementation of previous project, monitoring system of project activity and the action plan has been established.
6. Objectives	<ul style="list-style-type: none"> • Monitoring progress and results of the action plan • Sharing information of implementation and progress of activity among institutions concerned
7. Methodology	<ul style="list-style-type: none"> • Holding of regular meetings among SDAE, HICEP and EAC to review progress and results of the action plan • Elaborating monitoring sheet of activity • Reporting results of monitoring to DEA Gaza, DNEA and JICA Mozambique
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • Biannual information of progress and result of the action plan
10. Estimated cost	107,000 Mt/year (321,000 Mt in three years)
11. Equipment required	Vehicle, fuel, article of stationery

Activity Log Sheet	
Date: Sept. 2014	
1. Activity code:	6-1/15/17
2. Title of activity	Seed production
3. Activity to be realized	<ul style="list-style-type: none"> • Study on demand of seed (variety and quantity) • Establishment of seed production system with EAC
4. Responsible institution:	SDAE/EAC
5. Background	Since MIA stopped producing certificate seed after flood of 2013, provision of seed is getting critical issue in Chokwe Irrigation Scheme. It is urgent to establish stable seed supply system for expansion of rice cultivation area in the scheme.
6. Objectives	<ul style="list-style-type: none"> • Establishment of seed production system
7. Methodology	<ul style="list-style-type: none"> • Survey on the demand of quantity seed and variety in order to meet rice cultivation area • Strategy formulation of seed production (area requires, place and method of seed production) • Establishment of seed production system with EAC
8. Period of implementation (years):	2015-2017
9. Expected results	<ul style="list-style-type: none"> • Seed production to meet with the demand
10. Estimated cost	<p>239,000 Mt/year (717,000 Mt in three years)</p> <p>Note: cost estimated based on seed production field of 10 ha.</p>
11. Equipment required	Vehicle, fuel, field worker, seed, fertilizers, chemical products, farming tools

