

LEGEND

\bigcirc	Capital	Town	of	District
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• Sub-District Town

___ District Boundary

- - Sub-District Boundary
- Provincial Road

Kiver

Irrigation Scheme

- Technical Irrigation
- Semi-Technical Irrigation
- Non-Technical Irrigation

Irrigation Scheme

Nar	me of Scheme	Ro A	egis rea	terec (Ha)	1)	S Are	ubject a (Ha)
26. 1 27. 8 28. 1 29. 1 30. 1 31. J 32. 1 47. 1 49. 1	Pentara Simanten Pane Dame Penambean/Panet Tong Raja Hombang/T. Mang Kerasaan Javacolonisasi/Purbogo Naga Sompah Bah Korah II Rambung Mera	ah gan ndo	BK raja	1,034 1,000 1,723 2,045 5,000 1,030 1,360 1,360 1,995 1,104	4 S	Т Т Г Г Г Г Г	298 1,000 1,722 2,023 4,144 1,015 1,015 1,723 944
T ST NT	: Technical Irrigation : Semi-Technical Irrig : Non-Technical Irriga	atio tion	n				
	Location of	Sι	ıb-C	Distri	ct		
ABCDEFGHIJK	Kec. Silima Kuta Kec. Dolok Silau Kec. Silau Kahean Kec. Raya Kahean Kec. Dolokbatunanggar Kec. Bandar Kec. Pematang Bandar Kec. Bosar maligas Kec. Ujung Padang Kec. Purb Kec. Raya	KMNOPQRST U	Kec. Kec. Kec Kec Kec Kec Kec Kec	Sian Huta Dolo Pane Sida Jorir Dolo Tana Girs Bolo	tar i bay ok Pa iman ng Ha ik Pa ak Pa ah Ja ang on ian I	u Raji ardam ik atarar inribu awa Sipan Dolok	a lean n an gan

Location Map of Irrigation Schemes in Simalungun District

(4)											
7.1	C 1				I. PRC	DJECT FUN	IDAMENT	TALS			
 1.1 (1) (2) (3) (4) (5) (6) 	Code Number Name of Irrig District (Kabu Sub-district (F Registered Ar Technical Lev	ation Scheme Ipaten) Kecamatan) ea (ha) rel		: 120123000 : Bah Korah : Simalungun : Panai - Sia : 1,995 : Technical	123000 (7) Number of Farmers : Not available Korah II (8) Water Resource River : Bah Biak, Bah Korah, I alungun/Siantar (9) Catchment Area (km²) : 335.9 ai - Siantar (10) Original / Last Rehabilition Year : 1991 95 hnical			3ah Binoman			
I.2	Availability o	of Reports/Do	ocuments & F	References	b I	(A : Availat	ole, B : Avai	ilable but partially, C : Not	available/ No	o plan) octure lists & .	diagram
	a. Design		B	(Full set)	0.1	A	gram	C. As-built drawings B	a. stru	A	ulagram
	e. Reh	abilitation pla	an & its refere C	nces	f. Cr	ops and yield	data	g. Cropping Calender		h. WUAs dat	a
				II. SU	BJECT AR	REA FOR R	EHABILI	FATION PLAN			
11.1	Present and l	Category	d Use	Prese	nt (ha)	Plan	(ha)	Increment (ba)	٦		
	a. Irrigated pa	ddy field		11050	1,723	1 Iun	1,723	0			
	b. Rainfed pac	ldy field			0		0	0			
	c. Upland field	d d land			0		0	0	_		
	e. Non-irrigab	le land			0		0	0	_		
	Total				1,723		1,723	0			
						III. AGRIC	ULTURE				
III.1	Present/Befo	re Project Co	ondition								
(1)	Irrigation Perf	formance and	Crop Product	ion	1	P: 11		L	~	De 1	(1)
	Sea	son	Croppe Paddy (ba)	ed Area in Ir	rigated Paddy	y Field Total (ha)	Annual	Irrigated Paddy Yield (GKG	Paddy	p Production	(ton) Others
	Season	I (wet)	1,485	r alawija 8	Others (IIa)	1,493	87%	4.5	6,683	20	Others
	Season I	II (dry I)	,			0			.,		
	Season I	II (dry II)	1,568			1,568	91%	4.5	7,056		
	I otal/A	Annual	3,053	8	0	3,061	1/8%	4.5	13,/39	20	0
(1)	Development Development - Ensuring yea - Double crop - Strengthenin Planned Irriga	Plan Approaches ar round irriga ping of paddy ig of extension tion Performa	ation water sup in the entire s n activities tail ances and Crop	oply at on-fai scheme; prod lored to area p Production	rm level thro luctivity incre specific need	ugh rehabilita ease of paddy ds; empowerr	tion through fur nent of farm	ther intensification; introduction er groups (KTs) to establish ag	on of palawij gri-business o	a in dry seaso riented KTs	n I
	Sea	son	Paddy (ha)	Palawija	Others (ha)	Total (ha)	Intensity	ton/ha)	Paddy	Palawija	Others
	Season	I (wet)	1,723			1,723	100%	5.0	8,615		
	Season	II (dry I)		172		172				860	
	Season I	II (dry II) Annual	1,723	172	0	1,723	100%	5.5	9,477	860	0
	Annual I	ncrement	393	164	0	557	32%	0.8	4,353	840	0
						IV X	I A c				
IV.1	Existing Con	dition				17. W	UAS				
(1)	Number	a. Target;	9	b. Establishe	ed;	4	c. Not yet;	5	Registered		0
	Performance	a. Developed	1 0	b. Under dev	veloping;	4	c. Not yet;	0	Not yet regi	stered	4
(2)	Problems and	Constraints Operation		Maintenance	e 🗸	Managemen	t				
(3)	Causes of Pro	blems and Co on to WUA m	onstraints nanagement an	nong WUA 1	nembers.						
	- Less	awareness of	farmers to WU	UA establish	ment.						
1 V.2	Proposed Cou	rian ntermeasures									
(2)	 Improvement Acceleration 	t of WUA ma of WUA esta Plan	anagement sys ablishment.	tem.							
(2)	- WUA manag - WUA empor	gement trainir werment train	ıg. iing.								

					V. IKKIGATION	FACILITY					
V.1	Existing Co	ondition									
(1)	Overall Irrig	gation System	: C	(A: Functioni	ing well, B: Partially deterio	rated, C: Not func	tioning we	ll, D: Serious c	condition for o	peration)	~
	Water Resou	irces Facility	: B	Main Ca	nal System : C	Sec	ondary Ca	inal System :	D	On-farm :	С
(2)	Water Reso	urces Facility			~				_		
a.	Type of faci	ility	: Headworks		e. Scouring sluice gate	: 4 nos.		1. Condition	: B		
b.	Type of wei	r	: Fixed weir		f. Intake gate	: 4 nos.		(A: Function	ng well, B: Par	rtially deterior	ated, C: Not
c.	Length of w	eir	: 30 m		g. Settling basin	: provided		functioning w	ell, D: Serious	s condition for	operation)
d.	Design intal	ke discharge	: 5.3 m3/s		h. Inspection bridge	: not provided		(no info.: no i	nformation)		
(2)		1 17									
(3)	Irrigation Ca	anal and Insp	ection Road	TE (1())		T .:	1()		1	(A. F: -	
	Canal	Lined (m)	Unlined	Total (m)	Structure (nos)	Inspection ro	oad (m)	Conc	lition	(A: Functioni	ng well,
	Main	8,519	7,272	15,791	144		11,054	(B. Partially u C: Not function	oning well
	Secondary	893	3,403	4,296	65		0	1)	D: Serious co	ndition for
		1.0								operation)	indition for
(4)	Major Probl	lems and Con	strains							operation)	
-	Water Reso	urces Facility		1:							
	Insuffic	cient diversio	n water due to	o sedimentat	ion in front of intake						
	Inflow	of bed loads	into canal and	decrease ca	nal flow capacity						
-	Irrigation Ca	anal and Rela	ted Structure								
	Sedime	entation or ob	struction of w	vater flow							
	Difficu	Ity on mainte	nance of eart	h canal							
	Difficu	Ity on water of	listribution								
(5)	Causes of M	lajor Problem	is and Constr	aints							
-	Water Reso	urces Facility									
	Sedime	entation in fro	nt of intake								
	Insuffic	cient function	of settling ba	asin, no prop	er gate operation of intak	e during flood					
-	Irrigation Ca	anal and Rela	ted Structure								
	Insuffic	cient function	of settling ba	asin(sedimen	ts), improper managemen	nt of canal (sedin	nents, wate	er plant)			
	Fallen (down and col	lanse of side	slone water	plants or weed at inside of	of canal	,	1			
	No pro	vision of wate	er level gauge	/facility	plane of weed at histore	- vunui					
	rio pro	ribion of wat	er ie i er Buug	, include							
V 2	Developme	nt Plan									
(1)	Broposed C	ni i ian	as for Major	Problems							
(1)	Water Pase	untermeasur		rioblems							
-	Water Reso	urces Facility									
	Dreagn	ng or flushing	g of sediment	, proper gate	operation of neadworks a	ind intake					
	Renabi	litation of set	tiing basin, p	roper gate op	beration of intake during i	1000					
-	Irrigation Ca	anal and Rela	ted Structure								
	Remov	al of sedimen	t soil and for	eign materia	is from canal, grass cuttir	ıg					
	Provisi	on of concret	e lining								
	Provisi	on of water le	evel gauge/fa	cılıty							
(2)	Water Reso	urces Facility									
	Dam/Headw	vorks body	: minor reha	bilitation	Intake, civil : minor reha	abilitation	Intake	, mechanical	: minor rehal	bilitation	
	Settling bas	in	: minor reha	bilitation							
(3)	Irrigation Ca	anal and Rela	ted Structure								
	We	orks	No rehal	oilitation	Rehabilitation	New constr	ruction	То	otal		
	Canal (m)	Main		0	13,580		0		13,580		
	Canal (m)	Secondary		0	3,695		0		3,695		
	Structure	Main		0	124		12		136		
	(nos)	Secondary		0	56		11		67		
		j									
(4)	On-farm De	velopment					(Unit: ha)				
(.)	a Potential	Irrigated nade	tv field	1 723	d Non-potential paddy f	ield	0				
	h Potential	non-irrigated	naddy field	1,729	e Non-potenttial non-pa	ddy field	0				
	c. Potential	non-naddy fu	ald	0	Total	duy neiu	1 723				
	c. rotentiai	non-paddy ne	Ju	0	Total		1,723	J			
(5)	Dahahilitat:	on Cost (Di	at Cast)		/T T:	t: Million Pn)					
(5)	Renaoliitatio	on Cost (Dire	ci Cost)	On E.	(Uni Droigst	C+					
	W.R.F	Irrigation	Drainage	On-Farm	Total	COSt					
		00.100		Develop.	Facility	per ha					
	2,001	29,198	2,920	3,532	1,260 38,911	22.6 (W	V.R.F: Wate	er Resources F	acılıty, Develo	p.: Developm	ent)
		0.10/	1		VI. PROJECT EV	ALUATION					
VI.1	EIRR	9.1%	J								
	D • • • •	a :									
VI.2	Prioritizati	on Scoring			E 11.0 ~	n 1			E I C	C	m , 1 <i>0</i>
	Evaluation 1	Index			Full Score Score	Evaluation Inde	ex		Full Score	Score	1 otal Score
	Irrigation	Utilization of	of Irrigation P	otential	10.0 5.0	Agricultural Pr	oductivity		20.0	11.0	59.8
	System	Urgency			25.0 19.0	Social Problem	1		15.0	10.5	
		Sustainabilit	y		15.0 6.8	Economic Impa	act		15.0	7.5]
											-
VI.3	Priority Gr	oup	Group II: Se	cond priority	/ group	VI.4 Pr	riority Ra	nking in the	Province	12	

Scheme	Bah Korah II	District	Simalungun /Siantar
Technical Level	Technical	Registered Area	1,995 ha Year of Construction 1991
			<u>Category</u> Irrigation (Headworks) <u>Structure</u> Fixed Weir <u>Condition</u>
		N	□ A ☑ B □ C □ D <u>Problems</u> Settlement or washed away of stilling basin; washed away of ripraps or blocks at downstream of stilling basin; sediment in front of intake.
-			
			<u>Category</u> Irrigation (Headworks)
3	N.C.	- Alex	<u>Structure</u> Intake Gate
	A the Last	- A States	<u>Condition</u> □A ☑B □C □ D
			<u>Problems</u> Leakage from gate leaf; insufficient strength against design load due to rust, decay of steel material; problem on management due to lack of periodically maintenance
States of the			<u>Category</u> Irrigation (Main Canal)
	-242		<u>Structure</u> Masonry Lined Canal
			<u>Condition</u> □A □B ⊡C □ D <u>Problems</u> Sedimentation; leakage from lined canal; deflection of
			lining toward inside of canal; crack or damage on lined canal

Scheme	Bah Korah II	District	Simalungun /Siantar
Technical Level	Technical	Registered Area	1,995 ha Year of Construction 1991
			<u>Category</u> Irrigation (Secondary Canal) <u>Structure</u> Division structure
		And and a second second	Condition
			□A ☑B □C □ D <u>Problems</u> No control gate is provided; difficulty on water management.
			<u>Category</u> Irrigation (Secondary Canal)
		-	<u>Structure</u> Masonry Lined Canal
			<u>Condition</u>
			Problems Sedimentation; leakage from lined canal; deflection of lining toward inside of canal; crack or damage on lined canal; and no inspection road.
			<u>Category</u>
			<u>Structure</u>
			Condition A B C D Problems



	LEGEND
۲	Capital Town of District
\bigcirc	Municipal City
ullet	Sub-District Town
	District Boundary
	Sub-District Boundary
	Provincial Road
JL.	River
	Irrigation Scheme
	Technical Irrigation
	Semi-Technical Irrigation
	Non-Technical Irrigation

Irrigation Scheme

ame of Scheme	Registered Area (Ha)		Subject Area (Ha)
7. Perkotaan	3,457	Т	3,446
8. Sungai Balai	1,185	ST	1,130
). Panca Arga	2,500	Т	2,500
). Serbangan	2,333	Т	2,044
l. Silau Bonto	3,231	NT	967
2. Sungai Silau	1,315	ST	452
3. Padang Mahondang	3,231	ST	2,905
4. Simujur	2,560	ST	2,010
5. Purwodadi	1,635	Т	1,635
8. Sijambi	1,013	Т	1,008

T: Technical Irrigation

ST : Semi-Technical Irrigation

NT : Non-Technical Irrigation

Location of Sub-District

A B C D E F	Kec. Medang Deras Kec. Air Putih Kec. Lima Puluh Kec. Talawi Kec. Tanjung Tiram Kec. Meranti	J K L M N O	Kec. Buntu Pane Kec. Air Batu Kec. Simpang Empat Kec. Pasir mandoge Kec Bandar Pulau Kec. Pulau Rakyat
D	Kec. Talawi	Μ	Kec. Pasir mandoge
-		N.1	Kee Deedee Dulau
E	Kec. Lanjung Liram	IN	Kec Bandar Pulau
F	Kec. Meranti	0	Kec. Pulau Rakyat
G	Kec. Air Joman	Ρ	Kec. Sei Kepayang
н	Kec, Taniung Balai		
	Kee Kiesren		
1	Nec. Nisaran		

Location Map of Irrigation Schemes in Asahan District

48. Sijambi Scheme

.1 (1) (7 00.						
1) (Conoral			I. PRO	DJECT FUI	NDAMEN'I	ALS			
	Tode Number		· 12031000	0	(7)	Number of F	armers	· Not availa	ble	
71 N	Name of Irrigation Scheme		· 12051000	0	(7)	Water Resou	armers ree River	· Sei Silau	oie	
с) г х) г	District (Kabupaten)		· Asahan/Te	niung Balai	niung Balai (9) Catchment Area (km^2)			· 250		
n s	Sub district (Kabupaten)		· Impond E	mpaig Dalai	(10)	Original / L	ust Rahabilittion Vaar	: 1002		
5) E	Registered Area (ha)		• 1.013	inpat	(10)	Original / La	ist Renabilition Tear	. 1775		
от 6 т	Fechnical Level		· Technical							
<i>'</i> , '			. Teennear							
2 A	Availability of Reports/Do	cuments & F	References		(A : Availat	ole, B : Avai	lable but partially, C : Not av	ailable/ No p	lan)	
	a. Design Reports of Exi	isting System	(Full set)	b. I	rrigation diag	gram	c. As-built drawings	d. Struc	cture lists & c	liagram
-	e Rehabilitation pla	s n & its refere	nces	f Cr	A ons and vield	data	C g. Cropping Calender	1	A WIAs date	9
	C. Renabilitation pla		lices	1. 01	ops and yield	uata	g. cropping calcilder	1	1. W 0715 uuu	u
			II SI	BIECT AI	REA FOR F	REHABILI	ΓΑΤΙΟΝ ΡΙ.ΑΝ			
.1 F	Present and Planned Land	Use	mot	Doller	LIIONI					
	Category		Prese	nt (ha)	Plan	(ha)	Increment (ha)			
a	 Irrigated paddy field 			885		1,000	115			
b	 Rainfed paddy field 			95		0	-95			
с	. Upland field			28		0	-28			
d	 Uncultivated land 			0		0	0			
e	e. Non-irrigable land			0		8	8			
T	Fotal			1,008		1,008	0]		
					III. AGRIC	CULTURE				
.1 F	Present/Before Project Co	ndition								
ו (rigation Performance and	Crop Product Cropp	ed Area in Ir	rigated Padd	y Field	Annual	Irrigated Paddy Yield (GKG	Crop	Production (t	on) 1/
	Season	Paddy (ha)	Palawija	Others (ha)	Total (ha)	Intensity	ton/ha)	Paddy	Palawija	Other
-	Season I (wet)	885	1 alawija	Others (ha)	885	100%	4.5	3 778	31	oulor
	Season II (dry I)	005			000	10070	1.5	5,110	51	
-	Season III (dry II)	443			443	50%	3.5	1.551		
	Total/Annual	1 328	0	0	1 328	150%	3.8	5 329	31	
•	- Paddy Marketing:	Low market	ing prices							
.2 [) [- -	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior	a through reha in the entire s a activities tai	abilitation & scheme; proo	upgrading luctivity incr specific need	ease of paddy ls; empowerr	- Extension s	Services: Implementa her intensification; introduction rr groups (KTs) to establish agri-	tion of extens of palawija ir business orie	n dry season I nted KTs	s is limite
.2 I) [- -) <u>F</u>	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa	a through reha in the entire a activities tai nces and Cro	abilitation & scheme; proo lored to area p Production	upgrading ductivity incr specific need	ease of paddy ls; empowerr	- Extension s	Services: Implementa her intensification; introduction r groups (KTs) to establish agri-	tion of extens of palawija ir business orie	n dry season I nted KTs	s is limite
.2 I) [- -) F	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa Season	a through reha in the entire s a activities tai nces and Cro Cropp	abilitation & scheme; proc lored to area <u>p Production</u> ed Area in Ir	upgrading ductivity incr specific need rigated Padd	ease of paddy ls; empowern y Field	- Extension s through furt nent of farme Annual	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG	tion of extens of palawija ir business orie <u>Crop</u>	n dry season nted KTs	s is limite
.2 I - -) F	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa Season	a through reha in the entire s a activities tai nces and Cro Cropp Paddy (ha)	abilitation & scheme; proo lored to area p Production ed Area in Ir Palawija	upgrading luctivity incr specific need rigated Padd	ease of paddy ls; empowerr y Field Total (ha)	- Extension 5 y through furt nent of farme Annual Intensity	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha)	tion of extens of palawija ir business orie Crop Paddy	n dry season i nted KTs Production Palawija	s is limite (ton) Other
.2 I - -) F	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa Season Season I (wet)	a through reha in the entire s a activities tai nces and Cro Cropp Paddy (ha) 1,000	abilitation & scheme; proo lored to area p Production ed Area in Ir Palawija	upgrading ductivity incr specific need rigated Padd Others (ha)	ease of paddy ls; empowerr y Field Total (ha) 1,000	- Extension 5 y through furt nent of farme Annual Intensity 100%	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0	tion of extens of palawija ir business orie Crop Paddy 5,000	n dry season i nted KTs Production Palawija	s is limite (ton) Others
2 I - -) P	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa Season Season I (wet) Season II (dry I)	a through reha in the entire : a activities tai nces and Cro Cropp Paddy (ha) 1,000	abilitation & scheme; proo lored to area p Production ed Area in Ir Palawija 200	upgrading ductivity incr specific need rigated Padd Others (ha)	ease of paddy ls; empowerr y Field Total (ha) 1,000 200	- Extension 5 y through furt nent of farme Annual Intensity 100%	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0	tion of extens of palawija ir -business orie Crop Paddy 5,000	n dry season i nted KTs Production Palawija 1,000	s is limite (ton) Others
2 I - - - - - -	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry II)	a through reha in the entire : a activities tai nces and Cro Cropp Paddy (ha) 1,000 1,000	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200	upgrading luctivity incr specific need rigated Padd Others (ha)	ease of paddy ls; empowerr y Field Total (ha) 1,000 200 1,000	- Extension 5 y through furt nent of farme Annual Intensity 100%	Services: Implementa her intensification; introduction rr groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5	tion of extens of palawija ir business orie <u>Crop</u> Paddy 5,000 4,500	n dry season i nted KTs Production Palawija 1,000	s is limite (ton) Other
2 I - -) F	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extensior Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry I) Total/Annual	a through reha in the entire : a activities tai nces and Cro Paddy (ha) 1,000 2,000	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200 200	upgrading luctivity incr specific need rigated Padd Others (ha)	ease of paddy ls; empowerr y Field Total (ha) 1,000 2,200 0,2,200	- Extension 5 y through furt nent of farme Annual Intensity 100% 220% 700	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8	of palawija ir business orie Crop Paddy 5,000 4,500 9,500	n dry season i nted KTs 9 Production - Palawija 1,000	s is limite (ton) Other
2 I - - P	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season Season I (wet) Season I (wet) Season II (dry I) Season III (dry I) Total/Annual Annual Increment	a through reha in the entire : a activities tai nces and Cro Cropp Paddy (ha) 1,000 2,000 672	abilitation & scheme; proo lored to area p Production ed Area in Ir Palawija 200 200 200	upgrading luctivity incr specific need rigated Padd Others (ha) 0 0 0 0 0	ease of paddy ds; empowerr v Field Total (ha) 1,000 2,000 2,200 872	- Extension 5 y through furt nent of farme Annual Intensity 100% 220% 70%	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0	of palawija ir business orie Crop Paddy 5,000 4,500 9,500 4,172	n dry season inted KTs Production Palawija 1,000 969	s is limite (ton) Other
.2 I) I - -) F	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry I) Total/Annual Annual Increment	a through reha in the entire : a activities tai nces and Cro Cropp Paddy (ha) 1,000 2,000 672	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200 200 200	upgrading luctivity incr specific need rigated Padd Others (ha) 0 0 0	ease of paddy ls; empowern v Field Total (ha) 1,000 2,200 872 IV. W	- Extension S y through furt nent of farme Annual Intensity 100% 220% 70%	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0	tion of extens of palawija ir business orie Crop Paddy 5,000 4,500 9,500 4,172	n dry season i nted KTs Production Palawija 1,000 1,000 969	s is limite (ton) Others
.2 I) I - - -) F - - - - - - - - - - - - - - - - - - -	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry I) Total/Annual Annual Increment Existing Condition	a through reha in the entire : a activities tai neces and Cro Cropp Paddy (ha) 1,000 2,000 672	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200 200 200	upgrading luctivity incr specific need rigated Padd Others (ha) 0 0 0	ease of paddy ls; empowerr v Field Total (ha) 1,000 200 1,000 2,200 872 IV. W	- Extension S y through furt nent of farme Annual Intensity 100% 220% 70% YUAs	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0	tion of extens of palawija ir business orie <u>Crop</u> Paddy 5,000 4,500 9,500 4,172	n dry season i nted KTs 9 Production / Palawija 1,000 1,000 969	s is limite (ton) Others
.2 I) I - -) F - - - - - - - - - - - - - - - - - - -	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season I (wet) Season I (wet) Season II (dry I) Season III (dry I) Total/Annual Annual Increment Existing Condition Number a. Target;	a through reha in the entire : a activities tai nces and Cro Cropp Paddy (ha) 1,000 2,000 672 4	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200 200 200 200 0	upgrading luctivity incr specific need rigated Padd Others (ha) 0 0 0	ease of paddy ls; empowerr v Field Total (ha) 1,000 2,200 872 IV. W	- Extension S y through furt nent of farme Annual Intensity 100% 220% 70% YUAS c. Not yet;	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0	tion of extens of palawija ir business orie Crop Paddy 5,000 4,500 9,500 4,172 Registered	n dry season i nted KTs Production Palawija 1,000 1,000 969	s is limite (ton) Others
.2 I) I - -) P 	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry II) Total/Annual Annual Increment Existing Coudition Number a. Target; Performance a. Developed	a through reha in the entire : a activities tai nces and Cro Paddy (ha) 1,000 2,000 672 4 4 0	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200 200 200 200 0 200 0 0 0 0 0 0 0 0	upgrading ductivity incr specific need irrigated Padd Others (ha) 0 0 0 0	ease of paddy ls; empowerr v Field Total (ha) 1,000 2,200 872 IV. W	- Extension S r through furt nent of farme Annual Intensity 100% 220% 70% 70% /UAs c. Not yet; c. Not yet;	Services: Implementa her intensification; introduction ir groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0	tion of extens of palawija ir business orie Crop Paddy 5,000 4,500 9,500 4,172 Registered Not yet regis	n dry season i nted KTs Production Palawija 1,000 1,000 969 stered	s is limite (ton) Others
.2 I) I - - -) F - - - - - - - - - - - - - - - - - - -	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry II) Total/Annual Annual Increment Rumber a. Target; Performance a. Developed Problems and Constraints Qperation Causes of Problems and Constraints	a through reha in the entire : a activities tai nces and Cro Cropp Paddy (ha) 1,000 2,000 672 4 4 0	abilitation & scheme; prod lored to area p Production ed Area in Ir Palawija 200 200 200 200 0 200 200 200 200 200	upgrading ductivity incr specific need rigated Padd Others (ha) 0 0 0 0	ease of paddy ls; empowerr v Field Total (ha) 1,000 2,200 872 IV. W	- Extension S r through furt- nent of farmer Annual Intensity 100% 220% 70% /UAs c. Not yet; c. Not yet; t	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0	tion of extens of palawija ir -business orie Paddy 5,000 4,500 9,500 4,172 Registered Not yet regis	n dry season i nted KTs 9 Production 1,000 1,000 969 969	s is limite (ton) Others
.2 I) I - - -) F 	Development Plan Development Approaches Expansion of irrigated area Double cropping of paddy Strengthening of extension Planned Irrigation Performa Season Season I (wet) Season II (dry I) Season III (dry I) Total/Annual Annual Increment Performance a. Target; Performance Development Plan Problems and Constraints Causes of Problems and Constraints Proposed Countermeasures	a through reha in the entire : activities tai nces and Cro Cropp Paddy (ha) 1,000 2,000 672 4 4 0 0	abilitation & scheme; proc lored to area p Production ed Area in Ir Palawija 200 200 200 200 b. Establish b. Under der Maintenance	upgrading luctivity incr specific need irigated Padd Others (ha) 0 0 0 0	ease of paddy ls; empowerr v Field Total (ha) 1,000 2,200 872 IV. W	- Extension S r through furt ment of farme Annual Intensity 100% 220% 70% /UAs c. Not yet; c. Not yet; t	Services: Implementa her intensification; introduction r groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.0 4.5 4.8 1.0 3 1	tion of extens of palawija ir ibusiness orie <u>Crop</u> Paddy 5,000 4,500 9,500 4,172 Registered Not yet regis	n dry season i nted KTs 9 Production / Palawija 1,000 1,000 969	s is limite (ton) Others

					V. IRRIGATION	N FACILITY		
V.1	Existing Co	ndition						
(1)	Overall Irrig	ation System	: D	(A: Function	ng well, B: Partially deterio	orated, C: Not functioning we	ll, D: Serious condition for c	peration)
	Water Resou	rces Facility	: D	Main Ca	nal System : D	Secondary Ca	anal System : D	On-farm : C
(2)	Water Resou	urces Facilty						
a.	Type of faci	lity	: Free Intake		e. Scouring sluice gate	: 2 nos.	i. Condition : D	
b.	Type of wei	r	: -		f. Intake gate	: 2 nos.	(A: Functioning well, B: Pa	rtially deteriorated, C: Not
c.	Length of w	eir	: -		g. Settling basin	: not provided	functioning well, D: Seriou	s condition for operation)
d.	Design intak	e discharge	: 1.2 m3/s		h. Inspection bridge	:-	(no info.: no information)	
(3)	Irrigation Ca	anal and Inspe	ection Road					_
	Canal	Lined (m)	Unlined	Total (m)	Structure (nos)	Inspection road (m)	Condition	(A: Functioning well,
	Main	0	1,125	1,125	16	0	D	B: Partially deteriorated,
	Secondary	0	9,005	9,005	31	0	D	C: Not functioning well,
					·	·		D: Serious condition for
(4)	Major Probl	ems and Cons	strains					operation)
-	Water Resou	urces Facility						
	Insuffic	ient diversior	n water due to	o river bed d	egradation			
	Insuffic	ient diversior	n water due to	sedimentat	ion in front of intake			
	Inflow	of bed loads i	nto canal and	l decrease ca	nal flow capacity			
-	Irrigation Ca	anal and Relat	ted Structure		* 2			
	Difficul	lty on mainter	nance of earth	h canal				
	Lower	function of re	gulating strue	cture on can	al			
	Difficul	lty on O&M						
		5						
(5)	Causes of M	aior Problem	s and Constra	aints				
(-)	Water Resou	irces Facility						
	River b	ed degradatio	n, no provisi	on of weir				
	Sedime	ntation in from	nt of intake					
	No prov	vision of settli	ing hasin no	proper gate	operation of intake durin	g flood		
	Irrigation Ca	anal and Relat	ted Structure	proper gate	operation of make during	5 11000		
	Fallen	lown and coll	anse of side	slone water	plants or weed at inside of	of canal		
	Deterio	ration of regu	lating struct	ire on canal	especially gate and meta	l works		
	No prov	vision or dam	age of inspec	tion road di	fficulty on passing of ins	nection road due to damag	e broken	
	ito pio	vision of dum	uge of hispee	tion roud, di	incurry on pussing of ms	peetion roud due to dumug	e, oroken	
V 2	Developme	nt Plan						
(1)	Proposed Co	untermeasure	es for Maior	Problems				
(1)	Water Resou	rees Facility		TODICIIIS				
-	Change	of intaka ma	thad from fra	a intaka ta r	voir typo division structu	a anlarga inlat annaity of	f intaka/fraa intaka	
	Dradgir	of intake ine	of sodimont	proper gete	operation of headworks	e, emarge milet capacity of	I IIIIake/IIee IIIIake	
	Dreugh	ig of nushing	basin propor	proper gate	operation of neadworks			
	Provisio	on of settling	basin, proper	gate operat	ion of intake during flood			
-	Drouviai	anal and Kela	lining					
	Piovisio	on or concrete	; ming anatruation a	fragulating	structure on concl			
	Browiej	and rec	financetion r	on regulating	structure on canar			
	FIOVISIO	on or repair of	i inspection i	oau witii ali	weather type/pavement			
(2)	Water Resou	rees Facility						
(2)	Dam/Handu	arla body	· ranlagaman	tornow	Intelse aivil : rankaama	unt or now Intolsa	machanical : rankaama	nt or now
	Sattling has	orks body	replacement	t or new	(Name and the structure of int	int of new intake		
(2)	Settling basi	n 1 ID I		t or new	(New construction of in	egrate neadworks for Sung	gai Silau and Sijambi sche	mes)
(3)	Irrigation Ca	anal and Relat	Na schol	.:1:44:	Dahahilitatian	Name and the stime	T-4-1	1
	wo	orks	No renat	ollitation	Renabilitation	New construction	1 otal	-
	Canal (m)	Main		0	1,125	0	1,125	-
	<i>a</i>	Secondary		0	9,005	0	9,005	-
	Structure	Main		0	16	2	18	-
	(nos)	Secondary		0	31	6	37	
(4)	On-farm De	velopment			1	(Unit: ha)		
	a. Potential	Irrigated padd	ly field	885	d. Non-potential paddy	field 0		
	b. Potential	non-irrigated	paddy field	95	e. Non-potenttial non-pa	ddy field 0		
	c. Potential	non-paddy fie	ld	28	Total	1,008		
(5)	Rehabilitatio	on Cost (Direc	ct Cost)		(Un	it: Million Rp.)		
	WRE	Irrigation	Drainage	On-Farm	Project Total	Cost		
	W.IX.I	inigation	Diamage	Develop.	Facility	per ha		
	21,476	11,082	1,108	2,201	1,260 37,127	36.8 (W.R.F: Wate	er Resources Facility, Devel	op.: Development)
					VI. PROJECT EV	VALUATION		
VI.1	EIRR	8.6%						
1								
VI.2	Prioritizatio	on Scoring			1 T			1 1
1	Evaluation I	ndex			Full Score Score	Evaluation Index	Full Score	Score Total Score
1	Irrigation	Utilization of	f Irrigation P	otential	10.0	 Agricultural Productivity 	20.0	
1	System	Urgency			25.0	- Social Problem	15.0	-
1		Sustainabilit	у		15.0	- Economic Impact	15.0	-
1						_		
VI.3	Priority Gr	oup	Group V: Ac	ceralation o	f WUAs establishment	VI.4 Priority Ra	nking in the Province	-

Scheme	Sijambi	District	Asahan/Tanjung Balai
Technical Level	Technical	Registered Area	1,013 ha Year of Construction 1993
			Category Irrigation (Free Intake) Structure Intake Gate Condition □A □B □C □ D Problems Insufficient diversion water due to sedimentation in front of intake; deflection of intake structure; less function of gates.
			Category Irrigation (Main Canal) Structure Earth Canal □A □B □C □D Problems Sedimentation; leakage from canal; collapse of canal; difficulty on maintenance of earth canal; no inspection road.
			Category Irrigation (Secondary Canal) Structure Division structure Condition □ A □ B □ C □ D Problems Lower function of division structure; physical operation problem on structure; damage on division structure; no control gate is provided.

Scheme	Sijambi	District	Asahan/Tanjung Balai
Technical Level	Technical	Registered Area	1,013 ha Year of Construction 1993
			<u>Category</u> Irrigation (Secondary Canal) <u>Structure</u> Concrete Lined Canal
		and the man	<u>Condition</u>
	and the second		
			<u>Problems</u> Sedimentation; leakage from lined canal; deflection of lining toward inside of canal; crack or damage on lined canal; and no inspection road.
			<u>Category</u> Irrigation (Secondary Canal)
-41. A.			<u>Structure</u> Canal Crossing
A SALE	SERVER C	7 March	Condition
		MIL TRACE	$\Box A \qquad \Box B \qquad \Box C \qquad \boxdot D$
			Less function due to clogging of barrel.
			<u>Category</u>
			<u>Structure</u>
			Condition
			<u>Problems</u>



LEGEND

$oldsymbol{O}$	Capital	Town	of	District
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- Sub-District Town
- ___ District Boundary
- - Sub-District Boundary
- Provincial Road
- Kiver

Irrigation Scheme

- Technical Irrigation
- Semi-Technical Irrigation

Non-Technical Irrigation

Irrigation Scheme

Na	me of Scheme	Reg Are	gistered ea (Ha)	Ar	Subject Area (Ha)		
26. 27. 28. 29. 30. 31. 32. 47. 49. T ST NT	Pentara Simanten Pane Dame Penambean/Panet Tong Raja Hombang/T. Mang Kerasaan Javacolonisasi/Purbogo Naga Sompah Bah Korah II Rambung Mera : Technical Irrigation : Semi-Technical Irriga	ah B ganra ndo ation	1,034 1,000 K 1,723 aja 2,045 5,000 1,030 1,360 1,995 1,104	ST NT T T T T T T	298 1,000 1,722 2,023 4,144 1,015 1,015 1,723 944		
	Location of	Sub	-Distric	t			
A B C D E F G H I	Kec. Silima Kuta Kec. Dolok Silau Kec. Silau Kahean Kec. Raya Kahean Kec. Dolokbatunanggar Kec. Bandar Kec. Pematang Bandar Kec. Bosar maligas Kec. Ujung Padang	K K K K K K K K K K K K K K K K K K K	iec. Sianta iec. Huta I iec. Dolol iec. Panei iec. Sidan iec. Joring iec. Jolok iec. Tanal iec. Girsa	ar bayu Ra k Parda nanik g Hatara Panrib n Jawa ng Sipa	aja mean an uan ngan		

Bolon

U Kec. Tapian Dolok

Location Map of Irrigation Schemes in Simalungun District

Kec. Purb

K Kec. Raya

J

.,							LO			
T 1	Cananal			I. PROJ	ECT FUNI	DAMENTA	LS			
I.I	General Code Number		. 12015500	n	(7)	Number of I	Tormora	· Not availab	bla	
(1)	Name of Imitation Scheme		: 12015500	0 Mana	(7)	Number of f	rarmers	: Not availa	bie	
(2)	Name of Irrigation Scheme	Irrigation Scheme : Rambung Mera (8) water Resource Rive						: Ban Bolon		
(3)	Sub district (Kabupaten)	P. Stantar/Simalungun (9) Catchment Area (km ⁻)						. 139.2		
(4)	Sub-district (Kecamatan)		Siantar - Siantar Marihat (10) Original / Last Renabilittion Year							
(3)	Technical Level		. 1,104 . Tashniasl							
(0)	Technical Level		. Technical							
12	Availability of Reports/D	ocuments & F	eferences		(A · Availal	le R∙∆vai	ilable but partially C • Not	availahle/ No	nlan)	
1.4	a Design Reports of Ex	sting System	(Full set)	h In	igation diagr	am	c As-built drawings	d Struc	ture lists & d	liagram
		B	(A		C		A	
	e. Rehabilitation pl	an & its refere	nces	f. Cro	ps and yield o	lata	g. Cropping Calender	ł	1. WUAs data	ı
		С								
			II. SU	JBJECT ARE	A FOR RE	HABILITA	ATION PLAN			
11.1	Present and Planned Lan	d Use	D		DI	(1)	I	1		
	Category		Pres	ent (na)	Plan	(na)	Increment (na)			
	a. Inigated paddy field			944		944	0			
	c. Unland field			0		0	0			
	d Uncultivated land			0		0	0			
	e. Non-irrigable land			0		0	0			
	Total			944		944	0			
								- 		
				II	I. AGRICU	LTURE				
II.1	Present/Before Project C	ondition								
(1)	Irrigation Performance and	Crop Product	ion	Immigrate J.D. 11	Eigld	A	Imigated D-14- V: 11/OVC	0	Droderet	(ton)
	Season	Crop	Del	Others (1)	rield	Annual	ton /ho)	Dodd	Production ((UII)
	Season I (wet)	raduy (na)	raiawija	Others (ha)	10tal (na)	1000/	1011/11a) A 5	1 249	r afawija	Others
	Season II (dry I)	744			0	10070	ч.5	4,240		
	Season III (dry II)	786	89		875	93%	4.5	3.537		
	Total/Annual	1,730	89	0	1,819	193%	4.5	7,785	0	0
[1.2 (1)	 Agronomic Issues: Paddy Marketing: Development Plan Development Approaches Ensuring year round irrig: Double cropping of paddy Strengthening of extensio Planned Irrigation Perform Season Season I (wet) 	Damage cau Unstable ma ation water sup y in the entire s n activities tai ances and Croo Paddy (ha) 944	sed by rat rketing price pply at on-fa scheme; proc lored to area <u>p Production</u> <u>ped Area in</u> <u>Palawija</u>	s rm level through luctivity increas specific needs; Irrigated Paddy Others (ha)	n rehabilitatio e of paddy th empowermer Field Total (ha) 944	- Farmers O - Extension n rough furthe tt of farmer g Annual Intensity 100%	rganizations: Most memb Services: Implementa r intensification; introduction o groups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.5	of palawija in of palawija in ousiness orier Crop Paddy 5,192	tive ion programs dry season I nted KTs Production (Palawija	(ton) Others
	Season II (dry I)		188		188				940	
	Season III (dry II)	944			944	100%	5.5	5,192		
	Total/Annual	1,888	188	0	2,076	220%	5.5	10,384	940	0
	Annual merement	130		0	231	2770	1.0	2,377	940	0
					IV. WU	As				
V.1	Existing Condition	· · ·	h Establish	.d.		a N-+- +		Dogi-t- 1	T	
(1)	Performance a Davalance	1	u. Establishe	u; veloning:	1	c. Not yet;	0	Not yet regis	tered	
	a. Developed	պ Ս	o. Onder dev	ciopilig,	0	e. mot yet,	1	inor yet legis	nered	
(2)	Problems and Constraints Operation Causes of Problems and Co	□ onstraints	Maintenance	e 🗆	Managemen	t				
V.2 (1)	Development Plan Proposed Countermeasures Calling attention of WUA	m wOA.	WUA maneg	ement.						
(2)	Development Plan - WUA management trainin	ng.								

					V. IRRI	GATION	FACILITY	Y				
V.1	Existing Co	ondition										
(1)	Overall Irrig	gation System	: C	(A: Function	ing well, B: Part	ially deterior	ated, C: Not f	unctioning we	ll, D: Serious cond	ition for o	peration)	D
(2)	Water Resou	trees Facility	: В	Main Ca	nal System : 1)	2	Secondary Ca	inal System : D		On-farm	D
(2) a	Type of faci	lity	: Headworks		e. Scouring sl	uice gate	: 6 nos		i. Condition : B			
b.	Type of wei	r	: Fixed weir		f. Intake gate		: 3 nos.		(A: Functioning v	vell, B: Pa	rtially deterio	rated, C: Not
с.	Length of w	eir	: 60 m		g. Settling bas	sin	: provided		functioning well,	D: Serious	s condition fo	r operation)
d.	Design intal	ke discharge	: 2.1 m3/s		h. Inspection	bridge	: provided		(no info.: no infor	mation)		
(3)	Irrigation Canal	anal and Inspe	Luling d	Total (m)	Structure	(noc)	Increation	n road (m)	Conditio		(A · Eunstion	ing wall
	Canai Main	Lined (m)	12 136	12 136	Structure	(nos) 76	Inspectio		D	n	(A. Function B. Partially c	leteriorated
	Secondary	279	2.212	2.491		49		2,491	D		C: Not functi	ioning well,
			,	, .	1			,	I		D: Serious co	ondition for
(4)	Major Probl	ems and Con	strains								operation)	
-	Water Reso	urces Facility										
	Fallen	down, incline	d, or washed	away of reta	uning wall of w	/eir						
	Insuffic	of bod londs i	1 water due to	deereese of	ion in front of	intake						
I .	Irrigation Ca	anal and Rela	ted Structure	ucciease ca	illai litow capac	ny						
	Difficu	lty on mainter	nance of earth	canal								
	Lower	function of re	gulating struc	ture on cana	al							
	Difficu	lty on O&M										
(5)	Courses of M	(1 C t									
(5)	Water Pase	lajor Problem	s and Constra	ints								
	Insuffic	cient quality of	of concrete or	masonry ma	aterial, over act	ing earth pr	essure more	than design				
	Sedime	ntation in fro	nt of intake		,							
	Insuffic	cient function	of settling ba	sin, no prop	er gate operatio	on of intake	during flood	1				
-	Irrigation Ca	anal and Rela	ted Structure									
	Fallen	down and coll	lapse of side s	lope, water	plants or weed	at inside of	canal					
	Deterio	ration of regu	lating structu	re on canal,	especially gate	e and metal	works	1				
	No pro	vision of dam	age of hispec	lion toad, di	incuity on pas	sing of msp		fue to damag	e, biokeli			
V.2	Developme	nt Plan										
(1)	Proposed Co	ountermeasur	es for Major I	roblems								
-	Water Reso	urces Facility										
	Recons	truction of re	taining wall o	f weir								
	Dredgi	ng or flushing	of sediment,	proper gate	operation of h	eadworks a	nd intake					
	Irrigation C	anal and Rela	ted Structure	oper gate of	beration of inta	ke during II	000					
	Provisi	on of concrete	e lining									
	Replace	ement and rec	onstruction o	f regulating	structure on ca	inal						
	Provisi	on or repair o	f inspection r	oad with all	weather type/p	avement						
(2)	Water Pase	uraas Engility										
(2)	Dam/Heady	orks body	: minor rehab	ilitation	Intake civil :	minor reha	bilitation	Intake	mechanical : la	rge rehah	oilitation	
	Settling bas	in	: minor rehab	oilitation	intuite, er m			mune	,	- 8		
(3)	Irrigation Ca	anal and Rela	ted Structure									
	We	orks	No rehab	ilitation	Rehabili	tation	New cor	struction	Total			
	Canal (m)	Main		0		12,136		0		12,136	-	
	C	Secondary		0		2,491		0		2,491	-	
	Structure	Main		0		/6		8		84 50	-	
1	(1105)	Secondary		0	1	49		10	<u> </u>	39	J	
(4)	On-farm De	velopment						(Unit: ha)				
, í	a. Potential	Irrigated pade	ly field	944	d. Non-potent	ial <u>p</u> addy fi	eld	0]			
	b. Potential	non-irrigated	paddy field	0	e. Non-potent	tial non-pac	ldy field	0				
	c. Potential	non-paddy fie	eld	0	Total			944				
(5)	Rehabilitati	on Cost (Dir-	et Cost)			(I]n:4	Million Dn					
(3)	Renavilliall	on Cost (Dife		On-Farm	Project	(Unit	Cost	I				
	W.R.F	Irrigation	Drainage	Develop.	Facility	Total	per ha					
	1,768	26,574	2,657	1,935	1,260	34,194	36.2	(W.R.F: Wate	er Resources Facili	ity, Develo	op.: Developn	nent)
					VI DDA	IFCTEN		N		_		
VI.1	EIRR	6.2%			V I, I KU	JECIEV	ALUATIO	1				
VI.2	Prioritizati	on Scoring			E.11.0	C	E-ml of 1			11 0	C	T-4-1.0
	Evaluation I	Index	f Irrigation D	tential	ruii Score	Score	Evaluation I	Productivity	Fu	20.0	Score	1 otal Score
	System	Urgencv	i iiigatioli F	nemiai	25.0	-	Social Probl	em		15.0	-	1
		Sustainabilit	у		15.0	-	Economic II	npact		15.0	-	
												-
VI.3	Priority Gr	oup	Group VI: De (Subject area	evelopment is less than	by other catego 1,000ha)	ory	VI.4	Priority Ra	nking in the Pro	ovince	-	·

Scheme	Rambung Mera	District	P.Siantar/Simalungun
Technical Level	Technical	Registered Area	1,104 ha Year of Construction 1987
A State		A A A	<u>Category</u> Irrigation (Headworks) <u>Structure</u> Fixed Weir
			$\begin{array}{c} \underline{Condition} \\ \Box \mathbf{A} \qquad \forall \mathbf{B} \qquad \Box \mathbf{C} \qquad \Box \ \mathbf{D} \end{array}$
			<u>Problems</u> Crack or damage on weir crest; settlement of weir body; defflection of pier of weir
			Category
1			Irrigation (Headworks)
		the second	<u>Structure</u> Intake Gate
			<u>Condition</u>
			Problems Leakage from gate leaf; insufficient strength against design load due to rust, decay of steel material; problem on management due to lack of periodically maintenance
		A THERE I THE	Category Irrigation (Headworks)
	SA BRIDIN		Intake and Gauging Staff
	the second s		<u>Condition</u>
AUXIERAN	INTERS LAND		Problems
and the second	and the second sec		Sedimentation in front of intake.

North Sumatera Province 49. Rambung Mera Scheme (4/4)

Scheme	Rambung Mera	District	P.Siantar/Simalungun
Technical Level	Technical	Registered Area	1,104 ha Year of Construction 1987
North			Category Irrigation (Main Canal) Structure Earth Canal Condition □A □B □C ☑ D Problems Sedimentation; leakage from canal; collapse of canal;
			difficulty on maintenance of earth canal; no inspection road.
Comments &			Category Irrigation (Secondary Canal)
E		the sol	<u>Structure</u> Canal
			<u>Condition</u> □A □B □C ☑ D
			<u>Problems</u> Sedimentation; leakage from canal; collapse of canal; difficulty on maintenance of earth canal
			<u>Category</u>
			<u>Structure</u>
			<u>Condition</u> □A □B □C ☑ D
			<u>Problems</u>



LEGEND ● Capital Town of District ● Sub-District Town ● Provincial Boundary District Boundary District Boundary District Boundary Sub-District Boundary Provincial Road District Road Provincial Road District Road Irrigation Scheme Irrigation Scheme Name of Scheme Registered Subj Name of Scheme Area (Ha) Area (Ha) Area (D) Mandaling Natal District 3. 2. Batang Gadis 6,628 T 3. Batang Ilung 4,194 T 4. Blk Sitongkon/Napa Suron 1,012 ST 5. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4. Kec. Spirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P		
 Capital Town of District Sub-District Town Provincial Boundary District Boundary District Boundary Sub-District Boundary Sub-District Boundary Provincial Road District Road District Road Miver Irrigation Scheme Technical Irrigation Semi-Technical Irrigation Semi-Technical Irrigation Area (Ha) Area (I Mandaling Natal District Batang Gadis 6,628 T Siborma Jourgation Scheme Technical Irrigation Siborma Jourgation Scheme Area (Ha) Area (I Mandaling Natal District Batang Ilung 4,194 T Bitsitongkon/Napa Suron Jourgation ST Siborma Jourgation St Cocation of Sub-District A Kec. Sipirok Dolok Hole Kec. Dolok Sigumpolon P Kec. Muara Batang Onang Kec. Colok Colok Hole Kec. Sosopan 		LEGEND
 Sub-District Town Provincial Boundary District Boundary District Boundary Sub-District Boundary Sub-District Boundary Provincial Road District Road River Irrigation Scheme Technical Irrigation Semi-Technical Irrigation Semi-Technical Irrigation Irrigation Scheme Name of Scheme Registered Subj Area (Ha) Area (I Mandaling Natal District Batang Gadis 6,628 T 5, Tapanuli Selatan District Batang Ilung 4,194 T 3, Bik Sitongkon/Napa Suron 1,012 ST 5, Siborma 1,000 ST 50, Paya Sordang 4,350 T 4, T : Technical Irrigation Stiorma 1,000 ST 50, Paya Sordang 4,350 T 4, T : Technical Irrigation A Kec, Sipirok Dolok Hole O Kec, Batang Onang B Kec, Dolok Sigumpolon P Kec, Muara Batang G C Kec, Dolok Hole O Kec, Batang Angkola D Kec, Arse R Kec, Sosopan F 		Capital Town of District
 Provincial Boundary District Boundary Sub-District Boundary Sub-District Boundary Provincial Road District Road Mirer Irrigation Scheme Technical Irrigation Semi-Technical Irrigation Semi-Technical Irrigation Area (Ha) Area (I Mandaling Natal District Batang Gadis 6,628 T Tapanuli Selatan District Batang Ilung A,194 T Siborma J,000 ST Siborma J,000 ST Siborma Siborma A Kec. Sipirok Dolok Hole Kec. Dolok Sigumpolon Kec. Dolok Sigumpolon Kec. Batang Angkola Kec. Colok Colok Hole Kec. Sosopan Kec. Arse Kec. Sosopan Kec. Sosopan 		Sub-District Town
		Provincial Boundary
 Sub-District Boundary Provincial Road District Road District Road River Irrigation Scheme Technical Irrigation Semi-Technical Irrigation Irrigation Scheme Name of Scheme Registered Subj Area (Ha) Area (I Mandaling Natal District Batang Gadis 6,628 T Tapanuli Selatan District Batang Ilung 4,194 T Bik Sitongkon/Napa Suron 1,000 ST Siborma 1,000 ST Siborma Siborma Cocation of Sub-District A Kec. Sipirok Dolok Hole Kec. Muara Batang G C Kec. Dolok Kec. Sosopan 		District Boundary
 Provincial Road District Road District Road River Irrigation Scheme Technical Irrigation Semi-Technical Irrigation Semi-Technical Irrigation Irrigation Scheme Registered Subj Area (Ha) Area (Ia) Mandaling Natal District Batang Gadis 6,628 T Mandaling Natal District Batang Gadis 6,628 T Siborma I,000 ST Siborma I,000 ST Siborma I,000 ST Son Paya Sordang A,350 T A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok C R Kec. Sosopan T 		Sub-District Boundary
District Road River Irrigation Scheme Irrigation Scheme Irrigation Scheme Semi-Technical Irrigation Irrigation Scheme Name of Scheme Registered Subj Area (Ha) Area (I Mandaling Natal District 2. Batang Gadis 6,628 T 5, Siborma 1,000 ST 50. Paya Sordang 4,350 T 4,350 T 4, Etherical Irrigation St. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4,350 T 4, Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok District R Kec. Sosopan Kec. Sosopan		Provincial Road
River Irrigation Scheme Irrigation Scheme Image: Semi-Technical Irrigation Irrigation Scheme Irrigation Scheme Name of Scheme Registered Subj Name of Scheme Registered Subj Area (Ha) Area (Ha) Area (Ha) Mandaling Natal District Area (Ha) Area (Ha) J. Batang Gadis 6,628 T 5, Tapanuli Selatan District 3. 3. 4. Blk Sitongkon/Napa Suron 1,012 ST S. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4, T : Technical Irrigation St : Semi-Technical Irrigation St : Semi-Technical Irrigation Location of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Q Kec. Batang Angkola D Kec. Arse R Kec. Sosopan R Kec. Sosopan P Kec. Mara Batang Angkola		District Road
Irrigation Scheme Technical Irrigation Irrigation Scheme Irrigation Scheme Irrigation Scheme Name of Scheme Registered Subj Area (Ha) Name of Scheme Registered Subj Area (Ha) Marea (I Mandaling Natal District 3. 2. Batang Gadis 6,628 T 5, Tapanuli Selatan District 3. Batang Ilung 4,194 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST 5. Siborma 1,000 ST 50. 50. Paya Sordang 4,350 T 4, Location of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Q Kec. Batang Angkola D Kec. Arse R Kec. Sosopan T	A	River
Technical Irrigation Technical Irrigation Irrigation Scheme Name of Scheme Registered Subj Mandaling Natal District 2. Batang Gadis 6,628 T 5, Tapanuli Selatan District 3. 4.94 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST 5. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4, T : T : T : Colston of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Q Kec. Batang Angkola D Kec. Arse R Kec. Sosopan		Irrigation Scheme
Image Semi-Technical Irrigation Irrigation Scheme Name of Scheme Registered Subj Name of Scheme Registered Subj Area (Ha) Area (Ha) Area (Ha) Mandaling Natal District . . 2. Batang Gadis 6,628 T 5, Tapanuli Selatan District . . . 3. Batang Ilung 4,194 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST . 5. Siborma 1,000 ST . 50. Paya Sordang 4,350 T 4, T : Technical Irrigation . . Location of Sub-District . . . A Kec. Sipirok Dolok Hole 0 . . . B Kec. Dolok Sigumpolon P . . . C Kec. Dolok Q C Kec. Arse R 		Technical Irrigation
Irrigation Scheme Name of Scheme Registered Subj Area (Ha) Area (H Area (H Mandaling Natal District . . 2. Batang Gadis 6,628 T 5, Tapanuli Selatan District . . . 3. Batang Ilung 4,194 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST 5. Siborma 1,000 ST 50. Paya Sordang 4,350 T T : Technical Irrigation ST : Semi-Technical Irrigation ST : Semi-Technical Irrigation Steps Colock Hole O Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Arse R Kec. Sosopan		Semi-Technical Irrigation
Name of Scheme Registered Area (Ha) Subj Area (I Mandaling Natal District . 2. Batang Gadis 6,628 T 5, Tapanuli Selatan District . . . 3. Batang Ilung 4,194 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST 5. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4, T : Technical Irrigation ST . X T : Semi-Technical Irrigation . . Location of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang . B Kec. Dolok Sigumpolon P Kec. Muara Batang G . C Kec. Arse R Kec. Sosopan . .		Irrigation Scheme
Mandaling Natal District 2. Batang Gadis 6,628 T 5, Tapanuli Selatan District 3. Batang Ilung 4,194 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST 5, 5. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4, T : Technical Irrigation ST State Semi-Technical Irrigation ST 50. Paya Sordang 4,350 T 4, T : Semi-Technical Irrigation ST State Semi-Technical Irrigation ST 50. Paya Sordang Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Arse R Kec. Sosopan Kec. Arse R Kec. Sosopan R Kec. Sosopan T		me Registered Subject
Tapanuli Selatan District 3. Batang Ilung 4,194 T 3, 4. Blk Sitongkon/Napa Suron 1,012 ST 5. Siborma 1,000 ST 50. Paya Sordang 4,350 T 4, T : Technical Irrigation ST: Semi-Technical Irrigation Location of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Arse R Kec. Sosopan		111 cu (114) 11 cu (114) 11 tal District 6 6,628 T 5,575
T : Technical Irrigation ST : Semi-Technical Irrigation Location of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Q Kec. Batang Angkola D Kec. Arse R Kec. Sosopan		ntan District 4,194 T 3,546 n/Napa Suron 1,012 ST 500 1,000 ST 950 g 4,350 T 4,350
Location of Sub-District A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Q Kec. Batang Angkola D Kec. Arse R Kec. Sosopan		rrigation nical Irrigation
A Kec. Sipirok Dolok Hole O Kec. Batang Onang B Kec. Dolok Sigumpolon P Kec. Muara Batang G C Kec. Dolok Q Kec. Batang Angkola D Kec. Arse R Kec. Sosopan		cation of Sub-District
EKec. Batang ToruSKec. Barumun TengaFKec. SipirokTKec. SiabuGKec. Padang BolakUKec. BarumunHKec. HolongonanVKec. SosaIKec. PSP BaratWKec. NatalJKec. PSP TimurXKec. PenyambunganKKec. PSP UtaraYKec. Batang NatalLKec. PSP SelatanZKec. Kota NopanMKec. Padang Bilak JuluAAKec. Muara Sipongi		olok Hole O Kec. Batang Onang gumpolon P Kec. Muara Batang Gadi Q Kec. Batang Angkola R Kec. Sosopan oru S Kec. Barumun Tengah T Kec. Siabu Bolak U Kec. Barumun nan V Kec. Sosa

Location Map of Irrigation Schemes in Mandaling Natal and Tapanuli Selatan District

				I. PROJ	ECT FUNI	DAMENTA	LS			
I.1 (1) (2) (3) (4) (5) (6)	General Code Number Name of Irrigation Scheme District (Kabupaten) Sub-district (Kecamatan) Registered Area (ha) Technical Level		: 12070500 : Paya Sord : Tapanuli S : PSP Timur : 4,350 : Technical	0 ang el/Mandarin Natal - Batang Angkola	(7) (8) (9) (10)	Number of F Water Resou Catchment A Original / La	Farmers Irce River Area (km ²) ast Rehabilittion Year	: Not availa : Aek Sibule : 228 : 1991/1992	ble ele/Batang Ar	ngkola
1.2	1.2 Availability of Reports/Documents & References (A : Available, B : Available but partially, C : Not available/ No plan) a Design Reports of Existing System(Full set) b Irrigation diagram c. As-built drawings d. Structure lists & diagram									
	e Rehabilitation nla	3 n & its refere	nces	f Cro	A A as and vield (lata	B g. Cropping Calender	1	A WIAs data	
	C. Kenabilitation pla		lices	1. 010	os and yield t	iata	g. cropping calender	1	1. W 0713 uau	
	II. SUBJECT AREA FOR REHABILITATION PLAN									
П.1	Present and Planned Land Category	Use	Pres	ent (ha)	Plan	(ha)	Increment (ha)]		
	a. Irrigated paddy field b. Rainfed paddy field			3,979 371		4,350	371 -371			
	d. Uncultivated land e. Non-irrigable land			0		0	0	-		
	Total			4,350		4,350	0			
				III	I. AGRICU	LTURE				
III.1 (1)	Present/Before Project Co Irrigation Performance and	ndition Crop Product	ion							
(-)	Season	Crop	ped Area in	Irrigated Paddy	Field	Annual	Irrigated Paddy Yield (GKG	Crop	Production (t	on) 1/
	Season I (wet) Season II (dry I)	3,562	Palawija	Others (ha)	1 otal (ha) 3,562 0	90%	4.5	16,957	Palawija	Others
	Season III (dry II) Total/Annual	2,862	0	0	2,862	72%	4.5	12,879 29,836	0	0
III.2 (1) (2)	A. Irrigation & Agriculture - High irrigation performand - Double cropping of paddy B. Primary Constraint Ident - Irrigation & Drainage: - Agronomic Issues: - Paddy Marketing: Development Plan Development Approaches - Ensuring year round irriga - Expansion of double cropp - Strengthening of extensior Planned Irrigation Performat Season Season I (wet) Season II (dry I) Total/Annual Annual Increment	Performance: ses attained introduced ; j ified through Poor O&M a Damage cau Low marketi tion water sup bed area of pa a activities tai nces and Cro Crop Paddy (ha) 4,350 3,480 7,830 1,406	paddy yield i the Inventor tt main & 2r sed by rat ing prices pply at on-fa ddy; product lored to area p Production ped Area in Palawija 435 435 435	evels moderate; y Survey by the y canals rm level through ivity increase of specific needs; Irrigated Paddy Others (ha) 0 0 0	palawija lim <i>JICA Study</i> n rehabilitatio paddy throu empowermer Field Total (ha) 4,350 0 3,915 8,265 1,841	ited - Palawija M - Farmers O - Extension i n gh intensifica tt of farmer g Annual Intensity 100% 90% 190% 29%	Iarketing: - rganizations: Most memb Services: Implementa ation; introduction of palawija roups (KTs) to establish agri- Irrigated Paddy Yield (GKG ton/ha) 5.5 5.5 5.5 1.0	ers are not ac tion of extens in dry seasor business orier Paddy 23,925 19,140 43,065 13,229	tive ion programs III nted KTs Production Palawija 2,175 2,175 2,175	(ton) Others 0 0 0
IV 1					IV. WU	As				
(1)	Number a. Target; Performance a. Developed	40	b. Establishe b. Under dev	ed; veloping;	30 1	c. Not yet; c. Not yet;	10 29	Registered Not yet regis	stered	1 29
(2) (3)	 (2) Problems and Constraints (3) Causes of Problems and Constraints 									
IV.2 (1) (2)	Development Plan Proposed Countermeasures - Improvement of WUA me Development Plan - WUA management trainin	mbers' sense	of responsib	lity for WUA m	anagement.					

					V. IKKI	GATION	FACILITY	-				
V.1	Existing Co	ondition										
(1)	Overall Irrig	gation System	: C	(A: Functioni	ing well, B: Parti	ally deterior	ated, C: Not fu	inctioning we	ll, D: Serious c	condition for o	peration)	
	Water Resou	irces Facility	: B	Main Ca	nal System : C	2	S	econdary Ca	anal System :	D	On-farm :	С
(2)	Water Reso	urces Facilty										
a.	Type of faci	lity	: Headworks	3	e. Scouring sl	uice gate	: 6 nos.		i. Condition	: B		
b.	Type of wei	r	: Fixed weir		f. Intake gate		: 6 nos.		(A: Functioni	ng well, B: Pa	rtially deterior	ated, C: Not
с.	Length of w	eir	: 72 m		g. Settling bas	in	: provided		functioning w	ell, D: Serious	condition for	operation)
d.	Design intal	ke discharge	: 3.2 m3/s		h. Inspection l	oridge	: provided		(no info.: no i	nformation)		
(3)	Irrigation Ca	anal and Insp	ection Road									
(-)	Canal	Lined (m)	Unlined	Total (m)	Structure	(nos)	Inspection	road (m)	Conc	lition	(A: Functioni	ng well
	Main	5 930	7 146	13 076	Structure	153	mopeetioi	7 846	(7	B. Partially d	eteriorated
	Secondary	9,530	15 172	24 700		135		2 470	I	2	C: Not function	oning well.
	Secondary	9,528	15,172	24,700		155		2,470	1	,	D: Serious co	ndition for
	M. D. 11	10									operation)	
(4)	Major Probl	ems and Con	strains								· · · · · · · /	
-	Water Reso	urces Facility										
	Insuffic	cient diversion	n water due t	o sedimentat	ion in front of i	intake						
	Inflow	of bed loads i	into canal and	d decrease ca	anal flow capac	ity						
-	Irrigation Ca	anal and Rela	ted Structure									
	Impass	able of inspec	ction road alo	ng canal								
	Difficu	ltv on mainte	nance of eart	h canal								
	No fun	ction of disch	arge measuri	ng								
	Difficu	lty on O&M	unge meusuri									
	Difficu	ity on Oaw										
(5)	Courses of N	(a and Caret									
(5)	Causes of M	lajor Problem	is and Constr	aints								
-	Water Reso	urces Facility										
	Sedime	ntation in fro	nt of intake									
	Insuffic	cient function	of settling ba	asin, no prop	er gate operation	on of intake	during flood					
-	Irrigation Ca	anal and Rela	ted Structure									
	Improp	er routine O8	M works du	e to no or na	rrow wide of ro	oad, slope e	rosion by rai	nfall then in	flow into can	al		
	Fallen	lown and col	lanse of side	slone water	nlants or weed	at inside of	f canal					
	Improp	ar ragular ma	intervence of	moosuring d	plants of weed	at monue of	Callal					
	mprop			ineasuring u		· c·			1 . 1			
	No pro	vision or dam	age of inspec	ction road, di	ifficulty on pas	sing of insp	ection road d	ue to damag	e, broken			
V.2	Developme	nt Plan										
(1)	Proposed Co	ountermeasur	es for Major	Problems								
-	Water Reso	urces Facility										
	Dredgi	ng or flushing	of sediment	proper gate	operation of h	eadworks a	nd intake					
	Rehabi	litation of set	tling basin n	roper gate or	peration of intal	ke during fl	ood					
	renuor	indución or sec	uning ousin, p	roper gate of	or all of that	ke during n	000					
_	Irrigation C	anal and Rela	ted Structure									
-	Drovici	anai anu Keia	an road both	main and ca	aandami aanal i	with novem	ant					
	PIOVISI	on of inspecti	1	main and se	condary canar	with pavein	ent					
	Provisi	on of concrete	e lining									
	Replace	e, provision o	fmeasuring	device								
	Provisi	on or repair o	f inspection i	road with all	weather type/p	avement						
(2)	Water Reso	urces Facility										
	Dam/Headw	orks body	: minor reha	bilitation	Intake, civil :	minor reha	bilitation	Intake	, mechanical	: minor reha	bilitation	
	Settling basi	in	: minor reha	bilitation								
(3)	Irrigation C	anal and Rela	ted Structure									
(-)	W	orks	No reha	bilitation	Rehabili	tation	New con	struction	То	otal		
		Main		0		13 076		0		13.076		
	Canal (m)	Secondami		0		24 700		0		24 700		
	Structure	Main		0		24,700		15		24,700		
	Structure	Main		0		155		15		108		
	(nos)	Secondary		0		135		27		162		
(4)	On-farm De	velopment						(Unit: ha)	_			
	a. Potential	Irrigated pade	ty field	3,979	d. Non-potent	ial paddy fi	eld	0				
	b. Potential	non-irrigated	paddy field	371	e. Non-potent	tial non-pag	ldy field	0	1			
	c. Potential	non-paddy fie	eld	0	Total		5	4.350	1			
					1			,	L			
(5)	Rehabilitati	on Cost (Diro	ct Cost)			(Unit	Million Rn					
	renaonnali			On-Form	Project	(Om	Coet					
	W.R.F	Irrigation	Drainage	Dave1	Eagility	Total	cost					
		51.045		Develop.	Facility		per na					
	2,295	51,847	5,185	9,108	1,570	70,004	16.1	(W.R.F: Wate	er Resources F	acility, Develo	p.: Developm	ent)
					VI BDO			T				
171.4	FIDD	14.00/	1		VI. PRO	JECT EV	ALUATIO	N				
VI.1	EIRR	14.9%	J									
	D • • • •	6										
VI.2	Prioritizati	on Scoring										
I	Evaluation I	ndex			Full Score	Score	Evaluation In	ndex		Full Score	Score	Total Score
	Irrigation	Utilization o	of Irrigation P	otential	10.0	5.0	Agricultural	Productivity	,	20.0	11.0	59.8
	System	Urgency			25.0	19.0	Social Proble	em		15.0	7.5	
	J	Sustainabilit	v		15.0	6.8	Economic In	npact		15.0	10.5	1
	L		٢			0.0		¥		10.0	10.0	I
VI.3	Priority Gr	oup	Group II: Se	cond priority	y group		VI.4	Priority Ra	nking in the	Province	12	

Scheme Paya Sordang		District	Tapanuli Selatan/Mandailing Natal				
Technical Level	Technical	Registered Area	4,350 ha Year of Construction 1992				
			Category Irrigation (Headworks) Structure Fixed Weir Condition □ A □ B □ C □ D Problems Crack or damage on weir crest; settlement of weir body; defflection of pier of weir; sediments in front of intake				
			Category Irrigation (Headworks) Structure Intake Gate (Rear View) Condition □ A □ B □ C □ D Problems Leakage from gate leaf; insufficient strength against design load due to rust, decay of steel material; problem on management due to lack of periodically maintenance				
			Category Irrigation (Main Canal) Structure Division structure Condition □A □B □C □ Problems Lower function of division structure; physical operation problem on structure; less maintenance; and sedimentation in canal				

Scheme	Paya Sordang	District	Tapanuli Selatan/Mandailing Natal
Technical Level	Technical	Registered Area	4,350 ha Year of Construction 1992
			Category Irrigation (Main Canal) Structure Masonry Lined Canal Condition □A □B □C □ Problems Sedimentation; leakage from lined canal; deflection of lining toward inside of canal; crack or damage on lined canal; and no inspection road.
		(Jest)	Category Irrigation (Secondary Canal)
11	The state of the s	a martine	<u>Structure</u> Concrete Lined Canal
7 X		Provide States	<u>Condition</u> □A □B □C ☑ D
			<u>Problems</u> Sedimentation; leakage from lined canal; damage on lined canal; and no inspection road.
			<u>Category</u> Irrigation (Secondary Canal)
			<u>Structure</u> Division structure
			Condition □A □B □C ☑ D
			<u>Problems</u> Sediment in front of gate and damaged gates.