Department of Agriculture Ministry of Agriculture and Forests The Kingdom of Bhutan

# DATA COLLECTION SURVEY ON STRATEGIC AGRICULTURAL WATER SUPPLY AND MANAGEMENT IN SOUTHERN BHUTAN

## FINAL REPORT (APPENDIX)

**OCTOBER 2012** 

Japan International Cooperation Agency (JICA) SANYU CONSULTANTS INC.

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### Appendix A: Inventory of Irrigation System

A-1: Sarpang DzongkhagA-2: Samtse DzongkhagA-3: Samdrup Jongkhar Dzongkhag

A-1: Sarpang Dzongkhag

#### List of target irrigation structure in Sarpang Dzongkhag

Target: Command area is more than 5ha and Beneficiaries are more than 10.

0. (in -1 -2	No. <sup>1)</sup> n the original list)	Name of the Channel <sup>1)</sup>				Length												
		Name of the Channel	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non-functional <sup>2(3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot	Rema t
2	297	Puchar Kulo	Aipowali	S	Juphrey	5.00	135.00	54.63	26	1968	No		Functional		0.0	0	-	Ť
	296	Beech Kulo	Aipowali	S	Juphrey	5.00	125.00	50.59	26	1968	No		Functional	(Intake was washed away by Flood)	0.0	0	-	
.3	286	Ghalley kulo	Paithakhola	S	Ghalleygoan	5.00	90.00	36.42	29		No		(Non-Functional) Functional	(	0.0	0		-
4	291	Limbo kulo	Paithakhola	S	Roadline	3.50	80.00	32.38	40		No		Functional		0.0	0	-	+
-5	292	Monger Kulo	Paithakhola	S	Mongergoan	3.50	65.90	26.67	30		No		Functional		0.0	0	-	
-6	295	Siran Kulo	Aipowali	Р	Juphrey	5.50	40.00	16.19	14	1968	No		Functional		0.0	0	-	
7	299	Barasau Kulo	Shitakhari	S	Jaruwa/Dechenpelri	4.50	36.00	14.57	21	1986	No		Functional		0.0	0	-	
-8	298	Siran Kulo	Shitakhari	S	Jaruwa/Dechenpelri	4.00	35.00	14.16	19	1986	No		Functional		0.0	0	-	_
11	300	Puchar Kulo	Shitakhari	S	Jaruwa/Dechenpelri	3.00	20.00	8.09	13		No		Functional (Non-Functional)	(Intake was washed away by Flood)	0.0	0	-	
		Subtotal				39.00	626.90	253.70	218									
-1	130	Phunsum Chuyour	Takali	Р	Dawathang	5.41	700.00	283.28	350	1984	YES	Community	Functional		0.0	0	-	
		(low level) Samdrup Chuyour																-
-2	129	(high level)	Takali	Р	Dawathang	7.51	300.00	121.41	70	1984	YES	Project	Functional		0.0	0	-	
-3	131	Karbithang	Sherabcholing	Р	Karbithang	0.36	200.00	80.94	150	2010	No	RGOB	Functional		0.0	0	-	
-4	128	Sherab choling	Kalikhola	Р	Chasikher	2.00	150.00	60.70	25	1984	No	RGOB	Non-Function	No need to use because irrigation water is being supplied by Samdrup Chuyour (C-2)	0.0	0	-	
-5	127	Masinikhola	Masini khola	S	Chasikher	1.00	50.00	20.23	10		No	Community	Functional	supplied by Saliki up Chuyoui (C-2)	0.0	0	-	+
		Subtotal				16.28	1,400.00	566.57	605									
k-1	136	Hilley Khola Irri.channel	Hilley Khola	S	Chokorling	3.00	506.55	205.00	36		No	Community	Functional		0.0	0	-	
k-2	146	Yangchenphu Irri.Channel	Yangchu	S	Yangchenphu	3.00	90.00	36.42	33		No	Community	Functional		0.0	0	-	+
	143		Leo khola	S		3.00	72.53	29.35	42	2003	No	ECR-ADP	Functional	(Land Slide)	0.0	0		+
k-3		Dekiling Irri.channel			Dekiling Derbithang					2003			(Non functional)	(Land Silde)		0	-	
k-4	135	Bichkhola Irri.channel	Bich Khola	S	Bichpani	2.00	70.00	28.33	43		No	Community	Functional		0.0	0	-	_
k-5	145	Yangchuenphu Irri.Channel	Phendey Chu	Р	Yangchenphu	5.00	55.00	22.26	30		No	Community	Non Functional (Functional)		0.0	0	-	
k-6	133	Norbuthang Irri.Channel	Phendeychu	S	Gawaithang	2.50	35.00	14.16	24	1984	No	Community	Functional		0.0	0	-	1
k-7	139	Ratey Khola Channel	Ratey Khola	Р	Ratepani	3.00	30.00	12.14	16	2003	No	ECR-ADP	Functional	(Land Slide)	0.5	15	On foot	
k-8	132	Gawaithang Irri.channel		S	Gawaithang	1.50	25.00	10.12	14	1984	No		(Non functional) Functional		0.0	0		-
			Yangchu							1984		Community	Non			0	-	-
-10	144	Phendey Chu Channel	Teen Bhadey	S	Trashiling	1.50	23.00	9.31	10		No	Community	Functional	Intake was washed away by Flood	0.0	0	-	
-11	134	Ratey Irri.Channel	Ratey Khola	Р	Ratey	5.00	21.50	8.70	100		No	Community	Non	Land Slide & Flood	0.0	0	-	
-12	137	Dholkhola Irri Channel	Dholkhola	Р	Dholkhola	2.00	21.00	8.50	24	2004	No	ECR-ADP	Functional Functional		0.0	0	_	-
-13	138	Dhokhola Irri.Channel	Dhokhola	P	Dhokhola	2.00	18.00	7.28	16	1985	No	Community	Functional		0.0	0	-	-
		Subtotal				33.50	967.58	391.57	388									
v-1	100	-	-	Р	Thrulokhola	2.50	30.00	12.14	18	2009	No	RGOB	Functional			2days	On foot	
v-4	86		Girigahg	Р	Betchkhola	1.00	14.00	5.67	10	Not known	No	Community	Functional			3days	On foot	-
<u> </u>		Subtotal				3.50	44.00	17.81	28							,-		<u> </u>
-1	226	Sonamgatshel & Raptenling Irrigation channel	Mouchu	Р	Sonamgatshel & Raptenling	2.00	212.82	86.13	85	1995	No	RGoB	Functional		0.0	0	-	Τ
-2	227	Passangchu Irrigation Channel	Passangchu	Р	Lower Pelrithang	2.50	79.40	32.13	21	1960	No	RGoB	Functional		0.0	0	_	-
-3	229	Dhulachu Irrigation Channel II	Dhulachu	s	Lower Pelrithang	1.50	61.85	25.03	23	1970	No	RGoB	Functional		0.0	0	-	+
-4	228	Dhulachu Irrigation Channel I	Dhulachu	S	Upper Pelrithang	1.50	56.65	22.93	19	1970	No	RGoB	Functional		0.0	0	-	
-5	233	Tarulay Irrigation channel	Tarulaychu	S	Dzomlingthang	2.00	50.39	20.39	25	1978	No	RGoB	Functional		0.0	0	-	
		Subtotal				9.50	461.11	186.61	173						1			
-1	3	Gurung Khola Kulo 3	Gurung Khola	S	Hilley	1.50	37.19	15.05	15	1970	No	Community	Functional		0.5	20	On foot	1
-2	38	Hadzari Kulo	Kali Khola	Р	Khopitar	2.00	21.95	8.88	10		No	Community	Functional		5.0	120	On foot	
		Subtotal				3.50	59.14	23.93	25								-	
1	175	Basghari	Basghari Kholsa	Р	Daragaon	1.50	105.00	42.49	12	1920	No	Community	Functional		1.0	20	On foot	
2	184	Panitey Kuloo	Panitey Kholsa	Р	Saundaley	1.00	90.00	36.42	25	1940	No	Community	Functional		1.0	15	On foot	1
3	185	Dharey Kuloo	Dharey Kholsa	Р	Saundaley	0.50	50.00	20.23	12	1914	No	Community	Functional		1.0	15	On foot	
4	168	Jante Kuloo(3)	Jantey Kholsa	Р	Daragaon	2.50	30.00	12.14	21	1920	No	Community	Functional		1.0	15	On foot	1
5	217	Gumti Kuloo	Gumti kholsa	P	Sampagang	1.00	30.00	12.14	15	1935	No	Community	Functional		1.0	30	On foot	+
6	224 225	Dawa Kuloo Nado kuloo	Dawa Khola Nado kholsa	P	Samapagang Samkhara	1.00	30.00	12.14	10	1935 1935	No No	Community	Functional		1.0	30	On foot On foot	+
									10			Community				-		+
15	1/2	Jante Kuloo(1)	Jantey Kholsa	P	Daragaon	3.50	22.80	9.23	11	1920	No	Community	Functional		0.5	15	On foot	+
23	148	Tharokuloo	Tharo Khola	P	Gongdara	3.00	19.50	7.89	13	1955	No	Community	Functional		0.5	2days	On foot	+
24	165	Hiti kuloo	Hitikholsa	Р	Daragaon	1.50	18.00	7.28	12	1920	No	Community	Functional		1.0	30	On foot	1
23	148		Tharokuloo	Jante Kuloo(1) Jantey Kholsa Tharokuloo Tharo Khola Hiti kuloo Hitikholsa	Jante Kuloo(1)         Jantey Kholsa         P           Tharokuloo         Tharo Khola         P           Htti kuloo         Htitkholsa         P	Jante Kaloo(1)         Jantey Khoka         P         Daragaon           Tharokuloo         Tharo Khola         P         Gongdara           Hiri kuloo         Hirikoba         P         Daragaon	Jante Kuloo(1)         Jantey Kholsa         P         Daragaon         3.50           Tharokuloo         Tharo Khola         P         Gongdura         3.00           Hiti kuloo         Hitikholsa         P         Daragaon         1.50	Jante Kuloo(1)         Jantey Kholsa         P         Daragaon         3.50         21.00           Tharokuloo         Thuro Khola         P         Gongdara         3.00         19.50           Hiti kuloo         Hitikhola         P         Daragaon         1.50         18.00	Jante Kuloo(1)         Jantey Kholsa         P         Daragaon         3.50         21.00         8.80           Tharokuloo         Tharo Khola         P         Gongdara         3.00         19.50         7.89           Hiti kuloo         Hiti kuloa         P         Daragaon         1.50         18.00         7.28	Jante Kuloo(1)         Jantey Khoba         P         Daragaon         3.50         21.00         8.50         12           Tharokuloo         Tharo Khola         P         Gongdura         3.00         19.50         7.89         13           Hiti kuloo         Hiti kholas         P         Daragaon         1.50         18.00         7.28         12	Jante Kuloo(1)         Jantey Kholsa         P         Daragaon         3.50         21.00         8.50         12         1920           Tharokuloo         Tharo Khola         P         Gongdraf         3.00         19.50         7.89         13         1955           Hiti kuloo         Hitikhola         P         Daragaon         1.50         18.00         7.28         12         1920	Jante Kuloo(1)         Jantey Khoka         P         Daragaon         3.50         21.00         8.50         12         1920         No           Tharokuloo         Tharo Khola         P         Gongdara         3.00         19.50         7.89         13         1955         No           Hiti kuloo         Hiti khola         P         Daragaon         1.50         18.00         7.28         12         1920         No	Jante Kuloo(1)         Jantey Khoba         P         Daragaon         3.50         21.00         8.50         12         1920         No         Community           Tharokuloo         Tharo Khola         P         Gongdura         3.00         19.50         7.89         1.3         1955         No         Community           Hit kuloo         Hiti kuloo         Hiti kuloa         P         Daragaon         1.50         18.00         7.28         12         1920         No         Community	Jante Kubo(1)         Jantey Kholsa         P         Daragaon         3.50         21.00         8.50         12         1920         No         Community         Functional           Tharokuloo         Thuro Khola         P         Gongdara         3.00         19.50         7.89         13         1955         No         Community         Functional           Hiti kuloo         Hitikholsa         P         Daragaon         15.00         7.28         12         1920         No         Community         Functional	Jante Kubo(1)         Jantey Klubka         P         Dangaon         3.50         21.00         8.50         12         1920         No         Community         Functional           Tharokubo         Tharo Khola         P         Gongdara         3.00         19.50         7.89         13         1955         No         Community         Functional           Hiti kubo         Hiti kubos         P         Dangaon         15.00         7.28         12         120         No         Community         Functional	Jante Kubo(1)         Jante y Kuba         P         Daragon         3.50         21.00         8.50         12         1920         No         Community         Functional         (mode)         0.5           Thanokubo         Thano Kuba         P         Gongdara         3.00         19.50         7.89         1.3         1955         No         Community         Functional         (mode)         0.5           Hiti kubo         Hitikhola         P         Daragono         1.50         18.00         7.28         1.2         1920         No         Community         Functional         (mode)         0.10         0.10	Jante Kubo(1)         Jantey Klubka         P         Daragaon         3.50         21.0         8.50         12         1920         No         Community         Functional         0.0         5.5         5.5           Tharokuloo         Tharo Khola         P         Gongdara         3.00         19.50         7.89         13         1955         No         Community         Functional         0.0         5.2         2.0         3.0         Image and the state of the state	Jante Kubo(1)         Jante Kuba         P         Daragon         3.50         21.00         8.50         12         1920         No         Community         Functional         0.05         1.55         On foot           Tharokubo         Tharo Kuba         P         Gongan         3.00         19.50         7.89         1.3         1955         No         Community         Functional         0.05         2.2day         On foot           Hiti kubo         Hitikuba         P         Daragon         1.50         1.80         7.28         1.2         1920         No         Community         Functional         0.0

#### List of target irrigation structure in Sarpang Dzongkhag

Target: Command area is more than 5ha and Beneficiaries are more than 10.

				Wat	ter Source			Comman	d Area <sup>1)</sup>						Present Status		Accessibility2)	·	T
Gewog	No.	No. <sup>1)</sup> (in the original list)	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non-functional <sup>2(3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
	Sen-1	240	Baral kulo	Sisty khola	Р	Sisty A	4.00	59.05	23.90	24	1940	No	Community	Functional		0.0	0	-	
	Sen-2	239	Mazan kulo	Sisty khola	Р	Sisty A	6.00	46.95	19.00	25	1946	No	Community	Functional (Non functional)	(Under reparing)	0.0	0		
Sengye	Sen-3	234	Upper Senghe Kulo	Senghe khola	Р	Hatikhuar	1.00	36.10	14.61	20		No	Community	Functional		0.5	20	On foot	
	Sen-4	236	Koigaon kulo	Tungkhola	Р	Koigaon	2.50	35.50	14.37	18		No	Community	Functional		0.0		<u> </u>	
	Sen-5	238	Rumdali kulo	Sisty khola	Р	Sisty B	3.00	22.05	8.92	14	1973	No	Community	Functional		0.3	10	On foot	
		1	Subtotal				16.50	199.65	80.80	101									
	Ser-1	266	Lothuen irrigation channel	Taklaichhu	Р	Lothuen	6.25	145.55	58.90	84	1976	YES	GIADP	Functional		0.5	20	On foot	
	Ser-2	264	Norbuling irrigation channel	Norbuling chhu	S	Norbuling	3.00	96.40	39.01	53	1976	No	ECR-ADP	Functional		0.5	20	On foot	
	Ser-3	263	Pemaling irri. channel	Norbulingchhu	S	Pemaling	2.50	95.00	38.45	40	1970s	No	ECR-ADP	Functional		1.0	40	On foot	
	Ser-4	259	Pangkhar irrigation channel	Chheojaygang chhu	S	Pangkhar	2.50	52.00	21.04	16	2009	No	ASSP	Functional		0.5	20	On foot	
0	Ser-6	265	Norbuling irr. channel	Norbulingchhu	s	Norbuling	1.50	52.00	21.04	16	1976	No	ASSP	Non-Functional (Functional)		0.5	20	On foot	
Sershong	Ser-7	257	Barshong irrigation channel	Barthang	S	Barshong	2.00	48.00	19.43	22	1970s	No	ASSP	Functional		0.5	20	On foot	
	Ser-8	267	Kingaling irr. channel	Norbulingchhu	S	Kingaling	1.50	45.00	18.21	22	1984	No	RGOB	Non-functional	-	1.0		On foot	
	Ser-9	258	Pangkhar irrigation channel	Mathangchu	S	Pangkhar	2.00	40.00	16.19	16	1978	No	GIADP	Non-functional	Land slide	0.5		On foot	
	Ser-12	255	Barshong irrigation channel (1)	Barshongchu	S	Barshong	3.00	25.00	10.12	14	1970s	No	ECR-ADP	Functional		0.5		On foot	
	Ser-13	256	Barshong irrigation channel (2)	Barthang chhuu	S	Barshong	1.00	20.00	8.09	14	1970s	No	ECR-ADP	Functional		0.5		On foot	
	Ser-15	253	Sershong irrigation channel	Barshongchu	S	Sershong	2.00	15.00	6.07	12	1977	No	GIADP	Non-functional	-	0.5	20	On foot	
		1	Subtotal			1	27.25	633.95	256.55	309									
	Sho-1	112	Daoray kholo	Doray khola	S	Kuencholing	2.00	132.00	53.42	93		No	Community	Non-functional Non-functional	River bed dropping	0.0	0	-	
	Sho-3	108	Lower Norbugang kholo	Tharokhola	S	Darjaythang	1.00	85.00	34.40	12		No	Community	(Functional)		0.0	0	-	
Shompangkha	Sho-4	105	Kafley kholo	Kafley khola	S	Darjaythang	2.50	50.00	20.23	24		No	Community	Functional		0.0	0	-	
	Sho-7	114	Jaidhan Kholo	Jaidhan kholo	S	Pakhay	2.00	22.33	9.04	12		No	Community	Functional (Non-Functional)	(Land slide)	0.0	0	-	
>			Subtotal				7.50	289.33	117.09	141									
د Tarithang	T-1	305	Yoezergang-Singi Khola Lower Irrigation Canal	Singi Khola	Р	Yoezergang	1.50	26.00	10.52	14	1980	No	RGoB	Functional		1.5	30	On foot	
ّ د			Subtotal				1.50	26.00	10.52	14									_
	U-1	282	Rejuk Serchu Irrigation channel	Serchu	Р	Rejuk	2.00	85.00	34.40	27		No		Functional		1.0	20	On foot	
	U-2	280	Dangling Irrigation channel Lower	Langar chu	S	Dangling	3.50	82.00	33.18	36	1997	No	RGOB	Non-Functional (Functional)		0.5	10	On foot	
	U-4	276	Dungmin Irrigation channel Upper	Langar chu	S	Dungmin	1.00	70.00	28.33	26	1997	No	RGOB	Functional		0.5	10	Tiller	
	U-5	285	Tashithang Karchu Irrigation channel	Karchu	s	Tashithang	7.00	64.00	25.90	21	1997	No	RGOB	Functional (Non-Functional)	Land slide	0.5	10	Tiller	
	U-6	277	Dungmin Irrigation channel Lower	Langar chu	S	Dungmin	1.00	52.00	21.04	16		No		Functional		0.5	10	Tiller	
	U-7	283	Chubarthang Seelchu Irrigation channel	Serchu	S	Chubarthang	2.00	47.00	19.02	14	1997	No	RGOB	Functional		0.5		Tiller	
Umling	U-8	284	Thongjazor Karchu Irrigation channel	Karchu	S	Thonjazor	4.00	44.00	17.81	17	1997	No	RGOB	Non-Functional	-	0.5		On foot	$\perp$
	U-9	274	Lingar Dap Irrigation channel	Taklai chu	Р	Lingar	3.00	40.00	16.19	15	2005-2006	No	RGOB	Functional		1.0		On foot	┿
	U-10	272	Gadhen Irrigation channel Lower	Taklai chu	Р	Gadhan	1.00	38.00	15.38	48		No		Functional		0.5	10	Tiller	<u> </u>
	U-11	281	Rijuk Karchu Irrigation channel	Karchu	s	Rejuk	1.00	31.00	12.55	27	1997	No	RGOB	Non-Functional (Functional)		0.5	10	On foot	
	U-12	279	Dangling Irrigation channel Upper	Langar chu	S	Dangling	3.00	24.00	9.71	32	1997	No		Non-Functional (Functional)		0.5	10	Tiller	
1	U-14	278	Pantharey Irrigation channel	Langar chu	S	Dangling	1.00	17.00	6.88	15		No		Non-Functional		0.5	10	Tiller	
	0-14			÷		0								(Functional)			i		

1) Posted from inventory "Compiled Irrigation information 2010" obtained from DAO Sarpang.

2) Identified through field survey and interview

3) Status in () is Identified through field survey.

Gewog: B	r	ιL	ır
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	No. <sup>1)</sup>			W	ater Source		Length	Comn Are			Year			Prese	nt Status		Accessibility <sup>2)</sup>		
No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remar
B-1	297	Bhur	Puchar Kulo	Aipowali	S	Juphrey	5.00	135.00	54.63	26	1968	No		Functional		0.0	0	-	
В-2	296	Bhur	Beech Kulo	Aipowali	S	Juphrey	5.00	125.00	50.59	26	1968	No		Functional (Non-Functional)	(Intake was washed away by Flood)	0.0	0	-	
В-3	286	Bhur	Ghalley kulo	Paithakhola	S	Ghalleygoan	5.00	90.00	36.42	29		No		Functional		0.0	0	-	
B-4	291	Bhur	Limbo kulo	Paithakhola	S	Roadline	3.50	80.00	32.38	40		No		Functional		0.0	0	-	
B-5	292	Bhur	Monger Kulo	Paithakhola	S	Mongergoan	3.50	65.90	26.67	30		No		Functional		0.0	0	-	
B-6	295	Bhur	Siran Kulo	Aipowali	Р	Juphrey	5.50	40.00	16.19	14	1968	No		Functional		0.0	0	-	
B-7	299	Bhur	Barasau Kulo	Shitakhari	S	Jaruwa/Dechenpelri	4.50	36.00	14.57	21	1986	No		Functional		0.0	0	-	
B-8	298	Bhur	Siran Kulo	Shitakhari	S	Jaruwa/Dechenpelri	4.00	35.00	14.16	19	1986	No		Functional		0.0	0	-	
B-9	290	Bhur	Bista Kulo	Bhurkhola	Р	Lower Kholatar	2.00	35.00	14.16	7	1965	No		Non-Functional	Land slide	0.0	0	-	
B-10	289	Bhur	Kholatar kulo	Kopcheykhola	S	kholatar	1.50	25.00	10.12	7	1960	No		Functional		0.0	0	-	
B-11	300	Bhur	Puchar Kulo	Shitakhari	S	Jaruwa/Dechenpelri	3.00	20.00	8.09	13		No		Functional (Non-Functional)	(Intake was washed away by Flood)	0.0	0	-	
B-12	287	Bhur	Kopchey Kulo	Kopcheykhola	S	Kopchey	1.50	10.00	4.05	5	1964	No		Functional		0.0	0	-	
B-13	293	Bhur	Ganteygairi Kulo	Ganteygairi	S	Dungkarling	2.00	5.00	2.02	1		No		Functional		0.0	0	-	
B-14	294	Bhur	Devithan Kulo	Devikholchey	S	Opposite BCPS	1.00	2.60	1.05	1		No		Functional		0.0	0	-	
B-15	288	Bhur	Gareyrey Kulo	Saskholchey	S	Dumidara	1.50	2.00	0.81	1	1978	No		Functional		1.0	15	On foot	

\*Aipowali; Upstream-Permanent, Downstream-Seasonal

#### Gewog: Chuzagang

	No. <sup>1)</sup>		-	w	ater Source			Com Ar						Pro	esent Status		Accessibility	2)	
No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
C-1	130	Chuzagang	Phunsum Chuyour (low level)	Takali	Р	Dawathang	5.41	700.00	283.28	350	1984	YES	Community	Functional		0.0	0	-	
C-2	129	Chuzagang	Samdrup Chuyour (high level)	Takali	Р	Dawathang	7.51	300.00	121.41	70	1984	YES	Project	Functional		0.0	0	-	
C-3	131	Chuzagang	Karbithang	Sherabcholing	Р	Karbithang	0.36	200.00	80.94	150	2010	No	RGOB	Functional		0.0	0	-	
C-4	128	Chuzagang	Sherab choling	Kalikhola	Р	Chasikher	2.00	150.00	60.70	25	1984	No	RGOB	Non-Function	No need to use because irrigation water is being supplied by Samdrup Chuyour (C-2)	0.0	0	-	
C-5	127	Chuzagang	Masinikhola	Masini khola	S	Chasikher	1.00	50.00	20.23	10		No	Community	Functional		0.0	0	-	

1) Posted from inventory "Compiled Irrigation information 2010" obtained from DAO Sarpang.

2) Identified through field survey and interview

3) Status in () is Identified through field survey.

: Target for field survey

( 'ownoa'	1 101/1	
Gewog:		in ig

		No. <sup>1)</sup>			w	ater Source			Com Are						Presen	t Status		Accessibility <sup>2</sup>	)	
1	No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	
D	0ek-1	136	Dekiling	Hilley Khola Irri.channel	Hilley Khola	S	Chokorling	3.00	506.55	205.00	36		No	Community	Functional		0.0	0	-	
D	0ek-2	146	Dekiling	Yangchenphu Irri.Channel	Yangchu	S	Yangchenphu	3.00	90.00	36.42	33		No	Community	Functional		0.0	0	-	
D	ek-3	143	Dekiling	Dekiling Irri.channel	Leo khola	S	Dekiling Derbithang	3.00	72.53	29.35	42	2003	No	ECR-ADP	Functional (Non functional)	(Land Slide)	0.0	0	-	
D	ek-4	135	Dekiling	Bichkhola Irri.channel	Bich Khola	S	Bichpani	2.00	70.00	28.33	43		No	Community	Functional		0.0	0	-	
D	ek-5	145	Dekiling	Yangchuenphu Irri.Channel	Phendey Chu	Р	Yangchenphu	5.00	55.00	22.26	30		No	Community	Non Functional (Functional)		0.0	0	-	
D	ek-6	133	Dekiling	Norbuthang Irri.Channel	Phendeychu	S	Gawaithang	2.50	35.00	14.16	24	1984	No	Community	Functional		0.0	0	-	
D	ek-7	139	Dekiling	Ratey Khola Channel	Ratey Khola	Р	Ratepani	3.00	30.00	12.14	16	2003	No	ECR-ADP	Functional (Non functional)	(Land Slide)	0.5	15	On foot	
> -1 Di л	ek-8	132	Dekiling	Gawaithang Irri.channel	Yangchu	S	Gawaithang	1.50	25.00	10.12	14	1984	No	Community	Functional		0.0	0	-	
D	ek-9	140	Dekiling	Dolungang Irri.channel	Bich Khola	S	Dolungang	3.00	25.00	10.12	5		No	Community	Functional		0.0	0	ŀ	
De	ek-10	144	Dekiling	Phendey Chu Channel	Teen Bhadey	S	Trashiling	1.50	23.00	9.31	10		No	Community	Non Functional	Intake was washed away by Flood	0.0	0	-	
De	ek-11	134	Dekiling	Ratey Irri.Channel	Ratey Khola	Р	Ratey	5.00	21.50	8.70	100		No	Community	Non Functional	Land Slide & Flood	0.0	0	-	
De	ek-12	137	Dekiling	Dholkhola Irri.Channel	Dholkhola	Р	Dholkhola	2.00	21.00	8.50	24	2004	No	ECR-ADP	Functional		0.0	0	-	
De	ek-13	138	Dekiling	Dhokhola Irri.Channel	Dhokhola	Р	Dhokhola	2.00	18.00	7.28	16	1985	No	Community	Functional		0.0	0	-	
De	ek-14	142	Dekiling	Trashiling Irri.channel	-	S	Trashiling	1.00	13.50	5.46	8	2003	No	ECR-ADP	Functional		0.0	0	-	
De	ek-15	141	Dekiling	Dolpani Irri.Channel	Kharey Chhu	S	Dolpani	1.00	10.00	4.05	6		No	Community	Functional		0.0	0	-	

\*Phendy chu; Upstream-Permanent, Downstream-Seasonal

\*ECR-ADP; Easter Central Rural - Agricultural Development Project (Funded by Dutch NGO)

Gewog: Dovan
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	No. <sup>1)</sup>			v	Vater Source		Length	Com Ar			Year			Prese	nt Status		Accessibility <sup>2)</sup>		
No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
Dov-1	100	Dovan	-	-	Р	Thrulokhola	2.50	30.00	12.14	18	2009	No	RGOB	Functional			2days	On foot	
Dov-2	101	Dovan	-	-	Р	Batraikhola	2.00	15.00	6.07	9	2009	No	RGOB	Functional			2days	On foot	
Dov-3	94	Dovan	-	-		-	0.50	15.00	6.07	5	Not known	No	Community	Functional					
Dov-4	86	Dovan	-	Girigahg	Р	Betchkhola	1.00	14.00	5.67	10	Not known	No	Community	Functional			3days	On foot	
Dov-5	75	Dovan	-	Moukhola		Dovan	5.00	11.00	4.45	14	Not known	No	Community	Functional			3days	On foot	
Dov-6	99	Dovan	-	Dapkhola	Р	Gorikhet	1.50	11.00	4.45	14	Not known	No	Community	Functional			2days	On foot	
Dov-7	103	Dovan	-	Moukhola	Р	gotasukhet	2.00	10.00	4.05	6	2009	No	RGOB	Functional			3days	On foot	
Dov-8	95	Dovan	-	Muokhola	Р	Gungring	1.50	10.00	4.05	5	Not known	No	Community	Functional			3days	On foot	
Dov-9	87	Dovan	-	Betchkhola	Р	-	0.30	9.00	3.64	5	Not known	No	Community	Functional			3days	On foot	
Dov-10	76	Dovan	-	Teskhola	Р	Teskhila	5.00	8.00	3.24	5	Not known	No	Community	Functional			3days	On foot	
Dov-11	102	Dovan	-	Lowermobin	S	kahuley	2.00	6.00	2.43	6	Not known	No	Community	Functional			2days	On foot	
Dov-12	104	Dovan	-	Bararikhola	S	Dahgrakhet	1.00	6.00	2.43	5	Not known	No	-	Functional			2days	On foot	
Dov-13	77	Dovan	-	-		-	1.00	5.00	2.02	5	Not known	No	Community	Functional					
Dov-14	79	Dovan	-	-		-	1.00	4.00	1.62	7	Not known	No	Community	Functional					
Dov-15	80	Dovan	-	-		-	0.50	4.00	1.62	6	Not known	No	Community	Functional					
Dov-16	83	Dovan	-	Phaydi	Р	Phaydey	2.00	3.50	1.42	4	2007	No	Community	Functional			4days	On foot	
Dov-17	85	Dovan	-	-		Torkey-B	2.00	3.50	1.42	2	2007	No	Community	Functional					
Dov-18	78	Dovan	-	-		-	1.00	3.00	1.21	4	Not known	No	Community	Functional					
Dov-19	88	Dovan	-	Pulgmikhola	Р	Sasbotey	2.50	3.00	1.21	3	Not known	No	Community	Non-Functional (Functional)			3days	On foot	
Dov-20	81	Dovan	-	Balukhola	Р	-	0.50	2.50	1.01	2	Not known	No	Community	Functional			3days	On foot	
Dov-21	92	Dovan	-	-		-	1.00	2.50	1.01	1	Not known	No	Community	Functional					
Dov-22	96	Dovan	-	Pankeykhola	Р	-	1.00	2.50	1.01	1	Not known	No	Community	Functional			3days	On foot	
Dov-23	84	Dovan	-	Torkeykho		Torkey	2.50	2.00	0.81	6	2007	No	Community	Functional					
Dov-24	90	Dovan	-	Alikhalcha	Р	Bagri	1.50	2.00	0.81	2	Not known	No	Community	Functional			2days	On foot	
Dov-25	91	Dovan	-	Tusraikhola	Р	Ramitey	1.50	2.00	0.81	2	Not known	No	Community	Functional			3days	On foot	
Dov-26	97	Dovan	-	Moukhola		-	0.50	2.00	0.81	2	Not known	No	Community	Functional		T			
Dov-27	93	Dovan	-	-		-	0.50	1.50	0.61	3	Not known	No	Community	Functional					
Dov-28	82	Dovan	-	Teskhola		-	0.50	1.50	0.61	1	Not known	No	Community	Functional					
Dov-29	89	Dovan	-	Balkhari		Bagri	0.50	1.00	0.40	1	Not known	No	Community	Functional					
Dov-30	98	Dovan	-	Moukhola		-	0.50	1.00	0.40	1	Not known	No	Community	Functional		1			

\*Location of Dov-3,5,13,14,15,17,18,21,23,26,27,28,29,30 could not be identified due to shortage of information.

\*The area of some command area is much less than actual. According to the farmers, when an officer asked them the situation related to agriculture to create this list they considered the purpose of interview was to collect tax according to the area of farmland. So they reported the area of farmland less than actual.

Gewou, Gelebilu	Gewog:	Gel	lephu
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		No. <sup>1)</sup>			V	Water Source		<b>.</b>	Comn Are			v			Pres	sent Status		Accessibilit	y <sup>2)</sup>	
1		(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
¢	i-1	226	Gelephu	Sonamgatshel & Raptenling Irrigation channel	Mouchu	Р	Sonamgatshel & Raptenling	2.00	212.82	86.13	85	1995	No	RGoB	Functional		0.0	0	-	
¢	i-2	227	Gelephu	Passangchu Irrigation Channel	Passangchu	Р	Lower Pelrithang	2.50	79.40	32.13	21	1960	No	RGoB	Functional		0.0	0	-	
¢	i-3	229	Gelephu	Dhulachu Irrigation Channel II	Dhulachu	S	Lower Pelrithang	1.50	61.85	25.03	23	1970	No	RGoB	Functional		0.0	0	-	
(	i-4	228	Gelephu	Dhulachu Irrigation Channel I	Dhulachu	S	Upper Pelrithang	1.50	56.65	22.93	19	1970	No	RGoB	Functional		0.0	0	-	
(	i-5	233	Gelephu	Tarulay Irrigation channel	Tarulaychu	S	Dzomlingthang	2.00	50.39	20.39	25	1978	No	RGoB	Functional		0.0	0	-	
(	i-6	230	Gelephu	Pokhreldara Irrigation channel I	Dhulachu	S	Pokhreldara	1.00	7.63	3.09	3	1970	No	Community	Functional		0.0	0	-	
	-7	232	Gelephu	Pokhreldara Irrigation channel III	Dhulachu	S	Pokhreldara	0.50	6.35	2.57	3	1970	No	Community	Functional		0.0	0	-	
	i-8	231	Gelephu	Pokhreldara Irrigation channel II	Dhulachu	S	Pokhreldara	0.50	3.60	1.46	3	1970	No	Community	Functional		0.0	0	-	
1)	Posted	from invent	tory "Compil	ed Irrigation information 2010" obtained fr	rom DAO Sarpa	ng.	2) Identified through fi	eld survey and	interview			3) Status in () is Ider	tified throu	gh field survey.			: Target for field	survey		

A-1-7

#### Gewog: Hilley

		n,			Water	Source			Com Ar	mand ea <sup>1)</sup>					Present	t Status		Accessibility	,2)	
	No.	No. <sup>1)</sup> (in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
	H-1	3	Hilley	Gurung Khola Kulo 3	Gurung Khola	S	Hilley	1.50	37.19	15.05	15	1970	No	Community	Functional		0.5	20	On foot	
	H-2	38	Hilley	Hadzari Kulo	Kali Khola	Р	Khopitar	2.00	21.95	8.88	10		No	Community	Functional		5.0	120	On foot	
	H-3	55	Hilley	Rudrey Kholshay Kulo	Rudrey Kholsha	S	Laring	0.30	17.67	7.15	6		No	Community	Functional		2.0	50	On foot	
	H-4	8	Hilley	Gurung Khola Kulo 1	Gurung Khola	S	Hilley	1.70	17.49	7.08	7		No	Community	Non-functional	Land Slide	0.5	20	Bus	
	H-5	1	Hilley	Gurung Khola Kulo 1	Gurung Khola	S	Hilley	1.50	17.16	6.94	8	1980	No	Community	Non-functional	Land Slide	0.5	20	Bus	
	H-6	2	Hilley	Gurung Khola Kulo 2	Gurung Khola	S	Hilley	1.00	16.23	6.57	7	1970	No	Community	Functional		0.5	20	Bus	
	H-7	42	Hilley	Mithun Kulo	Laring Khola	Р	Mithun	1.50	12.63	5.11	9		No	Community	Functional		1.0	30	On foot	
	H-8	4	Hilley	Chuwan Khola Kulo 1	Chuwan Kholshey	S	Hilley	1.00	9.44	3.82	10		No	Community	Functional		0.6	20	On foot	
	H-9	17	Hilley	Leo Khola Kulo	Leo Khola	S	Changay	4.00	9.38	3.80	8		No	Community	Functional		16.0	480	On foot	
	H-10	6	Hilley	Chuwan Khola Kulo 3	Chuwan Kholshey	S	Hilley	0.70	8.55	3.46	3		No	Community	Functional		0.6	30	On foot	
A	H-11	62	Hilley	Birkuna Khola Kulo	Birkuna Kulo	S	Kagatey	0.60	7.17	2.90	4		No	Community	Functional		2.0	60	On foot	
A-1-8	H-12	43	Hilley	Muga Kulo 1	Sano Kholsha	S	Muga	2.00	6.30	2.55	3		No	Community	Functional		7.0	180	On foot	
	H-13	9	Hilley	Gurung Khola Kulo 2	Gurung Khola	S	Hilley	0.50	6.15	2.49	2		No	Community	Functional		0.5	30	Bus	
	H-14	30	Hilley	Khanew Kholshey Kulo	Khaney Kholshey	S	Gangatey	0.15	5.90	2.39	1		No	Community	Functional		18.0	540	On foot	
	H-15	72	Hilley	Khar Kholsha Kulo	Khar Khola	S	Kharpani	0.50	5.78	2.34	3		No	Community	Functional		14.0	420	On foot	
	H-16	57	Hilley	Sheti Khola Kulo	Sheti Kulo	S	Chargarey	2.00	5.39	2.18	7		No	Community	Functional		2.0	50	On foot	
	H-17	7	Hilley	Hilley Khola Kulo	Hilley Khola	S	Hilley	1.00	5.27	2.13	6		No	Community	Functional		0.5	30	On foot	
	H-18	41	Hilley	Odaley Kulo	Laring Khola	Р	Mithun	0.50	4.55	1.84	6		No	Community	Functional		4.0	120	On foot	
	H-19	11	Hilley	Hilley Khola Kulo	Hilley Khola	S	Hilley	0.20	4.50	1.82	1		No	Community	Functional		0.6	30	On foot	
	H-20	53	Hilley	Orarey Kholshay Kulo 1	Orarey Kholshay	S	Laring	0.80	4.40	1.78	4		No	Community	Functional		2.0	180	On foot	
	H-21	50	Hilley	Devithan Kulo	Devithani Kholshey	S	Laring	0.30	4.23	1.71	4		No	Community	Functional		3.0	210	On foot	
	H-22	23	Hilley	Devi Kholsha Kulo 2	Devi Kholsha	S	Gangatey	0.50	4.13	1.67	1		No	Community	Functional		17.0	540	On foot	
	H-23	66	Hilley	Ratey Kholshey Kulo	Ratey Kholshey	S	Kalikhola	1.00	3.70	1.50	7		No	Community	Functional		16.0	420	On foot	
	H-24	25	Hilley	Alanchi Kholshey Kulo 1	Alanchi Kholshey	S	Gangatey	0.70	3.36	1.36	1		No	Community	Functional		17.0	540	On foot	
	H-25	61	Hilley	Sheti Khola Kulo	Sheti Khola	S	Ajingharey	2.00	3.25	1.32	6		No	Community	Functional		2.0	120	On foot	
ĺ	H-26	20	Hilley	Gangatey Kkolshey Kulo 2	Gangatey Kholshey	S	Gangatey	0.50	3.20	1.30	1		No	Community	Functional		16.0	480	On foot	

#### Gewog: Hilley

	g: Hille			Water	Source			Com						Presen	tStatus		Accessibility	2)	
No.	No. <sup>1)</sup> (in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
H-27	48	Hilley	Muga Khola Kulo	Muga Khola	S	Harew Muga	0.30	3.10	1.25	5		No	Community	Functional		2.0	60	On foot	
H-28	40	Hilley	Gandhey Kulo	Gandhey Khola	S	Gandhey	1.00	2.98	1.21	4		No	Community	Functional		3.0	90	On foot	
H-29	51	Hilley	Kalikhop Kulo	Kali Kholshey	S	Laring	0.90	2.90	1.17	3		No	Community	Functional		6.0	120	On foot	
H-30	18	Hilley	Devi Kholshey Kulo	Devi Kholshey	S	Changay	0.60	2.85	1.15	4		No	Community	Functional		16.0	480	On foot	
H-31	33	Hilley	Bisty Khola Kulo 1	Bisty Khola	S	Bisty	1.00	2.76	1.12	3		No	Community	Functional		3.0	180	On foot	
H-32	68	Hilley	Kabrey Kholsha Kulo	Kabrey Kholsha	S	Kalikhola	1.00	2.71	1.10	4		No	Community	Functional		6.0	180	On foot	
Н-33	67	Hilley	Kali Khola Kulo	Kali Khola	S	Kalikhola	1.00	2.63	1.06	2		No	Community	Functional		6.0	180	On foot	
H-34	32	Hilley	Tshun Kholshey Kulo	Bisty Khola	S	Bisty	0.30	2.50	1.01	3		No	Community	Functional		4.0	60	On foot	
Н-35	35	Hilley	Bisty Khola Kulo 3	Bisty Khola	S	Bisty	0.50	2.50	1.01			No	Community	Functional		4.0	60	On foot	
H-36	60	Hilley	Sheti Khola	Sheti Khola	S	Laring	0.30	2.48	1.00	2		No	Community	Functional		3.0	90	On foot	
Н-37	26	Hilley	Alanchi Kholshey Kulo 2	Alanchi Kholshey	S	Gangatey	1.00	2.40	0.97	1		No	Community	Functional		16.0	480	On foot	
H-38	71	Hilley	Phokphokey Kulo	Leo Khola	S	Phokphokey	0.50	2.18	0.88	3		No	Community	Functional		17.0	480	On foot	
H-39	34	Hilley	Bisty Khola Kulo 2	Bisty Khola	S	Bisty	0.50	2.00	0.81	3		No	Community	Functional		3.0	60	On foot	
H-40	24	Hilley	Devi Kholsha Kulo 3	Devi Kholsha	S	Gangatey	0.60	2.00	0.81	2		No	Community	Functional		16.0	480	On foot	
H-41	47	Hilley	Aegpani Kulo	Harew Khola	S	Harew Muga	0.10	2.00	0.81	2		No	Community	Functional		2.0	60	On foot	
H-42	31	Hilley	Devi Kholsha Kulo	Devi Kholsha	S	Gangatey	0.20	2.00	0.81	1		No	Community	Functional		16.0	480	On foot	
H-43	44	Hilley	Muga Kulo 2	Sano Kholsha	S	Muga	0.06	2.00	0.81	1		No	Community	Functional		6.0	120	On foot	
H-44	70	Hilley	Ratey Kholsha Seer Kulo	Ratey Kholshey	S	Rateypani	0.10	1.88	0.76	3		No	Community	Functional		7.0	180	On foot	
H-45	14	Hilley	Belkhola Kulo	Bekhola Kholsha	S	Belkhola	5.00	1.65	0.67	1		No	Community	Functional		10.0	360	On foot	
H-46	56	Hilley	Guya Kholshey Kulo	Guya Kholshey	S	Laring	0.10	1.65	0.67	1		No	Community	Functional		3.0	60	On foot	
H-47	13	Hilley	Dangrey Kulo	Dangrey Kholshey	S	Belkhola	2.00	1.50	0.61	4		No	Community	Functional		16.0	480	On foot	
H-48	12	Hilley	Thotney Kulo	Thotney Khola	S	Philing	1.00	1.50	0.61	3		No	Community	Functional		16.0	480	On foot	
H-49	63	Hilley	Jogidara Kholshey Kulo	Jogidara Kulo	S	Jogidara	0.25	1.48	0.60	1		No	Community	Functional		0.6	20	Bus	
H-50	27	Hilley	Shim Dhap Kulo	Shim Dhap Kholshey	S	Gangatey	0.50	1.25	0.51	1		No	Community	Functional		16.0	480	On foot	
H-51	36	Hilley	Bisty Khola Kulo 4	Bisty Khola	S	Bisty	0.30	1.25	0.51	1		No	Community	Functional		3.0	60	On foot	
H-52	37	Hilley	Bisty Khola Kulo 5	Bisty Khola	S	Bisty	0.40	1.25	0.51	1		No	Community	Functional		3.0	60	On foot	

#### Gewog: Hilley

				Water	Source			Com Ar	mand ea <sup>1)</sup>					Present	Status		Accessibility	y <sup>2)</sup>	
No.	No. <sup>1)</sup> (in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remark
H-53	19	Hilley	Gangatey Kkolshey Kulo 1	Gangatey Kholshey	S	Gangatey	0.80	1.22	0.49	1		No	Community	Functional		16.0	480	On foot	
H-54	46	Hilley	Monitar Kulo	Moni Kholsha	S	Jainshing Dara	0.05	1.20	0.49	5		No	Community	Functional		2.0	25	On foot	
H-55	65	Hilley	Kharey Khola Kulo	Kharey Khola	S	Kalikhola	1.00	1.20	0.49	2		No	Community	Functional		6.0	90	On foot	
H-56	15	Hilley	Sherishey Kholsha Kulo	Sherishey Kholsha	S	Belkhola	1.00	1.20	0.49	1		No	Community	Functional		16.0	480	On foot	
H-57	16	Hilley	Alley Kholshey Kulo	Alley Kholshey	S	Belkhola	1.00	1.20	0.49	1		No	Community	Functional		15.0	480	On foot	
H-58	22	Hilley	Devi Kholsha Kulo 1	Devi Kholsha	S	Gangatey	0.15	1.20	0.49	1		No	Community	Functional		16.0	480	On foot	
H-59	29	Hilley	Tiwari Kholshey Kulo 2	Tiwari Kholshey	S	Gangatey	0.10	1.20	0.49	1		No	Community	Functional		16.0	480	On foot	
H-60	52	Hilley	Dodrey Kholshey Kulo	Dodrey Kholshey	S	Laring	0.20	1.13	0.46	2		No	Community	Functional		4.0	90	On foot	
H-61	64	Hilley	Jogidara Kholshey Kulo	Jogidara Kulo	S	Jogidara	0.25	1.10	0.45	1		No	Community	Functional		0.6	20	Bus	
H-62	73	Hilley	Kholsha Kulo	Kholsha	S	Pankha Barey	0.50	1.09	0.44	1		No	Community	Functional		18.0	540	On foot	
H-63	39	Hilley	Kali Khola Kulo	Kalikhola	S	Khopitar	0.35	1.05	0.42	3		No	Community	Functional		7.0	180	On foot	
H-64	10	Hilley	Kamidara Khola Kulo	Gurung Khola	S	Kamidara	0.50	1.00	0.40	2		No	Community	Functional		2.0	20	Bus	
H-65	49	Hilley	Harew Kholsha Kulo	Harew Kholsha	S	Harew Muga		1.00	0.40	1		No	Community	Functional		2.0	60	On foot	
H-66	74	Hilley	Deo Khola Kulo	Deo Khola	S	Kharpani	0.50	0.96	0.39	1		No	Community	Functional		16.0	420	On foot	
H-67	59	Hilley	Kharey Kholshey 2	Kharey Kholshey	S	Laring	0.20	0.90	0.36	1		No	Community	Functional		3.0	60	On foot	
H-68	5	Hilley	Chuwan Khola Kulo 2	Chuwan Kholshey	S	Hilley	0.60	0.84	0.34	1		No	Community	Functional		0.6	30	On foot	
H-69	58	Hilley	Kharey Kholshey Kulo 1	Kharey Kholshey	S	Chargarey	0.20	0.80	0.32	3		No	Community	Functional		2.0	50	On foot	
H-70	28	Hilley	Tiwari Kholshey Kulo 1	Tiwari Kholshey	S	Gangatey	0.10	0.80	0.32	1		No	Community	Functional		16.0	480	On foot	1
H-71	21	Hilley	Gangatey Kkolshey Kulo 3	Gangatey Kholshey	S	Gangatey	0.30	0.60	0.24	1		No	Community	Functional		16.0	480	On foot	1
H-72	69	Hilley	Biplatey Kholshey Kulo	Biplatey Kholshey	S	Kalikhola	0.50	0.60	0.24	1		No	Community	Functional		6.0	60	On foot	1
H-73	45	Hilley	Muga Kulo 3	Sano Kholsha	S	Muga	0.10	0.45	0.18	1		No	Community	Functional		8.0	180	On foot	<u>†</u>
H-74	54	Hilley	Orarey Kholshay Kulo 2	Orarey Kholshay	S	Laring	0.50			4		No	Community	Functional		2.0	90	On foot	1

	1	mecholing	9	Wat	ter Source			Comn						Pr	esent Status		Accessibility <sup>2)</sup>		
No.	No. <sup>1)</sup> (in the	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>		1	Location <sup>1)</sup>	Length Approx <sup>1)</sup>	Are	a''	Beneficiary <sup>1)</sup>	Year of	WUA <sup>1)</sup>	Funding			Distance from	Time to get to	Transportation	Remarks
	original list)	Gening		Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location	(Km)	( Ac)	(ha)	(HH)	Construction <sup>1)</sup>		Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	beneficiary area to road (km)	road (min)	way (Local bus, on foot etc)	
J-1	175	Jigmecholing	Basghari	Basghari Kholsa	Р	Daragaon	1.50	105.00	42.49	12	1920	No	Community	Functional		1.0	20	On foot	
J-2	184	Jigmecholing	Panitey Kuloo	Panitey Kholsa	Р	Saundaley	1.00	90.00	36.42	25	1940	No	Community	Functional		1.0	15	On foot	
J-3	185	Jigmecholing	Dharey Kuloo	Dharey Kholsa	Р	Saundaley	0.50	50.00	20.23	12	1914	No	Community	Functional		1.0	15	On foot	
J-4	168	Jigmecholing	Jante Kuloo(3)	Jantey Kholsa	Р	Daragaon	2.50	30.00	12.14	21	1920	No	Community	Functional		1.0	15	On foot	
J-5	217	Jigmecholing	Gumti Kuloo	Gumti kholsa	Р	Sampagang	1.00	30.00	12.14	15	1935	No	Community	Functional		1.0	30	On foot	
J-6	224	Jigmecholing	Dawa Kuloo	Dawa Khola	Р	Samapagang	1.00	30.00	12.14	10	1935	No	Community	Functional		1.0	30	On foot	
J-7	180	Jigmecholing	Dharey kuloo	Dharey Khola	Р	Saundaley	1.00	30.00	12.14	8	1950	No	Community	Functional		1.0	20	On foot	
J-8	213	Jigmecholing	Jantey Kuloo	Jantey Kholsa	Р	Bichgoan B	0.03	26.68	10.80	7	1935	No	Community	Functional		1.0	30	On foot	
<del>1-9</del>	<del>173</del>	Jigmecholing	Shenay Kuloo	Shenay Khola		Daragaon	2.00	<del>25.00</del>	<del>10.12</del>	<del>10</del>	<del>1920</del>	No	Community	Functional					
J-10	225	Jigmecholing	Nado kuloo	Nado kholsa	Р	Samkhara	2.50	25.00	10.12	10	1935	No	Community	Functional		1.0	20	On foot	
J-11	163	Jigmecholing	Janteykuloo	Jantey Kholsa	Р	Daragaon	3.50	25.00	10.12	9	1920	No	Community	Functional		1.0	20	On foot	
J-12	177	Jigmecholing	Lower Dharey kuloo	Darey Kholsa	Р	Sirangaon	1.00	25.00	10.12	7	1920	No	Community	Functional		1.0	20	On foot	
J-13	179	Jigmecholing	Sherpai kuloo (1)	Shenay Khola	Р	Saundaley	1.00	25.00	10.12	7	1950	No	Community	Functional		1.0	20	On foot	
J-14	218	Jigmecholing	Devithane Kuloo	Devi Kholsa	Р	Sampagang	1.00	24.00	9.71	8	1935	No	Community	Functional		1.0	20	On foot	
J-15	172	Jigmecholing	Sepai Kuloo	Sepai Khola	S	Daragaon	0.20	22.80	9.23	11	1920	No	Community	Functional		1.0	15	On foot	
J-16	166	Jigmecholing	Jante Kuloo(1)	Jantey Kholsa	Р	Daragaon	3.50	21.00	8.50	12	1920	No	Community	Functional		0.5	15	On foot	
J-17	176	Jigmecholing	Upper Dharey kuloo	Darey Kholsa	Р	Sirangaon	1.50	20.00	8.09	9	1920	No	Community	Functional		1.0	15	On foot	
J-18	159	Jigmecholing	Bhaipani Kuloo	Bhaipani Khola	Р	Gonggoan	4.00	20.00	8.09	8	1980	No	Community	Functional			2days	On foot	
J-19	156	Jigmecholing	Moabir kuloo	Kamirey Kholsa	Р	Dungay	2.00	20.00	8.09	6	1950	No	Community	Functional			3days	On foot	
J-20	186	Jigmecholing	Adhikari Kuloo	Adhikari Kholsa	s	Saundaley	0.60	20.00	8.09	5	1916	No	Community	Functional		0.5	15	On foot	
J-21	183	Jigmecholing	Devithani Kuloo	Devi Kholsa	S	Saundaley	3.00	20.00	8.09	4	1940	No	Community	Functional		0.5	15	On foot	
J-22	223	Jigmecholing	Thain Kuloo	Thain Kholsa	Р	Sampagang	5.00	20.00	8.09	4	1935	No	Community	Functional		1.0	20	On foot	
J-23	148	Jigmecholing	Tharokuloo	Tharo Khola	Р	Gongdara	3.00	19.50	7.89	13	1955	No	Community	Functional			2days	On foot	
J-24	165	Jigmecholing	Hiti kuloo	Hitikholsa	Р	Daragaon	1.50	18.00	7.28	12	1920	No	Community	Functional		1.0	30	On foot	
J-25	193	Jigmecholing	Budhaykuloo 1	Budhay Khola	Р	Bichgaon A	1.00	18.00	7.28	5	1931	No	Community	Functional		1.0	20	On foot	
J-26	189	Jigmecholing	Silseley Kuloo 3	Silsiley Kholsa	Р	Bichgoan A	0.09	16.40	6.64	7	1931	No	Community	Functional		0.5	10	On foot	
J-27	167	Jigmecholing	Jante Kuloo (2)	Jantey Kholsa	Р	Daragaon	1.50	15.00	6.07	6	1920	No	Community	Functional		0.5	10	On foot	
J-28	178	Jigmecholing	Devithani Kuloo	Devi Kholsa	Р	Sirangaon	1.00	15.00	6.07	5	1920	No	Community	Functional		0.5	10	On foot	
J-29	181	Jigmecholing	Bhuth kuloo	Bhuth Khola	Р	Saundaley	1.00	15.00	6.07	4	1950	No	Community	Functional		0.5	10	On foot	
J-30	220	Jigmecholing	Beteni kulo	Beteni Chu	Р	Beteni	3.00	15.00	6.07	3	1935	No	Community	Functional		1.0	15	On foot	

#### Gewog: Jigmecholing

3600	ly. Jiyi	necholing	9		-			Comn	and								2)		
	No. <sup>1)</sup> (in the			Wat	er Source		Length	Are	a <sup>1)</sup>	Beneficiary <sup>1)</sup>	Year		Funding	Pro	esent Status	D: ( )	Accessibility <sup>2)</sup>	<b>T</b>	-
No.	original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	(HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
J-31	222	Jigmecholing	Sumser Kuloo	Sumser Kholsa	S	Samapagang	1.00	14.00	5.67	8	1935	No	Community	Functional		1.0	15	On foot	
J-32	199	Jigmecholing	Devithane Kuloo 2	Devi Kholsa	Р	Bichgaon A	0.80	14.00	5.67	5	1931	No	Community	Functional		1.0	20	On foot	
J-33	215	Jigmecholing	Basey Kuloo	Basghari Kholsa	S	Sampagang	1.00	14.00	5.67	5	1935	No	Community	Functional		1.0	30	On foot	
J-34	221	Jigmecholing	Siran Beteni Kuloo	Beteni Chu	Р	Sampagang	1.00	12.00	4.86	4	1935	No	Community	Functional		1.0	20	On foot	
J-35	188	Jigmecholing	Silseley Kuloo 2	Silsiley Kholsa	Р	Bichgoan A	0.25	12.00	4.86	3	1931	No	Community	Functional		1.0	20	On foot	
J-36	212	Jigmecholing	Jantey Kuloo	Jantey Kholsa	Р	Bichgoan B	0.01	12.00	4.86	3	1935	No	Community	Functional		1.0	20	On foot	
J-37	216	Jigmecholing	Talo Key Kuloo	Talo key Kholsa	S	Sampagang	0.20	12.00	4.86	3	1935	No	Community	Functional		0.5	15	On foot	
J-38	170	Jigmecholing	Pairey Kuloo	Pairey Kholsa	S	Daragaon	1.00	11.00	4.45	2	1920	No	Community	Functional		1.0	30	On foot	
J-39	203	Jigmecholing	Dangray Kuloo	Dangray Khola	Р	Bichgoan B	0.04	10.68	4.32	1	1935	No	Community	Functional		1.0	15	On foot	
J-40	161	Jigmecholing	Majua kuloo	Majua Khola	Р	Bhirgaon	6.00	10.00	4.05	11	1970	No	Community	Functional			2days	On foot	
J-41	149	Jigmecholing	Devi Kuloo	Devi Khola	Р	Gongdara	3.00	10.00	4.05	7	1960	No	Community	Functional			2days	On foot	
J-42	152	Jigmecholing	Kamirey Kuloo	Kamirey Kholsa	Р	Dungay	2.00	10.00	4.05	5	1965	No	Community	Functional			2days	On foot	
J-43	182	Jigmecholing	Sherpai kuloo (2)	Sherpai Khola	Р	Saundaley	0.50	10.00	4.05	3	1950	No	Community	Functional		1.0	20	On foot	
J-44	195	Jigmecholing	Budhaykuloo 3	Budhay Khola	Р	Bichgaon A	0.03	10.00	4.05	2	1931	No	Community	Functional		1.0	20	On foot	
J-45	219	Jigmecholing	Upper Beteni kulo	Beteni Chu	Р	Beteni	1.50	10.00	4.05	2	1935	No	Community	Functional		0.5	15	On foot	
J-46	169	Jigmecholing	Tshagay Kuloo	Tshagay Kholsa	S	Daragaon	1.00	9.50	3.84	3	1920	No	Community	Functional		0.5	15	On foot	
J-47	151	Jigmecholing	Budh Kuloo	Budh Khola	Р	Mongergaon	3.00	9.00	3.64	3	1960	No	Community	Functional			2days	On foot	
J-48	191	Jigmecholing	Sherpey Kuloo 1	Sherpai Khola	Р	Bichgoan A	0.20	9.00	3.64	3	1931	No	Community	Functional		1.0	20	On foot	
J-49	150	Jigmecholing	Thulo Kuloo	Thulo Kholsa	Р	Gongdara	2.50	8.00	3.24	6	1960	No	Community	Functional			2days	On foot	
J-50	174	Jigmecholing	Siran Kulo	Siran Kholsa	Р	Daragaon	0.20	8.00	3.24	5	1920	No	Community	Functional			2days	On foot	
J-51	158	Jigmecholing	Devi kuloo	Devi Khola	Р	-do-	0.50	8.00	3.24	4	1963	No	Community	Functional			2days	On foot	
J-52	157	Jigmecholing	Bijuley Kuloo	Bijuley Kholsa	Р	Kholatar	6.00	8.00	3.24	2	1961	No	Community	Functional			2days	On foot	
J-53	153	Jigmecholing	Devi Kuloo	Devi Khola	Р	Dungay	1.50	7.00	2.83	6	1950	No	Community	Functional			3days	On foot	
J-54	198	Jigmecholing	Devithane Kuloo 1	Devi Kholsa	Р	Bichgaon A	0.30	7.00	2.83	4	1931	No	Community	Functional		1.0	20	On foot	
J-55	197	Jigmecholing	Mulpani Kuloo	Mulpani	Р	Bichgaon A	0.02	7.00	2.83	3	1931	No	Community	Functional		1.0	20	On foot	
J-56	164	Jigmecholing	Hiti Kuloo	Hiti Kholsa	Р	Daragaon	0.30	6.50	2.63	4	1920		Community	Functional		1.0	20	On foot	
J-57	160	Jigmecholing	Ragakate Kuloo	Ranga Khola	Р	Gonggoan	5.00	6.00	2.43	6	1960	No	Community	Functional			2days	On foot	
J-58	147	Jigmecholing	Rongpani Kuloo	Rong chhu	Р	Reti	3.00	6.00	2.43	5	1965	No	Community	Functional			3days	On foot	
J-59	162	Jigmecholing	Tharo kuloo	Tharo Kholsa	Р	Ashiney	3.00	6.00	2.43	2	1965	No	Community	Functional			2days	On foot	
J-60	196	Jigmecholing	Darey Kuloo	Darey Kholsa	Р	Bichgaon A	0.50	6.00	2.43	2	1931	No	Community	Functional		1.0	20	On foot	

#### Gewog: Jigmecholing

A-1-12

	No. <sup>1)</sup>	mecholing	<u> </u>	Wat	er Source		Length	Comn Are		D.	Year			Pro	sent Status		Accessibility <sup>2)</sup>		
No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
J-61	190	Jigmecholing	Silseley Kuloo 4	Silsiley Kholsa	Р	Bichgoan A	0.03	5.05	2.04	2	1931	No	Community	Functional		1.0	20	On foot	
J-62	154	Jigmecholing	Dare Kuloo	Dolleyal	Р	Dungay	2.00	5.00	2.02	4	1965	No	Community	Functional			2days	On foot	
J-63	171	Jigmecholing	Dhungay Kuloo	Dhungay Khola	S	Daragaon	0.05	5.00	2.02	1	1920	No	Community	Functional		1.0	20	On foot	
J-64	206	Jigmecholing	Bazaar Kuloo	Bazaar Khola	Р	Bichgoan B	0.01	5.00	2.02	1	1935	No	Community	Functional		1.0	20	On foot	
J-65	192	Jigmecholing	Sherpey Kuloo 2	Sherpai Khola	Р	Bichgoan A	0.05	4.05	1.64	1	1931	No	Community	Functional		1.0	20	On foot	
J-66	155	Jigmecholing	Dare Kuloo	Mul pani	Р	Dungay	1.00	4.00	1.62	4	1950	No	Community	Functional			2days	On foot	
J-67	200	Jigmecholing	Hiti Kuloo	Hiti Kholsa	Р	Bichgoan B	0.01	4.00	1.62	1	1935	No	Community	Functional		0.5	15	On foot	
J-68	201	Jigmecholing	Hiti Kuloo	Hiti Kholsa	Р	Bichgoan B	0.03	4.00	1.62	1	1935	No	Community	Functional		0.5	15	On foot	
J-69	202	Jigmecholing	Dangray Kuloo	Dangray Khola	Р	Bichgoan B	3.00	4.00	1.62	1	1935	No	Community	Functional		0.5	15	On foot	
J-70	205	Jigmecholing	Bazaar Kuloo	Bazaar Khola	Р	Bichgoan B	0.02	4.00	1.62	1	1935	No	Community	Functional		1.0	20	On foot	
J-71	214	Jigmecholing	FCB Kuloo	FCB Khola	S	Bichgoan B	0.01	4.00	1.62	1	1935	No	Community	Functional		0.5	15	On foot	
J-72	194	Jigmecholing	Budhaykuloo 2	Budhay Khola	Р	Bichgaon A	0.02	3.00	1.21	2	1931	No	Community	Functional		0.5	10	On foot	
J-73	211	Jigmecholing	Jantey Kuloo	Jantey Kholsa	Р	Bichgoan B	0.01	3.00	1.21	2	1935	No	Community	Functional		0.5	10	On foot	
> J-74	187	Jigmecholing	Silseley Kuloo 1	Silsiley Kholsa	Р	Bichgoan A	0.03	3.00	1.21	1	1931	No	Community	Functional		0.5	15	On foot	
ت <sub>J-75</sub>	204	Jigmecholing	Dangray Kuloo	Dangray Khola	Р	Bichgoan B	0.02	3.00	1.21	1	1935	No	Community	Functional		0.5	15	On foot	
J-76	208	Jigmecholing	Daganey Kuloo	Daganey Khola	Р	Bichgoan B	0.02	3.00	1.21	1	1935	No	Community	Functional		0.5	10	On foot	
J-77	209	Jigmecholing	Daganey Kuloo	Daganey Khola		Bichgoan B	0.02	3.00	4.21	4	<del>1935</del>	No	Community	Functional					
J-78	210	Jigmecholing	Kashinath Kuloo	Kamirey Kholsa	S	Bichgoan B	0.03	3.00	1.21	1	1935	No	Community	Functional		0.5	15	On foot	
J-79	207	Jigmecholing	Bazaar Kuloo	Bazaar Khola	Р	Bichgoan B	0.02	2.00		1	1935	No	Community	Functional		0.5	15	On foot	

#### Gewog: Jigmecholina

1) Posted from inventory "Compiled Irrigation information 2010" obtained from DAO Sarpang.

2) Identified through field survey and interview

3) Status in () is Identified through field survey.

: Target for field survey

\*J-9 and J-16 are the same irrigation system

\*J-76 and J-77 are the same irrigation system

\*Location of J-23 is too far and it was difficult to conduct field survey.

Gewog: Sengye
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	No. <sup>1)</sup>			Wat	er Source		Length	Comr Are			Year		_	Presen	t Status		Accessibility <sup>2)</sup>		
	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remark
Sen-1	240	Sengye	Baral kulo	Sisty khola	Р	Sisty A	4.00	59.05	23.90	24	1940	No	Community	Functional		0.0	0	-	
Sen-2	239	Sengye	Mazan kulo	Sisty khola	Р	Sisty A	6.00	46.95	19.00	25	1946	No	Community	Functional (Non functional)	(Under reparing)	0.0	0	-	
Sen-3	234	Sengye	Upper Senghe Kulo	Senghe khola	Р	Hatikhuar	1.00	36.10	14.61	20		No	Community	Functional		0.5	20	On foot	
Sen-4	236	Sengye	Koigaon kulo	Tungkhola	Р	Koigaon	2.50	35.50	14.37	18		No	Community	Functional		0.0	0	-	
Sen-5	238	Sengye	Rumdali kulo	Sisty khola	Р	Sisty B	3.00	22.05	8.92	14	1973	No	Community	Functional		0.3	10	On foot	
Sen-6	235	Sengye	Lower Senghe kulo	Senghe kola	Р	Hatikhuar	1.00	15.12	6.12	9		No	Community	Functional		0.5	20	On foot	
Sen-7	250	Sengye	Mirgay kulo	Mirgay Kholsi	S	Thoemba	0.30	7.10	2.87	6		No	Community	Functional		0.3	10	On foot	
Sen-8	243	Sengye	Ringalung kulo	Sisty khola	Р	Khopan	1.00	4.58	1.85	4	1971	No	Community	Functional		0.5	30	On foot	
Sen-9	244	Sengye	Bhalu Khola kulo	Bhalu Kholsi	S	Khopan	0.50	4.20	1.70	3	1971	No	Community	Functional		1.0	60	On foot	
Sen-10	246	Sengye	Sahajbotay Channel	Karbari river	S	Labarbotey	1.00	3.69	1.49	2	1945	No	Community	Functional		0.5	30	On foot	
Sen-11	248	Sengye	Simsarey kulo	Karbari khola	S	Labarbotey	0.50	2.12	0.86	1	1945	No	Community	Functional		0.5	30	On foot	
Sen-12	251	Sengye	Panthak kulo	Kuapani kholsi	S	Balatung	0.50	2.00	0.81	2	1976	No	Community	Functional		0.5	30	On foot	
Sen-13	242	Sengye	Prasadey kulo	D.B.Kholsi	S	Sisty B	0.20	1.50	0.61	1	1970	No	Community	Functional		0.6	40	On foot	
Sen-14	247	Sengye	Lungali kulo	Sisty khola	Р	Khopan	0.30	1.50	0.61	1	1960	No	Community	Functional		0.8	50	On foot	
Sen-15	237	Sengye	Dhara Kholsi kulo	Dhara Kholsi	S	Koigaon	0.30	1.45	0.59	1	1970	No	Community	Functional		0.3	10	On foot	
Sen-16	249	Sengye	Kabra Botey kulo	Kabra Botey kholsi	S	Kopchey	0.30	1.00	0.40	1	1958	No	Community	Functional		0.1	5	On foot	
Sen-17	241	Sengye	Debithaney kulo	Debithaney Kholsi	S	Sisty A	0.15	0.74	0.30	1	1970	No	Community	Functional		0.0	0	-	
Sen-18	245	Sengye	Deosali kulo	Sisty khola	Р	Deosali Khopan	0.30	0.58	0.23	2	1975	No	Community	Functional		0.2	5	On foot	

<sup>2)</sup> Identified through field survey and interview

Gewog: Sershong
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| No. <sup>1)</sup>            |  |  | Water So  
   
  | urce  |   | Length   | Are   
   
   | a <sup>1)</sup>  |   | Year   |   
   |   | Prese  | ent Status   
  |   | Accessibility <sup>2)</sup>  |  |  |
|------------------------------|--|--
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---|--|---|--
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---|---|--|---|---|--
--|--|
| (in the<br>original<br>list) | Gewog <sup>1)</sup>  | Name of the Channel <sup>1)</sup>  | Name <sup>1)</sup>  
   
  | Water<br>availability <sup>2)</sup><br>P: Permanent<br>S:Seasonal   | Location <sup>1)</sup>  | Approx <sup>1)</sup><br>(Km)   | ( Ac)   
   
   | (ha)   | Beneficiary <sup>1)</sup><br>(HH)   | of<br>Construction <sup>1)</sup>   | WUA <sup>1)</sup>   
   | Funding<br>Source <sup>1)</sup>   | Status <sup>1)3)</sup>   | Reason of non-<br>functional <sup>2)3)</sup>   
  | Distance from<br>beneficiary area<br>to road<br>(km)  | Time to get to<br>road<br>(min)  | Transportation<br>way<br>(Local bus, on<br>foot etc)   | Remark   |
| 266                          | Sershong   | Lothuen irrigation channel   | Taklaichhu  
   
  | Р   | Lothuen   | 6.25   | 145.55  
   
   | 58.90  | 84  | 1976   | YES   
   | GIADP   | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 264                          | Sershong   | Norbuling irrigation channel   | Norbuling chhu  
   
  | S   | Norbuling   | 3.00   | 96.40   
   
   | 39.01  | 53  | 1976   | No  
   | ECR-ADP   | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 263                          | Sershong   | Pemaling irri. channel   | Norbulingchhu   
   
  | S   | Pemaling  | 2.50   | 95.00   
   
   | 38.45  | 40  | 1970s  | No  
   | ECR-ADP   | Functional   |  
  | 1.0   | 40   | On foot  |  |
| 259                          | Sershong   | Pangkhar irrigation channel  | Chheojaygang chhu   
   
  | S   | Pangkhar  | 2.50   | 52.00   
   
   | 21.04  | 16  | 2009   | No  
   | ASSP  | Functional   |  
  | 0.5   | 20   | On foot  |  |
| <del>260</del>               | Sershong   | Pangkhar irrigation channel  | Norbulingchhu   
   
  |   | Pangkhar  | 1.50   | <del>52.00</del>  
   
   | <del>21.04</del>   | 16  | 1976   | No  
   | ECR-ADP   | Non-functional   |  
  |   |  |  |  |
| 265                          | Sershong   | Norbuling irr. channel   | Norbulingchhu   
   
  | S   | Norbuling   | 1.50   | 52.00   
   
   | 21.04  | 16  | 1976   | No  
   | ASSP  | Non-Functional<br>(Functional)   |  
  | 0.5   | 20   | On foot  |  |
| 257                          | Sershong   | Barshong irrigation channel  | Barthang  
   
  | S   | Barshong  | 2.00   | 48.00   
   
   | 19.43  | 22  | 1970s  | No  
   | ASSP  | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 267                          | Sershong   | Kingaling irr. channel   | Norbulingchhu   
   
  | S   | Kingaling   | 1.50   | 45.00   
   
   | 18.21  | 22  | 1984   | No  
   | RGOB  | Non-functional   | -  
  | 1.0   | 60   | On foot  |  |
| 258                          | Sershong   | Pangkhar irrigation channel  | Mathangchu  
   
  | S   | Pangkhar  | 2.00   | 40.00   
   
   | 16.19  | 16  | 1978   | No  
   | GIADP   | Non-functional   | Land slide   
  | 0.5   | 20   | On foot  |  |
| 269                          | Sershong   | Tashiphu irri. channel   | Tshiphuchhu   
   
  | S   | Tashiphu  | 1.00   | 35.00   
   
   | 14.16  | 8   | 2009   | No  
   | ASSP  | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 268                          | Sershong   | Kingaling irr. channel   | Kingalingchhu   
   
  | S   | Kingaling   | 0.50   | 30.00   
   
   | 12.14  | 8   | 1984   | No  
   |   | Non-functional   | Land slide   
  | 1.0   | 30   | On foot  |  |
| 255                          | Sershong   | Barshong irrigation channel (1)  | Barshongchu   
   
  | S   | Barshong  | 3.00   | 25.00   
   
   | 10.12  | 14  | 1970s  | No  
   | ECR-ADP   | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 256                          | Sershong   | Barshong irrigation channel (2)  | Barthang chhuu  
   
  | S   | Barshong  | 1.00   | 20.00   
   
   | 8.09   | 14  | 1970s  | No  
   | ECR-ADP   | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 261                          | Sershong   | Kapong irr. channel  | Above Kapong  
   
  | S   | Kapong  | 0.60   | 20.00   
   
   | 8.09   | 5   | 1984   | No  
   | -   | Functional   |  
  | 0.5   | 20   | On foot  |  |
| 253                          | Sershong   | Sershong irrigation channel  | Barshongchu   
   
  | S   | Sershong  | 2.00   | 15.00   
   
   | 6.07   | 12  | 1977   | No  
   | GIADP   | Non-functional   | -  
  | 0.5   | 20   | On foot  |  |
| 252                          | Sershong   | Sershong irrigation channel (1)  | Barshongchu   
   
  | S   | Sershong  | 1.50   | 10.00   
   
   | 4.05   | 10  | 1976   | No  
   | GIADP   | Non-functional   | Completely abandoned   
  | -   | -  | -  |  |
| 262                          | Sershong   | Pemaling irr. channel  | Above Kapong  
   
  | S   | Pemaling  | 0.50   | 8.00  
   
   | 3.24   | 2   | 1980   | No  
   | -   | Non-Functional<br>(Functional)   |  
  | 0.5   | 20   | On foot  |  |
| 270                          | Sershong   | Expansion canal of Lothuen irr. canal  | Tashiphu, Norbuling   
   
  |   |   | 0.30-0.60  |   
   
   | 12 No  | os. irrigation deliver  | ry point starting from   | n Tashiphu t  
   | to Norbuling/Pe   | maling   | | | | | | | | | | | | | | | | | |
  |   |  |  |  |
|                              | Priginal         266         264         263         259         260         257         265         257         265         257         265         257         265         257         269         268         255         256         251         252         262 | original<br>list)Gewog"<br>program266Sershong264Sershong263Sershong269Sershong260Sershong267Sershong268Sershong269Sershong269Sershong269Sershong269Sershong269Sershong269Sershong269Sershong261Sershong253Sershong264Sershong254Sershong265Sershong261Sershong252Sershong263Sershong | original<br>list)Cewog?Name of the Channel?266SershongLothuen irrigation channel264SershongNorbuling irrigation channel263SershongPemaling irri. channel264SershongPangkhar irrigation channel269SershongPangkhar irrigation channel260SershongPangkhar irrigation channel261SershongNorbuling irr. channel263SershongBarshong irrigation channel264SershongRingaling irr. channel265SershongPangkhar irrigation 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Taklaichhu     P     Lothuen       264     Sershong     Norbuling irrigation channel     Norbuling chhu     S     Norbuling       263     Sershong     Pengaling irri, channel     Norbuling chhu     S     Pengaling       264     Sershong     Pengaling irri, channel     Ohrbulingethu     S     Pengaling       265     Sershong     Pangkhar irrigation channel     Chheojuygang chhu     S     Pangkhar       266     Sershong     Pangkhar irrigation channel     Norbulingchhu     S     Pangkhar       267     Sershong     Norbuling irr, channel     Norbulingchhu     S     Norbuling       268     Sershong     Kingaling irr, channel     Norbulingchhu     S     Norbuling       269     Sershong     Kingaling irr, channel     Mathangehu     S     Norbuling       269     Sershong     Tashiphu irri, channel     Mathangehu     S     Norbuling       269     Sershong     Tashiphu irri, channel     Kingaling channel     S     Norbuling       269     Sershong     Barshong irrigation channel (1)     Barshongchu</br></td> <td>original<br/>iso)Gevoge'<br/>CashongName of the Chamel'Name'Analysis<br/>Presenance'Location'<br/>Approx'<br/>Approx'<br/>Approx'<br/>Approx'<br/>Approx'<br/>Approx'<br/>Presenance'Location'<br/>Approx'<br/>Approx'<br/>Presenance'Location'<br/>Approx'<br/>Approx'<br/>Presenance'Location'<br/>Approx'<br/>Approx'<br/>Presenance'266SershongLothuen irrigation channelNorbuling chluPLothuen6.25264SershongPenaling irri, channelNorbuling chluSPenaling3.00265SershongPenaling irri, channelChiheojayang chluSPenaling2.50266SershongPungkhur irrigation channelChiheojayang chluSPenaling2.50267SershongNorbuling irr, channelNorbulingchluSPangkhar1.50268SershongBarshong irrigation channelNorbulingchluSNorbuling1.50267SershongPangkhur irrigation channelMuthangchluSBarshong2.00268SershongPangkhur irrigation channelMuthangchluSKingaling1.50268SershongSershong irrigation channelMuthangchluSSenshong1.00269SershongKingaling irr, channelKingalingchluSSenshong3.00269SershongBarshong 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Channel"<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented<br>Presented <b< td=""><td>offword         Name of the Channel<sup>1</sup>         Name         Name of the Channel<sup>1</sup>         Name         Na</td><td>witch<br/>relationCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarter<br/>PresentCarte</td><td>number of the channel is the chann</td><td>rinding     Yeam     Name*     Name*     Perope     Name*     Perope     Name*     Perope     Name*     Perope     Name*     Perope       20     State     Allemingtanes     Tatales     F     Late     Alles     State     State</td><td>Pick         Sum effection         Pick         Pick</td><td>number of the base         Name of the bas</td><td>Image         Number of Street         Number of Street</td></b<> | offword         Name of the Channel <sup>1</sup> Name         Name of the Channel <sup>1</sup> Name         Na | witch<br>relationCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarter<br>PresentCarte | number of the channel is the chann | rinding     Yeam     Name*     Name*     Perope     Name*     Perope     Name*     Perope     Name*     Perope     Name*     Perope       20     State     Allemingtanes     Tatales     F     Late     Alles     State     State | Pick         Sum effection         Pick         Pick | number of the base         Name of the bas | Image         Number of Street         Number of Street |

\*Ser-4 and Ser-5 are the same irrigation system

Gewog: Shom	bangkha
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	No. <sup>1)</sup>			Water Sour	rce		Length	Comn Are			Year			Presen	t Status		Accessibility <sup>2)</sup>		1
No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
Sho-1	112	Shompangkha	Daoray kholo	Doray khola	S	Kuencholing	2.00	132.00	53.42	93		No	Community	Non-functional	River bed dropping	0.0	0	-	
Sho-2	120	Shompangkha	kamichu kholo	Kamikhola	S	Sarpangtar	1.50	103.00	41.68	9		No	Community	Functional		0.0	0	-	
Sho-3	108	Shompangkha	Lower Norbugang kholo	Tharokhola	S	Darjaythang	1.00	85.00	34.40	12		No	Community	Non-functional (Functional)		0.0	0	-	
Sho-4	105	Shompangkha	Kafley kholo	Kafley khola	S	Darjaythang	2.50	50.00	20.23	24		No	Community	Functional		0.0	0	-	
Sho-5	109	Shompangkha	Kopchey kholo	Khopchey khola	S	Norbugang	1.50	30.00	12.14	9		No	Community	Functional		0.0	0	-	
Sho-6	107	Shompangkha	Kharkhola kholo	Tharokhola	S	Darjaythang	2.00	25.00	10.12	9		No	Community	Non-functional	Intake was washed away by Flood	0.0	0	-	
Sho-7	114	Shompangkha	Jaidhan Kholo	Jaidhan kholo	S	Pakhay	2.00	22.33	9.04	12		No	Community	Functional (Non-Functional)	(Land slide)	0.0	0	-	
Sho-8	106	Shompangkha	Jaisey kholo	Jaisey kholchey	S	Darjaythang		20.00	8.09	9		No	Community	Functional		0.0	0	-	
Sho-9	111	Shompangkha	lower Akhow kholo	Akhow khola	S	Norbugang	1.00	15.00	6.07	9		No	Community	Functional		0.0	0	-	
Sho-10	110	Shompangkha	upper Akhow kholo	Akhow khola	S	Sarpangtar	1.00	10.00	4.05	4		No	Community	Non-functional	-	0.0	0	-	
Sho-11	116	Shompangkha	Kamikhola Shir kholo	kamikhola	S	Pakhay	0.50	9.93	4.02	3		No	Community	Functional		0.0	0	-	
Sho-12	117	Shompangkha	Devithan kholo	Devithanay khola	S	Chaar	1.89	7.60	3.08	5		No	Community	Functional		3.0	60	On foot	
Sho-13	113	Shompangkha	Dharapakha kholo	Dharapakha kholchey	S	Kuencholing	0.10	4.00	1.62	2		No	Community	Functional		0.0	0	-	
Sho-14	121	Shompangkha	Chawnawtey kholo	kamikhola	S	Sarpangtar	1.00	3.98	1.61	1		No	Community	Non-functional	-	0.0	0	-	
Sho-15	115	Shompangkha	Bhawni kholo	Bhawni khola	S	Pakhay	1.00	3.40	1.38	3		No	Community	Functional		0.0	0	-	
Sho-16	118	Shompangkha	Phanphaney kholo	Phanphaney khola	S	Chaar	0.03	1.50	0.61	1		No	Community	Functional		3.0	60	On foot	
Sho-17	122	Shompangkha	Botabari kholo	Kharey pakhay kholo	S	Khareypakhay	0.10	1.50	0.61	1		No	Community	Functional		0.0	0	-	
Sho-18	124	Shompangkha	Chamling kholo	chamling kholchey	S	Pakhay	0.20	1.50	0.61	1		No	Community	Functional		0.0	0	-	
Sho-19	119	Shompangkha	checheney kholo	checheney kholchey	S	Chaar	0.06	1.40	0.57	1		No	Community	Functional		3.0	60	On foot	
Sho-20	123	Shompangkha	lhampathi kholo	lhampathi kholchey	S	Pakhay	0.30	1.00	0.40	1		No	Community	Functional		0.0	0	-	
Sho-21	125	Shompangkha	Phathikhari kholo	pathikhari kholchey	S	Pakhay	0.10	0.70	0.28	1		No	Community	Non-functional	-	0.0	0	-	
Sho-22	126	Shompangkha	Bharakholo	Bharakholchey	S	Pakhay	0.03	0.60	0.24	1		No	Community	Non-functional	-	0.0	0	-	

1) Posted from inventory "Compiled Irrigation information 2010" obtained from DAO Sarpang.

2) Identified through field survey and interview

3) Status in () is Identified through field survey.

: Target for field survey

#### Gewog: Tarithang

	No. <sup>1)</sup>			w	ater Source		Length	Comr Are			Year			Pre	sent Status		Accessibility <sup>2)</sup>		
No.	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	Remarks
T-1	305	Tarithang	Yoezergang-Singi Khola Lower Irrigation Canal	Singi Khola	Р	Yoezergang	1.50	26.00	10.52	14	1980	No	RGoB	Functional		1.5	30	On foot	
T-2	302	Tarithang	Tashichhiling Lower Irrigation Canal	Singi Khola	Р	Tashichhiling	1.50	23.00	9.31	7	1980	No	RGoB	Functional		1.5	30	On foot	
T-3	303	Tarithang	Tashichhiling-Singi Khola Lower Irrigation Canal	Singi Khola	Р	Tashichhiling	1.00	14.00	5.67	4	1980	No	RGoB	Functional		1.5	30	On foot	
T-4	301	Tarithang	Tashichhiling-Singi Khola Upper Irrigation Canal		S	Tashichhiling	2.50	13.00	5.26	8	1980	No	RGoB	Functional		1.0	20	On foot	
T-5	304	Tarithang	Yoezergang-Singi Khola Upper Irrigation Canal	Singi Khola	Р	Yoezergang	1.00	13.00	5.26	7	1980	No	RGoB	Functional		2.0	40	On foot	
1) Posted fro	m inventory "C	Compiled Irrig	ation information 2010" obtained f	rom DAO Sarpang.	•	2) Identified through fiel	d survey and	interview			3) Status in () is Id	entified thr	ough field sur	vey.		: Target for field su	rvey		r

\*The study team made interview for Gewog officer to obtain information regarding representative irrigation systems and made this list because no irrigation system lists were available. Due to this reason, this list does not cover all the irrigation systems in Tarithang Gewog.

#### Gewog: Umling

No.	No. <sup>1)</sup>			Water Source				Command Area <sup>1)</sup>						Present Status		Accessibility <sup>2)</sup>			
	(in the original list)	Gewog <sup>1)</sup>	Name of the Channel <sup>1)</sup>	Name <sup>1)</sup>	Water availability <sup>2)</sup> P: Permanent S:Seasonal	Location <sup>1)</sup>	Length Approx <sup>1)</sup> (Km)	( Ac)	(ha)	Beneficiary <sup>1)</sup> (HH)	Year of Construction <sup>1)</sup>	WUA <sup>1)</sup>	Funding Source <sup>1)</sup>	Status <sup>1)3)</sup>	Reason of non- functional <sup>2)3)</sup>	Distance from beneficiary area to road (km)	Time to get to road (min)	Transportation way (Local bus, on foot etc)	
U-1	282	Umling	Rejuk Serchu Irrigation channel	Serchu	Р	Rejuk	2.00	85.00	34.40	27		No		Functional		1.0	20	On foot	
U-2	280	Umling	Dangling Irrigation channel Lower	Langar chu	S	Dangling	3.50	82.00	33.18	36	1997	No	RGOB	Non-Functional (Functional)		0.5	10	On foot	
U-3	271	Umling	Gadhen Irrigation channel Upper	Taklai chu	Р	Gadhan	2.00	75.00	30.35	6	1997	No	RGOB	Non-Functional (Functional)		1.0	20	Tiller	
U-4	276	Umling	Dungmin Irrigation channel Upper	Langar chu	S	Dungmin	1.00	70.00	28.33	26	1997	No	RGOB	Functional		0.5	10	Tiller	
U-5	285	Umling	Tashithang Karchu Irrigation channel	Karchu	S	Tashithang	7.00	64.00	25.90	21	1997	No	RGOB	Functional (Non-Functional)	Land slide	0.5	10	Tiller	
U-6	277	Umling	Dungmin Irrigation channel Lower	Langar chu	S	Dungmin	1.00	52.00	21.04	16		No		Functional		0.5	10	Tiller	
U-7	283	Umling	Chubarthang Seelchu Irrigation channel	Serchu	S	Chubarthang	2.00	47.00	19.02	14	1997	No	RGOB	Functional		0.5	10	Tiller	
U-8	284	Umling	Thongjazor Karchu Irrigation channel	Karchu	S	Thonjazor	4.00	44.00	17.81	17	1997	No	RGOB	Non-Functional	-	0.5	10	On foot	
U-9	274	Umling	Lingar Dap Irrigation channel	Taklai chu	Р	Lingar	3.00	40.00	16.19	15	2005-2006	No	RGOB	Functional		1.0	20	On foot	
U-10	272	Umling	Gadhen Irrigation channel Lower	Taklai chu	Р	Gadhan	1.00	38.00	15.38	48		No		Functional		0.5	10	Tiller	
U-11	281	Umling	Rijuk Karchu Irrigation channel	Karchu	S	Rejuk	1.00	31.00	12.55	27	1997	No	RGOB	Non-Functional (Functional)		0.5	10	On foot	
U-12	279	Umling	Dangling Irrigation channel Upper	Langar chu	S	Dangling	3.00	24.00	9.71	32	1997	No		Non-Functional (Functional)		0.5	10	Tiller	
U-13	275	Umling	Lingar Taklai Irrigation channel	Taklai chu		Lingar	<del>1.00</del>	20.00	<del>8.09</del>	2		No		Non Functional					
U-14	278	Umling	Pantharey Irrigation channel	Langar chu	S	Dangling	1.00	17.00	6.88	15		No		Non-Functional (Functional)		0.5	10	Tiller	
U-15	<del>273</del>	Umling	Mechi Irrigation channel	<del>Taklai chu</del>		Gadhan	<del>1.00</del>	15.00	<del>6.07</del>			No		Functional					

\*U-9 and U-13 are the same irrigation system

\*U-15 is for Indians beyond the border.

A-2: Samtse Dzongkhag

Gewog	No.	Name of the irrigation channel	Location	Length (Km)	Beneficiary (HH)	Comma		WUA	Year of	Funding source	Present status
Danana	1	17h	171	· · ·	· · /	(Acre)	(ha)	V	construction	DC-D	Ennetherel
Bangra	1	-	Khopi	1.50	20	31.00	12.55		2005-2006	RGoB	Functional
	-	Katarey Channel	Katarey	0.90	76	210.00	84.98	No	2005-2006	RGoB	Functional
	3	Hatikharka A	Hatikharka	0.60	40	46.17	18.68	No	2009-2010	RGoB	Functional
Biru	4	1 0	Biru	0.70	20	29.13	11.79		2009-2010	RGoB	Functional
	5	Kharasay Khola	Biru	3.00	55	90.00	36.42		2008-2009	RGoB	Functional
	6	Chisopani	Chisopani	1.50	25	30.00	12.14		2010-2011	RGoB	Functional
<b>CI</b> 1	7	Hatikharka B	Hatikharka B	1.70	38	46.17	18.68	No	2010-2011	RGoB	Functional
Chargharay	8	Lengthey	Lengthey	2.00	30	89.00	36.02	No	2006-2007	RGoB	Non functional
Chengmari	9	Dipojora A	Dipujora A	0.99	32	45.00	18.21	No	2003-2004	RGoB	Functional
D 11	10	Dipujora B	Dipujora B	0.91	33	65.00	26.30		2005-2006	RGoB	Functional
Dorokha	11	Dogap	Dogap	5.00	47	80.00	32.37		2004-2005	RGoB	Functional
Dungtoe	12	Thulu	Thulu Dungtoe	1.00	18	23.00	9.31	No	2004-2005	RGoB	Functional
Namgaye Chholing	13	Namgaye Chholing	Namgaye Chholing	5.00	68	60.00	24.28	No	2006-2007	RGoB	Functional
	14	Kalikhola	Gombadara	3.00	39	85.00	34.40	No	2003-2004	RGoB	Functional
	15	Mechitar	Mechitar	0.81	91	300.00	121.40	Yes*	2005-2006	RGoB	Functional
Samtse	16	Lamitar	Lamitar	1.20	23	150.00	60.70	Yes*	2009-2010	FAO	Functional
	17	Sangla	Sangla	3.00	24	13.75	5.56	Yes*	2008-2009	RGoB	Functional
	18	Cholicop	Cholicop	2.20	28	100.00	40.47	Yes*	2009-2010	FAO	Functional
	19	Penjorling	Sipsu Khola	4.00	66	140.00	56.66	Yes	2003-2004	KRII Plan III	Functional
	20	Sanyanasi	Lower Balbotey	0.50	92	200.00	80.94	Yes	2004-2005	RGoB	Functional
Sipsu	21	Gangatey-hangay	Hangay	7.00	150	352.00	142.45	Yes	2009-10	RGoB	Functional
	22	Lapchey -Kothigoan	Kotigoan	4.50	69	40.05	16.21	Yes	2009-10	RGoB	Functional
	23	Bayasi Irrigation channel	Sipsu Khola	3.00	61	45.00	18.21	Yes	2010-2011	RGoB	Functional
Tading	24	Jenchu	Jenchu	2.50	6	32.00	12.95	No	2003-2004	RGoB	Functional
	25	Pakpay	Pakpay	1.50	56	60.50	24.48	Yes	2008-2009	RGoB	Functional
Tendru	26	Kuchintar	Kuchintar	2.50	38	104.00	42.09	No	2005-2006	RGoB	Functional
	27	Tendrutar channel	Tendrutar	2.00	25	65.00	26.30	No	2006-2007	RGoB	Functional
Ugyentse	28	Thakuri Dara	Thakuri Kholsi	1.00	20	50.00	20.23	No	2004-2005	RGoB	Functional
	29	Lamitar	Lamitar	2.00	32	136.00	55.04	No	2003-2004	RGoB	Functional
Vagaltaa	30	Kuchidiana	Kuchudiana	15.00	256	659.00	266.68	No	2004-2005	RGoB	Functional
Yoeseltse	31	Kuchidina irrigation channel	Kuchidina	3.74	52	206.73	83.66	No	2009-2010	ASSP	Functional
	32	Kuchidina Irrigation channel	Lower Kuchidiana	3.70	52	206.73	83.66	No	2010-2011	RGoB	Functional

### List of irrigation structure in Samtse Dzongkhag

A-3: Samdrup Jongkhar Dzongkhag

#### List of irrigation structure in Samdrup Jongkhar Dzongkhag

				Water Source			Length	Command Area			Year		Funding	Preser	nt Status	Accessibility			
Gewog	No.	No. (in the original list)	Name of the Channel	Name	Water availability P: Permanent S:Seasonal	Location	Approx (Km)	( Ac)	(ha)	Beneficiary (HH)	of Construction	WUA	Funding Source	Status	Reason of non- functional	Distance from beneficiary area to road	Time to get to road (min)	Transportation way (Local bus, on foot sto)	Remarks
Deothang			Rekhey	Degran		Rekhey	1.50	35	14.16	50		Yes	RGoB	Functional					
			Khoyar	Toka rayri		Khoyar	1.56	25	10.12	40	1985-86	No	RGoB	Functional					Cemented
Gomdar			Mokhoma	Sangsingri		Mokhama	9.00	9	3.64	23		No	RGoB	Functional					Cemented
			Geriwoong				0.85	3	1.21	14		No	RGoB	Non functional					Cemented
			Golanti/Borla Kulo	Borla Khola		Golanti	3.00	40	16.19	18		No	RGoB	Non functional					
Langchenphu			Angrakhola	Angra khola		Lanchenphug	3.00	219	88.63	54		No	RGoB	Non functional					
			Khawrong	Lebayoli		Kawrong	3.00	21	8.50	18		No	RGoB	Non functional					
			Gonoong	Sershong ri		Zangthi	10.00	16	6.48	30		No	RGoB	Non functional					Earthern/ lined canal
Lauri			Sershong	Sershong ri		Zangthi	3.00	34	13.76	35		No	RGoB	Functional					Earthern/ lined canal
			Tashiphu	Sershong ri		Zangthi	6.00	20	8.09	13		No	RGoB	Non functional					Earthern/ lined canal
			Kakpadung	Tekree		Kakpadung	2.00	70	28.33	20	2009-2010	No	RGoB	Functional					Newly constructed
			Chortenwoong	Rechanglu		Martshala	1.00	15	6.07	16		No	RGoB	Functional					Cemented
Martshala			Galingkhar	Wangphuri		Wangphu	9.00	10	4.05	12		No	RGoB	Functional					Cemented
			Kakpadung	Brangsari		Kakpadung	1.62	35	14.16	15	2001-02	No	RGoB	Functional					Pipe
			Kangkharwoong	Zalamuri		Martshala	3.00	10	4.05	8		No	RGoB	Functional					Cemented
			Yongdor	Dogonaree		Tershari	0.15	2	0.81	1		No	RGoB	Non functional					Private Channel,
			Brongshingko	Dogonaree		Tershari	0.14	2	0.81	1		No	RGoB	Non functional					Private Channel,
			Namthapha	Namthapharee		Suzung Melum	0.20	5	2.02	3		No	RGoB	Non functional					Private Channel,
			Mencheri	Dongsoree/ Bodori		Mencheri	0.67	3	1.21	1		No	RGoB	Non functional					Private Channel,
Orong			Mencheri	Jatshoree		Mencheri	0.26	8	3.24	7		No	RGoB	Non functional					
			Malang	Remungsing- dangshingree		Malang	0.35	8	3.24	7		No	RGoB	Functional					
			Orong	Ngadonaree		Mentshang /Durtshen	3.14	110	44.52	47	2000-01	No	RGoB	Non functional					
			Liphu	Liphuree		Liphu/Remung	0.62	2	0.81	4		No	RGoB	Non functional					
			Tarulay	Wangphuri		Nainital	3.96	98	39.66	70		No	RGoB	Functional					Earthern/ lined canal
Pemathang			Warong Khola	Warong ri		Dalim	1.38	140		49		No	RGoB	Functional					Earthern/ lined canal
			Dumpha Shilingay	Diglai Chu		Shillingey	3.28	130		65		No	RGoB	Functional					Earthern/ lined canal
-			Prasai Khola	Baranadhi Khola		Prasai	1.44	66	26.71	18		No	RGoB	Non functional		1			Earthern/ lined canal
			Khateythang	Baranadhi Khola		Khateythang	1.72	32	12.95	16		No	RGoB	Non functional					Earthern/ lined canal
			Khateythang	Masaney khola		Khateythang	0.30	8	3.24	3		No	RGoB	Functional					Earthern/ lined canal
			Thapa holi	Thapa holi		Khateythang	1.00	7	2.83	7		No	RGoB	Functional					Earthern/ lined canal
			Woongdaza	Masaney khola		Woongdaza	1.00	10	4.05	8		No	RGoB	Functional					Earthern/ lined canal
			Khameythang	Baranadhi Khola		Khameythang	4.50	131		70		No	RGoB	Functional					Earthern/ lined canal
			Khameythang	Baranadhi Khola		Khameythang	4.00	35	14.16	23		No	RGoB	Functional					Earthern/ lined canal
Phuntshothang			Khameythang	Sukhey khola		Khameythang	0.60	7	2.83	3		No	RGoB	Functional					Earthern/ lined canal
			Khameythang	Sukhey khola		Khameythang	0.00	/	1.62	3		No	RGoB	Functional					Earthern/ lined canal
			Gairitar	Warong Khola		Gairitar	4.00	60	24.28	30		No	RGoB	Non functional					Earthern/ lined canal
			Tshangchutham	Baranadhi Khola		Tshangchutham	1.00	30	12.14	21		No	RGoB	Non functional					Earthern/ lined canal
			-	Tekree khola			3.00	- 30	4.05	21		No	RGoB						
			Tekree			Jagkartala SamdrunChooling	1.00	10	24.28	30		No	RGoB	Non functional					Earthern/ lined canal
			SamdrupChoeling	Daap khola		SamdrupChoeling	1.00	00	12.14	27			RGoB	Functional					Earthern/ lined canal
Wessel			Belamcherang	V		Belamcherang	1.50			27		No No	RGoB	Functional Non functional					Earthern/ lined canal
Wangphu			Yorong ri	Yorong ri		Pangthang		15	6.07	20									Earthern/ lined canal
Serthi			Barkalanang	Tashi ri		Barkhalangna	4.00	35	14.16	52		No	RGoB	Non functional					Earthern/ lined canal

\*All contents are posted from irrigation list obtained from DAO Samdrug Jongkhar

:Listed one after screaning by JICA STUDY TEAM

## Appendix B: Registers of Irrigation System Targetted for Field Survey in Sarpang Dzongkhag

B-1: Bhur Gewog
B-2: Chuzagang Gewog
B-3: Dekling Gewog
B-4: Dovan Gewog
B-5: Gelephu Gewog
B-6: Hilley Gewog
B-7: Jimecholing Gewog
B-8: Sengye Gewog
B-9: Sershong Gewog
B-10: Shompangkha Gewog
B-11: Tarithang Gewog
B-12: Umling Gewog

**B-1:** Bhur Gewog

No.	B-1	(No. in the	original list)	297						Date of survey:	2012/4/11
	Name			Puch	ar Kulo			Name		Juphi	rey
	Dzongkhag			Sai	pang			Area		135.00 acre	(54.63 ha)
	Gewog				hur		Command	Number of	house holds	26	
	Latitude		26		' 53.8 " 1	N	Area	Distance to	o road	0.0 k	m
	Longitude		90			E		Time to get	t to road	0 mi	in
	Type of intak		Concrete (	Gabion	Rock Earth	Wood		· ·	tion way to road	-	
	Constructed y				-		Operation	Organizatio	on	WUA (Privatel	
	Construction		Covered by	Governme			and	Activity		Annual maitenance, En	
system		Workforce	Covered by				Management*	Budget		Covered by Governm	nent Beneficiaries
	Latest rehabil		2011		covered by RGoB	)	Management	Water use		-	
	Length of Car		$\frown$		) km			Variety	Rainy season	Paddy, Maize, Be	ean, Vegetable
	Structure of C	Canal	Concrete	Wet masonry	) Earth	Pipe	Cropping		Dry season	-	
	Function*		Funct		Non Functiona		oropping	Fertilizer		-	
			*Next rainy sease	on is the first	time to use rehabil	litated		Manure		Cow dung, Ch	-
	Problems		intake.						of surface soil		$\sim$
							Soil		of surface soil	Gravel Sandy	Silt Clay
	Name				owali		Condition	pH		6.3	
	Water source		Riv		oring Well		Condition		ying up water with	5day	VS
	Water	Rainy season	Nil	Avail	able $(m^3/s)$	)		15cm deptl	h in paddy field	544	15
Water	discharge	Dry season	(Nil	) Avail	able $(m^3/s)$	)		- This WU	A covers 3 irrigation	n systems, Puchar Kulo(B	-1), Beech Kulo(B-2)
source	Water taken	Rainy season	I	Enough	Not enough			and Siran H	Kulo (B-6).		
	by intake	Dry season			Not enough		Remarks	- If someor	ne does not join the	annual maintenance work	, he/she should pay
	Quality in	pH			-		Komunto	150BTN/d	ay for WUA.		
	dry season	Quality in EC			-						
	ury season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/11



Picture-2: Situation of Canal Date:2012/4/11





No.	B-2	(No. in the	original list)	296						Date of survey:	2012/4/11
	Name			Beed	h Kulo			Name		Juph	rey
	Dzongkhag			Sa	rpang			Area		125.00 acre	(50.59 ha)
	Gewog			В	Bhur		Command	Number of	house holds	26	5
	Latitude		26	° 55	' 4.9 " N	N	Area	Distance to	road	0.01	ĸm
	Longitude		90					Time to get		0 m	in
	Type of intak		Concrete	Gabion (	Rock Earth	Wood		<u>^</u>	tion way to road	-	
	Constructed y				980's		Operation	Organizatio	on	WUA (Private	• •
	Construction		Covered by			Donor	and	Activity		Annual maintenance, E	
	cost*	Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget		Covered by Governm	nent (Beneficiaries)
	Latest rehabil	-			-		Management	Water use		-	
	Length of Car				0 km			Variety	Rainy season	Paddy, Maize, B	
	Structure of C	Canal		Vet masonry		Pipe	Cropping	-	Dry season	Maize,	
	Function*			ional	Non Functiona		oropping	Fertilizer		Little urine	
			From 1987 intake	e system doe	s not work, only ca	nal system		Manure		Cow c	-
	Problems		works.						of surface soil	501	$\sim$
							Soil		f surface soil	Gravel Sandy	
	Name			· · · · · ·	oowali		Condition	pН		6.6	)
	Water source	1	CRiv		pring Well		Condition		ying up water with	3da	VS
	Water	Rainy season	Nil	Avail	$(m^3/s)$			15cm deptl	n in paddy field	300	<u> </u>
Water	discharge	Dry season	Nil	) Avail	lable $(m^3/s)$			- This WU	A covers 3 irrigation	n systems, Puchar Kulo(E	B-1), Beech Kulo(B-2)
source	Water taken	Rainy season	Q	Enough	Not enough			and Siran Kulo (B-6).			
	by intake	Dry season	Enough Not enough			Remarks	- If someone does not join the annual maintenance work, he/she should pay			k, he/she should pay	
	Quality in	pH			-		Kenturks	150BTN/day for WUA.			
	dry season	EC			-						
	ury season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/11



Picture-2: Situation of Canal Date:2012/4/11





No.	B-3	(No. in the	original list)	286	]					Date of survey:	2012/4/10
	Name	-		Ghal	ley kulo			Name		Ghall	eygoan
	Dzongkhag			Sa	rpang			Area		90.00 acre	(36.42 ha)
	Gewog			F	Bhur		Command	Number of	house holds	2	29
	Latitude		26	° 55	' 28.9 " N		Area	Distance to	road	0.0	km
	Longitude		90	-				Time to get		0 1	nin
	Type of intak		Concrete	Gabion	Rock (Earth) Wood				tion way to road		-
	Constructed y						Operation	Organizatio	on		ely organized)
	Construction		Covered by	Governme			and	Activity			Employing water guard
system		Workforce	Covered by	Governme		:	Management*	Budget		Covered by Govern	nment Beneficiaries
	Latest rehabil				2010		Management	Water use			-
	Length of Car				0 km			Variety	Rainy season		aize, Millet
	Structure of C	Canal	Concrete (V	Vet masonry			Cropping		Dry season	Ma	aize
	Function*		Funct		Non Functional		oropping	Fertilizer			-
			Rehabilitation wo	ork has been	needed every year due to the	e		Manure			dung
	Problems		damage by flood.						of surface soil		cm
							Soil		f surface soil	Gravel Sand	
	Name				hakhola		Condition	pН		6	.00
	Water source	T	Riv	er S	pring Well		Condition		ying up water with	2-3	days
	Water	Rainy season	Nil	Avai	lable (m <sup>3</sup> /s)			15cm deptl	n in paddy field	23	days
Water	discharge	Dry season	( Nil	Avai	lable $(m^3/s)$			- This WU	A covers 3 irrigation	n systems, Ghalley Kulo	(B-3), Limbo Kulo(B-
source	Water taken	Rainy season	<u> </u>	Enough	Not enough			4) and Mor	nger Kulo (B-5).		
	by intake	Dry season					Remarks	- End of ra	iny season, water g	uard operates 3 irrigation	n systems and supply
	Quality in	pН	-			Remarks	water in tu	rn.			
	Quality in	EC	-					- Farmers u	ising this irrigation	system provide 15kg/HI	H to water guard.
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	B-4	(No. in the	original list)	291						Date of survey:	2012/4/10
	Name			Limb	o kulo			Name		Road	lline
	Dzongkhag			Sa	rpang			Area		80.00 acre	(32.38 ha)
	Gewog				Bhur		Command	Number of	house holds	4	0
	Latitude		26		' 30.1 " N	V	Area	Distance to	road	0.0	km
	Longitude		90		<u> </u>			Time to get		0 n	nin
	Type of intak		Concrete	Gabion	Rock (Earth)	Wood		Transporta	tion way to road	-	
	Constructed y	1			-		Operation	Organizatio	on	WUA (Private	
	Construction		Covered by	Governme		Donor	and	Activity		Annual maintenance, E	
	cost*	Workforce	Covered by	Governme		Donor	Management*	Budget		Covered by Govern	ment Beneficiaries
	Latest rehabil				010		Management	Water use		-	
	Length of Car		$\frown$		5 km			Variety	Rainy season	Paddy, Ma	
	Structure of C	Canal		Vet masonry	) Earth	Pipe	Cropping	-	Dry season	Ma	ize
	Function*			ional	Non Functiona		oropping	Fertilizer		-	
			Rehabilitation wo	ork has been	needed every year	due to the		Manure		Cow	ę
	Problems		damage by flood.						of surface soil	130	
							Soil		f surface soil	Gravel Sandy	~~~/
	Name				nakhola		Condition	pН		6.	0
	Water source		Riv		pring Well		Condition		ying up water with	2-30	lavs
	Water	Rainy season	Nil	Avail	$(m^3/s)$			15cm deptl	n in paddy field	2 50	uj5
Water	discharge	Dry season	Nil	Avail	lable $(m^3/s)$			- This WU	A covers 3 irrigatio	n systems, Ghalley Kulo	(B-3), Limbo Kulo(B-
source	Water taken	Rainy season	(H	Enough	Not enough			4) and Mor	nger Kulo (B-5).		
	by intake	Dry season				Remarks	- End of rainy season, water guard operates 3 irrigation systems and su		systems and supply		
	Quality in	pH -		-		Kentarks	water in tur	rn.			
		EC			-			- Farmers u	ising this irrigation	system provide 15kg/HH	I to water guard.
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	B-5	(No. in the	original list)	292						Date of survey:	2012/4/10
	Name			Mong	er Kulo			Name		Monger	goan
	Dzongkhag			Sa	rpang			Area		65.90 acre	(26.67 ha)
	Gewog			E	Shur		Command	Number of	house holds	30	
	Latitude		26	° 55	' 30.6 " 1	N	Area	Distance to	road	0.0 k	m
	Longitude		90		' 44.2 " ]	E		Time to get		0 mi	n
	Type of intak	e facility	Concrete	Gabion	Rock Earth	Wood		Transporta	tion way to road	-	
	Constructed y				-		Operation	Organizatio	on	WUA (Privatel	
	Construction		Covered by	Governme			and	Activity		Annual maintenance, En	
system		Workforce	Covered by	Governme		Donor	Management*	Budget		Covered by Governn	nent Beneficiaries
	Latest rehabil	•			011		Management	Water use	-	-	
	Length of Car				5 km			Variety	Rainy season	Paddy, Mai	
	Structure of C	Canal		<u>Wet</u> masonry		Pipe	Cropping		Dry season	Maiz	ze
	Function*		Funct		Non Function		o.oppg	Fertilizer		-	
			•	-	properly because g			Manure		Cow d	ę
	Problems		guiding water to	the canal wa	s damaged by flood	d.			of surface soil	10ci	$\sim$
							Soil		f surface soil	Gravel Sandy	(Silt Clay)
	Name				nakhola		Condition	pH		6.4	
	Water source		Riv		pring Well		oonullon		ying up water with	2-3da	ivs
	Water	Rainy season	Nil	Avail	able $(m^3/s)$	)		<b>^</b>	n in paddy field		•
Water	discharge	Dry season	Nil	) Avail	able $(m^3/s)$	)				n systems, Ghalley Kulo(I	B-3), Limbo Kulo(B-
source	Water taken	Rainy season	(I	Enough	Not enough				nger Kulo (B-5).		
	by intake	Dry season				Remarks	- End of ra	iny season, water g	uard operates 3 irrigation	systems and supply	
	Quality in	pH -			-		Romanas	water in tu			
	dry season	Quality in EC			-			- Farmers u	sing this irrigation	system provide 15kg/HH	to water guard.
	ury season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	B-6	(No. in the	original list)	295						Date of survey:	2012/4/11
	Name			Siran	Kulo			Name		Juphr	ey
	Dzongkhag			Sarp	bang			Area		40.00 acre	(16.19 ha)
	Gewog			Bh	lur		Command	Number of	house holds	14	
	Latitude		26			N	Area	Distance to	o road	0.0 k	m
	Longitude		90			E		Time to ge		0 mi	n
	Type of intak		(Concrete)	Gabion	Rock Earth	Wood		Transporta	tion way to road	-	
	Constructed y			-	-		Operation	Organizati	on	WUA (Privately	e ,
	Construction	Material	Covered by	Governmen			and	Activity		Annual maintenance, En	
system		Workforce	Covered by				Management*	Budget		Covered by Governm	ent (Beneficiaries)
	Latest rehabil		2012		covered by RGoB	5)	Management	Water use		-	
	Length of Car		$\frown$	5.5		$\frown$		Variety	Rainy season	Padd	5
	Structure of C	Canal	Concrete	Wet masonry)		Pipe	Cropping		Dry season	Maize, Bean,	Vegetable
	Function*		Funct		Non Function		oropping	Fertilizer		-	
			*Next rainy sease	on is the first t	ime to use rehabi	litated		Manure		Cow du	ę
	Problems		intake.					-	of surface soil	<u>5cm</u>	
							Soil		of surface soil	(Gravel) (Sandy	) Silt (Clay)
	Name				owali		Condition	pН		6.6	
	Water source	1	Riv	er) Spi	ring Well		Condition		ying up water with	7day	75
	Water	Rainy season	Nil	Availa	ble $(m^3/s)$	)		15cm dept	h in paddy field	7 day	3
Water	discharge	Dry season	Nil	Availat	$(0.018 \text{ m}^3/\text{s})$	5)		- This WU	A covers 3 irrigatio	n systems, Puchar Kulo(B-	-1), Beech Kulo(B-2)
source	Water taken	Rainy season	Ē	Enough	Not enough			and Siran I	Kulo (B-6).		
300100	by intake	Dry season			Remarks	- If someone does not join the a		annual maintenance work,	, he/she should pay		
	Quality in	pH		7.	8		Remarks	150BTN/d	ay for WUA.		
		EC 15.52 ms/m									
	dry season	Temperature		20.2	2 °C						

Picture-1: Situation of intake facility Date:2012/4/11



Picture-2: Situation of Canal Date:2012/4/11





No.	B-7	(No. in the	original list)	299					Date of surve	ey: 2012/4/11
	Name		-	Baras	au Kulo		Name		Jaruwa	/Dechenpelri
	Dzongkhag			Sa	rpang		Area		36.00 acre	(14.57 ha)
	Gewog				Bhur	Command	Number of	house holds		21
	Latitude		26		' 9.4 " N	Area	Distance to	o road		0.0 km
	Longitude		90				Time to ge			0 min
	Type of intake		Concrete	Gabion	Rock Earth Wood			tion way to road		-
	Constructed y				987	Operation	Organizati	on		-
	Construction		Covered by			and	Activity			maintenance
system		Workforce	Covered by		ent Beneficiaries Donor	- Management*	Budget		Covered by Gov	ernment Beneficiaries
	Latest rehabil				010	managomoni	Water use			-
	Length of Car				5 km	_	Variety	Rainy season		Paddy
	)			Vet masonry	· · · ·	Cropping		Dry season		-
	Function*	unction* Fun			Non Functional		Fertilizer		0	-
	D 11						Manure	C C '1	C	ow dung
	Problems							of surface soil		10cm
	Ntanaa			01.1	-1.1	Soil		of surface soil	Gravel Sa	ndy Silt Clay
	Name Water course		Dia		takhari pring Well	Condition	pH	• • • •		6.2
	Water source	D :	Riv					ying up water with		1 days
		Rainy season	Nil	Avai			15cm dept	h in paddy field		•
Water		Dry season	Nil	) Avail						
source	Water taken	Rainy season	CI CI	Enough						
	by intake	Dry season	Ē	Enough	Not enough	Not enough Remarks				
	Quality in	uality in								
	Quality in EC dry season			-						
	-	Temperature		1.00 + 0	-					

Picture-1: Situation of intake facility Date:2012/4/11



Picture-2: Situation of Canal Date:2012/4/11





No.	B-8	(No. in the	original list)	298						Date of survey:	2012/4/11
	Name			Sira	n Kulo			Name		Jaruwa/De	echenpelri
	Dzongkhag			Sa	pang			Area		35.00 acre	(14.16 ha)
	Gewog				hur		Command	Number of	house holds	1	9
	Latitude		26		' 25.8 " N		Area	Distance to	o road	0.0	km
	Longitude		90					Time to ge		0 n	nin
	Type of intak		Concrete	Gabion 🤇	Rock Earth	Wood		-	tion way to road	-	
	Constructed y				987		Operation	Organizati	on	-	
	Construction		Covered by	~	nt Beneficiaries	Donor	and	Activity		Annual ma	
system	cost*	Workforce	Covered by		nt Beneficiaries	Donor	Management*	Budget		Covered by Govern	ment Beneficiaries
	Latest rehabil				997		Management	Water use		-	
	Length of Car				) km			Variety	Rainy season	Paddy, Maiz	e, Vegetable
	Structure of C	Canal		<u>Wet masonry</u>		Pipe	Cropping		Dry season	-	
	Function*		Funct		Non Functional			Fertilizer			-
					needed every year d	ue to the		Manure		Cow	Ũ
	Problems		damage by flood.						of surface soil	170	$\sim$
							Soil		of surface soil	Gravel Sandy	
	Name				akhari		Condition	pH		5.	8
	Water source		Riv		oring Well		Condition		ying up water with	3da	ivs
	Water	Rainy season	Nil	Avail				15cm dept	h in paddy field		.j.~
Water	discharge	Dry season	Nil	Avail	able $(m^3/s)$						
	Water taken	Rainy season	(I	Enough							
	by intake	Dry season				Remarks					
	Quality in	pН				Remarks					
	dry season	EC			-						
	ury season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/11



Picture-2: Situation of Canal Date:2012/4/11





No.	B-11	(No. in the	original list)	300					Date of survey:	2012/4/11
	Name			Puch	ar Kulo		Name		Jaruwa/Dech	enpelri
	Dzongkhag			Sa	rpang		Area		20.00 acre	(8.09 ha)
	Gewog				Bhur	Command	Number of	f house holds	13	
	Latitude		26			Area	Distance to	o road	0.0 km	l
	Longitude		90				Time to ge		0 min	
	Type of intake		Concrete	Gabion	Rock (Earth) Wood			ation way to road	-	
	Constructed y				987	Operation	Organizati	on	-	
	Construction		Covered by	Governme		and	Activity		-	
system		Workforce	Covered by	Governme	ent Beneficiaries Donor	Management*	Budget		Covered by Governme	nt Beneficiaries
	Latest rehabil				-	Munugement	Water use		-	
	Length of Car				0 km		Variety	Rainy season	Paddy, Ma	
	Structure of C	Canal		<u>Vet</u> masonry		Cropping		Dry season	Maize	
	Function*			ional	Non Functional		Fertilizer		-	
				-	even in rainy season because		Manure		Cow du	ng
	Problems			i by flood. Ir	rigation system has not worked			of surface soil	5cm	
			this 2years.	~		Soil		of surface soil	Gravel (Sandy)	Silt Clay
	Name				akhari	Condition	pН		6.5	
	Water source		Riv		pring Well	Condition		ying up water with	10min	
	Water	Rainy season	Nil	Avail	$(m^3/s)$		15cm dept	h in paddy field	Tomm	
Water	discharge	Dry season	(Nil	) Avail	able $(m^3/s)$					
source	Water taken	Rainy season	H	Enough	Not enough					
	by intake	Dry season				Remarks				
	Puality in pH -			-	Kennarks					
	Luality in EC			-						
	dry season	Temperature			-					

Picture-1: Situation of intake facility Date:2012/4/11



Picture-2: Situation of Canal Date:2012/4/11





**B-2:** Chuzagang Gewog

No.	C-1	(No. in the	original list)	130						Date of survey:	2012/3/31
	Name		Phur	sum Chu	iyour (low level)			Name		Dawatha	ang
	Dzongkhag				rpang			Area		700.00 acre	(283.28 ha)
	Gewog			Chu	zagang		Command	Number of	house holds	350	
	Latitude		26 °		' 51.1 " N		Area	Distance to	road	0.0 km	n
	Longitude		90 °					Time to get		0 min	1
	Type of intak		Concrete	Gabion 🤇	Rock Earth Wo	bd		<u>^</u>	tion way to road	-	
	Constructed y				984		Operation	Organizatio	on	WUA (Officially	-
Intake	Construction		Covered by	Governme		-	and	Activity		Annual maintenance, Em	
system	cost*	Workforce	Covered by	Governme	ent Beneficiaries Don	or	Management*	Budget		Covered by Governme	
	Latest rehabil				-		Management	Water use f		100BTN/HI	
	Length of Car				4 km			Variety	Rainy season	Paddy	/
		Structure of Canal		Vet masonry	ć 🔺	e	Cropping	•	Dry season	Maize	e
	Function*		Functi		Non Functional		oropping	Fertilizer		-	
			Rehabilitation wo	rk has been	needed every year due to	the		Manure		Cow du	Ŭ.
	Problems		damage by flood.						of surface soil	20cm	
							Soil		f surface soil	Gravel Sandy	Silt Clay
	Name		(		ıkali		Condition	pH		6.5	
	Water source	1	River	S	pring Well		Condition		ying up water with	7days	2
	Water	Rainy season	Nil	Avai	$(m^3/s)$			15cm depth	n in paddy field	/ day	3
Water	discharge	Dry season	Nil	Avai	$(m^3/s)$			- New intal	ke with permanent s	structure made by concrete	is planned.
source	Water taken	Rainy season	Enou	ıgh	Not enough			- If someon	ne does not join the	annual maintenance work,	he/she should pay
	by intake	Dry season	Enou	gh	Not enoug		Remarks	100BTN/da	ay for WUA.		
	Ouolity in	nH		Kentarks	- Basically	the cost for mainter	nance of structure is covere	ed by RGoB but in			
	Quality in	EC						case of eme	ergency rehabilitation	on, WUA makes expense fi	rom collected water
	dry season	Temperature						use fee.			

Picture-1: Situation of intake facility Date:2012/3/31



Picture-2: Situation of Canal Date:2012/1/21





No.	C-2	(No. in the	original list)	129						Date of survey	: 2012/3/31
	Name	-	Samo	drup Chu	your (high level)			Name		Daw	athang
	Dzongkhag			Sa	rpang			Area		300.00 acre	(121.41 ha)
	Gewog				zagang		Command	Number of	house holds		70
	Latitude		26 °				Area	Distance to	road	0.	0 km
	Longitude		90 °					Time to get		0	min
	Type of intak		Concrete	Gabion 🤇	Rock Earth Wood			<u> </u>	tion way to road		-
	Constructed y				-		Operation	Organizatio	on	-	ially organized)
	Construction		Covered by	Governme			and	Activity			Employing water guard
system		Workforce	Covered by		ent Beneficiaries Donor	- N	lanagement*	Budget			rnmen Beneficiaries
	Latest rehabil	•	20		litated by RGoB)		nanagonioni	Water use f			N/HH/Year
	Length of Car				5 km			Variety	Rainy season		y, Maize
	Structure of C	Canal	Concrete (W				Cropping	-	Dry season	N	laize
	Function*		Functi		Non Functional		oropping	Fertilizer			-
				-	by flood every year.			Manure			v dung
	Problems		Sometimes river b	ank suppor	ting canal is damaged by flood.				of surface soil	$\left( \right)$	5cm
							Soil		f surface soil	Gravel Sand	
	Name			-	ıkali		Condition	pН			5.3
	Water source		River		pring Well		Condition		ying up water with	7	days
	Water	Rainy season	Nil	Avail	$(m^3/s)$			15cm depth	n in paddy field		aujs
Water	discharge	Dry season	Nil	Avail	$(m^3/s)$				-	structure made by conc	<u> </u>
source	Water taken	Rainy season	Enou	ıgh )	Not enough					annual maintenance we	ork, he/she should pay
	by intake	Dry season	Enou	gh	Not enough		Remarks		ay for WUA.		
	Quality in	pН				Komunto	-		nance of structure is co	-	
	dry season	EC						case of eme	ergency rehabilitation	on, WUA makes expen	se from collected water
	•	Temperature			. that mantions of in instants as			use fee.			

Picture-1: Situation of intake facility Date:2012/1/21



Picture-2: Situation of Canal Date:2012/1/21





No.	C-3	(No. in the	original list) 13	1					Date of survey:	2012/3/31
	Name			Karbithang			Name		Karbit	hang
	Dzongkhag			Sarpang			Area		200.00 acre	(80.94 ha)
	Gewog			Chuzagang		Command	Number of h	nouse holds	15	0
	Latitude		0	ı II	Ν	Area	Distance to a	road	0.0	km
	Longitude		0	1 11	E		Time to get	to road	0 m	nin
	Type of intak		Concrete Gabio	on Rock Earth	Wood		<u>^</u>	on way to road	-	
	Constructed y					Operation	Organization	n	WUA (Officia	• •
	Construction	Material		ernment Beneficiarie		- and	Activity		Annual maintenance, E	
	cost*	Workforce	Covered by Gov	ernment Beneficiarie	es Donor	- Management*	Budget		Covered by Govern	
	Latest rehabil					Management	Water use fe		100BTN/	
	Length of Car			0.4 km		_		Rainy season	Paddy, Maize, Mille	et, Ginger, Mustard
	Structure of Canal		Concrete (Wet ma	•	Pipe	Cropping		Dry season	-	
	Function*		Functional	Non Functio	nal	l	Fertilizer		Urine, H	
							Manure		Cow	5
	Problems							f surface soil	More that	
						Soil	Structure of	surface soil	Gravel Sandy	
	Name			Sherabcholing		Condition	pH		6.0	)
	Water source		River	~F8	Well		Days of dryi	ng up water with	14d	avs
	Water	Rainy season	Nil 🤇	Available ( m <sup>3</sup> /	(s)		15cm depth	in paddy field	1-14	ays
Water	discharge	Dry season	Nil 🤇	Available ( m <sup>3</sup> /	(s)		-		unsum Chuyour (low level)	
source	Water taken	Rainy season	Enough	Not enoug	gh				upplied through these canal	
	by intake	Dry season	Enough	Not enoug	gh	Remarks		-	ual maintenance work, he/s	she should pay
	Quality in	pH				Remains	100BTN/day		f	DCaD but in assa of
		EC							ce of structure is covered by nakes expense from collecte	
	dry season	Temperature					emergency rel		lakes expense from conecte	u water use ree.

Picture-1: Situation of intake facility

Date:	
	Same as C-1

Picture-2: Situation of Canal

Date: Same as C-1



No.	C-4	(No. in the	original list)	128	]					Date of survey:	2012/3/31
	Name			Sherat	o choling			Name		Chas	ikher
	Dzongkhag			Sa	rpang			Area		150.00 acre	(60.70 ha)
	Gewog			Chu	izagang		Command	Number of	house holds	25	
	Latitude			0	' " 1	N	Area	Distance to road		0.0	km
	Longitude				-	E		Time to get	to road	0 r	nin
	Type of intake		Concrete	Gabion	Rock Earth	Wood		Transportation way to road			-
	Constructed y						Operation	Organizatio	on		ally organized)
Intake	Construction		Covered by	Governme			and	Activity			Employing water guard
2	cost*	Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget			men Beneficiaries
	Latest rehabil						Management	Water use f			/HH/Year
	Length of Car		2.0 km					Variety	Rainy season		nize, Millet
	Structure of C	Canal	Concrete (V	Wet masonry	y) Earth	Pipe	Cropping	-	Dry season	Ma	nize
	Function*		Funct	ional	Non Function:	aD	oropping	Fertilizer			-
								Manure			dung
	Problems								of surface soil		an 30cm
							Soil		f surface soil	Gravel Sandy	
	Name		$\frown$		ikhola		Condition	pН		6.	6
	Water source		River		F8	/ell	Condition		ying up water with	6-70	lays
	Water	Rainy season	Nil	Avail	lable $(m^3/s)$	)		15cm depth	n in paddy field	0-70	uays
Water	discharge	Dry season	Nil	Avail	$lable$ ( $m^3/s$ )	)				rup Chuyour (high level) (No.	
source	Water taken	Rainy season	Eno	ugh	Not enough	1				l through these canals. Due to	this situation, original
	by intake	Dry season	Enor	ugh	Not enough		Remarks	intake facility is not needed to use. - If someone does not join the annual maintenance work, he/she should pay 100BTN/day for			ould pay 100BTN/day for
	Over allitare int	pН					Remains	WUA.			louid pay 100D 110 day 101
	Quality in	ĒC						- Basically the cost for maintenance of structure is covered by RGoB but in case of emergen			B but in case of emergency
	dry season —	Temperature						rehabilitation, WUA makes expense from collected water use fee.			

Picture-1: Situation of intake facility

Date:	
	Same as C-2

Picture-2: Situation of Canal

Date: Same as C-2



No.	C-5	(No. in the	original list)	127						Date of survey:	2012/3/31
	Name			Masir	nikhola			Name		Chasi	kher
	Dzongkhag			Sar	pang			Area		50.00 acre	(20.23 ha)
	Gewog			Chuz	zagang		Command	Number of	house holds	10	
	Latitude		0		' ' '	Ν	Area	Distance to road		0.01	km
	Longitude		0		<u>'</u> " I	Ξ		Time to get to road		0 m	in
	Type of intak	•	Concrete	Gabion	Rock Earth	Wood	_	Transportation way to road		-	
	Constructed y					Operation	Organizatio	on	WUA (Official	•	
	Construction			Governme		Donor	and	Activity		Annual maintenance, E	
system	cost*	Workforce	Covered by	Governme	nt Beneficiaries	Donor	Management*	Budget		Covered by Govern	
		Latest rehabilitated year					Management	Water use f		100BTN/I	
	Length of Canal		1.0 km           Concrete (Wet masonry)         Earth         Pipe					Variety	Rainy season	Pad	.,
	Structure of Canal					Pipe	Cropping	-	Dry season	Ginger, Su	unflower
	Function*		Functional Non Functional				Fertilizer		-		
								Manure		Cow o	Ű.
	Problems								of surface soil	More tha	$\sim$
							Soil		f surface soil	Gravel Sandy	
	Name				ni khola		Condition	pН		6.2	2
	Water source	1	River		8	ell			ving up water with	6-7d	avs
	Water	Rainy season	Nil	Avail	able $(m^3/s)$				in paddy field		-
Water	discharge	Dry season	Nil	> Avail	able $(m^3/s)$					Chuyour (high level) (C-2) is c	connected to this canal and
source	Water taken	Rainy season	Enou	gh	Not enough			irrigation water is supplied through these canals. -Farmers sometimes have taken water from Masini Khola but at present they don't take any wa			t they don't take any water
	by intake	Dry season	Enoug	gh	Not enough		Remarks				
	Quality in	pH					Remainto			naintenance work, he/she should	
	dry season	EC						- Basically the cost for maintenance of structure is covered by RGoB but in case of emergency rehabilitation, WUA makes expense from collected water use fee.			ut in case of emergency
	ury season	Temperature									

Picture-1: Situation of intake facility

Date:	
	Same as C-2

Picture-2: Situation of Canal

Date: Same as C-2



**B-3:** Dekling Gewog

No.	Dek-1	(No. in the	original list)	136						Date of survey:	2012/4/9
	Name		F	lilley Khola	a Irri.channel			Name		Chok	corling
	Dzongkhag			Sar	pang			Area		506.55 acre	(205.00 ha)
	Gewog				kling		Command	Number of	house holds	36	
	Latitude		26				Area	Distance to road		0.0	) km
	Longitude		90					Time to get to road		0	min
	Type of intake		Concrete Gabion Rock Earth Wood					Transportation way to road			-
	Constructed y				070's		Operation	Organizati	on		-
	Construction		Covered by			Donor	and	Activity			aintenance
system		Workforce	Covered by			Donor	Management*	Budget		Covered by Govern	nment Beneficiaries
	Latest rehabil		2011 (Material is covered by RGoB)				managomont	Water use fee			-
	Length of Canal		3.0 km				Variety	Rainy season	Paddy	, Maize	
	Structure of Canal		Concrete (Wet masonry) Earth Pipe			Pipe	Cropping		Dry season		-
	Function*		Functional Non Functional				11 5	Fertilizer		0	-
	D 11		Rehabilitation work has been needed every year due to the			e to the		Manure	C C '1		dung
	Problems		damage by flood	•					of surface soil		Ocm
	Name			Liller	Vholo		Soil	pH	f surface soil	Gravel Sand	y Silt $Q$ Clay
	Water source		Riv		y Khola oring Well		Condition	r	• • • • • •	0	.0
		D.:	)		<u> </u>				ying up water with	2hr	
	Water	Rainy season	Nil	Avail					h in paddy field		
Water	discharge	Dry season	Nil								herefore command area
source	Water taken	Rainy season	/	Enough Not enough				is the same as Bichkhola Irri.channel.			
	by intake	Dry season	]	Enough	Not enough		Remarks				
	Quality in	рН -									
	dry season	EC			-						
	2	Temperature		-							

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	Dek-2	(No. in the	original list)	146						Date of survey:	2012/4/5
	Name		Ya	ingchenph	nu Irri.Channel			Name		Yangc	henphu
	Dzongkhag			Sa	rpang			Area		90.00 acre	(36.42 ha)
	Gewog			De	ekling		Command	Number of	house holds	33	
	Latitude		26 ° 53 ' 12.5 " N				Area	Distance to road		0.0	km
	Longitude		90 ° 18 ' 1.6 " E					Time to ge	t to road	0 r	nin
	Type of intak		Concrete Gabion Rock Earth Wood					Transportation way to road			-
	Constructed year*		-				Operation	Organizati	on		ely organized)
Intake	Construction	Material	Covered by		ent Beneficiaries		and	Activity			Employing water guard
	cost*	Workforce	Covered by		ent Beneficiaries	Donor	Management*	Budget		Covered by Govern	ment Beneficiaries
	Latest rehabil				.009		Management	Water use			-
	Length of Car		3.0 km					Variety	Rainy season		aize, Bean
	Structure of Canal					Pipe	Cropping		Dry season	Gir	nger
	Function*		Functional Non Functional			al		Fertilizer		~	
								Manure			dung
	Problems							Thickness of surface soil Structure of surface soil			cm
	<b>X</b> .7				1		Soil			Gravel Sandy Silt Clay	
	Name		Yangchu				Condition	pH		6.8	
	Water source		River Spring Well				o o namon		ying up water with	2d	ays
		Rainy season	Nil	Avai					h in paddy field		
Water	discharge	Dry season	Nil	🔵 Avail	lable ( m <sup>3</sup> /s)				rganized 7 or 8 years ag	·	
source	Water taken	Rainy season	$\bigcirc$	Enough	Not enough			-No water use fee has been collected. -WUA collects expense when it is needed, for example for repairing work.		ng work	
	by intake	Dry season	]	Not enough		Remarks	-Salary of water guard is paid by paddy.			ing work.	
	Quality in PH -					. tomanto	-This WUA covers Yangchuenphu Irri.Channel (Dek-5) (water source is Phendey Chu) too.			urce is Phendey Chu) too.	
	dry season	EC			-						
	ary season	Temperature	-								

## Picture-1: Situation of intake facility



## Picture-2: Situation of Canal







No.	Dek-3	(No. in the	original list)	143	]					Date of survey:	2012/4/5
	Name			Dekiling	Irri.channel			Name		Dekiling Derbit	nang
	Dzongkhag			Sa	rpang			Area		72.53 acre	(29.35 ha)
	Gewog			De	ekling		Command	Number of	house holds	42	
	Latitude		26	° 53	35.2 "	N	Area	Distance to road		0.0 km	
	Longitude		90 ° 19 ' 51.5 " E				_	Time to get	to road	0 min	
	Type of intake		Concrete Gabion Rock Earth Wood					<b>^</b>	tion way to road	-	
	Constructed y			-	1956		Operation	Organizatio	on		
Intake	Construction	Material	Covered by		ent Beneficiaries		and	Activity		-	
system		Workforce	Covered by		ent Beneficiaries		Management*	Budget		Covered by Government	Beneficiaries
	Latest rehabil		2003 (Material is covered by donor)			.)	Management	Water use f			
	Length of Car		3.0 km					Variety	Rainy season	-	
	Structure of C	Canal				Pipe	Cropping		Dry season	-	
	Function*		Functional Non Functional				oropping	Fertilizer		-	
				Intake facility and canal is not working due to serious				Manure		-	
	Problems		damage by land slide.					Thickness of surface soil		More than 30	
	<b>.</b>						Soil	Structure of surface soil		Gravel Sandy S	ilt Clay
	Name				o Khola		Condition	рН		-	
	Water source	L .			Spring Well		o o nation	Days of drying up water with		-	
		Rainy season	Nil	Avai	$(m^3/s)$	,		Ŷ	n in paddy field		
Water	discharge	Dry season	Nil	🔵 🛛 Avai	ilable ( $m^3/s$ )	)		-	-	a good condition for cultivation	
source	Water taken	Rainy season		Enough	Not enough					ny season from 2006 due to no	irrigation water
	by intake	Dry season	Enough Not enough				Remarks	-	e by wild animals.		
	Quality in	pH		-			Romano	-Farm land is dilapidated.			
	dry season	EC			-						
	ary season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Dek-4	(No. in the	original list)	135						Date of survey:	2012/4/9
	Name			Bichkhola	Irri.channel			Name		Bic	hpani
	Dzongkhag			Sa	pang			Area		70.00 acre	(28.33 ha)
	Gewog				kling		Command	Number of	house holds	43	
	Latitude		26		' 1.0 " N	ſ	Area	Distance to road		0.0	) km
	Longitude		90 ° 21 ' 26.5 " E					Time to get to road		0	min
	Type of intake		Concrete Gabion Rock Earth Wood					<u>^</u>	tion way to road		-
	Constructed year*			1	968		Operation	Organizatio	on		-
	Construction		Covered by		nt Beneficiaries	Donor	and	Activity			naintenance
		Workforce	Covered by		nt Beneficiaries	Donor	Management*	Budget		Covered by Gover	nment Beneficiaries
	Latest rehabili		2011				Munugement	Water use			-
	Length of Car		2.0 km					Variety	Rainy season	Paddy	v, Maize
	Structure of Canal					Pipe	Cropping	•	Dry season		-
	Function*		Functional Non Functional				5 11 5	Fertilizer			-
	5 11		Rehabilitation work has been needed every year due to the					Manure Thickness of surface soil			/ dung
	Problems		damage by flood.								)cm
	NT						Soil	Structure of surface soil		Gravel Sandy Silt Clay	
	Name		Bich Khola (River) Spring Well				Condition	рН		6.0	
	Water source		$\sim$		oring Well			Days of drying up water with		2hr	
		Rainy season	Nil	Avail					n in paddy field		
Water	discharge	Dry season	( Nil	) Avail	able $(m^3/s)$						metimes in rainy season
source	Water taken	Rainy season	<u> </u>	Enough	Not enough			water is supplied from Hilley Khola through canal of Hilley Khola			Hilley Khola
	by intake	Dry season	Ì	Enough	(Not enough)		Remarks	Irri.channe	l (Dek-1).		
	Quality in pH					Romanto					
	Quality in $EC$ try season	EC			-						
	•	Temperature		1.00 / 0	-						

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	Dek-5	(No. in the	original list)	145	]					Date of survey:	2012/4/5
	Name		Yan	gchuenp	hu Irri.Channe	I		Name		Yangchen	phu
	Dzongkhag			Sa	rpang			Area		55.00 acre	(22.26 ha)
	Gewog			De	ekling		Command	Number of	house holds	30	
	Latitude		26 ° 53 ' 11.1 " N				Area	Distance to road		0.0 km	l
	Longitude		90 °	18		E		Time to get to road		0 min	
	Type of intake	•	Concrete Gabion Rock Earth Wood					Transporta	tion way to road	-	
	Constructed y		-				Operation	Organizati	on	WUA (Privately	-
Intake	Construction	Material	Covered by		ent Beneficiaries		and	Activity		Annual maintenance, Emp	
system	cost*	Workforce	Covered by		ent Beneficiaries		Management*	Budget		Covered by Governme	nt Beneficiaries
	Latest rehabil	•	2010 (Material is covered by RGoB)				Management	Water use fee		-	
	Length of Car		5.0 km					Variety	Rainy season	Paddy, Maize	, Millet
	Structure of Canal					(Pipe)	Cropping	•	Dry season	Ginger	
	Function*		Functional Non Functional			oropping	Fertilizer		Little urine for		
				Rehabilitation work has been needed every year due to the				Manure		Cow dur	ng
	Problems		damage by flood.					Thickness of surface soil		5cm	$\frown$
							Soil	Structure of surface soil		Gravel Sandy	Silt Clay
	Name				dey Chu		Condition	рН		6.6	
	Water source		Rive	S S	pring Well		Condition	Days of drying up water with		1 days	
	Water	Rainy season	Nil	Avai	$(m^3/s)$	)		15cm dept	h in paddy field	Idays	
Water	discharge	Dry season	Nil	Avail	able $(0.01 \text{ m}^3/\text{s})$	)			rganized 7 or 8 years ag	·	
	Water taken	Rainy season	(Ei	ough	Not enough	,			e fee has been collected.		. 1
Junce		Dry season		lough	Not enough		Remarks	-WUA collects expense when it is needed, for example for repairing work. -Salary of water guard is paid by paddy.		ork.	
	pH 80				Remains	-Salary of water guard is paid by pade -This WUA covers Yangchuenphu Irr		2	is Yangchu) too.		
	Quality in	EC		27.0	0 ms/m						Ç,
	dry season	Temperature									

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Dek-6	(No. in the	original list)	133						Date of survey:	2012/4/5
	Name		N	lorbuthang	g Irri.Channe	el		Name		Gawaitl	nang
	Dzongkhag			Sa	rpang			Area		35.00 acre	(14.16 ha)
	Gewog				ekling		Command	Number of	house holds	24	
	Latitude		26	° 52	' 37.0 "	Ν	Area	Distance to road		0.0 k	m
	Longitude		90 ° 18 ' 45.1 " E					Time to get	t to road	0 mi	n
	Type of intak		Concrete Gabion Rock Earth Wood					Transporta	tion way to road	-	
	Constructed y	1			984		Operation	Organizatio	on	WUA (Privatel)	
Intake	Construction	Material	Covered by Government Beneficiaries Donor				and	Activity		Annual maintenance, Er	
system		Workforce	Covered by		ent Beneficiar		Management*	Budget		Covered by Governm	ent Beneficiaries
	Latest rehabil		201		s covered by RG	oB)	Management	Water use f		-	
	Length of Ca				5 km			Variety	Rainy season	Paddy, Maiz	
	Structure of C	Canal		Wet masonry	<i>.</i>	Pipe	Cropping		Dry season	Ging	
	Function*		Functional Non Functional			oropping	Fertilizer		Little urine f		
			Rehabilitation work has been needed every year due to the					Manure		Cow d	ung
	Problems		damage by flood					Thickness of surface soil		5cm	$\bigcirc$
							Soil	Structure of surface soil		Gravel Sandy	Silt Clay
	Name		Phendey Chu				Condition	pН		6.6	
	Water source	1	River Spring Well			Condition	Days of drying up water with		1 1days		
	Water	Rainy season	Nil	Avail	lable) ( m	<sup>3</sup> /s)			n in paddy field	-	5
Water	discharge	Dry season	Nil	> Avail	lable ( m	<sup>3</sup> /s)			rganized 7 or 8 years ag		
source	Water taken	Rainy season	$\bigcirc$	Enough	Not enough				e fee has been collected.		work
	by intake	Dry season	]	Enough	Not enough	>	Remarks	-WUA collects expense when it is net -Salary of water guard is paid by pade			WOIK.
	Quality in	pH -				Remarks		0 1 11	er 225mm is not suitable because it is difficult to change its		
		EC			-				cording to the topograph		-
	dry season	Temperature	-								

Picture-1: Situation of intake facility Date:2012/4/5



## Picture-2: Situation of Canal Date:2012/4/5





No.	Dek-7	(No. in the	original list)	139						Date of survey:	2012/4/9
	Name			Ratey Kho	ola Channel			Name		Ratepa	ini
	Dzongkhag			Sai	rpang			Area		30.00 acre	(12.14 ha)
	Gewog				kling		Command	Number of	house holds	16	
	Latitude		26		' 31.5 " 1	N	Area	Distance to road		0.5 ki	n
	Longitude		90			E		Time to get to road		15 mi	
L	Type of intake		Concrete Gabion Rock Earth Wood					Transportation way to road		On fo	ot
L L	Constructed year*				-		Operation	Organizati	on	-	
	Construction		Covered by				and	Activity		-	
	cost*	Workforce	Covered by			Donor	Management*	Budget		Covered by Governm	ent Beneficiaries
	Latest rehabil		2007 (Material is covered by Donor)				Management	Water use		-	
L. L. L.	Length of Car				0 km			Variety	Rainy season	Padd	/
	Structure of C	Canal				Pipe	Cropping		Dry season	Maiz	e
	Function*		Funct		Non Function		Cropping	Fertilizer		-	
			In 2004, land slide happened at intake point. After that land slide happened every year and finally covered all the intake					Manure		Cow du	ing
	Problems							Thickness of surface soil Structure of surface soil		5cm Gravel Sandy Silt Clay	
			facility.				Soil				
	Name				y Khola		Condition	pH		6.0	
	Water source	1	(River) Spring Well				Condition	Days of drying up water with		1 dava	
	Water	Rainy season	Nil	Avail	lable ( m <sup>3</sup> /s)	1		15cm dept	h in paddy field	1 days	
Water	discharge	Dry season	Nil	Availa	$(0.808 \text{ m}^3/\text{s})$	)		- When int	ake facility was wo	rking, farmers made double	e cropping of paddy.
source	Water taken	Rainy season		Enough	Not enough			- If intake facility is rehabilitated, farmers would like to do double crop			lo double cropping
	by intake	Dry season	Enough Not enough				Remarks	again.			
	Quality in	nH		8.4			Remarks				
	Quality in	EC		22.7	0 ms/m						
	ry season Ter	Temperature		19	.0 °C						

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	Dek-8	(No. in the	original list)	132						Date of survey:	2012/4/5
	Name	-	Gawaithang Irri.channel					Name		Gawai	ithang
	Dzongkhag		Sarpang					Area		25.00 acre	(10.12 ha)
	Gewog		Dekling				Command	Number of	house holds	1	4
	Latitude		26 ° 52 ' 27.1 " N				Area	Distance to	o road	0.0	km
	Longitude		90			E	_	Time to ge		0 n	nin
	Type of intak		Concrete (	Gabion	Rock Earth	) Wood		-	tion way to road		
	Constructed y						- Operation - and	Organizati	on	WUA (Private	
		Construction Material		Covered by Government Beneficiaries Donor				Activity		Annual maintenance, F	
system		Workforce	Covered by				Management*	Budget		Covered by Government Beneficia	
	Latest rehabilitated year		2011 (Material is covered by RGoB)			)	managomont	Water use fee		-	
	Length of Canal		1.5 km				Variety	Rainy season		ize, Millet	
	Structure of Canal					Pipe	Cropping	Dry season		Gin	
	Function*		Functional Non Functional				Soil	Fertilizer		Urine (little for Maize)	
			Since intake facility has no discharge control structure, it takes water more than needed in rainy season.			ucture, it		Manure		Cow dung	
	Problems							Thickness of surface soil		<u>5</u> cm	
								Structure of surface soil		Gravel Sandy Silt Clay	
	Name		Yangchu			Condition	рН		6.6		
	Water source		River Spring Well			Condition	Days of drying up water with		1 days		
	Water	Rainy season	Nil	Avail	able $(m^3/s)$	)		~	h in paddy field		495
Water	discharge	Dry season	Nil	🔵 Avail	able $(m^3/s)$	)			WUA was organized 7 or 8 years ago.		
source	Water taken	Rainy season	Enough		Not enough			-No water use fee has been collected. -WUA collects expense when it is needed, for example for repairing work.			a mode
	by intake	Dry season	Enough Not enough			Remarks	-Salary of water guard is paid by paddy.			g work.	
	2	pН			-		Kentarka	, , , , , , , , , , , , , , , , , , ,			
	Quality in	EC			-						
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Dek-10	(No. in the	original list)	144						Date of s	survey:	2012/4/5
	Name		Phendey Chu Channel				Name			Trashiling		
	Dzongkhag		Sarpang				Area		23.00 acre	e	(9.31 ha)	
	Gewog		Dekling				Command	Number of	house holds		10	
•	Latitude		26 ° 52 ' 25.7 " N				Area	Distance to	road		0.0 km	
	Longitude		90 ° 19 ' 7. <u>9 "</u> E					Time to get			0 min	
-	Type of intake		Concrete Gabion Rock Earth Wood					tion way to road		-		
	Constructed y		1970'S				Operation and	Organizatio	on		-	
		Construction Material		Covered by Government Beneficiaries Donor				Activity		-		
system		Workforce	Covered by	Governme	ent Beneficiaries Don	or	Management*	Budget		Covered by	Government	Beneficiaries
-	Latest rehabilitated year		-				Management	Water use fee		-		
-	Length of Car		1.5 km				Variety	Rainy season		-		
	Structure of C	Canal	Concrete (Wet masonry) <u>Earth</u> Pipe				Cropping	,	Dry season		-	
-	Function*		Functional Non Functional				oropping	Fertilizer			-	
			Gabion wall settled at the intake point for rising up water surface to guide					Manure			-	
	Problems		water to the canal was washed away by flood in 2006. It is impossible to take water without wall because elevation of canal bottom is higher than					Thickness of surface soil			-	
						IIall	Soil		f surface soil	Gravel	Sandy S	ilt Clay
_	Name		Teen Bhadey				Condition	рН			-	
-	Water source	Water source		River Spring Well			Condition	Days of drying up water with			_	
	Water	Rainy season	Nil	Avail	lable $(m^3/s)$			15cm depth	n in paddy field		-	
Water	discharge	Dry season						-Although this land has good soil condition for cultivation but no cultivation				
source	Water taken	Rainy season	Enough Not enough					is done even in rainy season		due to no irrigation water and damage by wild		
	by intake	Dry season	Enough Not enough				Remarks	animals.				
	5	pH			-		Kennanks	-Farm land is dilapidated.				
	Quality in	EC			-							
	dry season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Dek-11	(No. in the	original list)	134	]					Date of survey:	2012/4/9
	Name		Ratey Irri.Channel					Name		Ratey	
	Dzongkhag		Sarpang					Area		21.50 acre	(8.70 ha)
	Gewog			De	ekling		Command	Number of	house holds	100	
	Latitude		26	° 56	5' 37.4 " N		Area	Distance to	o road	0.0 kn	1
	Longitude		90°21' 44.8 " E					Time to ge	t to road	0 min	
	Type of intak	e facility	Concrete Q	Gabion	Rock Earth Wood			Transporta	tion way to road	-	
	Constructed year*			1	<u>97</u> 0's		Operation	Organizati	on	-	
Intake	Construction Material		Covered by Government Beneficiaries Donor				Operation and	Activity		-	
system	cost*	Workforce	Covered by	Governme	ent Beneficiaries Donor			Budget		Covered by Governme	nt Beneficiaries
	Latest rehabilitated year		2009				Management*	Water use fee		-	
	Length of Canal		5.0 km				Cropping	Variety	Rainy season	Paddy, Maize, Mill	et, Vegetable
	Structure of Canal		Concrete (Wet masonry) Earth Pipe					variety	Dry season	Maize, M	illet
	Function*		Functional Non Functional					Fertilizer		-	
			Intake worked only 9 months after construction. In 2009 pipe structure is installed but intake has not been able to take any water even in rainy season because elevation of intake is higher than that of river bed.					Manure		Cow du	ng
	Problems						Soil	Thickness of surface soil		5cm	
								Structure of surface soil		Gravel Sandy	Silt Clay
	Name		Ratey Khola				Condition	pH		6.6	
	Water source	Water source		(River) Spring Well				Days of drying up water with		1 days	
	Water	Rainy season	Nil	Avai	lable $(m^3/s)$			15cm depth in paddy field		1 days	
Water	discharge	Dry season	Nil	Avail	able $(0.808 \text{ m}^3/\text{s})$						
source	Water taken	Rainy season	]	Enough	Not enough						
	by intake	Dry season	]	Enough	(Not enough)		Domarks				
	-	pH			8.3		Remarks				
	Quality in	ĒC		21.0	00 ms/m						
	dry season	Temperature		18	3.2 ℃						

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	Dek-12	(No. in the	original list)	137						Date of survey:	2012/4/9
	Name		Dholkhola Irri.Channel					Name		Dhol	khola
	Dzongkhag	Dzongkhag		Sarpang				Area		21.00 acre	(8.50 ha)
	Gewog			De	kling		Command	Number of	house holds	2	24
	Latitude		26 ° 54 ' 55.5 " N				Area	Distance to	road	0.0	km
	Longitude		90	° 21	' <u>12.4 "</u> E			Time to get		0 r	nin
	Type of intak	e facility	Concrete	Gabion (	Rock Earth Wood	l		Transporta	tion way to road		-
	Constructed y		1968				Operation and	Organizatio	on	· · · · · · · · · · · · · · · · · · ·	ely organized)
Intake	Construction Material		Covered by Government Beneficiaries Donor			r		Activity			aintenance
system		Workforce	Covered by	Governme	nt Beneficiaries Dono	r	Management*	Budget		Covered by Govern	ment Beneficiaries
	Latest rehabilitated year		2011				Wanagement	Water use fee			_
	Length of Canal		2.0 km					Variety	Rainy season	Pa	ddy
	Structure of Canal		Concrete Wet masonry) (Earth) Pipe				Cropping	variety	Dry season	Ma	aize
	Function*		Functional Non Functional				Cropping	Fertilizer			-
			Rehabilitation work has been needed every year due to the damage by flood.			e		Manure		Cow dung	
	Problems							Thickness of surface soil			cm
							Soil	Structure of surface soil		Gravel Sandy Silt Clay	
	Name		Dholkhola				Condition	pН		6.	.5
	Water source		(River) Spring Well				Condition	Days of dr	ying up water with	74	ays
	Water	Rainy season	Nil	Avail	able $(m^3/s)$			15cm depth	n in paddy field	74	ays
Water	discharge	Dry season	Nil	Availa	$(0.486m^{3}/s)$			- Once farmers tried double cropping of paddy but wild elephants made serious damage. So they gave up			
source	Water taken	Rainy season		Enough	Not enough			continue double cropping. - Farmers say that if someone makes fence around farm land to prevent elephants go inside they would			phants go inside they would like
	by intake	Dry season	Enough Not enough				Remarks	to do double cropping again.			
	Orealitas in	pH		<u> </u>	8.6		Remains	- If someone does not attend the annual maintenance work, he/she should pay 150BTN/day for WUA.			
	Quality in	ĒC		51.7	0 ms/m			<ul> <li>If someone would like to be a member of WUA, he/she has to pay 10,000BTN for WUA.</li> <li>During dry season, water is supplied from Dholkola but in rainy season from Hilley Khola and Bich Kl</li> </ul>			
	dry season	Temperature		20	.6 °C			because canal is settled across these 2 rivers and can take water at the crossing point.			

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	Dek-13	(No. in the	original list)	138						Date of survey:	2012/4/9	
	Name		Dhokhola Irri.Channel					Name		Dho	okhola	
	Dzongkhag		Sarpang					Area		18.00 acre	(7.28 ha)	
	Gewog		Dekling				Command	Number of	f house holds		16	
	Latitude		26	° 54	' 40.7 " N		Area	Distance to	o road	0.0	) km	
	Longitude		90		<u>' 24.4 "</u> E			Time to ge		0	min	
	Type of intak	e facility	Concrete	Gabion (	Rock Earth Wood			Transporta	ation way to road		-	
	Constructed y				980's		Operation	Organizati	on	· · · · ·	tely organized)	
	Construction Material		Covered by Government Beneficiaries Donor				and	Activity			naintenance	
system	cost* Workforce		Covered by Government Beneficiaries Donor					Budget		Covered by Government Beneficiarie		
	Latest rehabilitated year		2007				Management	Water use fee			-	
	Length of Canal		2.0 km			Cropping	Variety	Rainy season		ıddy		
	Structure of Canal		Concrete Wet masonry) Earth Pipe					<sup>5</sup> Dry season		М	aize	
	Function*		Functional Non Functional				Soil	Fertilizer			-	
			Rehabilitation work has been needed every year due to the damage by flood.			•		Manure			/ dung	
	Problems							Thickness of surface soil			Bem	
								Structure of surface soil		Gravel Sand	y Silt Clay	
	Name		Dhokhola					pН		6	5.5	
	Water source		(River) Spring Well				Condition		ying up water with	with 7days		
	Water	Rainy season	Nil	Avail	able $(m^3/s)$			15cm dept	h in paddy field		iays	
Water	discharge	Dry season	Nil	Availa	$(0.255 \text{m}^3/\text{s})$			- Once farmers tried double cropping of paddy but wild elephants made serious damage. So they gave				
source	Water taken	Rainy season		Enough	Not enough			continue double cropping. - Farmers say that if someone makes fence around farm land to prevent elephants go inside they would l				
	by intake	Dry season	Enough Not enough				Remarks	to do double cropping again.				
	Ouality in	pH			3.6		Remains	<ul> <li>- If someone does not attend the annual maintenance work, he/she should pay 150BTN/day for WUA.</li> <li>- If someone would like to be a member of WUA, he/she has to pay 10,000BTN for WUA.</li> </ul>				
		EC			0 ms/m			<ul> <li>If someone would like to be a member of WUA, he/she has to pay 10,000B IN for WUA.</li> <li>During dry season, water is supplied from Dholkola but in rainy season from Hilley Khola and Bich Khola</li> </ul>				
	dry season	Temperature		20	.7 °C			because canal is settled across these 2 rivers and can take water at the crossing point.				

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





**B-4:** Dovan Gewog

No.	Dov-1	(No. in the	original list)	100	7					Date of surv	vey:	2012/4/13
	Name				-			Name		Т	hrulokhol	a
	Dzongkhag			Sa	arpang			Area		30.00 acre		(12.14 ha)
	Gewog			Γ	Dovan		Command	Number of	house holds		18	
	Latitude		27	° 1	1' 39.2 " 1	N	Area	Distance to	road		-	
	Longitude		90	-		E		Time to get	t to road		2days	
	Type of intak		Concrete	Gabion	Rock Earth	Wood		· ·	tion way to road		On foot	
	Constructed y	r			1920		Operation	Organizatio	on		-	
	Construction	Material	Covered by		ent Beneficiaries		and	Activity			al Mainter	
system		Workforce	Covered by	Governm	ent Beneficiaries	Donor	Management*	Budget		Covered by Go	vernment	Beneficiaries
	Latest rehabil				-		Management	Water use f			-	
	Length of Car				2.5 km			Variety	Rainy season	Paddy, Maiz	e, Buckw	heat, Potato
	Structure of C	Canal		Wet masonr	y) Earth	Pipe	Cropping	-	Dry season		-	
	Function*		Func	tional	Non Functiona	al	oropping	Fertilizer			-	
			Intake can not ta	ke water pro	operly because there	are no		Manure			Dow dung	
	Problems		structure.						of surface soil		re than 30	
							Soil		f surface soil	Gravel S		Silt (Clay)
	Name			_	-		Condition	pН			6.9	
	Water source	I	Riv	ver s	Spring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Ava	ilable ( m <sup>3</sup> /s)	)		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avai	lable $(0.002 \text{ m}^3/\text{s})$	5)		-According	to the result of fiel	d survey, Name of i	rrigation s	system is "Dhap
source	Water taken	Rainy season		Enough	Not enough	,		khola kulo'	', of water source is	s "Dhap khola" and	of comma	nd area is "Mao
	by intake	Dry season		Enough	(Not enough)		Remarks	gaon-A", a	rea of command are	a is 25 acre and nur	nber of H	H is 9.
	Ouolity in	pH			7.3		ITCHIAIKS					
	Quality in	EC		3.1	0 ms/m							
	dry season	Temperature		14	4.5 ℃							

Picture-1: Situation of intake facility Date:2012/4/13



Picture-2: Situation of Canal Date:2012/4/13





No.	Dov-2	(No. in the	original list)	101	]					Date of	survey:	2012/4/13
	Name				-			Name			Batraikho	a
	Dzongkhag			Sa	rpang			Area		15.00 acr	e	(6.07 ha)
	Gewog			Ľ	ovan		Command	Number of	house holds		9	
	Latitude		27	° 1	' 53.7 " N	Ν	Area	Distance to	road		-	
	Longitude		90	-				Time to get			2days	
	Type of intak		Concrete	Gabion	Rock Earth	Wood		A .	tion way to road		On foot	
	Constructed y				1920		Operation	Organizatio	on		-	
	Construction	Material	Covered by		ent Beneficiaries		and	Activity			nnual Mainte	
system		Workforce	Covered by		ent Beneficiaries	Donor	Management*	Budget		Covered by	Governmen	t Beneficiaries
	Latest rehabil				2009		Management	Water use f			-	
	Length of Car				.0 km			Variety	Rainy season	Pa	ddy, Maize,	
	Structure of C	Canal		Wet masonr		Pipe	Cropping	•	Dry season		Vegetable	2
	Function*		Func		Non Functiona		oropping	Fertilizer			-	
			Intake can not tal	ke water pro	perly because there	are no		Manure			Cow dung	3
	Problems		structure.						of surface soil		More than 3	
							Soil		f surface soil	Gravel	Sandy	Silt (Clay)
	Name			$\overline{}$	-		Condition	pН			6.8	
	Water source	1	Riv		Spring Well		oonalion		ying up water with			
	Water	Rainy season	Nil	Avai	$(m^3/s)$			-	n in paddy field			
Water	discharge	Dry season	Nil	Avail	$(0.010 \text{m}^3/\text{s})$	)		-	to the result of field		-	-
source	Water taken	Rainy season	Ú	Enough	Not enough				', of water source is			
	by intake	Dry season	I	Enough	Not enough		Remarks		illage-Mao gaon lov	ver", and comma	and area is 1	30 acre and
	Quality in	pН			7.5		Remarks	number of	HH is 35.			
	dry season	EC			0 ms/m							
	ury season	Temperature		1:	5.3 ℃							

Picture-1: Situation of intake facility Date:2012/4/13



Picture-2: Situation of Canal Date:2012/4/13





No.	Dov-4	(No. in the	original list)	86	7					Date of s	urvey:	2012/4/14
	Name				-			Name			Betchkho	la
	Dzongkhag			S	arpang			Area		14.00 acre	;	(5.67 ha)
	Gewog				Dovan		Command	Number of	house holds		10	
	Latitude		27		3' 27.2 "	N	Area	Distance to	road		-	
	Longitude		90			E		Time to get			3days	
	Type of intak		Concrete	Gabion (	Rock Earth	Wood		Transportat	tion way to road		On foot	
	Constructed y				1935		Operation	Organizatio	on		-	
Intake	Construction	Material	Covered by		$\sim$		and	Activity			nual Mainte	
system	cost*	Workforce	Covered by	Governm	ent Beneficiaries	Donor	Management*	Budget		Covered by	Governmer	t Beneficiaries
	Latest rehabil				-		management	Water use f			-	
	Length of Ca				.0 km			Variety	Rainy season		ddy, Maize	
	Structure of C	Canal		Wet masonr		Pipe	Cropping		Dry season	Maize	, Potato, Bı	ickwheat,
	Function*			tional	Non Function		oropping	Fertilizer			-	
			After flood, ther	e are a lot of	f sedimentation at th	ne intake		Manure			Cow dun	0
	Problems		point.						of surface soil		Aore than 3	$\sim$
							Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name		$\sim$		irigahg		Condition	pН			6.7	
	Water source		Ri	ver s	Spring Well		Condition		ving up water with			
	Water	Rainy season	Nil	Ava	ilable $(m^3/s)$	)		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avai	lable $0.579 \text{m}^3/s$	s)		-According	to the result of fiel	d survey, Name o	of irrigation	system is
source	Water taken	Rainy season	$\sim$	Enough	Not enough			"Gairigaon	kulo", of water sou	irce is "Beech kh	ola" and of	command area is
	by intake	Dry season	$\sim$	Enough	Not enough		Remarks	"Beech kho	ola village".			
	Quality in	pH			7.8		Remarks					
	dry season	EC			70 ms/m							
	ary season	Temperature		1	5.5 °C							

Picture-1: Situation of intake facility Date:2012/4/14



Picture-2: Situation of Canal Date:2012/4/14





B-5: Gelephu Gewog

No.	G-1	(No. in the	original list)	226	]					Date of survey:	2012/3/30
	Name		Sonamgatsh	el & Rapt	enling Irrigatio	n channel		Name		Sonamgatshel &	& Raptenling
	Dzongkhag			Sa	rpang			Area		212.82 acre	(86.13 ha)
	Gewog			Ge	lephu		Command	Number of	house holds	85	
	Latitude		26		' 21.0 "	N	Area	Distance to	o road	0.0 k	m
	Longitude		90		' 28.0 "	E		Time to ge		0 mi	n
	Type of intak	e facility	Concrete 🤇	Gabion	Rock Earth	Wood		Transporta	tion way to road	-	
	Constructed y	1		$\sim$			Operation	Organizati	on	-	
Intake	Construction	Material	Covered by	Governme			and	Activity		Annual mai	
system	cost*	Workforce	Covered by	Governme	en Beneficiaries	Donor	Management*	Budget		Covered by Governn	nent Beneficiaries
	Latest rehabil				-		Management	Water use		-	
	Length of Car	nal			0 km			Variety	Rainy season	Pado	2
	Structure of C	Canal	Concrete ()	Det masonry	) Earth	Pipe	Cropping	variety	Dry season	Maize, Buckw	heat, Millet
	Function*		Funct		Non Function		Cropping	Fertilizer		-	
					guiding water to intake			Manure		Cow d	-
	Problems				flood. If the formation			Thickness	of surface soil	22ci	
			stream of Mau river	changes by floo	od, sometimes it becom	tes difficult to	Soil	Structure of	of surface soil	Gravel Sandy	Silt Q Clay
	Name				ouchu		Condition	pН		6.4	
	Water source	1	River	> s	pring W	/ell	Condition	Days of dr	ying up water with		
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s	)		15cm dept	h in paddy field		
Water	discharge	Dry season	Nil	Availa	$(1.082 \text{ m}^3/\text{s})$	s)		-About 759	% of water taken by	intake facility is mainly u	tilized for fish pond.
source	Water taken	Rainy season	Eno		Not enough			-Water tak	en by intake is enou	igh for paddy cropping eve	en in dry season.
	by intake	Dry season	Eno	ugh	Not enough	1	Remarks	-Farmers d	on't want to do pade	dy cropping in dry season	because cattle from
		pH			0		Remains	India go in	to the farmland and	make damage.	
	Quality in	ĒC						-Farmers s	ay if someone make	e fence around the paddy fr	ield they will do
	dry season	Temperature							ping even in dry se		

Picture-1: Situation of intake facility Date:2012/3/30



Picture-2: Situation of Canal Date:2012/3/30





No.	G-2	(No. in the	original list)	227					Date of survey:	2012/3/30
	Name	-	Pass	angchu Ir	rigation Channel		Name		Lower Pel	rithang
	Dzongkhag			Sa	rpang		Area		79.40 acre	(32.13 ha)
	Gewog			Ge	lephu	Command	Number of	house holds	21	· · · · · · · · · · · · · · · · · · ·
	Latitude		26	° 55	' 20.2 " N	Area	Distance to	o road	0.0 k	m
	Longitude		90	° 29	' 40.9 " E		Time to ge	t to road	0 mi	n
	Type of intak		Concrete	Gabion 🤇	Rock Earth Wood		A .	tion way to road	-	
	Constructed y				-	Operation	Organizati	on	-	
	Construction		Covered by	Governme		and	Activity		Annual Mai	
system		Workforce	Covered by	Governme	ent Beneficiaries Donor	Management*	Budget		Covered by Governn	ent Beneficiaries
	Latest rehabil				-	Management	Water use		-	
	Length of Car				5 km		Variety	Rainy season	Pado	5
	Structure of C	Canal	Concrete(V		y (Earth ) Pipe	Cropping		Dry season	Maiz	
	Function*		Funct		Non Functional	oropping	Fertilizer		Herbic	
			-		ater properly because its		Manure		Cow d	-
	Problems		elevation is highe	er than the ri	ver bed. Pipe has been damaged			of surface soil	20ci	
			every year by floo			Soil		of surface soil	Gravel Sandy	Silt Clay
	Name				angchu	Condition	pН		6.4	
	Water source		River	> s	pring Well	Condition		ying up water with	7day	16
	Water	Rainy season	Nil	Avail	( $m^3/s$ )		15cm dept	h in paddy field	/ day	13
Water	discharge	Dry season	Nil	Avail	$(m^3/s)$		-There are	two intake structure	e, one is for irrigation and	another is for
source	Water taken	Rainy season	Eno	ugh	Not enough		drinking w	ater.		
	by intake	Dry season	Eno	ugh	(Not enough)	Remarks	-Drinking	water is distributed	to military facility.	
	Quality in	pH				Remarks				
	Quality in	EC								
	dry season	Temperature								

Picture-1: Situation of intake facility Date:2012/3/30



#### Picture-2: Situation of Canal Date:2012/3/30





No.	G-3	(No. in the	original list)	229	]					Date of survey:	2012/3/30
	Name		Dhula	achu Irrig	ation Channel	II		Name		Lower Pelr	ithang
-	Dzongkhag			Sa	rpang			Area		61.85 acre	(25.03 ha)
	Gewog				lephu		Command	Number of	house holds	23	
	Latitude		26 °			N	Area	Distance to	o road	0.0 kr	n
	Longitude		90 °			E		Time to get		0 mir	1
-	Type of intake		Concrete	Gabion	Rock Earth	Wood			tion way to road	-	
	Constructed y			$\sim$	-		Operation	Organizatio	on	-	
	Construction			Governme			and	Activity		Annual Mair	
system		Workforce	Covered by	Governme	ent Beneficiarie	Donor	Management*	Budget		Covered by Governme	ent Beneficiaries
-	Latest rehabil				-		Management	Water use f		-	
-	Length of Car		$\frown$		5 km			Variety	Rainy season	Padd	
-	Structure of C	Canal	Concrete ()		y) Earth	Pipe	Cropping		Dry season	Maiz	e
-	Function*		Euncti		Non Function		oropping	Fertilizer		-	
					ater properly becau	ise last year		Manure		Cow du	ç
	Problems		water guiding wal	l collapsed	by flood.				of surface soil	10cm	
							Soil		f surface soil	Gravel Sandy	Silt Clay
-	Name		$\sim$		ulachu		Condition	pН		6.3	
-	Water source		River			Vell	Condition		ying up water with		
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s)	)		15cm depth	h in paddy field		
Water	discharge	Dry season	Nil	> Avail	lable $(m^3/s)$	)		-Almost all	farmers are doing	only rain fed cultivation.	
	Water taken	Rainy season	Enou	ıgh	Not enough	l					
	by intake	Dry season	Enou	gh	Not enoug	ז	Remarks				
	Ouolity in	pH			-		INCHIGINS				
	Quality in	EC			-						
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/3/30



Picture-2: Situation of Canal Date:2012/3/30





No.	G-4	(No. in the	original list)	228	]					Date of surve	ey: 2012/3/30
	Name	-	Dhul	achu Irrig	gation Channe			Name		Uppe	r Pelrithang
	Dzongkhag			Sa	rpang			Area		56.65 acre	(22.93 ha)
	Gewog			Ge	elephu		Command	Number of	house holds		19
	Latitude		26 °	54	.' 26.0 "	N	Area	Distance to	road		0.0 km
	Longitude		90 °	29	8.0 "	E		Time to get	t to road		0 min
	Type of intak	e facility	(Concrete)	Gabion	Rock Earth	Wood		Transporta	tion way to road		-
	Constructed y	/ear*			-		Operation	Organizatio	on		-
Intake	Construction	Material		Governme			and	Activity			l maintenance
system		Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget		Covered by Gov	ernment Beneficiarie
	Latest rehabil				-		Management	Water use f			-
	Length of Car	nal	(		.5 km			Variety	Rainy season	Pad	ldy, Maize
	Structure of C	Canal	Concrete (V	et masonry	y) Earth	Pipe	Cropping	-	Dry season	Ma	ize, Millet
	Function*		Functi	onal	Non Function	nal	Cropping	Fertilizer			-
			Intake facility can	not take w	ater properly becau	use elevation		Manure		C	ow dung
	Problems		of canal bottom is	1.5m highe	er than river bed. A	Along the			of surface soil		10cm
			canal, there happe				Soil		f surface soil	Gravel Sa	ndy Silt Clay
	Name				ulachu		Condition	pН			6.5
	Water source		River	S	Γð	Vell	Condition		ving up water with		7days
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s	5)		15cm depth	n in paddy field		/days
Water	discharge	Dry season	Nil	) Avai	lable $(m^3/s)$	5)		-Only half	of beneficiaries can	use irrigation water.	
source	Water taken	Rainy season	Enou	gh	Not enough	9		-Instead of	earth canal, concret	te canal is under cons	truction.
	by intake	Dry season	Enou	gh	Not enoug	9	Remarks	-	-		paddy seed well grown
	Quality in	pH			-		Remarks	under rain	fed condition and g	ained good productiv	ity.
		EC			-						
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/3/30



Picture-2: Situation of Canal Date:2012/3/30





No.	G-5	(No. in the	original list)	233	1					Date of survey:	2012/3/30
	Name		Tar	ulay Irrig	ation channe			Name		Dzomling	thang
	Dzongkhag			Sa	rpang			Area		50.39 acre	(20.39 ha)
	Gewog			Ge	elephu		Command	Number of	house holds	25	
	Latitude		0		' "	Ν	Area	Distance to	o road	0.0 ki	n
	Longitude		0			Е		Time to get	t to road	0 mii	ı
	Type of intak		Concrete	Gabion	Rock Earth	Wood		· ·	tion way to road	-	
	Constructed y	1			.978		Operation	Organizatio	on	-	
Intake	Construction			Governme	11		and	Activity		-	
2	cost*	Workforce	Covered by	Governme	ent Beneficiarie	Donor	Management*	Budget		Covered by Governm	ent Beneficiaries
	Latest rehabil				-		Management	Water use		-	
	Length of Car				0 km			Variety	Rainy season	Paddy, H	
	Structure of C	Canal	Concrete (W		,	Pipe	Cropping	-	Dry season	Maize, Millet, Must	ard, Buckwheat
	Function*		Functio		Non Function	nal	o.oppg	Fertilizer		-	
			Intake facility does	sn't work p	roperly.			Manure		Cow du	e e
	Problems								of surface soil	15cn	
							Soil		f surface soil	Gravel Sandy	Silt Clay
	Name				ılaychu		Condition	pН		6.1	
	Water source		River		F 8	Well	Condition		ying up water with	7day	s
	Water	Rainy season	Nil	Avail	lable ( m <sup>3</sup> /	s)		15cm depth	h in paddy field	, auj	<b>,</b>
Water	discharge	Dry season	Nil	Avai	lable $(m^3/$	(s)		-	· · ·	ne others do not do any cul	tivation due to
source	Water taken	Rainy season	Enou	gh	Not enoug			damage of	wild animals and la	ck of irrigation water.	
	by intake	Dry season	Enou	gh	Not enoug	₽ ₽	Remarks				
	Quality in	pH			-		Remarks				
	dry season	EC			-						
	ury season	Temperature			-						

Picture-1: Situation of intake facility

Date:

alt.	
	Difficult to access

Picture-2: Situation of Canal

Date: Difficult to access



**B-6:** Hilley Gewog

No.	H-1	(No. in the	original list)	3	1					Date of	survey:	2012/3/29
	Name			Gurung K	hola Kulo 3			Name			Hilley	
	Dzongkhag			Sa	rpang			Area		37.19 acr	e	(15.05 ha)
	Gewog			Н	lilley		Command	Number of	house holds		15	
	Latitude		26	5° 52	' 14.7 " N		Area	Distance to	road		0.5 km	
	Longitude		90	-				Time to get			20 min	
	Type of intak		Concrete	Gabion	Rock Earth	Wood		· ·	tion way to road		On foot	
	Constructed y	1			1970		Operation	Organizatio	on		-	
	Construction		Covered by			Donor	and	Activity			nnual mainter	$\sim$
system		Workforce	Covered by	Governme	en Beneficiaries	Donor	Management*	Budget		Covered by	Governmen	Beneficiaries
	Latest rehabil				-		Management	Water use f			-	
	Length of Car				.5 km			Variety	Rainy season		Paddy	
	Structure of C	Canal		Wet masonry		Pipe	Cropping	-	Dry season		Maize	
	Function*			ctional	Non Functional		5 11 3	Fertilizer			-	
	<b>N</b> 11		-	an not take w	ater properly due to r	10		Manure	0 0 11		Cow dung	
	Problems		structure.						of surface soil	G 1	G 1 (	
	NT			0	171 1		Soil		f surface soil	Gravel	Sandy S	Silt Clay
	Name				ng Khola	11	Condition	pH				
	Water source		River		pring We	11	o o namon		ying up water with		3-7days	
	Water	Rainy season	Nil	Avai	$lable \qquad ( m^{3}/s)$			-	n in paddy field		•	
Water	discharge	Dry season	🔵 Nil	🔾 🔵 Avai	lable $(\underline{m^3/s})$				mand are, there is s			
source	Water taken	Rainy season	En	ough	Not enough			would like	to install water pom	p to use this wa	ter for irrigati	on.
	by intake	Dry season	En	ough	Not enough		Remarks					
	Quality in	pH			-		. ternunto					
	dry season	EC			-							
	ary season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/3/29



Picture-2: Situation of Canal Date:2012/3/29





No.	H-2	(No. in the	original list)	38					Date of survey	: 2012/4/13
	Name			Hadza	ari Kulo		Name		Kh	opitar
	Dzongkhag			Sa	rpang		Area		21.95 acre	(8.88 ha)
	Gewog				illey	Command	Number of	house holds		10
	Latitude		26		' 8.0 " N	Area	Distance to	road	5.	0 km
	Longitude		90 °				Time to get		12	0 min
	Type of intak		Concrete	Gabion (	Rock Earth Wood		<u>^</u>	tion way to road	Oı	n foot
	Constructed y				970's	 Operation	Organizatio	on		-
	Construction		Covered by	Governme		 and	Activity			naintenance
system	cost*	Workforce	Covered by	Governme		Management*	Budget		Covered by Gover	rnmen Beneficiaries
	Latest rehabil				011	Management	Water use			-
	Length of Car		$\frown$		0 km		Variety	Rainy season		addy
	Structure of C	Canal	Concrete		) Earth Pipe	 Cropping		Dry season	N	laize
	Function*		Funct		Non Functional	oropping	Fertilizer			-
				-	properly but canal can not		Manure			w dung
	Problems				ficiary area because a lot of			of surface soil		han 30cm
			leaking happens a			Soil		f surface soil	Gravel Sand	
	Name				Khola	Condition	pН		(	6.4
	Water source		River	) S	pring Well	Condition		ying up water with	21	nours
	Water	Rainy season	Nil	Avail	able $(m^3/s)$		15cm depth	n in paddy field	21	10013
Water	discharge	Dry season	Nil	Availa	$(0.090 \text{ m}^3/\text{s})$		- Road con	necting village and	main road will be cons	tructed next year.
source	Water taken	Rainy season	Eno	ugh	Not enough					
500100	by intake	Dry season	Enou	ıgh	Not enough	Remarks				
	Quality in	pH		8	3.5	Remarks				
		EC			0 ms/m					
	dry season	Temperature			.0 °C					

# Picture-1: Situation of intake facility Date:2012/4/13



#### Picture-2: Situation of Canal





No.	H-8	(No. in the	original list) 4	7				Date of	survey:	2012/3/29
	Name		Chuwan	Khola Kulo 1		Name			Hilley	
	Dzongkhag		S	arpang		Area		9.44 acre	•	(3.82 ha)
	Gewog			Hilley	Command	Number of	f house holds		10	
	Latitude			1 ' 59.1 " N	Area	Distance to	o road		0.6 km	
	Longitude			4' <u>39.3</u> "E		Time to ge	t to road		20 min	
	Type of intak		Concrete Gabion (	Rock Earth Wood			tion way to road		On foot	
	Constructed y			-	Operation	Organizati	on		-	
	Construction		Covered by Governn		- and	Activity			nnual mainten	
system	cost*	Workforce	Covered by Governn	nent Beneficiaries Donor	- Management*	Budget		Covered by	Government	Beneficiaries
	Latest rehabil			-	Management	Water use			-	
	Length of Car			1.0 km		Variety	Rainy season		Paddy	
	Structure of C	Canal	Concrete (Wet mason		Cropping		Dry season		Maize	
	Function*		Functional	Non Functional	oropping	Fertilizer			-	
						Manure			Cow dung	
	Problems						of surface soil			
					Soil		of surface soil	Gravel	Sandy S	ilt Clay
	Name			an Kholshey	Condition	pН				
	Water source		(River)	Spring Well			ying up water with		3-7days	
	Water	Rainy season	Nil (Ava	$(m^3/s)$		15cm dept	h in paddy field		5 / duys	
Water	discharge	Dry season	Nil Ava	$\frac{1}{m^{3}/s}$						
source	Water taken	Rainy season	Enough	Not enough						
	by intake	Dry season	Enough	Not enough	Remarks					
	Quality in	pH		-	Kenturks					
	dry season	EC		-						
	ury season	Temperature		-						

Picture-1: Situation of intake facility

Date:2012/3/29



Picture-2: Situation of Canal





**B-7:** Jimecholing Gewog

No.	J-1	(No. in the	original list)	175					Date of s	urvey:	2012/4/10
	Name			Bas	ghari		Name			Daraga	on
	Dzongkhag			Sar	pang		Area		105.00 acre	e	(42.49 ha)
	Gewog				choling	Command	Number of	house holds		12	
	Latitude		26 °		' 55.0 " N	Area	Distance to	road		1.0 km	n
	Longitude		90 °				Time to get			20 mi	
	Type of intak		Concrete		Rock Earth Wood		<u> </u>	tion way to road		On for	
	Constructed y				920	Operation	Organizatio	on			organized)
	Construction		Covered by		nt Beneficiaries Donor	and	Activity				ploying water guard
system	cost*	Workforce	Covered by	Governme	nt Beneficiaries Donor	- Management*	Budget		Covered by	Governme	ent Beneficiaries
	Latest rehabil	•			-	Management	Water use			-	
	Length of Car		$\bigcap$		5 km		Variety	Rainy season		Paddy, M	
	Structure of C	Canal		Vet masonry		Cropping		Dry season	Maize	e, Millet,	Vegetable
	Function*		Functi		Non Functional	or opping	Fertilizer			-	
			There are much c	anal erosion			Manure			Cow du	0
	Problems							of surface soil		Iore than	
						Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name				ri Kholsa	Condition	pН			6.7	
	Water source		Rive		oring Well	Condition		ying up water with			
	Water	Rainy season	Nil	Avail	able (m <sup>3</sup> /s)		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Availa	$(0.010 \text{ m}^3/\text{s})$		- Farmers u	ising this irrigation	system provide pa	addy to w	ater guard.
source	Water taken	Rainy season	Ð	nough	Not enough						
		Dry season	Ű	nough	Not enough	Remarks					
	Quality in	pН		8	3.5	Remarks					
		EC			ms/m						
	dry season	Temperature		15.	.4 °C						

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-2	(No. in the	original list)	184	ן				Date of	survey:	2012/4/9
	Name			Panite	ey Kuloo		Name			Saundal	ey
	Dzongkhag			Sa	rpang		Area		90.00 act	re	(36.42 ha)
	Gewog				echoling	Command	Number of	f house holds		25	
	Latitude		27		' 4.4 " N	Area	Distance to	o road		1.0 km	1
	Longitude		90	-			Time to ge			15 mir	
	Type of intake		Concrete	Gabion	Rock Earth Wood		<u>^</u>	tion way to road		On foo	
	Constructed y				940	Operation	Organizati	on		A (Privately	
	Construction		Covered by		ent Beneficiaries Donor	and	Activity				ploying water guard
		Workforce	Covered by	Governme	ent Beneficiaries Donor	- Management*	Budget		Covered by	Governme	ent Beneficiaries
	Latest rehabil				-	managomont	Water use			-	
1	Length of Car				0 km	_	Variety	Rainy season		Paddy, M	
	Structure of C	Canal		Vet masonry		Cropping	· ·	Dry season	Buckv	vheat, Mille	t, Vegetable
	Function*			ional	Non Functional		Fertilizer			~ .	
			Intake can not tak	ke water pro	perly because there are no		Manure			Cow du	0
	Problems		structure.					of surface soil		More than 2	
					¥71 1	Soil		of surface soil	Gravel	Sandy	Silt Clay
	Name				ey Kholsa	Condition	pН			6.7	
	Water source		Riv		pring Well	-		ying up water with			
	Water	Rainy season	Nil	Avai	lable (m <sup>3</sup> /s)		<u>^</u>	h in paddy field			
Water	discharge	Dry season	Nil	Avail	able $(0.002 \text{ m}^3/\text{s})$		- Farmers u	using this irrigation	system provide	paddy to wa	ater guard.
source	Water taken	Rainy season	Œ	Enough	Not enough						
	by intake	Dry season	E	Enough	Not enough	Remarks					
	Quality in	pН			7.7	Remarks					
	Quality in	EC			0 ms/m						
	dry season	Temperature		14	I.4 ℃						

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	J-3	(No. in the	original list)	185	ן					Date of su	rvey:	2012/4/9
	Name			Dhare	ey Kuloo			Name			Saundale	у
	Dzongkhag			Sa	rpang			Area		50.00 acre		(20.23 ha)
	Gewog				choling		Command	Number of	house holds		12	
	Latitude		27		=		Area	Distance to	road		1.0 km	
	Longitude		90					Time to get			15 min	
	Type of intak		Concrete	Gabion	Rock Earth Wood			<u>^</u>	tion way to road		On foot	
	Constructed y				914		Operation	Organizatio	on			organized)
	Construction		Covered by		ent Beneficiaries Donor		and	Activity				loying water guard
		Workforce	Covered by	Governme	ent Beneficiaries Donor		Management*	Budget	_	Covered by C	Bovernmer	at Beneficiaries
	Latest rehabil				-		managomont	Water use			-	
	Length of Car				5 km	_		Variety	Rainy season	Paddy, Mille		l, Buckwhkeat
	Structure of C	Canal		Wet masonry		_	Cropping		Dry season		Vegetabl	e
	Function*		Funct		Non Functional	_		Fertilizer			-	
			Intake can not tak	ke water pro	perly because there are no			Manure			Cow dun	ę
	Problems		structure.						of surface soil		ore than 3	
				51	¥71 1	41	Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name				ey Kholsa		Condition	pН			6.8	
	Water source	[	Riv		pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avai	$lable$ ( $m^3/s$ )			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avail	<u>able</u> $(0.002 \text{m}^3/\text{s})$			- Farmers u	ising this irrigation	system provide pa	ddy to wat	er guard.
source	Water taken	Rainy season	$\subseteq$	Enough	Not enough							
	by intake	Dry season	E	Enough	Not enough		Remarks					
	Quality in	pН			7.7		Remarks					
	Quality in	EC			0 ms/m							
	dry season	Temperature		15	5.6 ℃							

Picture-1: Situation of intake facility Date:2012/4/9



Picture-2: Situation of Canal Date:2012/4/9





No.	J-4	(No. in the	original list)	168						Date of s	survey:	2012/4/10
	Name			Jante	Kuloo(3)			Name			Daragac	n
	Dzongkhag				rpang			Area		30.00 acre	e	(12.14 ha)
	Gewog				choling		Command	Number of	house holds		21	
	Latitude		27			N	Area	Distance to	o road		1.0 km	l
	Longitude		90			E		Time to ge			15 min	
	Type of intak		Concrete	Gabion	Rock Earth	Wood		· ·	tion way to road		On foo	t
	Constructed y				920		Operation	Organizati	on		-	
	Construction		Covered by		ent Beneficiaries		and	Activity			nnual maint	
	cost*	Workforce	Covered by	Governme	ent Beneficiaries	> Donor	Management*	Budget		Covered by	Governme	n Beneficiarie
	Latest rehabil				-		managomont	Water use			-	
	Length of Car				5 km	_		Variety	Rainy season		Paddy, Ma	
	Structure of C	Canal		Wet masonry		Pipe	Cropping		Dry season	Ma	aize, Potato	o, Bean
	Function*		Funct	tional	Non Function	al	oropping	Fertilizer			-	
								Manure		-	Cow du	0
	Problems								of surface soil		More than 3	
							Soil		of surface soil	Gravel	Sandy	Silt Clay
	Name				y Kholsa		Condition	pН			6.6	
	Water source		Riv		pring Well		oonalion		ying up water with			
		Rainy season	Nil	Avail	$able$ ( $m^3/s$ )	)		15cm dept	h in paddy field			
Water	discharge	Dry season	Nil	Availa	$(0.010 \text{ m}^3/\text{s})$	5)						
source	Water taken	Rainy season	(	Enough	Not enough							
	by intake	Dry season	(	Enough	Not enough		Remarks					
	Quality in	pН			7.5		Remarks					
		EC			) ms/m							
	dry season	Temperature		16	.2 °C							

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-5	(No. in the	original list)	217					Date of survey:	2012/4/10
	Name			Gumt	i Kuloo		Name		Samp	agang
	Dzongkhag			Sai	rpang		Area		30.00 acre	(12.14 ha)
	Gewog				choling	Command	Number of	f house holds	1	5
	Latitude		27		2010 11	Area	Distance to	o road	1.0	km
	Longitude		90				Time to ge			min
	Type of intake		Concrete		Rock Earth Wood			ation way to road	On	foot
	Constructed y			-	935	Operation	Organizati	on	-	•
	Construction		Covered by		nt Beneficiaries Donor	and	Activity		Annual ma	
		Workforce	Covered by	Governme	nt Beneficiaries Donor	- Management*	Budget		Covered by Govern	ment Beneficiaries
	Latest rehabil				-	Management	Water use		-	
	Length of Car				0 km		Variety	Rainy season		ize, Beans
	Structure of C	Canal	Concrete (V	Wet masonry		Cropping	-	Dry season	Maize, Mus	tard, Potato
	Function*			tional	Non Functional	oropping	Fertilizer		-	
			There are a lot of	leaking from	n canal.		Manure		Cow	0
	Problems							of surface soil	More the	
						Soil		of surface soil	Gravel Sandy	
	Name		$\sim$		i kholsa	Condition	pН		6.	7
	Water source		Riv	er Sl	pring Well	Condition		ying up water with		
	Water	Rainy season	Nil	Avail	able $(m^3/s)$		15cm dept	h in paddy field		
Water	discharge	Dry season	Nil	Availa	$(0.013 \text{ m}^3/\text{s})$		-According	g to the result of fiel	ld survey, Name of Wate	r source is "Betini."
source	Water taken	Rainy season	Œ	Enough	Not enough		- Crops are	e damaged by wild a	nimals.	
	by intake	Dry season		Enough	Not enough	Remarks				
	Quality in	pH			3.0	I CHIMINS				
	Quality in	EC		5.40	ms/m					
	dry season	Temperature		14	.8 °C					

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-6	(No. in the	original list)	224	ן					Date of survey:	2012/4/10
	Name			Dawa	a Kuloo			Name		Samapa	agang
	Dzongkhag			Sa	rpang			Area		30.00 acre	(12.14 ha)
	Gewog				choling		Command	Number of	house holds	10	)
	Latitude		27		' 51.2 " N		Area	Distance to	o road	1.01	cm
	Longitude		90					Time to get		30 n	
	Type of intak		Concrete	Gabion (		bod			tion way to road	On f	oot
	Constructed y			-	935		Operation	Organizatio	on	-	-
	Construction		Covered by	Governme		nor	and	Activity		Annual ma	
system	cost*	Workforce	Covered by	Governme	ent Beneficiaries Do	onor	Management*	Budget		Covered by Governi	nent Beneficiaries
	Latest rehabil				-		g	Water use		-	
	Length of Car				0 km			Variety	Rainy season	Paddy,	
	Structure of C	Canal		Wet masonry		pe	Cropping	-	Dry season	Maize, Bea	in, Potato
	Function*			tional	Non Functional			Fertilizer		-	
			There are a lot of	leaking from	m canal.			Manure		Cow c	0
	Problems								of surface soil	More tha	
							Soil		of surface soil	Gravel Sandy	
	Name		$\sim$		a Khola		Condition	pН		6.9	)
	Water source		Riv	er) S	pring Well		Condition		ying up water with		
	Water	Rainy season	Nil	Avai	lable $(m^3/s)$			15cm deptl	h in paddy field		
Water	discharge	Dry season	Nil	Availa	able $(0.030 \text{m}^3/\text{s})$			-According	g to the result of fiel	d survey, Name of Water	source is "Betini."
source	Water taken	Rainy season	I	Enough	Not enough						
	by intake	Dry season	Η	Enough	Not enough		Remarks				
	Quality in	pН		8	8.0		Noniunt3				
	Quality in	EC			) ms/m						
	dry season	Temperature		14	.8 ℃						

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-10	(No. in the	original list)	225	ן				Date of survey	: 2012/4/10
	Name			Nad	o kuloo		Name		Sar	nkhara
	Dzongkhag			Sa	rpang		Area		25.00 acre	(10.12 ha)
	Gewog				choling	Command	Number of	house holds		10
	Latitude		27		' 50.6 " N	Area	Distance to	road	1.	0 km
	Longitude		90			_	Time to get			) min
	Type of intak		Concrete	Gabion	Rock Earth Wood		<u>^</u>	tion way to road	0	n foot
	Constructed y	1			.935	Operation	Organizatio	on		-
	Construction		Covered by		ent Beneficiaries Donor	and	Activity			naintenance
system		Workforce	Covered by	Governme	ent Beneficiaries Donor	- Management*	Budget		Covered by Gove	rnmen Beneficiaries
	Latest rehabil				-	managomont	Water use			-
	Length of Ca		$\frown$		5 km	_	Variety	Rainy season		Maize, Bean
	Structure of C	Canal		Wet masonry	· •	Cropping		Dry season	Maize, M	ustard, Potato
	Function*		Func	tional	Non Functional		Fertilizer		~	-
							Manure			w dung
	Problems							of surface soil		han 30cm
						Soil		f surface soil	Gravel San	
	Name				o kholsa	Condition	pН			6.9
	Water source		Riv		pring Well			ying up water with		
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s)		Å	n in paddy field		
Water	discharge	Dry season	Nil	Availa	$(0.030 \text{ m}^3/\text{s})$		-According	g to the result of fiel	ld survey, Name of Wa	ter source is "Betini."
source	Water taken	Rainy season	D	Enough	Not enough					
	by intake	Dry season	]	Enough	Not enough	Remarks				
	Quality in	pH			8.0	rtomanto				
	dry season	EC			0 ms/m					
	ury season	Temperature		14	₽.8 °C					

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-15	(No. in the	original list)	172	ו					Date of	survey:	2012/4/10
	Name			Sepa	i Kuloo			Name			Daragao	on
	Dzongkhag			Sa	rpang			Area		22.80 acr	e	(9.23 ha)
	Gewog			Jime	choling		Command	Number of	house holds		11	
	Latitude		27	° 0	' 44.3 " N		Area	Distance to	road		1.0 kn	1
	Longitude		90					Time to get	to road		15 mir	
	Type of intak		Concrete	Gabion (	Rock Earth	Wood		1	tion way to road		On foc	-
	Constructed y			-	920		Operation	Organizatio	on		(Privately	
	Construction	Material	Covered by		ent Beneficiaries	Donor	and	Activity				ploying water guard
system		Workforce	Covered by		ent Beneficiaries	Donor	Management*	Budget		Covered by	Governme	ent Beneficiaries
	Latest rehabil				2009		Management	Water use f			-	
	Length of Ca		$\frown$		2 km			Variety	Rainy season		Paddy, M	
	Structure of C	Canal		Wet masonry		Pipe	Cropping		Dry season	М	aize, Millet	, Potato
	Function*		Func	tional	Non Functional		oropping	Fertilizer			-	
								Manure			Cow du	5
	Problems								of surface soil		More than	
							Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name				ii Khola		Condition	pН			6.6	
	Water source		Ri		pring Well		Condition		ving up water with			
	Water	Rainy season	Nil	Avail	$(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avai	lable $(m^3/s)$			-According	to the result of fiel	d survey, numbe	er of HH is	17.
source	Water taken	Rainy season	~	Enough	Not enough							
	by intake	Dry season		Enough	Not enough		Remarks					
	Quality in	pH			-		Remarks					
	dry season	EC			-							
	ury season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-16	(No. in the	original list)	166	]					Date of	survey:	2012/4/10
	Name			Jante	Kuloo(1)			Name			Daragao	n
	Dzongkhag			Sa	rpang			Area		21.00 acr	e	(8.50 ha)
	Gewog				echoling		Command	Number of	house holds		12	
	Latitude		26	° 59	' 55.0 " N	1	Area	Distance to	road		0.5 km	
	Longitude		90					Time to get	t to road		15 min	
	Type of intak		Concrete	Gabion	Rock Earth	Wood		· ·	tion way to road		On foo	
	Constructed y				1920		Operation	Organizatio	on		(Privately)	
	Construction		Covered by		ent Beneficiaries		and	Activity				loying water guard
2	cost*	Workforce	Covered by	Governme	ent Beneficiaries	> Donor	Management*	Budget		Covered by	Governme	nt Beneficiaries
	Latest rehabil	•			-		Management	Water use f			-	
	Length of Car		$\frown$		.5 km			Variety	Rainy season	Pa	ddy, Maize,	
	Structure of C	Canal		Wet masonry		Pipe	Cropping	-	Dry season		Chilly, Be	an,
	Function*		Funct		Non Functiona		oropping	Fertilizer			-	
			There are much c	canal erosior	n and land slide alon	g canal.		Manure			Cow dur	ç
	Problems								of surface soil		More than 3	
							Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name				y Kholsa		Condition	pН			6.9	
	Water source	1	Riv	~	pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avai	lable ( $m^3/s$ )			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avail	able $(0.010 \text{ m}^3/\text{s})$	)		- Intake fac	ility is an temporary	y structure at roa	ad side.	
source	Water taken	Rainy season	Η	Enough	Not enough							
	by intake	Dry season	Ι	Enough	Not enough		Remarks					
	Quality in	pН			8.5		Kenturks					
	dry season	EC			0 ms/m							
	ury season	Temperature		15	5.4 °C							

Picture-1: Situation of intake facility Date:2012/4/10



Picture-2: Situation of Canal Date:2012/4/10





No.	J-24	(No. in the	original list)	165	ן					Date of	f survey:	2012/4/10
	Name			Hiti	kuloo			Name			Daragao	on
	Dzongkhag			Sa	rpang			Area		18.00 ac	ere	(7.28 ha)
	Gewog			Jime	choling		Command	Number of	house holds		12	
	Latitude		27		' 49.9 " N		Area	Distance to	road		1.0 km	1
	Longitude		90	-				Time to get			30 mir	
	Type of intak	•	Concrete	Gabion 🤇		/ood		A .	tion way to road		On foo	
	Constructed y				.920		Operation	Organizatio	on		A (Privately	-
	Construction	Material	Covered by			onor	and	Activity				oloying water guard
system		Workforce	Covered by	Governme	ent Beneficiaries Do	onor	Management*	Budget		Covered by	Governme	n Beneficiaries
	Latest rehabil	•			-		Management	Water use f			-	
	Length of Car				5 km			Variety	Rainy season		Paddy, M	
	Structure of C	Canal		Wet masonry		ipe	Cropping		Dry season		Maize, Po	tato
	Function*		Funct	tional	Non Functional		oropping	Fertilizer			-	
								Manure			Cow du	Ű.
	Problems								of surface soil	~ .	More than 2	
							Soil		f surface soil	Gravel	Sandy	Sil Clay
	Name		<b>D</b> :		ikholsa		Condition	pH			6.8	
	Water source		Riv		pring Well		o o namon		ying up water with			
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s)			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avail	able $(0.002 \text{m}^{3}/\text{s})$							
source	Water taken	Rainy season	Q	Enough	Not enough							
	by intake	Dry season	Ι	Enough	Not enough		Remarks					
	Quality in	pН			6.7		Romanto					
	dry season	EC			0 ms/m							
	ary season	Temperature		18	3.3 ℃							

Picture-1: Situation of intake facility Date:2012/4/10

Picture-2: Situation of Canal Date:2012/4/10





**B-8:** Sengye Gewog

No.	Sen-1	(No. in the	original list)	240	]					Date of survey:	2010/4/2
	Name			Bara	al kulo			Name		Sis	ity A
	Dzongkhag			Sa	rpang			Area		59.05 acre	(23.90 ha)
	Gewog				engye		Command	Number of	house holds	,	24
	Latitude		26		' 59.4 "	N	Area	Distance to	road	0.0	) km
	Longitude		90			E		Time to get		0	min
	Type of intake		Concrete	Gabion 🤇	Rock Earth	Wood		<u>^</u>	tion way to road		-
	Constructed y				-		Operation	Organizatio	on		tely organized)
	Construction		Covered by	Governme			and	Activity			Employing water guard
system		Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget	_	-	nment Beneficiaries
-	Latest rehabili				-		managomont	Water use			IH or paddy
-	Length of Car				0 km			Variety	Rainy season		aize, Millet
	Structure of C	Canal		Wet masonry		Pipe	Cropping	-	Dry season	Wheat,	Vegetable
-	Function*		Funct		Non Function		5 111 3	Fertilizer			-
	D 11				needed every year	due to the		Manure	<u> </u>		/ dung
	Problems		damage by flood.						of surface soil		Bcm
	Name			Ciat			Soil		f surface soil	Gravel Sand	
			Dia		y khola		Condition	pH	• . •.•	3	.5
-	Water source	D :	Riv		pring Well				ying up water with	2-5	days
		Rainy season	Nil		$able (m^3/s)$			-	n in paddy field		-
Water		Dry season	Nil	Availa		s)				even in dry season and on	
source	Water taken	Rainy season		Enough	Not enough				•	esting season was just the b	ve up to make paddy in dry
-	by intake	Dry season	I	Enough	Not enough		Remarks	season.	of paddy was so serie	ous. Therefore farmers gav	e up to make paddy in dry
		pH			3.2				addy, farmers farm f	ish in dry season	
	dry season	EC			0 ms/m					in another type of paddy w	which can be harvested
	ary season	Temperature	1 (* 11	23	.5 ℃					ke paddy in dry season	men eun de nur (esteu

# Picture-1: Situation of intake facility Date:2010/4/2



# Picture-2: Situation of Canal Date:2010/4/2





No.	Sen-2	(No. in the	original list)	239	ן					Date of survey:	2010/4/2
	Name			Maza	an kulo			Name		Sisty	A
	Dzongkhag			Sa	rpang			Area		46.95 acre	(19.00 ha)
	Gewog				engye		Command	Number of	house holds	25	
	Latitude		26			N	Area	Distance to	road	0.0 k	
	Longitude		90			E		Time to get		0 m	in
	Type of intak		Concrete	Gabion (	Rock Earth	Wood		<u> </u>	tion way to road	-	
	Constructed y				-		Operation	Organizatio	on	WUA (Private)	• •
	Construction		Covered by	Governme	$\sim$		and	Activity		Annual maintenance, En	
system	cost*	Workforce	Covered by	Governme		Donor	Management*	Budget		Covered by Governm	
	Latest rehabil				chabilitation			Water use		150BTN/H	<u>^</u>
	Length of Car				0 km			Variety	Rainy season	Paddy, Mai	
	Structure of C	Canal	Concrete (V			Pipe	Cropping	,	Dry season	Wheat, Ve	egetable
	Function*		Funct		Non Function	al	5 111 3	Fertilizer		-	
	<b>N</b> 11		Canal is under rel	nabilitation.				Manure	0 0 11	Cow d	ů.
	Problems								of surface soil	180	$\sim$
	NT			<b>C</b> ' 4	11 1		Soil		f surface soil	Gravel Sandy	(Silt Clay)
	Name				y khola		Condition	pH		5.5	
	Water source		Riv		pring Well				ying up water with	2-5da	avs
	Water	Rainy season	Nil	Avai	<u>lable</u> ( $m^3/s$ )	,		,	n in paddy field		•
Water	discharge	Dry season	Nil	Avail	able) $(0.468 \text{m}^3/\text{s})$	s)			•	even in dry season and once	1 · ·
source	Water taken	Rainy season	Œ	nough	Not enough					esting season was just the beg	
	by intake	Dry season	Œ	nough	Not enough		Remarks	season.	of paddy was so serie	ous. Therefore farmers gave	up to make paddy in dry
	Quality in	pH			8.2				addy, farmers farm f	ish in dry season	
	dry season	EC			0 ms/m					in another type of paddy whi	ich can be harvested
	2	Temperature	1 (* 11	23	3.5 ℃					ke naddy in dry season	en eur se nu vested

Picture-1: Situation of intake facility Date:2010/4/2



Picture-2: Situation of Canal Date:2010/4/2





No.	Sen-3	(No. in the	original list)	234						Date of	f survey:	2010/4/2
	Name		Upper Senghe Kulo					Name		Hatikhuar		
	Dzongkhag		Sarpang					Area		36.10 ac	cre	(14.61 ha)
	Gewog		Sengye				Command	Number of house holds		20		
	Latitude		26 ° 49 ' 26.6 " N				Area	Distance to road		0.5 km		
	Longitude		90 ° 11 ' 9.3 " E					Time to get to road		20 min		
	Type of intake facility		Concrete Gabion Rock Earth Wood					Transportation way to road		On foot		
	Constructed year*		-				Operation	Organization		-		
	Construction Material		Covered by Government Beneficiaries Donor				and	Activity		Annual maintenance		
				Covered by Government Beneficiaries Donor				Budget		Covered by Government Beneficiaries		
	Latest rehabilitated year		2011 (Material is covered by RGoB)				Management*	Water use fee		-		
	Length of Canal		1.0 km					Variety	Rainy season	Paddy, Bean, Millet		Millet
	Structure of Canal		Concrete (Wet masonry) Earth Pipe			ipe	Cropping	Dry season		Maize		
	Function*		Functional Non Functional					Fertilizer		-		
								Manure		Cow dung		
	Problems							Thickness of surface soil Structure of surface soil		More than 30cm		$\sim$
	N		0 1 11 1				Soil		f surface soil	· · · ·		Silt QClay
	Name		Senghe khola				Condition	pH		5.6 Idays		
	Water source		River Spring Well				0 0 mailtion	Days of drying up water with				
		Rainy season	Nil	Avail	$able$ ( $m^3/s$ )			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Availa	able $(0.002 \text{ m}^3/\text{s})$							
source	Water taken	Rainy season	$\langle$	Enough	Not enough							
	by intake	Dry season	Enough Not enough				Remarks					
	( )110 11ty 1n	pН	7.3 10.67 ms/m 23.4 °C				Kenturks					
		EC										
	ury season	Temperature										

Picture-1: Situation of intake facility Date:2010/4/2



#### Picture-2: Situation of Canal





No.	Sen-4	(No. in the	original list)	236	ן					Date of s	survey:	2010/4/2
	Name		Koigaon kulo					Name		Koigaon		
	Dzongkhag		Sarpang					Area		35.50 acre	e	(14.37 ha)
	Gewog		Sengye				Command	Number of house holds		18		
	Latitude		$26^{\circ}$ $49'$ $56.3"$ N				Area	Distance to road		0.0 km		
	Longitude		90 ° 11 ' 15.5 " E					Time to get to road		0 min		
	Type of intake facility		Concrete Gabion Rock Earth Wood					Transportation way to road				
	Constructed year*		·				Operation	Organization		-		
	Construction Material		Covered by Government Beneficiaries Donor				and	Activity		Annual maintenance		
	cost*	Workforce	Covered by		ent Beneficiaries Donor		Management*	Budget		Covered by Government Beneficiaries		
	Latest rehabilitated year		2011 (Material is covered by RGoB)				managomont	Water use fee		-		
	Length of Canal		2.5 km					Variety	Rainy season	Paddy, Millet, Foxtail, Maize		ail, Maize
	Structure of Canal		(Concrete Wet masonry) (Earth Pipe)			)	Cropping	Dry season		Maize		
	Function*		Functional Non Functional				oropping	Fertilizer		-		
			Rehabilitation work has been needed every year due to the					Manure		Cow dung		
	Problems		damage by flood. Water amount taken by intake is not stable			•		Thickness of surface soil		More than 30cm		
			even in rainy season.				Soil		f surface soil			Silt Clay)
	Name		Tungkhola				Condition	pH		6.0		
	Water source		River Spring Well				Condition	Days of drying up water with		1days		
		Rainy season	Nil	Avai	ilable (m <sup>3</sup> /s)			15cm depth	n in paddy field	100,0		
Water	discharge	Dry season	Nil	Avail	lable $(0.003 \text{ m}^3/\text{s})$							
source	Water taken	Rainy season	E	Enough	Not enough							
300100	by intake	Dry season	E	Enough	Not enough		Remarks					
	()110/1tv 1n	pH			7.6		Komunto					
		EC		10.65 ms/m								
	•	Temperature	24.7 °C									

Picture-1: Situation of intake facility Date:2010/4/2



Picture-2: Situation of Canal Date:2010/4/2





No.	Sen-5	(No. in the	original list)	238	]					Date of survey	: 2010/4/2
	Name			Rum	dali kulo			Name		Si	sty B
	Dzongkhag			Sa	rpang			Area		22.05 acre	(8.92 ha)
	Gewog				engye		Command	Number of	house holds		14
	Latitude		26		4.6 "	Ν	Area	Distance to	road	0.	3 km
	Longitude		90			E		Time to get			) min
	Type of intake		Concrete	Gabion	(Rock) (Earth	) Wood		Transporta	tion way to road	-	n foot
	Constructed y			$\sim$			Operation	Organizati	on		ately organized)
	Construction		Covered by				and	Activity			, Employing water guard
system		Workforce	Covered by	Governm	ent Beneficiaries	Donor	Management*	Budget			rnment Beneficiaries
	Latest rehabil				-		Management	Water use			/HH or crop
	Length of Car				.0 km			Variety	Rainy season		Iaize, Millet
	Structure of C	lanal		Wet masonry	y) (Earth)	Pipe	Cropping	,	Dry season	Wheat,	Vegetable
	Function*		Funct		Non Function		oropping	Fertilizer			-
					needed every year			Manure			w dung
	Problems			. Some part	of canal collapses of	due to land			of surface soil		8cm
			slide.				Soil		f surface soil	Gravel San	
-	Name				y khola		Condition	pН			5.5
	Water source		Riv		pring Well		Condition		ying up water with	2-	5days
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s	5)		-	n in paddy field		-
Water	discharge	Dry season	Nil	Avail	able) $(0.468 \text{m}^3/$	s)				even in dry season and o	
	Water taken	Rainy season	Ā	Enough	Not enough						beginning of rainy season
	by intake	Dry season	Œ	Enough	Not enough		Remarks	-	of paddy was so serie	ous. Therefore farmers ga	ve up to make paddy in dry
		pH			8.2		IXCIIIdIIX3	season.	adder former and former f	:	
	Quality in	EC		44.1	0 ms/m				addy, farmers farm f	in another type of paddy	which can be harvested
	dry season	Temperature		23	3.5 ℃					the naddy in dry season	which can be harvested

Picture-1: Situation of intake facility Date:2010/4/2



## Picture-2: Situation of Canal Date:2010/4/2





**B-9:** Sershong Gewog

No.	Ser-1	(No. in the	original list)	266						Date of su	rvey:	2012/4/6
	Name	-	Lo	thuen irrig	ation channel			Name			Lothuen	
	Dzongkhag			Sa	rpang			Area		145.55 acre		(58.90 ha)
	Gewog			Ser	shong		Command	Number of	house holds		84	
	Latitude		26				Area	Distance to	road		0.5 km	
	Longitude		90					Time to get			20 min	
	Type of intak		Concrete	Gabion 🤇	Rock Earth Wood			Transporta	tion way to road		On foot	
	Constructed y				986		Operation	Organizatio	on		Officially of	-
	Construction		Covered by	Governme			and	Activity				oying water guard
system		Workforce	Covered by		ent Beneficiarie Donor		Management*	Budget				Beneficiarie
	Latest rehabil				2 (on going)		munugement	Water use f	1	100	)BTN/HH/	Year
	Length of Car		$\frown$		3 km			Variety	Rainy season		Paddy	
	Structure of C	Canal		et masonry			Cropping		Dry season		Maize	
	Function*		Func		Non Functional		oropping	Fertilizer			-	
					needed every year due to th			Manure			Cow dung	
	Problems				river bank supporting canal	is			of surface soil		15cm	
			damaged by floo		a lot of leaking from canal.		Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name				aichhu		Condition	pН				
	Water source	1	Riv	ver S	pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avail	able $(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Availa	ble $(3.390 \text{ m}^3/\text{s})$			-According	to the result of field	ld survey, Name of	f Water sou	rce is "Barshong
source	Water taken	Rainy season	Q	Enough	Not enough			chu."				
300,000	by intake	Dry season	$\bigcirc$	Enough	Not enough		Remarks					
	Quality in	pН			7.3		Remarks					
	dry season	EC			0 ms/m							
	•	Temperature			.5 °C							

Picture-1: Situation of intake facility Date:2012/4/6



Picture-2: Situation of Canal Date:2012/4/6





No.	Ser-2	(No. in the	original list)	264	ן					Date of su	rvey:	2012/4/5
	Name		No	rbuling irri	igation channel			Name			Norbuling	,
	Dzongkhag			Sa	rpang			Area		96.40 acre		(39.01 ha)
	Gewog				shong		Command	Number of	house holds		53	
	Latitude		26		' 44.7 " N		Area	Distance to	road		0.5 km	
	Longitude		90					Time to get			20 min	
	Type of intake		Concrete	Gabion (		Vood		<u>^</u>	tion way to road		On foot	
	Constructed y				976	_	Operation	Organizatio	on		-	
	Construction		Covered by	Governme		Donor	and	Activity			ual mainter	
system		Workforce	Covered by	Governme	ent Beneficiaries D	Donor	Management*	Budget		Covered by C	Bovernment	Beneficiaries
	Latest rehabili				-		managomont	Water use f			-	
	Length of Car		$\frown$		0 km			Variety	Rainy season		Paddy	
	Structure of C	anal		Wet masonry	,	Pipe	Cropping	•	Dry season		Maize	
	Function*		Funct		Non Functional		5 111 3	Fertilizer			-	
	D 11				needed every year due	to the		Manure	C C 11		Cow dung	
	Problems		damage by flood						of surface soil		20cm	
	NT			N	1		Soil		f surface soil	Gravel	2	Silt Clay
-	Name		( Di		ling chhu		Condition	pH			5.9	
	Water source	<b>.</b>	Riv		pring Well				ying up water with			
		Rainy season	Nil	Avai	$(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avail								
source	Water taken	Rainy season		Enough	Not enough							
	~	Dry season	I	Enough	Not enough		Remarks					
		pH			-							
	dry season	EC			-							
		Temperature		1.00 + 0	-			1				

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Ser-3	(No. in the	original list)	263	ן					Date of s	urvey:	2012/4/5
	Name		F	Pemaling	irri. Channel			Name			Pemaling	
	Dzongkhag			Sa	rpang			Area		95.00 acre	•	(38.45 ha)
	Gewog				shong		Command	Number of	house holds		40	
	Latitude		26				Area	Distance to	road		1.0 km	
	Longitude		90	-				Time to ge			40 min	
	Type of intake		Concrete	Gabion 🤇	Rock Earth	Wood		A	tion way to road		On foot	
	Constructed y				976	$\frown$	Operation	Organizatio	on		-	
	Construction		Covered by	Governme		Donor	and	Activity			nual mainte	
system		Workforce	Covered by	Governme	en Beneficiarios	Donor	Management*	Budget	_	Covered by	Governmen	t Beneficiaries
	Latest rehabil				-		management	Water use			-	
	Length of Car				5 km	<b>D</b> !		Variety	Rainy season		Paddy	
	Structure of C	Canal		Wet masonry		Pipe	Cropping		Dry season		Maize	
	Function*		Funct		Non Functiona		11 5	Fertilizer			-	
	D 11				needed every year	due to the		Manure	C C '1		Cow dung	
	Problems		damage by flood	•					of surface soil	Crown	30cm	Silt Clay
	Name			Norbu	llingchhu		Soil	pH	f surface soil	Gravel	Sandy 5.6	Silt Clay
	Water source		Riv		pring Well		Condition				5.0	
		D.:	)						ying up water with			
		Rainy season	Nil		$lable (m^3/s)$			15cm depu	n in paddy field			
Water	-	Dry season	Nil									
source		Rainy season		Enough	Not enough							
	by intake	Dry season	I	Enough	Not enough		Remarks					
	Quality in	pH			-							
	dry season	EC			-							
4 <b>4</b> 7.0	•	Temperature		1:00 . 0	-							

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Ser-4	(No. in the	original list)	259	ן					Date of	survey:	2012/4/5
	Name		Pan	gkhar irri	igation channel	I		Name			Pangkhar	
	Dzongkhag			Sa	rpang			Area		52.00 act	re	(21.04 ha)
	Gewog				shong		Command	Number of	house holds		16	
	Latitude		26 °		' 10.0 " N	N	Area	Distance to	road		0.5 km	
	Longitude		90 °			E		Time to get			20 min	
	Type of intake		Concrete	Gabion (	Rock Earth	Wood			tion way to road		On foot	
	Constructed y				976	$\frown$	Operation	Organizatio	on		-	
	Construction		Covered by	Governme			and	Activity			nnual mainten	
system		Workforce	Covered by	Governme		Donor	Management*	Budget		Covered by	Government	Beneficiaries
	Latest rehabil	•			2009		Management	Water use f			-	
	Length of Car		$\frown$		5 km			Variety	Rainy season		Paddy	
	Structure of C	Canal	Concrete			Pipe	Cropping		Dry season		-	
	Function*		Funct		Non Functiona		oropping	Fertilizer			-	
					needed every year			Manure			Cow dung	
	Problems		damage by flood.	There are a	lot of leaking from	a canal.			of surface soil	$\frown$	20cm	$\frown$
							Soil		f surface soil	(Gravel)		ilt (Clay)
	Name		$\bigcap$		ygang chhu		Condition	pН			6.6	<u> </u>
	Water source		Rive	r) <u>s</u>	pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s)	)		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	) Avai	lable $(m^3/s)$	)						
source	Water taken	Rainy season	E	nough	Not enough							
	by intake	Dry season	Ē	nough	Not enough		Remarks					
	Quality in	pН			. —		Kennarks					
	Quality in	EC			-							
	dry season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Ser-6	(No. in the	original list)	265						Date of su	irvey:	2012/4/5
	Name		N	lorbuling	irr. Channel			Name			Norbuling	
	Dzongkhag			Sai	rpang			Area		52.00 acre		(21.04 ha)
	Gewog				shong		Command	Number of	house holds		16	
	Latitude		$26~^\circ$		' 37.5 " N		Area	Distance to	road		0.5 km	
	Longitude		90 °					Time to get	to road		20 min	
	Type of intak	e facility	Concrete	Gabion (		Wood		Transportat	tion way to road		On foot	
	Constructed y			1	976	$\frown$	Operation	Organizatio	on		-	
Intake	Construction	Material	Covered by	Governme		Donor	and	Activity			ual maintena	
system	cost*	Workforce	Covered by	Governme		Donor	Management*	Budget		Covered by C	Government	Beneficiaries
	Latest rehabil				011		Management	Water use f			-	
	Length of Car		$\frown$		5 km			Variety	Rainy season		-	
	Structure of C	Canal	Concrete (W	et masonry	) (Earth)	Pipe	Cropping		Dry season		-	
	Function*		Function		Non Functional		oropping	Fertilizer			-	
			At intake point, str	ream is not	stable even in rainy se	eason.		Manure			-	
	Problems								of surface soil		lore than 30c	
							Soil		f surface soil	Gravel		ilt Clay
	Name				lingchhu		Condition	pН			6.1	
	Water source		Rive	$r$ $S_{l}$	pring Well		Condition	Days of dry	ing up water with			
	Water	Rainy season	Nil	Avail	able $(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	) Avail	able $(m^3/s)$			- From 200	2, farmers have not	done any cultivat	ion due to th	e water shortage.
source	Water taken	Rainy season	Er	nough	Not enough							
	by intake	Dry season	Eı	nough	Not enough		Remarks					
	Quality in	pН					Remarks					
	Quality in	EC			-							
	dry season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Ser-7	(No. in the	original list)	257	ן				Date of	survey:	2012/4/7
	Name		Ba	rshong irr	igation channel		Name			Barshong	
	Dzongkhag			Sa	rpang		Area		48.00 acr	e	(19.43 ha)
	Gewog			Ser	shong	Command	Number of	house holds		22	
	Latitude		26	° 55	' 11.5 " N	Area	Distance to	o road		0.5 km	
	Longitude		90				Time to ge	t to road		20 min	
	Type of intake		Concrete	Gabion	Rock (Earth) Wood		Transporta	tion way to road		On foot	
1	Constructed y				970	Operation	Organizati	on		-	
Intake	Construction	Material	Covered by			and	Activity			nnual mainte	
-		Workforce	Covered by	Governme	ent Beneficiaries Donor	- Management*	Budget		Covered by	Governmen	Beneficiaries
	Latest rehabil				-	Management	Water use			-	
	Length of Car				0 km	_	Variety	Rainy season		Paddy	
	Structure of C	Canal		Wet masonry		Cropping		Dry season		-	
	Function*		Func	tional	Non Functional	oropping	Fertilizer			-	
							Manure			Cow dung	
	Problems							of surface soil		More than 30	
					-	Soil		of surface soil	Gravel		Silt Clay
	Name				rthang	Condition	pН			6.2	
	Water source		Riv		pring Well			ying up water with			
	Water	Rainy season	Nil	Avail	$(m^3/s)$		15cm dept	h in paddy field			
Water	discharge	Dry season	Nil	> Avail	lable $(m^3/s)$		-According	g to the result of fiel	ld survey, Name	of Water sou	rce is "Barshong
source	Water taken	Rainy season	$\sim$	Enough	Not enough		chu."				
	by intake	Dry season		Enough	Not enough	Remarks					
	Quality in	pH			-	Remarks					
	Quality in	EC			-						
	dry season	Temperature									

Picture-1: Situation of intake facility Date:2012/4/7

## Picture-2: Situation of Canal Date:2012/4/7





No.	Ser-8	(No. in the	original list)	267						Date of surve	ey:	2012/4/6
	Name			Kingaling	irr. Channel			Name		K	ingaling	
	Dzongkhag			Sa	rpang			Area		45.00 acre		(18.21 ha)
	Gewog			Ser	shong		Command	Number of	house holds		22	
	Latitude		26		' 44.6 "	N	Area	Distance to	road		1.0 km	
	Longitude		90			E		Time to get			60 min	
	Type of intake		Concrete	Gabion 🤇	Rock Earth	Wood		Transporta	tion way to road	(	On foot	
	Constructed y	r			976		Operation	Organizatio	on		-	
Intake	Construction		Covered by				and	Activity			-	
system		Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget		Covered by Gov	ernment	Beneficiaries
	Latest rehabil				-		Management	Water use f			-	
	Length of Car		$\frown$		5 km			Variety	Rainy season		-	
	Structure of C	Canal		Wet masonry		Pipe	Cropping		Dry season		-	
	Function*			ctional	Non Function		oropping	Fertilizer			-	
					and land slide alor	ng the canal.		Manure			-	
	Problems		Canal is totally a	abandoned.					of surface soil		30cm	
							Soil		f surface soil	Gravel) Sa	5	ilt (Clay)
	Name				lingchhu		Condition	pН			6.5	
	Water source		Ri		pring Well		oonanon		ying up water with			
	Water	Rainy season	Nil	Avail	$able$ ( $m^3/s$ )	)			n in paddy field			
Water	discharge	Dry season	Nil	🔵 Avail	$able (m^3/s)$	)		- Only 2 ac	re is cultivated for r	rice using temporary	water sou	rce.
source	Water taken	Rainy season		Enough	Not enough							
	by intake	Dry season		Enough	Not enough		Remarks					
	Quality in	pH			-		Kontanto					
	dry season	EC			-							
	ary season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/6



Picture-2: Situation of Canal Date:2012/4/6





No.	Ser-9	(No. in the	original list)	258	ן					Date of su	irvey:	2012/4/5
	Name		Par	igkhar irri	gation channel			Name			Pangkha	
	Dzongkhag			Sa	rpang			Area		40.00 acre		(16.19 ha)
	Gewog				shong		Command	Number of	house holds		16	
	Latitude		26				Area	Distance to	road		0.5 km	
	Longitude		90 °	-				Time to get			20 min	
	Type of intake		Concrete	Gabion (	Rock Earth Wood			<u>^</u>	tion way to road		On foot	
	Constructed y			-	978		Operation	Organizatio	on		-	
	Construction		Covered by	Governme			and	Activity			ual mainte	
system		Workforce	Covered by	Governme			Management*	Budget		Covered by C	Governmen	t Beneficiarie
	Latest rehabili	-			009		Munugement	Water use f			-	
	Length of Car		$\frown$		0 km			Variety	Rainy season		Paddy	
	Structure of C	Canal		Vet masonry			Cropping	-	Dry season	Maize, Mil	llet, Ginger	, Vegetables
	Function*		Funct		Non Functional		5 11 5	Fertilizer			-	
	5 11				needed every year due to th	e		Manure	0 0 11		Cow dung	
	Problems		damage by flood.	There are a	lot of leaking from canal.				of surface soil		<u>30cm</u>	
	NT			Mad			Coll		f surface soil	Gravel Q		Sil Clay
	Name		(i)		angchu		Condition	pH			6.2	
-	Water source	<b>D</b> :	Rive		pring Well				ying up water with			
		Rainy season	Nil	Avai					n in paddy field			
Water	discharge	Dry season	Nil	) Avai					g to the result of fiel	d survey, Name of	f Water sou	rce is "Masaney
source	Water taken	Rainy season	Ŵ	nough	Not enough			Khola."				
	2	Dry season	E	lnough	Not enough		Remarks					
		pH			-		loniano					
	dry season	EC			-							
	•	Temperature		1.00 . 0	-							

Picture-1: Situation of intake facility Date:2012/4/5



Picture-2: Situation of Canal Date:2012/4/5





No.	Ser-12	(No. in the	original list)	255	ן					Date of	survey:	2012/4/7
	Name	•	Bars	nong irrig	ation channel (1	)		Name			Barshon	g
	Dzongkhag			Sa	rpang	-		Area		25.00 act	re	(10.12 ha)
	Gewog			Sei	rshong		Command	Number of	house holds		14	
	Latitude		26	° 54	-' 45.7 " N		Area	Distance to	road		0.5 km	
	Longitude		90	-				Time to get			20 min	
	Type of intak		Concrete	Gabion (	Rock Earth	Wood		Transporta	tion way to road		On foot	t
	Constructed y	/ear*			970's	$\frown$	Operation	Organizatio	on		-	
	Construction	Material	Covered by	Governm		Donor	and	Activity			nnual maint.	
system		Workforce	Covered by		ent Beneficiaries	Donor	Management*	Budget		Covered by	Governme	nt Beneficiaries
	Latest rehabil				2009		Management	Water use f			-	
	Length of Ca		$\frown$		.0 km			Variety	Rainy season		Paddy	
	Structure of C	Canal		Vet masonry		Pipe	Cropping		Dry season		-	
	Function*		Funct		Non Functional		or opping	Fertilizer			-	
					needed every year d			Manure			Cow dur	0
	Problems		damage by flood.	There are a	lot of leaking from c	canal.			of surface soil	~ .	More than 3	
							Soil		f surface soil	Gravel	Sandy	Silt (Clay)
	Name				hongchu		Condition	pН			6.6	
	Water source		Riv		pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avai	lable $(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avai	lable $(m^3/s)$			-According	to the result of fiel	d survey, Name	of Water so	urce is "Masaney
source	Water taken	Rainy season	(I	Enough	Not enough			Khola."				
	by intake	Dry season	Ĩ	Enough	Not enough		Remarks					
	Quality in	pН			-		Remarks					
	dry season	EC			-							
	ury season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/7



Picture-2: Situation of Canal Date:2012/4/7





No.	Ser-13	(No. in the	original list)	256	1				Date of	survey:	2012/4/7
	Name	•	Bars	hong irrig	ation channel (2)		Name			Barshong	
	Dzongkhag			Sa	rpang		Area		20.00 act	re	(8.09 ha)
	Gewog			Sei	rshong	Command	Number of	house holds		14	
	Latitude		26	° 54	' 41.1 " N	Area	Distance to	road		0.5 km	
	Longitude		90	-			Time to get	t to road		20 min	
	Type of intak		Concrete	Gabion (	Rock Earth Wood		•	tion way to road		On foot	
	Constructed y			_	970's	Operation	Organizatio	on		-	
	Construction	Material	Covered by			and	Activity			Annual maintena	
system		Workforce	Covered by			- Management	Budget		Covered by	Government	Beneficiaries
	Latest rehabil				2009	Management	Water use f			-	
	Length of Car				.0 km		Variety	Rainy season		Paddy	
	Structure of C	Canal	ConcreteX	Wet masonry		Cropping		Dry season		-	
	Function*			tional	Non Functional	oropping	Fertilizer			-	
					needed every year due to the		Manure			Cow dung	
	Problems		damage by flood	l. There are a	lot of leaking from canal.			of surface soil		More than 30c	$\langle$
						Soil		f surface soil	Gravel	2	ilt (Clay)
	Name		$\sim$		ang chhuu	Condition	pН			6.8	
	Water source		Riv	ver) S	pring Well			ying up water with			
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s)		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avai	lable $(m^3/s)$		-According	to the result of fiel	ld survey, Name	e of Water source	ce is "Masaney
source	Water taken	Rainy season	$\sim$	Enough	Not enough		Khola."				
	by intake	Dry season		Enough	Not enough	Remarks					
	Quality in	pH			-	Remarks					
		EC			-						
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/7



Picture-2: Situation of Canal Date:2012/4/7





No.	Ser-15	(No. in the	original list)	253					Date of surve	ey:	2012/4/8
	Name		Ser	shong irri	igation channel		Name		S	ershong	
	Dzongkhag			Sa	rpang		Area		15.00 acre		(6.07 ha)
	Gewog				shong	Command	Number of	f house holds		12	
	Latitude		26		' 15.7 " N	Area	Distance to	o road		0.5 km	
	Longitude		90				Time to ge			20 min	
	Type of intake		Concrete	Gabion (	Rock Earth Wood			tion way to road	(	On foot	
1 4	Constructed y			-	977	- Operation	Organizati	on		-	
	Construction		Covered by	Governme		- and	Activity			-	
	cost*	Workforce	Covered by	Governme	ent Beneficiarie, Donor	- Management*	Budget	_	Covered by Gov	vernment	Beneficiaries
	Latest rehabil	-			-	managomont	Water use			-	
	Length of Car				0 km	_	Variety	Rainy season		-	
	Structure of C	Canal		Wet masonry		Cropping		Dry season		-	
	Function*		Funct	ional	Non Functiona		Fertilizer			-	
	5.11						Manure	0 0 11		-	
	Problems							of surface soil		10cm	
	NT			D 1	1	Soil		of surface soil	Gravel Sa	2	ilt Clay
	Name				nongchu	Condition	pH			6.6	
	Water source		Riv		pring Well	_		ying up water with			
	Water	Rainy season	Nil	Avail			_	h in paddy field			
Water	discharge	Dry season	Nil	) Avail	lable $(m^3/s)$			•	by grass, bush and tree		
	Water taken	Rainy season	I	Enough	Not enough				on because water doe	s not stay	in the land due
	by intake	Dry season	I	Enough	Not enough	Remarks	to high per	meability.			
	Quality in	pH				Romanto					
	dry season	EC			-						
	ary season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/4/8



Picture-2: Situation of Canal Date:2012/4/8





B-10: Shompangkha Gewog

Picture-1: Situation of intake facility Date:2012/4/3



Date:2012/4/3

Picture-3: Situation of command area Date:2012/4/3

Picture-2: Situation of Canal



	2	>		Nama	Date of survey: 2012/4/3
	IName	ang a		Name	Darjaymang
	Dzongkhag	Sarpang		Area	85.00 acre (34.40 ha)
-	Gewog	Shompangkha	Command	Number of house holds	12
	Latitude	$26^{\circ}$ 51 ' 14.5 " N	Area	Distance to road	$0.0 \mathrm{km}$
	Longitude	90 ° 17 ' 53.3 " E		Time to get to road	0 min
	Type of intake facility	Concrete Cabion Rock Earth Wood		Transportation way to road	I
-	Constructed year*	1960	Onoration	Organization	1
	Intake Construction Material	Covered by Government Beneficiaries Donor		Activity	Annual maintenance
system	cost* Workforce	Covered by Governmen Beneficiaries Donor	Monogement*	Budget	Covered by Government Beneficiaries
	Latest rehabilitated year	2011 (Material is covered by RGoB)	INIALIAGEITIELI	Water use fee	1
	Length of Canal	1.0 km		Worright, Rainy season	Paddy
- 1	Structure of Canal	Concrete Wet masonry) C Earth Pipe			Fodder
	Function*	Functional Non Functional	hindhin	Fertilizer	1
		Next rainy season is the first time to use newly constructed		Manure	Cow dung, Compost
	Problems	intake.		Thickness of surface soil	15cm
			1.0	Structure of surface soil	Grave Sandy Silt Clay
	Name	Tharokhola	20II	pH	5.8
r' .	Water source	River Spring Well	COLIDIIO	Days of drying up water with	
~	Water Rainy season	n Nil $(m^3/s)$		15cm depth in paddy field	/ uays
Water	discharge Dry season	$\left( \text{Nil} \right)$ Available ( $\text{m}^3/\text{s}$ )		-Elevation of land located at th	-Elevation of land located at the right side of canal is higher than that of canal
	Water taken Rainy season	n Enough Not enough		so water can not be supplied through present canal structure.	rough present canal structure.
	by intake Dry season	Enough Not enough	Remarks	-This area has been seriously d	-This area has been seriously damaged by wild elephant coming from India/
	Hq pH	1		-Farmers would like to change	-Farmers would like to change the variety of cultivation from paddy to fodder
	draw season EC	-		because elephants don't eat fodder.	der.
-	Temperature	-			

Picture-1: Situation of intake facility Date:2012/4/3



Picture-2: Situation of Canal Date:2012/4/3





Date of survey: 2012/4/3	Name Darjaythang	Area 50.00 acre (20.23 ha)	Command Number of house holds 24	Area Distance to road 0.0 km	Time to get to road 0 min	Transportation way to road	Organization -	Annual maintenance Annual maintenance	Budget Covered by Government Beneficiaries	Malidyeriterin Water use fee	Number Rainy season Paddy		Cropping Fertilizer -	Manure Cow dung	Thickness of surface soil 20cm	Structure of surface soil Gravel Sandy (Silt & Clay)	PH 6.4	Condition Days of drying up water with	15cm depth in paddy field	- Farmers requested Gewog office to consolidate intake.	-Main cash crop is bitter nut.	Remarks			
(No. in the original list) 105	Kafley kholo	Sarpang	Shompangkha	26° 52' 6.6 " N	$90^{\circ}$ 18' 38.2 " E	Concrete Gabion Rock Earth Wood		Covered by Government Beneficiaries Donor	Donor	2010 (Material is covered by RGoB)	2.5 km	Concrete (Wet masonry) Earth Pipe	Functional Non Functional	Rehabilitation work has been needed every year due to the	damage by flood.		Kafley khola	Kiver Spring Well	Nil $(\text{Available})$ $(\text{m}^3/\text{s})$	$(i)$ Available ( $m^3/s$ )	Enough Not enough	Enough Not enough		1	
No. Sho-4 (No. in the	Name	Dzongkhag	Gewog	Latitude	Longitude	Type of intake facility	Constructed year*	Intake Construction Material	system cost* Workforce	Latest rehabilitated year	Length of Canal	Structure of Canal	Function*		Problems		Name	Water source	Water Rainy season	Water discharge Dry season	solution Water taken Rainy season	by intake	Hq Diricitization pH		Temperature

Picture-1: Situation of intake facility Date:2012/4/3



Picture-2: Situation of Canal Date:2012/4/3





tinal list) 114 Jaidhan Kholo Sarpang Shompangkha 26 ° 52 ' 54.3 " Shompangkha 26 ° 52 ' 54.3 " Concrete Gabion Rock Ear 1958 Covered by Government Beneficit Covered by Government Beneficit	e origin	No.     Sho-7     (No. in the original list)       Name     Dzongkhag     Gewog       Dzongkhag     Gewog     Iatitude       Dzongkhag     Gewog     Concret       Type of intake facility     Concret     Concret       Type of intake facility     Concret     Covered       System     Constructed year*     Covered       Latest rehabilitated year     Length of Canal     Covered       Structure of Canal     Structure of Canal     Concr       Name     Mater sconn     Name       Water     Rainy season     R       Water     Bry season     N       Water     Bry season     P       Valer     Dry season     P       Valer     Dry season     P       Valer     Dry season     P       Vater taken     Dry season     P       Vater asten     Dry season     P       Ouality in     EC     D       dry season     P     P	_		Sarpang Area 22.33 acre (9.04 ha)	Shompangkha Command Number of house holds 12	° 52 '		Gabion	Oncretion	Government Beneficiaries Donor	Government Beneficiaries Donor			Earth Pipe	Functional Non Functional Fertilizer -	Due to the land slide canal has not worked for 3 years. Manure Cow dung	Thickness of surface soil 15cm	Structure of surface soil Gravel Sandy (Silt Clay)		Spring Well Condition Days of drying up water with	(Available) $(m^3/s)$	$\sim$	Enough Not enough - In present condition cultivation of all the command area depend on the rain	Enough Not enough Remarks fed.			
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Picture-1: Situation of intake facility Date:2012/4/3



Picture-2: Situation of Canal Date:2012/4/3





**B-11:** Tarithang Gewog

No.	T-1	(No. in the	original list)	305						Date of surv	ey: 2012/	4/3
	Name		Yoezergang	Singi Khol	a Lower Irrigat	ion Canal		Name		Y	oezergang	
	Dzongkhag			Sar	pang			Area		26.00 acre	(10.52	ha)
	Gewog				thang		Command	Number of	house holds		14	
	Latitude		26				Area	Distance to			1.5 km	
	Longitude		90					Time to ge			30 min	
	Type of intake		Concrete		Rock Earth	Wood		<u> </u>	tion way to road		On foot	
1	Constructed y				280		Operation	Organizatio	on		-	
	Construction		Covered by			Donor	and	Activity			al maintenance	
system		Workforce	Covered by		nt Beneficiarie	Donor	Management*	Budget		Covered by Go	vernment <u>Bene</u>	ficiaries
	Latest rehabil				009			Water use			-	
	Length of Car				5 km	<b>D</b> !		Variety	Rainy season		Paddy	
	Structure of C	anal		Wet masonry)		Pipe	Cropping		Dry season		-	
	Function*			tional	Non Functiona		11 5	Fertilizer			-	
	D 11				ke can not take wat	ter properly.		Manure	C C '1		Cow dung	
	Problems		There are a lot of	f leaking from	n canal.				of surface soil f surface soil		re than 30cm	
	Name			Singi	Khola		Soil	pH	surface soft	Gravel Sa	andy Silt (	Clay
	Water source		Riv	<u> </u>	oring Well		Condition	1			0.0	
		D.:							ying up water with			
		Rainy season	Nil	Availa				15cm depti	n in paddy field			
Water		Dry season	Nil	Availat		5)						
source		Rainy season		Enough	Not enough							
	by intake	Dry season		Enough	Not enough		Remarks					
	Quality in	pH			.7							
	dry season	EC			ms/m							
	•	Temperature			<u>0 °C</u>			1				

Picture-1: Situation of intake facility Date:2012/4/3

Picture-2: Situation of Canal Date:2012/4/3



No.	T-2	(No. in the	original list)	302	ן					Date of su	urvey:	2012/4/3
	Name		Tashic	hiling Lov	wer Irrigation C	Canal		Name		1	Tashichhil	ing
	Dzongkhag			Sa	rpang			Area		23.00 acre		(9.31 ha)
	Gewog				rithang		Command	Number of	house holds		7	
	Latitude		26			N	Area	Distance to	road		1.5 km	
	Longitude		90			E		Time to get			30 min	
	Type of intak		Concrete	Gabion 🤇	Rock Earth	Wood		<u>^</u>	tion way to road		On foot	
	Constructed y				980		Operation	Organizatio	on		-	
	Construction		Covered by				and	Activity			nual mainte	
system	cost*	Workforce	Covered by		ent Beneficiarie	B Donor	Management*	Budget		Covered by (	Governmen	t Beneficiarie
	Latest rehabil				008		managomont	Water use f			-	
	Length of Car				5 km			Variety	Rainy season		Paddy	
	Structure of C	Canal		Wet masonry		Pipe	Cropping	-	Dry season		-	
	Function*			tional	Non Function			Fertilizer			-	
					ake can not take wa	ater properly.		Manure			Cow dun	ç
	Problems		There are a lot o	f leaking froi	n canal.				of surface soil		Iore than 3	
							Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name				i Khola		Condition	pН			5.8	
	Water source	1	Riv	ver S	pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avai	lable ( m <sup>3</sup> /s	)		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avail	able $(0.042 \text{ m}^3/\text{s})$	s)						
source	Water taken	Rainy season	$\subset$	Enough	Not enough							
	by intake	Dry season		Enough	Not enough		Remarks					
	Quality in	pН			7.9		Remainto					
	dry season	EC			) ms/m							
		Temperature			5.3 ℃							

Picture-1: Situation of intake facility Date:2012/4/3



Picture-2: Situation of Canal Date:2012/4/3



No.	T-4	(No. in the	original list)	301	]					Date of	survey:	2012/4/3
	Name		Tashichhiling	-Singi Kho	bla Upper Irrigat	tion Canal		Name			Tashichhi	ling
	Dzongkhag			Sa	rpang			Area		13.00 acr	e	(5.26 ha)
	Gewog				ithang		Command	Number of	house holds		8	
	Latitude		26		' 43.9 " N	Ν	Area	Distance to	road		1.0 km	l
	Longitude		90					Time to get			20 min	
	Type of intak		Concrete	Gabion (	Rock Earth	Wood		<u>^</u>	tion way to road		On foo	t
	Constructed y				980		Operation	Organizatio	on		-	
	Construction		Covered by			Donor	and	Activity			nnual maint	
system	cost*	Workforce	Covered by			Donor	Management*	Budget		Covered by	Governme	nt Beneficiaries
	Latest rehabil				008		managomont	Water use f			-	
	Length of Ca		$\bigcap$		5 km			Variety	Rainy season		Paddy	
	Structure of C	Canal		Wet masonry		Pipe	Cropping	•	Dry season		Maize	
	Function*			tional	Non Functiona			Fertilizer			-	
			Due to the sedim	entation, inta	ake can not take wa	ter properly.		Manure	a a 11		Cow dur	ç
	Problems								of surface soil		More than 3	
							Soil		f surface soil	Gravel	Sandy	Silt Clay
	Name		D.				Condition	pH			6.2	
	Water source		Riv		pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avail				15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	🔵 Avail	able (m <sup>3</sup> /s)				et land is cultivated.			
source	Water taken	Rainy season		Enough	Not enough			-Land com	mission officer conf	firmed that all th	e wet land	will be cultivated
	by intake	Dry season	]	Enough	Not enough		Remarks	from next y	/ear.			
	Quality in	pH			-		Kenturks					
	dry season	EC			-							
	ury season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/3



Picture-2: Situation of Canal Date:2012/4/3





**B-12: Umling Gewog** 

No.	U-1	(No. in the	original list)	282	]					Date of surv	vey:	2012/3/31
	Name		Rejul	< Serchu I	rrigation channel			Name			Rejuk	
	Dzongkhag			Sa	rpang			Area		85.00 acre		(34.40 ha)
	Gewog				mling		Command	Number of	house holds		27	
	Latitude		26		' 14.0 " N		Area	Distance to	o road		1.0 km	
	Longitude		90					Time to ge			20 min	
	Type of intak		Concrete	Gabion		/ood		<u> </u>	tion way to road		On foot	
	Constructed y				.005		Operation	Organizati	on		-	
	construction		Covered by			onor	and	Activity			al mainter	
system		Workforce	Covered by			onor	Management*	Budget		Covered by Go	vernment	Beneficiaries
	Latest rehabil				.008		Management	Water use			-	
	Length of Car				0 km			Variety	Rainy season	Pa	addy, Bea	n
	Structure of C	Canal		Wet masonry		ipe	Cropping	1 .	Dry season		-	
	Function*		Func	tional	Non Functional		5.566	Fertilizer			-	
								Manure			Cow dung	
	Problems								of surface soil		re than 30	$\sim$
	NT			0	1		Soil		of surface soil	Gravel Sa	andy C	Silt Clay
	Name		<b>D</b> i		erchu		Condition	pH				
	Water source		Riv		pring Well				ying up water with			
	Water	Rainy season	Nil	Avai				15cm dept	h in paddy field			
Water	discharge	Dry season	Nil	Avail	able $(0.033 \text{m}^3/\text{s})$							
source	Water taken	Rainy season	]	Enough	Not enough							
	by intake	Dry season	]	Enough	Not enough		Remarks					
	Quality in	pН			8.4							
	dry season	EC			) ms/m							
	•	Temperature		25	0.7 ℃							

Picture-1: Situation of intake facility Date:2012/3/31



Picture-2: Situation of Canal Date:2012/3/31





Gewog       Umling         Latitude       26 ° 51 ' 11.6 " N         Longitude       90 ° 34 ' 5.3 " E         Type of intake facility       Concrete         Constructed year*       1997         Constructed year*       00°         Construction       Material         Covered by       Government         Beneficiaries       Donor         cost*       Workforce         Concrete (Wet masonry)       Earth         Length of Canal       3.5 km         Structure of Canal       Concrete (Wet masonry)         Function*       Rehabilitation work has been needed every year due to the damage by flood.         Name       Langar chu         Water       Rainy season	2/4/1
Gewog       Umling         Latitude       26 ° 51 ' 11.6 " N         Longitude       90 ° 34 ' 5.3 " E         Type of intake facility       Concrete Gabion Rock Earth Wood         Constructed year*       1997         Constructed year*       00 ° 000000000000000000000000000000000	
Latitude       26° 511° 11.6 ° N         Longitude       90° 34′ 5.3 ° E         Type of intake facility       Concrete         Constructed year*       1997         Construction       Material         Constructed year*       1997         construction       Material         Constructed year*       2010         Length of Canal       3.5 km         Structure of Canal       Concrete (Wet masonry)         Earth       Pipe         Function*       Functional         Rehabilitation work has been needed every year due to the damage by flood.       Manage method         Name       Langar chu         Water source       River         Rainy season       More than 60cm         Structure of surface soil       Gravel         Soil       Situcture of surface soil       Gravel         Water source       River       Spring         Water       Rainy season       Gravel         Name       Langar chu         Water       Rainy season       Gravel         Soil       Soil       Gravel         Soil       Soil       Gravel         Soil       Soil       Gravel         Soil       D	8 ha)
Longitude       90°       34°       5.3 " E         Type of intake facility       Concrete       Gabion       Rock       Earth       Wood         Constructed year*       1997       Operation       Organization       -         Construction       Material       Covered by       Government       Beneficiaries       Donor         System       Construction       Material       Covered by       Government       Beneficiaries       Donor         Latest rehabilitated year       2010       3.5 km       Management       Budget       Covered by       Government       Beneficiaries         Structure of Canal       Concrete (Wet masonry)       Earth       Pipe       Pipe       Rainy season       -         Function*       Rehabilitation work has been needed every year due to the       Manage by flood.       Variety       Rainy season       -         Name       Langar chu       Soil       Structure of surface soil       Gravel       Sandy       Silt of         Water       Rainy season       Nil       Available       (m³/s)       -       -         Water       Rainy season       Nil       Available       (m³/s)       -       -         Water       Rainy season       Nil	
Type of intake facility       Concrete       Gabion       Rock       Earth       Wood         Intake       Constructed year*       1997       Organization       -         System       Construction       Material       Covered by       Government       Beneficiaries       Donor         Latest rehabilitated year       2010       -       Activity       Annual maintenance         Length of Canal       3.5 km       -       -         Structure of Canal       Concrete (Wet masonry)       Earth       Pipe         Function*       Functional       Non Functional       -         Problems       Rehabilitation work has been needed every year due to the damage by flood.       Manage contract of surface soil       More than 60cm         Name       Langar chu       Soil       Soil       Structure of surface soil       Gravel       Sandy       Silt of pH         Water       Rainy season       Nil       Available       (m³/s)       Juit to (m³/s) </td <td></td>	
Intake       Constructed year*       1997         Intake       Construction       Material       Covered by       Government       Beneficiaries       Donor         and       Workforce       Covered by       Government       Beneficiaries       Donor         and       Management*       Budget       Covered by       Government       Beneficiaries         Length of Canal       3.5 km       Structure of Canal       Concrete (Wet masonry)       Earth       Pipe         Function*       Functional       Non Functional       Non Functional       -         Problems       Rehabilitation work has been needed every year due to the damage by flood.       Manure       Cow dung         Soil       Soil       Structure of surface soil       More than 60cm         Water source       River       Spring       Well         Water       Nail       Available       (m³/s)         discharre       Dur secon       Null       Available       13/s)	
Intake system       Construction cost*       Material       Covered by Government       Beneficiaries       Donor         Latest rehabilitated year       2010       Activity       Annual maintenance         Length of Canal       3.5 km       Management       Budget       Covered by Government Beneficiaries         Structure of Canal       Concrete (Wet masonry)       Earth       Pipe         Function*       Functional       Non Functional         Problems       Rehabilitation work has been needed every year due to the damage by flood.       Rainy season       Paddy         Name       Langar chu       Soil       Thickness of surface soil       More than 60cm         Water source       Rainy season       Niii       Activity       Langar chu         Water water source       Niii       Activity       Activity       Activity         Water water water       Rainy season       More than 60cm         Water water water water       Niii       Activity       Activity       Activity         Water water water       Rainy season       Niii       Activity       Activity       Activity         Water	
Inflate       Construction       Material       Covered by       Government       Beneficiaries       Donor         system       cost*       Workforce       Covered by       Government       Beneficiaries       Donor         Latest rehabilitated year       2010       3.5 km       Budget       Covered by       Government       Beneficiaries       Donor         Length of Canal       3.5 km       3.5 km       Variety       Rainy season       Paddy         Function*       Functional       Non Functional       Problems       Functional       -         Name       Langar chu       River       Spring       Well       Soil       More than 60cm         Water water source       River       Spring       Well       Soil       Structure of surface soil       Gravel       Sandy       Silt         Water       Rainy season       Nil       Available       (m³/s)       -	
Integration       Integration	
Latest renaminated year       2010       -         Length of Canal       3.5 km       -         Structure of Canal       Concrete (Wet masonry)       Earth       Pipe         Function*       Functional       Non Functional       -         Problems       Rehabilitation work has been needed every year due to the damage by flood.       -       -         Name       Langar chu       Soil       More than 60cm         Water source       River Spring       Well       -         Water source       Nil       Available       (m³/s)         Days of drying up water with 15cm depth in paddy field       -       -	eficiaries)
Structure of Canal       Concrete (Wet masonry)       Earth       Pipe         Function*       Functional       Non Functional       Problems       Fertilizer       -         Rehabilitation work has been needed every year due to the damage by flood.       Rehabilitation work has been needed every year due to the damage by flood.       Thickness of surface soil       More than 60cm         Name       Langar chu       Soil       Structure of surface soil       Gravel       Sandy       Silt         Water       Rainy season       Nil       Available       (m³/s)       Thickness of drying up water with 15cm depth in paddy field       -	
Function*       Functional       Non Functional         Problems       Rehabilitation work has been needed every year due to the damage by flood.       Rehabilitation work has been needed every year due to the damage by flood.       Thickness of surface soil       Cow dung         Name       Langar chu       Soil       More than 60cm         Water source       River       Spring       Well         Water       Rainy season       Nil       Available       (m³/s)         Dru season       Nil       Available       (m³/s)	
Problems       Rehabilitation work has been needed every year due to the damage by flood.       Manure       Cow dung         Name       Langar chu       Thickness of surface soil       More than 60cm         Water source       Reiny season       Nil       Available       (m³/s)         discharge       Dru season       Nil       Available       (m³/s)	
Problems     damage by flood.       Name     Langar chu       Water source     Rainy season       Mil     Available       Mil     Mil       Mil     Mil       Mil     Mil       Mil     Mil       Mil     Mil       Mil     Mil       Mil<	
Name     Langar chu       Water source     River       Spring     Well       Water     Rainy season       Nil     Available       Or marking     Or marking	
Name     Langar chu       Water source     River       Water     Rainy season       Mil     Available       Mare     Dru season	Clay)
Water source     River     Spring     Well       Water     Rainy season     Nil     Available     (m <sup>3</sup> /s)       discharge     Dru season     Nil     A vilut     (m <sup>3</sup> /s)	
Water     Rainy season     Nil     Available     (m <sup>3</sup> /s)       discharge     Dru concorn     Nil     A villable     (m <sup>3</sup> /s)	
Water Works then Dismoscon Enough Ulst anough	
Source hy inteles Dry case on Fnough Not arough	
by intake Dry season Enough Not enough Remarks	
Quality in EC -	
dry season Temperature -	

Picture-1: Situation of intake facility Date:2012/4/1



Picture-2: Situation of Canal Date:2012/4/1





No.	U-4	(No. in the	original list)	276					Date of sur	rvey:	2012/3/31
	Name		Dungr	nin Irrigati	on channel Upper		Name			Dungmi	n
-	Dzongkhag			Sai	rpang		Area		70.00 acre		(28.33 ha)
	Gewog			Ur	nling	Command	Number of	f house holds		26	
	Latitude		26		' 5.6 " N	Area	Distance to	o road		0.5 km	l
_	Longitude		90	22			Time to ge			10 min	1
-	Type of intake		Concrete	Gabion 🤇	Rock Earth Wood		<u>^</u>	tion way to road		Tiller	
	Constructed y				997	Operation	Organizati	on		-	
	Construction		Covered by			and	Activity			ual maint	
system		Workforce	Covered by	Governme	ent Beneficiaries Donor		Budget		Covered by G	overnme	nt (Beneficiaries)
-	Latest rehabili				-	Munagement	Water use			-	
-	Length of Car				<sup>0 km</sup>		Variety	Rainy season		Paddy	
	Structure of C	anal		Wet masonry		Cropping	-	Dry season		-	
_	Function*		Func	tional	Non Functional		Fertilizer			-	
							Manure			Cow dur	5
	Problems							of surface soil		ore than 3	
						Soil		of surface soil	Gravel	Sandy	Silt (Clay)
-	Name				gar chu	Condition	pH				
-	Water source		Riv	(er) S	pring Well			ying up water with			
	Water	Rainy season	Nil	Avail	lable ( m <sup>3</sup> /s)		15cm dept	h in paddy field			
Water	discharge	Dry season	Nil	> Avail	able $(m^3/s)$		-According	g to the result of fiel	d survey, Comman	d area is	54 acre and
	Water taken	Rainy season		Enough	Not enough		Number of	f HH is 27.			
	by intake	Dry season	]	Enough	Not enough	Remarks					
		pH			-	itematiks					
	< .	EC			-						
	dry season	Temperature			-						

Picture-1: Situation of intake facility Date:2012/3/31



Picture-2: Situation of Canal Date:2012/3/31





No.	U-5	(No. in the	original list)	285	ן				Date of survey:	2012/4/1
	Name		Tashitha	ng Karch	u Irrigation channel		Name		Tashithang	
	Dzongkhag			Sa	rpang		Area		64.00 acre	(25.90 ha)
	Gewog			Uı	mling	Command	Number of	house holds	21	
	Latitude		26		' 39.1 " N	Area	Distance to	road	0.5 km	
	Longitude		90				Time to get		10 min	
	Type of intak		Concrete	Gabion (	Rock Earth Wood		•	tion way to road	Tiller	
	Constructed y	/ear*			997	Operation	Organizatio	on	-	
Intake	Construction	Material	Covered by		ent Beneficiaries Donor	- and	Activity		-	
system	cost*	Workforce	Covered by	Governme	ent (Beneficiaries) Donor	- Management*	Budget		Covered by Government	Beneficiaries
	Latest rehabil				-	Management	Water use		-	
	Length of Ca				0 km		Variety	Rainy season		
	Structure of C	Canal	Concrete (V	Vet masonry		Cropping	-	Dry season		
	Function*		Funct		Non Functional	oropping	Fertilizer			
			There are much la	and slide alo	ong the canal.		Manure		-	
	Problems							of surface soil	30cm	
						Soil		f surface soil	Gravel Sandy S	ilt Clay
	Name				archu	Condition	pН			
	Water source		Riv	er) S	pring Well	Condition		ying up water with		
	Water	Rainy season	Nil	Avai	lable (m <sup>3</sup> /s)		15cm depth	n in paddy field		
Water	discharge	Dry season	Nil	🔵 🛛 Avail	lable ( $m^3/s$ )		-According	to the result of fiel	d survey, Number of HH is 17	
source	Water taken	Rainy season	H	Enough	Not enough					
	by intake	Dry season	E	Enough	Not enough	Remarks				
	Quality in	pH			-	Remarks				
		EC			-					
	dry season	Temperature			-					

Picture-1: Situation of intake facility Date:2012/4/1



Picture-2: Situation of Canal Date:2012/4/1





No.	U-6	(No. in the	original list)	277	ן					Date of s	urvey:	2012/4/1
	Name		Dungm	nin Irrigati	ion channel Low	er		Name			Dungmir	1
	Dzongkhag			Sa	rpang			Area		52.00 acre		(21.04 ha)
	Gewog				mling		Command	Number of	house holds		16	
	Latitude		26		' 0.3 " N		Area	Distance to	road		0.5 km	
	Longitude		90					Time to get			10 min	
	Type of intake		Concrete	Gabion (	Rock Earth	Wood		<u>^</u>	tion way to road		Tiller	
	Constructed y				980		Operation	Organizatio	on		-	
	Construction		Covered by	Governme		Donor	and	Activity			nual mainte	
system		Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget		Covered by	Governmen	t Beneficiaries
	Latest rehabili				-		Munugement	Water use t			-	
	Length of Car				<sup>0 km</sup>			Variety	Rainy season		Paddy	
	Structure of C	lanal	Concrete (V			Pipe	Cropping	-	Dry season		-	
	Function*		Funct		Non Functional		5.566	Fertilizer			-	
			There are a lot of	sedimentati	on inside of canal.			Manure			Cow dun	g
	Problems								of surface soil	<u> </u>	5cm	
				Ŧ	1		Soil		f surface soil	Gravel	Sandy C	Silt Q Clay
	Name				gar chu		Condition	pH				
	Water source		Rive		pring Well		o o namon		ying up water with			
	Water	Rainy season	Nil	Avai	$lable$ ( $m^3/s$ )				n in paddy field			
Water	discharge	Dry season	Nil	) Avai	lable $(m^3/s)$			-	g to the result of fiel	d survey, Comma	ind area is 6	50 acre and
source	Water taken	Rainy season	Ē	lnough	Not enough			Number of	HH is 30.			
	by intake	Dry season	E	lnough	Not enough		Remarks					
		pН			-		Remarks					
	dry season	EC			-							
	ury season	Temperature			-							

Picture-1: Situation of intake facility Date:2012/4/1



Picture-2: Situation of Canal Date:2012/4/1





No.	U-7	(No. in the	original list)	283	ן					Date of	survey:	2012/4/1	
	Name		Chubarthang Seelchu Irrigation channel			Name		Chubarthang					
	Dzongkhag		Sarpang					Area		47.00 acr	e	(19.02 ha)	
	Gewog		Umling				Command	Number of	house holds		14		
	Latitude		$26^{\circ}$ 50 ' $42.5$ " N			Area	Distance to	Distance to road		0.5 km			
	Longitude		<u>90</u> ° 34′ 1.4″ E					Time to get	Time to get to road		10 min		
	Type of intak		Concrete Gabion Rock Earth Wood			Wood		Transportation way to road			Tiller		
	Constructed y		1997				- Operation	Organizatio	on		-		
	Construction		Covered by Government Beneficiaries Donor				and	Activity			nnual mainter	$\sim$	
	cost*	Workforce	Covered by		ent Beneficiaries	Donor	Management*	Budget			Covered by Government Beneficia		
	Latest rehabilitated year		2011				management	Water use f		-			
	Length of Canal				0 km			Variety	Rainy season		Paddy, Maiz		
	Structure of Canal			Wet masonry		Pipe	Cropping		Dry season	Maiz	ze, Millet, Ve	getable	
	Function*		Functional Non Functional			.1	o.oppg	Fertilizer			-		
								Manure		Cow dung			
	Problems	blems					Thickness of surface soil		More than 30cm				
				~			Soil		f surface soil	Gravel	Sandy	Silt Clay	
	Name		Serchu				Condition	рН					
	Water source		Riv	ver S	pring Well		Condition	Days of drying up water with					
	Water	Rainy season	Nil	Avail	$lable$ ( $m^3/s$ )			15cm depth in paddy field					
Water	discharge	Dry season	Nil	🔿 Avail	lable $(m^3/s)$			-According	to the result of fiel	d survey, Name	of Water sou	rce is "Seel Chu"	
source	Water taken	Rainy season	]	Enough	Not enough			and number	r of HH is 8.				
	by intake	Dry season	]	Enough	Not enough		Remarks						
	Quality in	pH			-		Komunto						
	Quality in	EC			-								
	dry season Temperature		-										

Picture-1: Situation of intake facility Date:

## Picture-2: Situation of Canal

Date:2012/4/1





No.	U-8	(No. in the	original list)	284	ן					Date of s	urvey:	2012/4/1
	Name		Thongja	zor Karch	u Irrigation char	nnel		Name		Thonjazor		
	Dzongkhag			Sa	rpang			Area		44.00 acre	e	(17.81 ha)
	Gewog		Umling				Command	Number of	house holds		17	
	Latitude		$26^{\circ}$ 50 ' $39.1$ " N				Area	Distance to	road		0.5 km	
	Longitude		90 ° 34 54.3 E					Time to get to road			10 min	
	Type of intak		Concrete Gabion Rock Earth Wood					Transportat	tion way to road		On foot	
	Constructed y	year*	1997				Operation	Organizatio	on		-	
Intake	Construction	Material	Covered by Government Beneficiaries Donor				and	Activity			-	
system	cost*	Workforce	Covered by	Governme		Donor	Management*	Budget		Covered by	Government	Beneficiaries
	Latest rehabil				004		Management	Water use f		-		
	Length of Ca				0 km			Variety	Rainy season		-	
	Structure of C	Canal	Concrete (V	Wet masonry		Pipe	Cropping	-	Dry season		-	
	Function*		Funct		Non Functional	>	oropping	Fertilizer			-	
			There are much land slide along the canal.					Manure		-		
	Problems							Thickness of surface soil		30cm		$\frown$
							Coil		f surface soil	Gravel	Sandy S	ilt Clay
	Name		Karchu				Condition	pН				
	Water source	1	Riv	er S	pring Well		Condition		ving up water with			
	Water	Rainy season	Nil	Avail	lable $(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	) Avai	lable $(m^3/s)$			-According	to the result of feld	l survey, Comma	nd area is 137	7 acre and
source	Water taken	Rainy season	I	Enough	Not enough			Number of HH is 19.				
	by intake	Dry season	Η	Enough	ugh Not enough			- Due to the water shortage, farmers abandoned cultivation.				
	Quality in	pH			-		Remarks					
	Quality in	ĒC			-							
	dry season Temperature				-							

Picture-1: Situation of intake facility Date:2012/4/1



Picture-2: Situation of Canal Date:2012/4/1



No.	U-9	(No. in the	original list)	274	ן					Date of s	survey:	2012/3/30
	Name		Lingar Dap Irrigation channel				Name		Lingar			
	Dzongkhag		Sarpang					Area		40.00 acre	e	(16.19 ha)
	Gewog		Umling				Command	Number of	house holds		15	
	Latitude		$26^{\circ}$ 51 ' 43.8 " N			Area	Distance to	road		1.0 km		
	Longitude		90 ° 32 ' 37.5 " E					Time to get			20 min	
	Type of intak		Concrete Gabion Rock Earth Wood			Wood		Transportation way to road			On foot	
	Constructed y		2005-2006				Operation	Organizatio	on		-	
Intake	Construction	Material	Covered by Government Beneficiaries Donor				and	Activity			nnual mainte	$\sim$
	cost*	Workforce	Covered by	Governme	ent Beneficiaries	Donor	Management*	Budget		Covered by Government Beneficiaries		
	Latest rehabil				-		Management	Water use f			-	
	Length of Canal				0 km			Variety	Rainy season		Paddy, Mai	ze
	Structure of Canal			Wet masonry		Pipe	Cropping	-	Dry season		-	
	Function*			tional	Non Functiona	1	oropping	Fertilizer			-	
			There are a lot of sedimentation inside of canal.					Manure		Compost		
	Problems							Thickness of surface soil		More than 30cm		
							Soil		f surface soil	Gravel	(Sandy) (	Silt Clay
	Name		Taklai chu				Condition	pН				
	Water source	1	Riv	er S	pring Well		Condition		ying up water with			
	Water	Rainy season	Nil	Avai	lable $(m^3/s)$			15cm depth	n in paddy field			
Water	discharge	Dry season	Nil	Avail	able) $(0.044 \text{ m}^3/\text{s})$			-According	g to the result of fiel	d survey, Comm	and area is 2	04 acre and
source	Water taken	Rainy season	(I	Enough	Not enough			Number of HH is 26.				
	by intake	Dry season	I	Enough	Not enough		Remarks	- High potential area for paddy even in dry season.				
	Quality in	pH			8.0		Kemarks	- In addition to water from river, spring water is available in dry season.				n dry season.
	Quality in	EC		27.0	0 ms/m							
	dry season Temperature			24	4.3 ℃							

Picture-1: Situation of intake facility Date:2012/3/30



Picture-2: Situation of Canal Date:2012/3/30





No.	U-10	(No. in the	original list)	272	ן				Date of	survey:	2012/3/30	
	Name		Gadhen Irrigation channel Lower				Name		Gadhan			
	Dzongkhag			rpang		Area		38.00 acr	e	(15.38 ha)		
	Gewog			mling	Command	Number of	house holds		48			
	Latitude		26	' 46.1 " N	Area	Distance to	o road		0.5 km			
	Longitude		90	' 4.5 " E		Time to ge			10 min			
	Type of intake		Concrete Gabion Rock Earth Wood				A .	Transportation way to road		Tiller		
	Constructed y			.008	Operation	Organizati	on		-			
Intake	Construction	Material	Covered by Government Beneficiaries Donor			and	Activity			nnual mainte		
~		Workforce	Covered by Government Beneficiaries Donor			Management*	Budget				nt Beneficiaries	
	Latest rehabilitated year		-			Management	Water use		-			
	Length of Canal		$\frown$		0 km		Variety	Rainy season		Paddy		
	Structure of Canal		Concrete ()			Cropping	· ·	Dry season		-		
	Function*		Functional Non Functional				Fertilizer			-		
			There are much leaking from the canal.				Manure		Cow dung			
	Problems						Thickness of surface soil		More than 30cm			
						Soil		of surface soil	Gravel	Sandy C	Silt Clay	
	Name		Taklai chu			Condition	pН					
	Water source		River Spring Well				ying up water with					
	Water	Rainy season	Nil	Avai	$(m^3/s)$		, î	h in paddy field				
Water	discharge	Dry season	Nil	Avail	$(0.025 \text{ m}^3/\text{s})$			-According to the result of field survey, Name of Water source is "Lalai Chu"				
source	Water taken	Rainy season	E	Inough	Not enough		command area is 300 acre and number of HH is 76.					
	by intake	Dry season	Ē	Inough	Not enough	Remarks						
	Quality in	pН		8.8		Remarks						
	Quality in	EC			0 ms/m							
	dry season	Temperature		26	i.6 ℃							

Picture-1: Situation of intake facility Date:2012/3/30



Picture-2: Situation of Canal Date:2012/3/30





No.	U-11	(No. in the	original list)	281	ן					Date of s	survey:	2012/3/31
	Name		Rijuk	Karchu I	rrigation channe	el		Name			Rejuk	
	Dzongkhag	Dzongkhag		Sarpang				Area		31.00 acr	e	(12.55 ha)
	Gewog		Umling				Command	Number of	house holds		27	
	Latitude		$26~^\circ$ $49$ ' $52.0$ " N				Area	Distance to	road		0.5 km	
	Longitude		<u>90</u> ° 32 ' 48.2 " E					Time to get to road			10 min	
	Type of intak		Concrete Gabion Rock Earth Wood					Transportation way to road			On foot	
	Constructed year*		1997				Operation	Organizatio	on		-	
	Construction Material		Covered by Government Beneficiaries Donor			Activity		5				
system						Donor	Management*	Budget		Covered by Government Beneficiar		
	Latest rehabilitated year		2012				munugement	Water use f		-		
	Length of Canal		1.0 km					Variety	Rainy season		Paddy	
	Structure of Canal					Pipe	Cropping	-	Dry season		-	
	Function*		Functional Non Functional					Fertilizer			-	
			There are a lot of sedimentation inside of canal.					Manure		Cow dung		
	Problems								hickness of surface soil		More than 30cm	
	<b>X</b> 7			*7	1		Soil		f surface soil	Gravel Sandy Silt Cla		Silt Clay
	Name				archu		Condition	pH				
	Water source		Riv		pring Well		o o numeri		ying up water with			
		Rainy season	Nil	Avai				-	n in paddy field			
Water	discharge	Dry season	Nil	) Avail	lable ( $m^3/s$ )			-According	-According to the result of field survey, Number of HH is 23.			
source	Water taken	Rainy season		Enough	Not enough							
	by intake	Dry season		Enough	Not enough		Remarks					
	Quality in	pH			-		Romano					
		EC			-							
	dry season Temperature				-							

Picture-1: Situation of intake facility Date:2012/3/31



Picture-2: Situation of Canal Date:2012/3/31





No.	U-12	(No. in the	original list)	279	]				Date of	survey:	2012/4/1
	Name	•	Dangl	ing Irrigat	ion channel Upper		Name		Dangling		
	Dzongkhag		Sarpang				Area		24.00 acr	e	(9.71 ha)
	Gewog		Umling			Command	Number of	Number of house holds		32	i
	Latitude		$26~^\circ$ 51 ' 15.2 " N			Area	Distance to	Distance to road		0.5 km	1
	Longitude		90 ° 34 ' 20.3 " E					Time to get to road		10 mir	1
	Type of intake facility		Concrete Gabion Rock Earth Wood					Transportation way to road		Tiller	
	Constructed y			997	Operation	Organizati	on		-		
	Construction		Covered by Government Beneficiaries Donor			and	Activity			nnual maint	
system			Covered by Government Beneficiaries Donor				Budget		Covered by Government Beneficia		nt Beneficiaries
	Latest rehabilitated year		2011			management	Water use		-		
	Length of Canal				0 km		Variety	Rainy season		Paddy	
	Structure of Canal		Concrete(Wet masonry) Earth Pipe			Cropping		Dry season		-	
	Function*		Functional Non Functional				Fertilizer			-	
	D 11		There are some land slide along the canal.				Manure			Cow du	Ű.
	Problems					Thickness of surface soil Structure of surface soil		More than 30cm			
	Name			Lan	son shu	Soil	pH	of surface soll	Gravel	Sandy	Silt Clay
			Langar chu			Condition	1				
	Water source	1	River Spring Well				ying up water with				
	Water	Rainy season	Nil	Avai			15cm dept	h in paddy field			
Water	discharge	Dry season	Nil		lable (m <sup>3</sup> /s)						
source	Water taken	Rainy season		Enough	Not enough						
	by intake	Dry season	]	Enough	Not enoug	Remarks					
	Quality in	pH			-						
	dry season	EC			-						
	Temperature				-						

Picture-1: Situation of intake facility Date:2012/4/1



Picture-2: Situation of Canal Date:2012/4/1





No.	U-14	(No. in the	e original list) 278	7				Date of s	survey:	2012/4/2
	Name		Pantharey Ir	rigation channel		Name		Dangling		
	Dzongkhag		Sa		Area		17.00 acre	e	(6.88 ha)	
	Gewog		U	Command	Number of	house holds		15		
	Latitude		26 ° 51	Area	Distance to	Distance to road		0.5 km		
	Longitude		90 ° 35	5 ' 46.2 " E Rock (Earth ) Wood		Time to get	Time to get to road		10 min	
	Type of intak		Concrete Gabion (		Transportation way to road			Tiller		
	Constructed y			1980 nent Beneficiaries Donor	Operation	Organizatio	on		-	
	Construction		Covered by Governm	and	Activity			-		
system			Covered by Governm	Management*	Budget		Covered by	Government	Beneficiaries	
	Latest rehabil			-	Management	Water use		-		
	Length of Canal			1.0 km		Variety	Rainy season		-	
	Structure of Canal		Concrete (Wet masonr	ry) Earth Pipe Non Functional	Cropping		Dry season		-	
	Function*		Functional	oropping	Fertilizer			-		
			There are much land slide al		Manure		-			
	Problems	lems			Thickness of surface soil		More than 30c			
					Soil		f surface soil	Gravel	Sandy S	ilt (Clay)
	Name		Langar chu		Condition	pН				
	Water source	1	River	Spring Well	Condition		ying up water with			
	Water	Rainy season	Nil Ava	$(m^3/s)$		15cm depth	n in paddy field			
Water	discharge	Dry season	Nil Ava	ilable ( $m^3/s$ )		-According	g to the result of fiel	d survey, Name	of Water sour	ce is "Seel Chu."
source	Water taken	Rainy season	Enough	Not enough		- Farmers abandoned cultivation due to damage by wild animals.				nals.
	by intake			Not enough	Remarks					
	Quality in	pH		-	Kentarks					
		ĒC		-						
	dry season Temperature									

Picture-1: Situation of intake facility Date:2012/4/2



Picture-2: Situation of Canal Date:2012/4/2



