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1 - 5 - 1 調査団日程表

Month Date	コンサルタント団員		JICA Officials	
	Activity	Stay	Activity	Stay
Feb. 10 Wed	1 Move from Narita to Delhi	Delhi		
Feb. 11 Thu	2 Meeting with JICA India Office Move to Kalka	Chandi- garh		
Feb. 12 Fri	3 AM: Move to Shimla PM: Documentation at Office	Shimla		
Feb. 13 Sat	4 Site Survey, Interviews and Data Collection	Shimla		
Feb. 14 Sun	5 Site Survey and Data Collection	Shimla		
Feb. 15 Mon	6 Meeting with DoA	Shimla		
Feb. 16 Tue	7 Discussion and Data Collection by part, Visit to SAMETI	Shimla		
Feb. 17 Wed	8 Move from Shimla to Bilaspur	Bilaspur		
Feb. 18 Thu	9 PCM Workshop	Bilaspur		
Feb. 19 Fri	10 PCM Workshop	Bilaspur		
Feb. 20 Sat	11 PCM Workshop, Move to Shimla	Shimla		
Feb. 21 Sun	12 Documentation	Shimla	1 Move from Narita to Delhi	Delhi
Feb. 22 Mon	13 Documentation	Shimla	2 Meeting with JICA India Office Move to Kalka	Chandi- garh
Feb. 23 Tue	14 Internal Meeting	Shimla	3 Move to Shimla, Internal Meeting	Shimla
Feb. 24 Wed	15 Meeting with DoA	Shimla	4 Meeting with DoA	Shimla
Feb. 25 Thu	16 Documentation & Discussion	Shimla	5 Documentation & Discussion	Shimla
	Team A		Team B	
Feb. 26 Fri	17 Move to Bilaspur Site visit to ATMA sites	Bilaspur	6 Visit to Farmers Group (Cooperative Crop Selling Activity and Site) at Karsog	Palam- pur
Feb. 27 Sat	18 Move to Hamirpur Site visit to KVK, Hamirpur	Hamir- pur	7 Visit to Food Processing Group (Palampur)	Palam- pur
Feb. 28 Sun	19 Site Visit to Candidate Sites (Lalri & Bakroa)	Shimla	8 Site Visit to Candidate Sites	Shimla
Mar. 01 Mon	20 Documentation	Shimla	9 Documentation	Shimla
Mar. 02 Tue	21 Meeting with DOA	Shimla	10 Meeting with DOA	Shimla
Mar. 03 Wed	22 Meeting with DOA	Shimla	11 Signing to M/M	Shimla
Mar. 04 Thu	23 Documentation	Shimla	12 Move from Shimla to Delhi	Delhi
Mar. 05 Fri	24 Documentation	Shimla	13 Reporting to JICA India Office, Japanese Embassy, Departure from Delhi	
Mar. 06 Sat	25 Documentation	Shimla	14 Arrival to Narita	
Mar. 07 Sun	26 Move from Shimla to Delhi	Delhi		
Mar. 08 Mon	27 Reporting to JICA India Office, Japanese Embassy, Departure from Delhi			
Mar. 09 Tue	28 Arrival to Narita			

JICA Officials
Mr. Shunichi NAKADA
Ms. Yumiko TANAKA
Ms. Ayumu OHSIMA

Consultant: 1. Mr. Naoto MORIOKA
2. Mr. Akio YAMASHITA
3. Ms. Yoko NAGATA
4. Mr. Shigeki YAMAOKA

Team
A Mission Leader
B Gender & Vulnerable Groups
B Project Planning

A Agriculture / Extension
A Water Management / Water Use Planning
B Marketing / Processing for Small Group
B Project Analysis & Impact Assessment

1-5-2 主要面談者リスト

- 【面談場所】： 農業局 (DOA)
【面談日時】： 2010年2月15日 11:00~13:00
【面談相手】： H. R. Sharma (Additional Director), R. S. Thakur (SMS, Project Cell)
- 【面談場所】： SAMETI (State Agricultural Management & Extension Training Institute)
【面談日時】： 2010年2月16日 14:00~16:00
【面談相手】： B. K. Sood (Director SAMETI), J. C. Dharmani (Training officer),
Kiran Sharma (Training officer), Sapan Thakur (Training officer)
- 【面談場所】： FIS Malangan (Bilaspur)
【面談日時】： 2010年2月17日 11:00~13:00
【面談相手】： Alwel Thalur (SDSCO: Ghumarwin),
WUA of FIS Malangan
- 【面談場所】： LIS Lalri (Hamirpur)
【面談日時】： 2010年2月18日 9:00~11:00
【面談相手】： V. K. Sharma (SDSCO: Hamirpur), Farmers of LIS Lalri
【調査団】： 森丘直人 (営農/普及)、山下明生 (水管理/用水計画)
- 【面談場所】： LIS Basol (Hamirpur)
【面談日時】： 2010年2月18日 13:00~16:00
【面談相手】： V. K. Sharma (SDSCO: Hamirpur),
WUA of FIS Malangan
- 【面談場所】： 農業局 (DOA)
【面談日時】： 2010年2月24日 13:00~14:00
【面談相手】： J. C. Rana (Director), H.R. Sharma (Additional Director),
Y. P. Thakur (Superintendent Engineer) R. S. Thakur (SMS, Project Cell)
- 【面談場所】： Bilaspur
【面談日時】： 2010年2月26日 10:00~16:00
【面談相手】： Kul Bushn (Deputy Director of Agriculture: Bilaspur),
Farmers of Bilaspur (Beneficiaries of ATMA's support)

- 【面談場所】： ノース・ハーベスト・フレッシュ (カルソグ農民グループ)
(マンディ県カルソグブロック、カラシャン)
- 【面談日時】： 2010年2月26日 11:00~13:30
- 【面談相手】： Rajinda Kaushal (President), Rawat (Manager)& Rajni Rawat
- 【農業局】： Kiran (AEO), N.K.Gupta (SMS), M.L.Barmoria (ADO)
-
- 【面談場所】： マンディ県カルソグブロック、マシヨグ村 (DOA)
- 【面談日時】： 2010年2月26日 14:30~15:30
- 【面談相手】： Kishori Lal
- 【農業局】： N.K. Gupta (SMS), M.L. Bharmoria (ADO), Kiran (AEO)
-
- 【面談場所】： Hamirpur
- 【面談日時】： 2010年2月27日 10:00~16:00
- 【面談相手】： V. K. Sharma (SDSCO: Hamirpur), KVK in Hamirpur, Farmers of LIS Lalri
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- 【面談場所】： Deputy Director of Agriculture パランプール県事務所敷地内
- 【面談日時】： 2010年2月27日 10:30~12:30
- 【面談相手】： Aruna Katoch (SMS)
- 【農業局】： Kiran (AEO)
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- 【面談場所】： Samridhi Mahila (Progressive Women) Co-operative Society Ltd.
(カングラ県パランプルブロック、タクールドワラ)
- 【面談日時】： 2010年2月27日 12:00~13:00
- 【面談相手】： Veena Devi (代表)
- 【農業局】： Kiran (AEO), Aruna Katoch (SMS), ADO
-
- 【面談場所】： Vasundhara Van Utpad Producer's Co., Ltd.
(カングラ県パランプルブロック、パワールナ)
- 【面談日時】： 2010年2月27日 14:00~16:00
- 【面談相手】： Ms.Kusum Kumari (代表)
- 【農業局】： Kiran (AEO), Aruna Katoch (SMS), ADO
-
- 【面談場所】： 農業局 (DOA)
- 【面談日時】： 2010年3月2日 13:00~14:00
- 【面談相手】： J. C. Rana (Director), H.R. Sharma (Additional Director),
Y.P. Thakur (Superintendent Engineer) R.S. Thakur (SMS, Project Cell)

【面談場所】： Secretariat, State Government of Himachal Pradesh
【面談日時】： 2010年3月3日 16:00~17:00
【面談相手】： Ram Subag Singh (Secretary), J. C. Rana (Director),
R.S. Thakur (SMS, Project Cell)

【面談場所】： Department of Social Justice and Empowerment
【面談日時】： 2010年3月3日 12:30~13:30
【面談相手】： Prabha Rajib (Joint Director), Kamla Chauhan (Program officer),
H.K. Sharma (Program officer),

【面談場所】： Himachal University- Institute of Integrated Himalayan Studies (University
Grants Committee Center of Excellence)
【面談日時】： 2010年3月4日 11:40~12:30
【面談相手】： Sudesh Negi

【面談場所】： Himachal Pradesh Agricultural Marketing Board in Colony, Shimla
【面談日時】： 2010年3月5日 10:55~11:45
【面談相手】： P.L. Sharma (Senior Marketing Officer), Kishor (Sr. Marketing Officer),
S. R. Kashyap (Marketing Officer)

【面談場所】： 在インド日本国大使館
【面談日時】： 2010年3月8日 10:00~11:00
【面談相手】： 福田敬大 (参事官)、鈴木学 (一等書記官・農務官)

Divisional Engineer Office
 水土保全部門Divisional Engineer OfficeとSDSCOの人員構成 (1/6)

Position	Grade	DE Office North Zone Palampur			DE Office Central Zone Bhangrotu (Mandi)			DE Office South Zone Shimla			Total of 3 DE Offices Shimla, Bhangrotu, Palampur		
		Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant
1 SE	1	-	-	0	0	0	1	1	0	1	1	0	
2 DE	1	1	1	0	1	0	0	0	0	2	2	0	
3 ADO	1	1	1	0	1	0	1	0	1	3	2	1	
4 Supdt. Gr. II	3	1	1	0	1	0	1	1	0	3	3	0	
5 Sr. Asstt.	3	2	2	0	1	0	1	0	1	4	3	1	
6 Jr. Asstt. / Clerk	3	2	1	1	5	2	2	0	2	9	4	5	
7 CHD	3	-	-	0	-	0	1	1	0	1	1	0	
8 JE	3	-	-	0	1	0	1	1	0	2	2	0	
9 Jr. Scale Steno.	3	1	-	1	-	0	-	-	0	1	0	1	
10 Head Draftman	3	-	-	0	1	0	-	-	0	1	1	0	
11 Draftman	3	-	-	0	1	0	1	1	0	2	2	0	
12 Driver	3	2	1	1	1	0	-	-	0	3	2	1	
13 Turner	4	-	-	0	1	0	-	-	0	1	1	0	
14 Carpenter	3	-	-	0	1	0	-	-	0	1	1	0	
15 Belder / Peon	4	4	3	1	-	0	-	-	0	4	3	1	
16 Class-IV	4	-	-	0	6	4	10	4	4	14	10	4	
Total		14	10	4	25	19	6	13	9	52	38	14	

SE: Superintendent Engineer
 DE: Divisional Engineer
 CHD: Circle Head Draftman
 Jr. Scale Steno.: Junior Scale Stenographer

SDSCO in North Zone (1/2)

Position	Grade	SDSCO Office Una Una District 1/1 4 Section Offices 5 Blocks				SDSCO Office Hamirpur Hamirpur District 1/1 5 Section Offices 6 Blocks				SDSCO Office Chamba Chamba District 1/2 5 Section Offices 3 Blocks				SDSCO Office Banikhet Chamba District 2/2 4 Section Offices 2 Blocks			
		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant	
1 SDSCO	1	1	-	1	1	1	0		1	1	0		1	1	0		
2 Supdt. Gr. II	3	1	1	0	1	1	0		1	1	0		1	1	0		
3 Sr. Asstt.	3	1	1	0	1	1	0		1	1	0		1	1	0		
4 Jr. Asstt. / Clerk	3	2	1	1	2	1	1		2	1	1		2	-	2		
5 Peon / Chowkidar	4	1	1	0	1	1	0		2	2	0		2	2	0		
6 JE	3	3	2	1	3	0	0		3	-	3		3	2	1		
7 Draftsman	3	1	1	0	1	1	0		1	1	0		1	1	0		
8 Jr. Draftsman	3	1	-	1	1	1	1		1	-	1		1	-	1		
9 Surveyor	3	2	1	1	2	1	1		2	1	1		2	-	2		
10 ADO	1	3	3	0	3	0	0		3	3	0		3	2	1		
11 AEO	3	4	3	1	4	0	0		4	4	0		4	4	0		
12 Belder	4	5	5	0	5	0	0		5	7	0		5	5	0		
13 Driver	3	-	-	0	-	0	0		-	-	0		-	-	0		
14 Welder	3	-	-	0	-	0	0		-	-	0		-	-	0		
15 Driller	3	-	-	0	-	0	0		-	-	0		-	-	0		
16 Assistant Driller	3	-	-	0	-	0	0		-	-	0		-	-	0		
17 Compressor Operator	3	-	-	0	-	0	0		-	-	0		-	-	0		
18 Foreman	3	-	-	0	-	0	0		-	-	0		-	-	0		
19 NWD/PRA (ADO)	(1?)	4	-	4	5	1	4		5	1	4		5	1	4		
Total		29	19	10	30	23	7		30	22	8		31	20	11		

SDSCO: Sub-Divisional Soil Conservation Officer

Supdt. Gr. II: Superintendent Grade II

Sr. Asstt.: Senior Assistant

Jr. Asstt.: Junior Assistant

JE: Junior Engineer

ADO: Agricultural Development Officer

AEO: Agricultural Extension Officer

NWD/PRA: National Watershed Development Program for Rainfed Area

SDSCO in North Zone (2/2)

Position	Grade	SDSCO Office Palampur Kangra District 1/5 5 Section Offices 5 or 6 Blocks			SDSCO Office Dehra Kangra District 2/5 4 Section Offices 3 Blocks			SDSCO Office Nurpur Kangra District 3/5 6 Section Offices 4 Blocks			SDSCO Office Fatehpur Kangra District 4/5 6 Section Offices 2 Blocks			SDSCO Office Baijnath Kangra District 5/5 4 Section Offices 1 Block		
		Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant	Sanc-tioned	Filled in	Vacant
1 SDSCO	1	1	1	0	1	1	0	1	1	0	1	1	0	1	1	-1
2 Supdt. Gr. II	3	1	1	0	1	1	0	1	1	0	1	1	0	2	2	-2
3 Sr. Asstt.	3	1	1	0	1	1	0	1	1	0	1	1	0	-	-	0
4 Jr. Asstt. / Clerk	3	2	1	1	2	-	2	2	1	1	2	1	1	-	-	0
5 Peon / Chowkidar	4	2	2	0	2	2	0	2	2	0	2	2	0	-	-	0
6 JE	3	3	3	0	3	2	1	3	2	1	3	2	3	-	-	0
7 Draftsman	3	1	1	0	1	1	0	1	1	0	1	1	0	1	1	-1
8 Jr. Draftsman	3	1	1	0	1	-	1	1	1	0	1	1	0	1	1	-1
9 Surveyor	3	2	1	1	2	-	2	2	1	1	2	1	2	-	-	0
10 ADO	1	3	2	1	3	3	0	3	2	1	3	2	1	3	3	-3
11 AEO	3	4	3	1	4	5	-1	4	2	2	4	2	2	4	1	-1
12 Belder	4	5	5	0	5	4	1	5	5	0	5	5	0	5	3	-3
13 Driver	3	-	-	0	-	-	0	2	2	0	2	2	0	-	-	0
14 Welder	3	-	-	0	-	-	0	2	-	2	2	-	0	-	-	0
15 Driller	3	-	-	0	-	-	0	4	-	4	4	-	0	-	-	0
16 Assistant Driller	3	-	-	0	-	-	0	2	-	2	2	-	0	-	-	0
17 Compressor Operator	3	-	-	0	-	-	0	1	1	0	1	1	0	-	-	0
18 Foreman	3	1	1	0	-	-	0	-	-	0	-	-	0	-	-	0
19 NWDPPRA (ADO)	(1?)	1	1	0	-	-	0	-	-	0	-	-	0	8	5	3
Total		28	24	4	26	20	6	37	23	14	34	22	12	0	12	-12

SDSCO: Sub-Divisional Soil Conservation Officer

Supdt. Gr. II: Superintendent Grade II

Sr. Asstt.: Senior Assistant

Jr. Asstt.: Junior Assistant

JE: Junior Engineer

ADO: Agricultural Development Officer

AEO: Agricultural Extension Officer

NWDPPRA: National Watershed Development Program for Rainfed Area

SDSCO in Central Zone (1/1)

Position	Grade	SDSCO Office Ghumaanwin Bilaspur District 1/1 5 Section Offices 3 Blocks			SDSCO Office Mandi Mandi District 1/2 6 Section Offices 7 Blocks			SDSCO Office Sarkaghat Mandi District 2/2 4 Section Offices 3 Blocks			SDSCO Office Kullu Kulle District 1/1 4 Section Offices 3 Blocks			(SDSCO) Office Lahaul-Spiti Lahaul-Spiti District 1/1 2 Section Offices 2 Blocks		
		Sanc- tioned	Filled in	Vacant	Sanc- tioned	Filled in	Vacant	Sanc- tioned	Filled in	Vacant	Sanc- tioned	Filled in	Vacant	Sanc- tioned	Filled in	Vacant
1 SDCO	1	1	1	0	1	0	1	1	0	1	1	0	1	-	0	
2 Supdt. Gr. II	3	1	1	0	1	0	1	1	0	1	1	0	1	-	0	
3 Sr. Asstt.	3	1	1	0	1	0	1	1	0	1	1	0	1	-	0	
4 Jr. Asstt. / Clerk	3	2	1	1	2	1	2	1	1	2	2	0	2	-	0	
5 Peon / Chowkidar	4	2	2	0	1	0	2	1	1	2	1	0	2	-	0	
6 JE	3	3	3	0	3	0	3	3	0	3	3	0	3	1	0	
7 Draftsman	3	1	1	0	1	0	1	1	0	1	1	0	1	1	0	
8 Jr. Draftsman	3	1	-	1	1	1	1	-	1	1	-	1	1	-	0	
9 Surveyor	3	2	-	2	2	2	2	1	1	2	1	1	2	1	0	
10 ADO	1	3	2	1	3	0	3	3	0	3	3	0	3	1	1	
11 AEO	3	4	4	0	6	-2	4	4	0	4	4	0	4	2	0	
12 Beider	4	5	5	0	5	0	5	3	2	5	2	0	5	0	0	
13 Driver	3	1	-	1	1	0	1	-	1	1	1	0	1	-	0	
14 Welder	3	-	-	0	-	0	-	-	0	-	-	0	-	-	0	
15 Driller	3	-	-	0	-	0	-	-	0	-	-	0	-	-	0	
16 Assistant Driller	3	-	-	0	-	0	-	-	0	-	-	0	-	-	0	
17 Compressor Operator	3	-	-	0	-	0	-	-	0	-	-	0	-	-	0	
18 Foreman	3	-	-	0	-	0	-	-	0	-	-	0	-	-	0	
19 NWDPPRA (ADO)	(17)	-	-	0	-	0	-	-	0	-	-	0	3	-	0	
Total		27	21	6	26	24	27	19	8	28	22	6	7	6	1	

SDSCO: Sub-Divisional Soil Conservation Officer

Supdt. Gr. II: Superintendent Grade II

Sr. Asstt.: Senior Assistant

Jr. Asstt.: Junior Assistant

JE: Junior Engineer

ADO: Agricultural Development Officer

AEO: Agricultural Extension Officer

NWDPPRA: National Watershed Development Program for Rainfed Area

SDSCO in South Zone (1/2)

Position	Grade	SDSCO Office Shimla Shimla District 1/3 4 Section Offices 4 Blocks				SDSCO Office Rampur Shimla District 2/3 4 Section Offices 3 Blocks				SDSCO Office Rohru Shimla District 3/3 4 Section Offices 3 Blocks				SDSCO Office Arki Solan District 1/2 4 Section Offices 3 Blocks				SDSCO Office Nalagarh Solan District 2/2 4 Section Offices 2 Blocks			
		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant		Sanc- tioned	Filled in	Vacant	
1 SDSCO	1	1	-	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	0	
2 Supdt. Gr. II	3	1	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	0	
3 Sr. Asstt.	3	1	1	0	1	1	0	1	1	1	0	1	1	0	1	1	1	1	0	0	
4 Jr. Asstt. / Clerk	3	2	1	1	2	2	0	2	2	1	1	1	2	2	0	2	2	2	2	0	
5 Peon / Chowkidar	4	2	2	0	2	2	0	2	2	2	0	2	2	1	1	1	2	2	2	0	
6 JE	3	3	2	1	3	-	3	1	1	1	0	3	2	1	1	1	3	2	2	1	
7 Draftsman	3	-	-	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	0	
8 Jr. Draftsman	3	1	1	0	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9 Surveyor	3	2	1	1	2	1	1	1	2	1	2	2	2	2	2	2	2	2	2	1	
10 ADO	1	3	3	0	3	2	1	3	3	2	1	3	3	3	1	3	3	3	2	1	
11 AEO	3	4	4	0	4	2	2	4	4	2	2	2	4	3	1	4	4	3	3	1	
12 Belder	4	5	4	1	5	5	0	5	5	3	2	2	5	3	2	5	5	4	4	1	
13 Driver	3	-	-	0	1	1	0	1	-	-	0	0	-	-	0	0	1	-	1	1	
14 Welder	3	-	-	0	-	-	0	-	-	-	0	0	-	-	0	0	-	-	-	0	
15 Driller	3	-	-	0	-	-	0	-	-	-	0	0	-	-	0	0	-	-	-	0	
16 Assistant Driller	3	-	-	0	-	-	0	-	-	-	0	0	-	-	0	0	-	-	-	0	
17 Compressure Operator	3	-	-	0	-	-	0	-	-	-	0	0	-	-	0	0	-	-	-	0	
18 Foreman	3	-	-	0	-	-	0	-	-	-	0	0	-	-	0	0	-	-	-	0	
19 NWDPPRA (ADO)	(17)	-	-	0	-	-	0	-	-	-	0	0	-	-	0	4	5	1	-	4	
Total		25	20	5	27	19	8	26	14	12	31	17	14	27	18	9					

SDSCO: Sub-Divisional Soil Conservation Officer

Supdt. Gr. II: Superintendent Grade II

Sr. Asstt.: Senior Assistant

Jr. Asstt.: Junior Assistant

JE: Junior Engineer

ADO: Agricultural Development Officer

AEO: Agricultural Extension Officer

NWDPPRA: National Watershed Development Program for Rainfed Area

SDSCO in South Zone (2/2)

Position	Grade	SDSCO Office Paonta Simaur District 1/2 4 Section Offices 3 Blocks			SDSCO Office Rajgarh Simaur District 2/2 4 Section Offices 3 Blocks			SDSCO Office Rekongpo Kinnaur District 1/1 3 Section Offices 3 Blocks		
		Sanc- tioned	Filled in	Vacant	Sanc- tioned	Filled in	Vacant	Sanc- tioned	Filled in	Vacant
1 SDSCO	1	1	-	1	1	0	1	1	0	
2 Supdt. Gr. II	3	1	1	0	1	0	1	-	0	
3 Sr. Asstt.	3	1	1	0	1	0	1	1	0	
4 Jr. Asstt. / Clerk	3	2	2	0	2	0	2	1	1	
5 Peon / Chowkidar	4	2	2	0	2	0	2	2	0	
6 JE	3	3	1	2	3	1	2	1	1	
7 Draftsman	3	1	1	0	1	0	1	1	0	
8 Jr. Draftsman	3	1	1	0	1	1	1	1	0	
9 Surveyor	3	2	-	2	2	2	1	-	1	
10 ADO	1	3	2	1	3	1	4	3	1	
11 AEO	3	4	2	2	4	1	4	3	1	
12 Belder	4	5	5	0	5	1	4	3	1	
13 Driver	3	-	-	0	-	0	-	-	0	
14 Welder	3	-	-	0	-	0	-	-	0	
15 Driller	3	-	-	0	-	0	-	-	0	
16 Assistant Driller	3	-	-	0	-	0	-	-	0	
17 Compressor Operator	3	-	-	0	-	0	-	-	0	
18 Foreman	3	-	-	0	-	0	-	-	0	
19 NWDPPRA (ADO)	(1?)	-	-	0	-	0	-	-	0	
Total		26	18	8	26	18	8	24	8	

SDSCO: Sub-Divisional Soil Conservation Officer

JE: Junior Engineer

Supdt. Gr. II: Superintendent Grade II

Sr. Asstt.: Senior Assistant

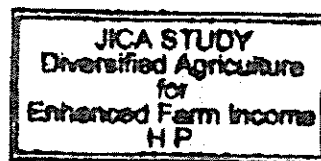
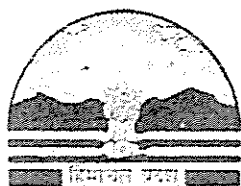
Jr. Asstt.: Junior Assistant

ADO: Agricultural Development Officer

AEO: Agricultural Extension Officer

NWDPPRA: National Watershed Development Program for Rainfed Area

D. S. Handa



Government of Himachal Pradesh
Department of Agriculture

GUIDELINES
FOR
THE IMPLEMENTATION
OF
IRRIGATION SCHEMES
THROUGH
WATER USERS' ASSOCIATION
IN
HIMACHAL PRADESH

Revised on 22-7-2000

Department of Agriculture, Himachal Pradesh
Krishi Bhawan, SHIMLA-171005

NO.AGR.(SC)(F)(H) 2-4/98-V
DIRECTORATE OF AGRICULTURE,
HIMACHAL PRADESH,SHIMLA-5.

From

Director of Agriculture,
Himachal Pradesh, Shimla-5.

To

All the Sub Divisional Soil Conservation Officer,
in Himachal Pradesh.

Dated Shimla-171005, the

Subject:- Revised Guidelines for the implementation of
Irrigation Schemes through Water Users Association
in H.P.

Memo:-

Enclosed please find herewith the Revised
guidelines for the implementation of Irrigation Schemes
through Water Users Association in Himachal Pradesh for
information and necessary action.

Director of Agriculture,
Himachal Pradesh, Shimla-5.

EMDT.NO.AGR.(SC)(H)(F)2-4/98-V- Dated Shimla-5, the
Copy forwarded to the following for information and
necessary action to:-

1. The Commissioner-Cum-Secretary (Agr.)
to the Government of H.P.Shimla-171002.
2. The Principle Adviser(Planning). to the Govt.
of H.P.Shimla-171002.
3. The General Manager, NABARD Block No.32/S.D.A.
Complex, Shimla-171009.
4. The Addl. Director of Agriculture, North Zone,
Dharamsala, H.P.
5. The Divisional Engineer(S.C.) Shimla/Shangrotu
and Palampur, H.P.

Director of Agriculture,
Himachal Pradesh, Shimla-5.

D. K. Sharma

1. BACKGROUND:

Realising the importance of irrigation for increasing agriculture production, the State Government of Himachal Pradesh has mobilised resources, and is taking funds from NABARD to enhance plan funding through RIDF. The Department of Agriculture has received funds in RIDF-I, II & V. While sanctioning the funds under RIDF-V, the Project Sanctioning committee of NABARD laid down emphasis on peoples participation in Irrigation Management. That is why this procedure is being evolved.

People's Participation:

1. Participation of farmers in water management of an irrigation system is vital for achieving project objectives and has also been prescribed in National Water Policy (1987) document.
2. Participation can come through an organisation of farmers. Such an organisation has to be designed to provide the beneficiary farmers with some kind of socially structured way of working together for irrigation development and system management. Such an organisation should be broadly acceptable to the largest number of water user's and supported by them. It should have a defined role to play in management of the system and have enough prestige and authority to make and implement decisions.
3. This would require the concerned department to make corresponding adjustments in its structure and functions. A working farmers organisation to be designated as Krishak Vikas Sangh (KVS) with the necessary legal authority behind it will not have a sense of ownership of the system but will also be encouraged to take initiative to influence policies and decision regarding management.

2. GUIDELINES FOR INVOLVING FARMERS:

4. The aims of any Project or activity comprise of a set of purposes or goals describing the benefits that would flow out of the project and the likely groups of people who would be benefited out of the project.

(A) PURPOSE OF ORGANIZATION:

5. The main purpose behind creating an organisation of farmers is:
 - a) Association in planning, design, construction, operation and maintenance of a new system from the beginning.
 - b) Management of irrigation water and its distribution.
 - c) Supplementing irrigation supplies by developing alternate source of water, if practically possible.
 - d) Agreement on common crop selection, credit, storage, marketing, etc.

The organisation may participate in execution of a Minor Irrigation Project on the basis of (a) bearing total cost or (b) cost sharing and take on full responsibility for operation and maintenance of the system, water distribution, levying and collection of water dues and maintenance of the system.

6. The organisation can be single tier or two tiered. If it is two tiered then the management committee of main system level would be a formal group and is required to be registered under the Societies Registration Act, 1860. In case of single tier, it would also be a formal group. Generally there should be minimum 5 members and maximum 7 members in a management committee depending upon the size of the membership of Krishak Vikas Sangh.

(B) FORMATION OF KRISHAK VIKAS SANGH:

7. The Important requirements in the implementation of an irrigation project are:
 - (i) Initiating community based approach for the design and management of irrigation systems
 - (ii) To establish coordination among State agencies involved in the sector.
 - (iii) To encourage human resource and institutional development. A strong participant farmers organisation is a means to operationalise these objectives.

(C) PRE-CONSTRUCTION ACTIVITIES:

(I) ORGANIZING FARMERS AT SYSTEM LEVEL:

8. In order to create a structure for participation, a Water User's Association which shall be known as Krishak Vikaas Sangh (KVS) shall be made to be set up on each scheme before the start of the execution of the system. It is done because there are strong advantages in starting the Water User's Association before the execution work is taken up, so that farmer's could participate in the planning and designing of the irrigation system. All the Water User's of a particular scheme will be members of this Association. They shall further elect a management committee giving due representation to all sections of community including Women, SC/ST etc. The official of the Agriculture Department will facilitate the farmers by participating in these meetings.

(II) OFFICE ESTABLISHMENT AND RECORD KEEPING:

9. KVS should be advised to establish an office where papers regarding the Association and the project could be kept and meetings could be held. If necessary, the management committee members of KVS be trained in drawing the proceedings of meeting, record keeping and maintenance of cash book, etc.

(III) CONTRIBUTIONS TO IRRIGATION DEVELOPMENT FUND:

10. The official who is getting the scheme executed should advice and assist participant farmers to collect cash contribution as a membership fee as required under the rules framed and agreed by the farmers and other contribution given as voluntary labour or free materials, a sum equal to the monetary value of the free labour and 'materials' contribution shall be deposited in a fund known as "Irrigation Development Fund". Similarly in cases where the farmers give cash contributions in lieu of free labour or materials, the amount so received shall be deposited directly into Irrigation Development Fund. This fund shall be operated upon by the management committee jointly as provided in the rules. These funds shall be utilised for the operation and maintenance activities after the scheme is completed. The President will keep separate record of this voluntary contribution. The voluntary contribution converted into monetary value shall be deposited into IDF and remaining amount shall be disbursed to those who are working as paid skilled/unskilled labourers. As per approval received from the Govt. of Himachal Pradesh vide their letter No. Agr. F(11)-3/99 dated 29th January, 2000, the Contractor's Commission if provided in the project proposal may also be deposited in the Irrigation Development Fund, if it is implemented through Water User's Association. The Contractor Commission will be drawn after the completion of the work.

(D) CONSTRUCTION ACTIVITIES:

(I) PRE CONSTRUCTION MEETING:

11. In order to finalise the modalities of construction activities 'a pre- construction meeting' be held in which the section incharge and the Sub Divisional Soil Conservation Officer concerned are also present. In this meeting all modalities are finalized, if all the members are in an agreement that the scheme should be executed and they are ready to abide by all the terms and conditions fixed by the Department of Agriculture and are ready to execute the scheme as well take the responsibility of its O&M activities, the scheme will be taken up for its execution through Association. If not then the matter shall to be brought in the notice of higher authorities for further decision. The Management Committee shall

have to give in writing that they want this schemes and shall take the responsibility of its O&M after completion.

12. When the scheme is taken up for execution, the office bearer authorized by the members by a resolution in this meeting shall have to give an affidavit on stamp paper as per prescribed proforma (Annexure-I) to the Sub-Divisional Soil Conservation Officer or Divisional Engineer (Soil Conservation) before the execution of a particular scheme.
13. The Divisional Engineer (Soil Conservation)/ Sub Divisional Soil Conservation Officer shall issue award letter to the President KVS or any authorized person by the KVS on the proforma enclosed at Annexure-III.

(II) DISCUSSION ON DESIGN, COST ETC.

14. The section incharge will discuss the design, cost, etc. with the Management committee in this meeting and the whole project transparent/clear.
15. If the members are not satisfied with the design of a scheme and alignment of the water channels including other proposed structures then a 'walk through' process be conducted by walking through the whole system right from intake point. The comments of the members be noted down during this process and the members as well as officials should reach to a common agreement. At this stage, the scheme can be altered as per common agreement but the scheme cost as approved by the competent authority will not change.
16. The management committee shall be responsible for supervising the construction work on a day to day basis; keep close liaison with the officers of executing agency, receive construction material and keep its proper accounts, shall employ skilled/ unskilled labour for carrying out the execution of work.
17. The President or other officer bearer authorized by the Management Committee shall maintain a 'Register at Site' and enter all type of material received from the section incharge. The register will have following columns:-

Sr. No.	Name of Material	Quantity received	Quantity issued	Balance	Signature
1	2	3	4	5	6

As and when material is required for site, the President will give requisition to the section incharge mentioning type of material and quantity required.

18. The Management Committee will also maintain a register, giving full details of a particular labour including his age and the per day rate. The account of voluntary share in shape of cash, and kind shall have to maintained separately.
19. The Management Committee will also maintain a register where in Voluntary contribution, as well as kind shall be entered as described earlier.
20. The President of the management committee will have to produce all the books on demand of section incharge or any other senior officer of the department authorized to supervise the work.
21. The section incharge will record the measurements of the actual work done at the site. The SDSCO while passing the bill shall deduct the cost of material supplied and balance amount in respect of labour charge etc. would be paid to the President of the Management Committee in the form of cross cheque. Who will further disburse it to the labour and material supplier. The president KVS will ensure the supply of no objection certificate from labour officer/Inspector before the release of security/final bill.
22. The SDSCO will also maintain a central store register where in all the material purchased shall be entered for its receipt as well as issue.
23. All the irrigation schemes will be inspected by the SDSCO and the Divisional Engineer (Soil Conservation) frequently and record their test check on the measurement book to the tune of 20% and 5% by the SDSCO and Divisional Engineer (Soil Conservation) respectively. However section incharge will ensure that laying of concrete is done in their presence.
24. The section incharge shall prepare a consumption material chart and would attach with running or final bill.
25. All labour dispute will be referred to the labour officer/Inspector and their decision will be binding on the president KVS.

(E) POST CONSTRUCTION ACTIVITIES:

(I) COMMISSIONING AND HANDING OVER PROCESS:

26. After the scheme is completed in all respect, the section incharge will hold a commissioning process in front of the members. He will test the main, sub-main, distributories channels and other structure raised under the scheme.
27. The scheme there after would be handed over to the Management Committee. Handing over process is an important event which gives an indication about the end of agency assistance in construction and the beginning of farmer's managed operation.
28. The KVS, there after will be helped to decide different methods of resource mobilization. These can be membership fee, annual contribution, water charges, voluntary contribution made at the time of construction of a scheme etc.
29. All repairs after the completion of a scheme shall be carried out by the KVS. The KVS at the time of taking over scheme shall give an undertaking as per format given at Annexure-II on the non judicial paper to the SDSCO.
30. The Department of Agriculture, however, will render all technical assistance to the KVS on their demand. The expenditure so incurred on O&M shall be meted out of the Irrigation Development Fund maintained by the KVS.
31. The KVS will decide about the type of crops to be grown along with acreage and would be responsible for the scheduling of irrigation.
32. The KVS will also be responsible to fix the water rates to be collected from the users. The water rates can be on the basis of area under irrigation, number of irrigation provided to a particular crop etc.
33. In case the Krishak Vikas Sangh becomes defunct or not maintaining the scheme, the concered Panchayat shall take over the scheme and manage it on the expenses of water users who will have to pay charges for its maintenance. The operation of Irrigation development fund shall also go to the Panchayat.

3. MONITORING AND REVIEW:

34. The Sub Divisional Soil Conservation Officer will report on each of the irrigation schemes to the Divisional Engineer every month, who after compiling the progress report on each of the irrigation scheme of his division shall further transmit to the Directorate of Agriculture, So as to reach on or before 15th of the each month. Similarly quarterly reports on prescribed proforma are to be sent to the Directorate on or before each quarter ending month. The proforma for monthly as well as quarterly progress reports are annexed as Annexure-III & IV respectively.
35. Review monthly meetings of irrigation schemes be held by 3rd and 10th of every month at the Sub-Divisional & Divisional level respectively. State level review may be held once in a quarter. While the usual monitoring of the physical and financial progress of the schemes could be done through the monthly and quarterly progress report, the main purpose of the monthly review meetings will be to discuss and analyse the performance including the reasons for success and difficulties in the implementation of the scheme. The functioning of the Krishak Vikas Sangh will also be reviewed on the format at Annexure-V.

TERMS AND CONDITIONS FOR AFFIDAVIT

1. That I _____ S/O Shri _____
working as _____ of K.V.S _____
have been authorized by the K.V.S in the meeting held on _____ vide resolution
No. _____ to execute this document for and on behalf of the K.V.S.
2. That we shall carry out the work within the time limit given by the Department.
3. That the work shall be executed strictly as per specifications and the designed approved
by the Department and agreed by K.V.S.
4. That the lay out for the work will be given by the site incharge.
5. That the material like Sand ,Steel, Stones aggregate will be arranged by the KVS except
cement at the lowest market rate. The president, secretary and Section Incharge will be
member of purchase Committee.
6. That the KVS will return all or at least 90% minimum empty cement bags to the site
incharge /SDSCO in serviceable condition. In case the serviceable bags are less than 90%
an amount equal to the cost of bags returned, loss will be recovered from us @ Rs.5/ bag.
7. That while executing the scheme the quantity of work shown with the approved rates can
be increased/ decreased according to the requirment of the site.
8. That all works executed shall at all times be open to the Inspecting Officer or site
incharge.
9. That no labourer below the age of 18 years shall be employed on the work by us.
10. That we shall be showing on demand all the books maintained at site to the inspecting
officer or the site incharge.
11. That we shall be responsible for proper utilization of the construction material issued by
the site incharge on the execution of the scheme. In case of its mis- utilization, pilferage,
wastage or other thefts, we shall be responsible for the same and recover the same from
the defaulting members.
12. That we shall take over the scheme in all respect after it is completed and shall take
responsibility of its O&M .

ANNEXURE-II

TERMS AND CONDITIONS FOR UNDERTAKING BE GIVEN AT THE TIME OF
TAKEOVER THE COMPLETED IRRIGATION SCHEME

1. That I _____ S/O Shri _____ Working as _____ of KVS _____ have been authorized by the KVS in the meeting held on _____ Vide resolution No. _____ to give this undertaking for and on behalf of the KVS.
2. That we shall take over the scheme in all respect after it is completed and shall take responsibility of its operation & maintenance .
3. That we shall take responsibility of equal distribution of water amongst the members by way of making a chart of schedule of irrigation (Warabandi).
4. That we shall be responsible to recover the water charges as levied by the KVS and put in the Irrigation Development Fund.
5. That Irrigation Development Fund shall be properly maintained /operated as prescribed in the rules and decided by KVS.
6. That we shall take responsibility for full utilization of Irrigation water and shall be deriving maximum benefit from the scheme.
7. That in case the KVS becomes defunct due to one or the other reason we shall have no objection if the scheme is taken over by the Gram Panchayat concerned. However, operation of Irrigation Development Fund account shall automatically be transferred to Gram Panchayat and they will be authorized to recover such dues from the members of scheme, hence we have no objection to that extent .

No. Agr. _____
O/O the sub divisional soil cons. Officer

To

The president,
K.V.K. _____ G.P. _____
Tehsil _____ District Mandi (Himachal Pradesh)

Dated:

Subject:- Award letter for the execution of F.I.S. _____
G.P. _____ Tehsil _____ District Mandi.

Dear Sir,

As per guidelines Notified by Govt. of H.P. vide Notification No. _____ dated _____ and constitution of the K.V.S. and Management Committee thereof by the Users of the said scheme vide General House Resolution No. _____ dated _____ which authorized the president/or the office bearer namely _____ to execute the scheme on behalf of the K.V.S. and submission of the affidavit by the president/ or by _____ regarding the terms and conditions and on the basis of further acceptance of additional terms and conditions as given as follows, you are hereby authorized to execute the F.I.S. _____ amounting to Rs. _____ including contractor profit @ 10%. The detail of additional terms and conditions are as follow:-

1. The time limit for the completion of work is ___ months which shall be reckoned seven days from the date of issue of award letter.
2. The drawing, design and detailed estimate etc. can be seen in the office of the Sub Division Soil Cons. Officer and Section Incharge at any working day and can be obtained before execution of work.
3. Any deviation/charge of required, according to present site conditions in the drawing and design must be brought to the notice of Sub Divisional Soil Cons. Officer and Section Incharge before execution of work.
4. The work will not be ^{submitted} by the president/or the officer bearer authorized by the members of the K.V.S to any other person, otherwise the payments will not be released.
5. Presidents will engage the Users of the scheme for the execution of said work. In case the Users not willing to execute the same only then other labourers be engaged.

6. The management committee will be responsible to supervise the work on day to day basis.
7. The amount @ 10 % will be deducted from, the gross amount of the running bill and the same will be released in the account of the K.V.S. of the _____ scheme for O&M of the same after its completion.
8. Sale Tax as applicable will be deducted from the running bill time to time.
9. The vouchers for the construction material will be submitted by the president/or the office bearer authorized by the members of the K.V.S. to the section Incharge from time to time.
10. "M"form for the quantity of material utilized such as Stone, Aggregate, Sand etc. will be supplied by the president K.V.S. before the release of final bill.
11. Payment of work will be released by way of cross cheque to the president and will be disbursed by executive committee of KVS to labour and material supplier.
12. All the labour dispute will be referred to Labour Officer/Inspector and his decision will be binding on President KVS.

Sub Divisional Soil Conservation Officer,

Endst. No. Agr. _____

Dated:

Copy for favour of Information is sent to:-

1. The Director of Agriculture, H.P. Shimla-5.
2. The Addl. Director Of Agriculture, NZ. Dharamsala, H.P.
3. The Divisional Engineer, (S.C)CZ.Mandi at Bhangrotu.
4. The section Inchargr of F.I.S.
5. The Labour Inspector /Labour Officer
- 6.

Sub divisional Soil Conservation Officer,

RIDE-PROGRESS AT A GLANCE

QUARTERLY PROGRESS REPORT

Quarter ending:

IPH/PWD/Agri Department

RIDF-I/II/III/IV/V

(Rs. in lakhs)

S.No.	Name of the Project	District	Length	Sanctioned Cost	Tentative Revised Cost	RIDF Assistance	Estimated quantity			Physical Progress			Expenditure as on	Remarks
							(i)	(ii)	(iii)	(i)	(ii)	(iii)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Note:

- Estimated quantity means the work may be estimated in three board heads
 irrigation - Earthwork, lining, masonry works
 Roads - Baso; sub-baso; MSS
 Bridges - Structure, Approaches, Protection works
- Remarks to indicate - Completed/Dropped/In Progress/Dispute etc.
- HQ's of Departments to consolidate please.

TUBE WELL

MONITORING OF TUBEWELL SCHEME:

1. IMPLEMENTING DEPARTMENT:

2. RIDF TRANCHES (H, L, V)

3. NAME OF THE PROJECT:

4. PROGRESS OF DIFFERENT COMPONENTS OF WORKS

CIRCLE: _____

DIVISION _____

ID NO: _____

SR. NO. ITEM UNIT AS PER NBS ANCTION TENDERING DETAILS (YES/NO) CUMULATIVE PROGRESS TILL DATE TARGETS FOR NEXT QTR
 PHY. QTY. AMT. ESTIMATION OF NIT AWARD PHY. QTY. %AGE EXP. PHY. QTY. AMT.

1.	Drilling/Development and machinery	M						
3.	Laying of rising main	R.M						
4.	Const. of Pump house							
5.	SOP							
6.	Delivery Tank							
7.	Distribution System	R.M						
8.	Water measuring Device	No.						
9.	Other							
	Total							

INC GOVT CONTRIBUTION

5. WHETHER IRRIGATION HAS STARTED-TO WHAT EXTENT

6. LIKELY DATE OF COMPLETION OF THE PROJECT:

(AS PER TEAM/OFFICER ASSESSMENT)

7. IS THE FACT THAT THE PROJECT IS FINANCED

OUT OF RIDF DISPLAYED AT THE PROJECT SITE

8. EXPENDITURE INCURRED TILL DATE

OUT OF WHICH

i) FROM STATE SHARE

ii) FROM NABARD SHARE

9. NUMBER OF NON-RECURRING MANDAYS GENERATED SO FAR

10. WATER USERS ASSOCIATION

i) FORMED OR NOT

ii) WHETHER REGISTERED

iii) RESPONSIBILITIES BEING DELIVERED

11. CONSTRAINTS / OPERATIONAL PROBLEMS

a) SUPPLY OF MATERIAL

b) CONTRACTOR

c) TOOLS & PLANTS

d) MAN POWER

e) ANY OTHER ASPECT

12. VISITING OFFICERS COMMENTS ABOUT:

i) QUALITY ASPECTS

ii) PROGRESS OF WORK

Signature:

Name:

Designation:

Date:

LIS

- MONITORING OF LIFT IRRIGATION SCHEME:
 1. IMPLEMENTING DEPARTMENT: CIRCLE:
 2. RIDF TRANCHE (L1/L2/L3/V):
 3. NAME OF THE PROJECT:
 4. PROGRESS OF DIFFERENT COMPONENTS OF WORKS

DIVISION:
 ID NO:

SIR NO.	ITEM	UNIT	AS PER B/SANCTION	TENDERING DETAILS (S/F/S/NO)	CUMULATIVE PROGRESS TILL DATE	TARGETS FOR NEXT QTR
			PHY. QTY.	AMT. ESTIMATION OF NIT AWARD	PHY. QTY. %AGE EXP.	PHY. QTY. AMT.
	1. Erection of Jack/sumpwell and machinery	M				
	2. Procurement of material					
	3. Laying of rising main	RM				
	4. Const. of Pump house					
	5. SOP					
	6. Delivery Tank					
	7. Distribution System	RM				
	8. Water measuring Devices	No				
	9. Filter					
	Total					
	INC GOVT CONTRIBUTION					

5. WHETHER IRRIGATION HAS STARTED TO WHAT EXTANT
 6. LIKELY DATE OF COMPLETION OF THE PROJECT.
 (AS PER TEAM/OFFICER ASSESSMENT)
 7. IS THE FACT THAT THE PROJECT IS FINANCED OUT OF RIDF DISPLAYED AT THE PROJECT SITE
 8. EXPENDITURE INCURRED TILL DATE OUT OF WHICH
 a) FROM STATE SHARE
 b) FROM NABARD SHARE
 9. NUMBER OF NON-RECURRING MANDAYS GENERATED SO FAR
 10. WATER USERS ASSOCIATION
 a) FORMED OR NOT
 b) WHETHER REGISTERED
 c) RESPONSIBILITIES BEING DELIVERED
 11. CONSTRAINTS/OPERATIONAL PROBLEMS
 a) SUPPLY OF MATERIAL
 b) CONTRACTOR
 c) TOOLS & PLANT'S
 d) MAN POWER
 e) ANY OTHER ASPECT
 12. VISITING OFFICERS COMMENTS ABOUT:
 a) QUALITY ASPECTS
 b) PROGRESS OF WORK

Signature:
 Name:
 Designation:
 Date:

MONITORING OF FLOW IRRIGATION SCHEME:
 1. IMPLEMENTING DEPARTMENT: CIRCLE:
 2. RIDF TRANCHE (L/II/III/IV/V)
 3. NAME OF THE PROJECT:
 4. PROGRESS OF DIFFERENT COMPONENTS OF WORKS

DIVISION:
 ID NO:

SR . ITEM UNIT AS PER NBSANCTION TENDERING DETAIL (VES/NO) CUMULATIVE PROGRESS TILL DATE TARGETS FOR NEXT QTR
 NO. QTY. AMT. ESTIMATION OF NET AWARD PHY. QTY. %AGE EXP. QTY. AMT.

1. Head works
2. Laying of main channel R.M
3. Distribution System R.M.
4. Other

Total

INC. GOVT CONTRIBUTION

5. WHETHER IRRIGATION HAS STARTED-TO WHAT EXTENT

6. LIKELY DATE OF COMPLETION OF THE PROJECT:

(AS PER TEAM/OFFICER ASSESSMENT)

7. IS THE FACT THAT THE PROJECT IS FINANCED

OUT OF RIDF DISPLAYED AT THE PROJECT SITE

8. EXPENDITURE INCURRED TILL DATE

OUT OF WHICH

i) FROM STATE SHARE

ii) FROM NABARD SHARE

9. NUMBER OF NON-RECURRING MANDAYS GENERATED

SO FAR

10. WATER USERS ASSOCIATION

i) FORMED OR NOT

ii) WHETHER REGISTERED

iii) RESPONSIBILITIES BEING DELIVERED

11. CONSTRAINTS / OPERATIONAL PROBLEMS

a) SUPPLY OF MATERIAL

b) CONTRACTOR

c) TOOLS & PLANTS

d) MANPOWER

e) ANY OTHER ASPECT

12. VISITING OFFICERS COMMENTS ABOUT:

i) QUALITY ASPECTS

ii) PROGRESS OF WORK

Signature:

Name:

Designation:

Date:

MONITORING OF FLOOD IRRIGATION SCHEME:
 1. IMPLEMENTING DEPARTMENT: CIRCLE:
 2. RIDF TRANCHE (IV):
 3. NAME OF THE PROJECT:
 4. PROGRESS OF DIFFERENT COMPONENTS OF WORKS

DIVISION:
 ID NO:

Sr. No. ITEM UNIT QTY. AMT. AS PER NB SANCTION ESTIMATION OF NT AWARD TENDERING DETAILS (YES/NO) CUMULATIVE PROGRESS TILL DATE. %AGE EXP. %AGE QTY. AMT. TARGETS FOR NEXT OUR

1. C/O Embankment R.M.
2. C/O Spurs R.M.
3. Other
- Total

INC. GOVT CONTRIBUTION

4. LIKELY DATE OF COMPLETION OF THE PROJECT:

(AS PER TEAM/OFFICER ASSESSMENT)

5. IS THE FACT THAT THE PROJECT IS FINANCED

OUT OF RIDF DISPLAYED AT THE PROJECT SITE

6. EXPENDITURE INCURRED TILL DATE

OUT OF WHICH

i) FROM STATE SHARE

ii) FROM NABARD SHARE

7. NUMBER OF NON-RECURRING MANDAYS GENERATED

SO FAR

8. CONSERVANTS/OPERATIONAL PROBLEMS

a) SUPPLY OF MATERIAL

b) CONTRACTOR

c) TOOLS & PLANTS

d) MAN POWER

e) ANY OTHER ASPECT

9. VISITING OFFICERS COMMENTS ABOUT:

i) QUALITY ASPECTS

ii) PROGRESS OF WORK

Signature:

Name:

Designation:

Date:

ANNEXURE-VI

S.No.	Name of irrigation system	Type of system	system users house holds	Designed CCA (hect.)	No. of KVS executive members	Date of KVS formation	No. of sub-committees if any.	Committee registered yes/ no.	Date of registration	No. of farmers present at the time of registration	No. of farmers present at the time of formation of KVS
1	2	3	4	5	6	7	8	9	10	11	12

Funds raised (Rs.)	Modes of funds collection per unit area/per season/ per house hold	13	14	15	16	17	18	19	20	21	22	23	24
			Bank account opened yes/no.	Minutes book opened yes/no.	Cash book maintained yes/no.	other record maintained (Name)	Walk through organised yes/no.	Date of walk through organised	Estimated cost of scheme	Design cost estimate discussion date	Share agreed by KVS, if any	Date of pre onstruction meeting	

Actual work done by KVS Qty.	Amount	Work done by KVS beyond the scope of estimates		No. of meetings held	Farmers ready to take over the scheme wholly yes/no.	Other information	
		Name of work	Qty. Amount				
25	26	27	28	29	30	31	32

RULED APPROVED BY THE GOVT. OF H.P. VIDE THEIR

LETTER NO. AGR.F(ii)-3/99 DATED 15.11.99 AND

LETTER NO. AGR. F (II) -3/99 DATED 29.01.2000

Agr-F(11)-3/99
Govt of Himachal Pradesh
Department of Agriculture

From

F-C-Cum-Secretary (Agr) to the
Govt of Himachal Pradesh

To

The Director of Agriculture
Himachal Pradesh, Shimla-171005

Dated Shimla-171002

15/11/99

Subject

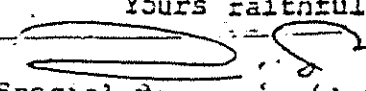
NABARD assistance under RIDF-V for Minor
Irrigation Projects - formulation of water users
Association and Rules thereof.

Sir,

I am directed to refer to your letter No Agr-SC
(F)2-4/98 -RIDF-V dated 13/9/99, on the subject cited above
and to convey the approval of the Govt in the proposed Rules of
water users Association (Cop-y enclosed).

You are therefore requested to take further
necessary action accordingly.

Yours faithfully,


Special Secretary (Agr) to the
Govt of Himachal Pradesh.

No. Agr. R 11)-3/99
Govt. of Himachal Pradesh
Department of Agriculture

From

Commr.-cum-Secretary(Agr.) to the
Government of Himachal Pradesh.

To

The Director of Agriculture,
Himachal Pradesh, Shimla-171005.

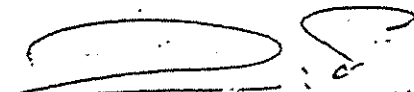
Dated: Shimla-171002, the 29th Jan., 2000.

Subject:- NABARD Assistance under RIDF-V for minor
irrigation Projects- formulation of Water
Users Association and Rules thereof.

Sir,

I am directed to refer to your letter No. Agr.SC.E.F.2-4/98-RIDF-V dated 22.12.99 on the subject cited above and to convey the approval of the Government to execute the works through water Users Association as proposed by you. Your proposal for depositing 10% contractor's commission in Irrigation Development Fund in cases where the execution of works is done by the Water Users Associations has also been agreed to. You are, accordingly, requested to do the needful after completing all the usual formalities.

Yours faithfully,


Spl. Secretary(Agr) to the
Govt. of Himachal Pradesh.

WATER USERS ASSOCIATION-RULES

(I) PROFILE OF IRRIGATION IN HIMACHAL PRADESH:

Of the total geographical areas of 55.67 lakh hectares, an area of 5.68 lakh hectares form the net sown area in the State. Of this, only 17.68% is under assured irrigation. The remaining 82.32% is rainfed.

Year	Net Area Sown	Current Follow	Net Irrigated Area	Total Cropped Area	Total Irrigated Area	Area Irrigated More Than Once	%age of Irrigated Area to Net Sown Area.
1	2	3	4	5	6	7	8
1990-91	582797	44690	99451	983599	166787	67330	17.97
1991-92	574110	4748	99736	980888	174556	74820	17.37
1992-93	5725563	48517	98826	972616	174721	75895	17.26
1993-94	571744	50232	99646	975231	171354	71708	17.43
1994-95	568338	55938	100454	967990	177838	77384	17.68

Even in respect of assured irrigation, 86% of the irrigated area is accounted for by canals and Kuhls i.e. small water channels-which depend upon adequate rain-fall and snow. Thus irrigation in Himachal Pradesh refers Predominantly to the ancient traditional mode of irrigation by Kuhls.

(II) PROCEDURE FOR INVOLVING FARMERS DURING CONSTRUCTION AND POST CPNSTRUCTION ACTIVITES OF IRRIGATION SYSTEM:

The Agriculture Department is though involving the farmers during the execution of the system, yet fir the complete involvement of farmers during construction and post construction activities, the following procedure shall be adopted;

A. DURING CONSTRUCTION:

1. Generally the Water Users Associations are created after the construction of a system is over but there is a strong advantage in starting the Water Users Association at an early stage to assist with participation in design and construction. Hence in order to create a structure for participation a water users association which shall be known as Krishi Vikas Sangh (KVS) shall be set up on each scheme before the start of the irrigation system by calling a meeting of all the

farmers who will derive the benefits from this scheme. An officer of the Department of Agriculture shall facilitate this meeting. In this meeting, the water users will elect the executive members like President, Vice President, General Secretary, Treasury & other executive members. This will be termed a "Management Committee". The MOU, constitution of KVS, function of the management committee etc. are given at Annexure -A.

2. The Management Committee will have a minimum of 5 members and maximum of 7 members, depending upon the size of the membership of the WUA.
3. The Water Users Association shall be registered under the Societies Registration Act 1860 before execution of the scheme. The memorandum of Association & Constitution etc. are enclosed at Annexure -A.
4. The Management Committee will function for a period of the two years before re- election is held, however, no election will be held during the execution period even it extends beyond two years.
5. The Section in-charge will discuss the design, cost etc. with the Management Committee of the WUA in a meeting. The In-charge shall make the whole Project transparent clear to all the members, if need be then 'walk through' process can be conducted.
6. Thus all the modalities of construction of the scheme shall be finalized in a "pre- construction" meeting of WUA members.
7. The Management Committee shall be responsible for supervising the construction work on day to day basis, keep close liaison with the officers of executing agency, receive construction material and keep its proper accounts, shall employ skill/un-skilled labours for carrying out the execution work.
8. The President of the Management Committee will be responsible for execution of the work as well as maintenance of accounts of the particular scheme. The President of Management Committee will have to produce the account books on demand of Section In-charge or any other Officer authorized to supervise the work.

9. The President alongwith members of the Management Committee will have to submit an affidavit on a paper as per prescribed proforma to be given by the divisional Engineer soil conservation or Sub Divisional Soil Conservation Officer, before the execution of a particular scheme.
10. The WUA shall open a bank account & shall also maintain cash book, minutes book, other books required for carrying out day to day work of an Association.
11. The payment related to a particular scheme will be drawn in favour of the President of the President of the management Committee, however, the operation of the bank account shall be under taken by the President alongwith minimum two other members. The President will be responsible for the disbursement of the expenses and a disbursement certificate duly attested by the Management Committee to the effect that the payment have been made to the labourers and other, shall be given to the Sub- Divisional Soil Conservation Officers concerned and in case of any labour dispute the matter will be refered to the Labour Officer/Inspector of concerned district.
12. The president along with Management Committee will submit the completion report of the scheme to the concerned officer before the final payment is released. The Management Committee shall before the submission of the completion report convene a meeting of the general house of WUA and get the same rectified.
13. In case of any dispute, decision of the Divisional Engineer (Soil Conservation) will be final.

B. POST CONSTRUCTION ACTIVITIES:

1. After the schemes are completed, commissioning and handing over event shall take place. Commissioning and handing over of a scheme is an important event which gives an indication about the end of agency assistance in construction and the beginning of farmers managed operation.
2. The farmers group shall also be made conversant with resource mobilisation, opening of Bank Accounts, Water Distribution System, Record Keeping etc. for having strong post construction control and management of the system.

3. The WUA, thus, will decide different methods of resource mobilisation and would open a bank account, if not already done initially, which will be jointly operated.
4. The Secretary of the WUA shall have the powers to spend an amount of Rs.500/- on emergency repairs and for major repairs exceeding Rs. 500/-, the issue has to be taken up with the Management Committee.
5. Technical help, if required, by the management Committee for the repair of a particular scheme shall be given by the Department. However, the WUA shall have to bear full expenses on the repair.
6. The WUA will decide about the type of crops to be grown along with acreage by each Water Users.
7. The WUA will fix the water rates to be collected from the users. The water rates will be on the basis of area under irrigation and if possible then number of irrigation given to a particular crop by a particular water user.
8. The President of the Committee will only be authorized to make correspondence with the Department.
9. The majority decision of members shall be binding on the President of the Management Committee.
10. In case the WUA becomes defunct or not maintaining the scheme the concerned Panchayat shall take over the scheme and manage it on the expenses of the Water Users who will have to pay charges for its maintenance .

MEMORANDUM OF WATER USERS ASSOCIATION

- Name of the Association :
- Complete Address of the Association:
- Aims and Object of the Association:

(1) To sign agreement with Government of Himachal Pradesh for utilization of water made available by the Government as per terms and conditions of the Government

(2) To encourage, popularize and promote the maximum use of water made available for increasing the yield of different crops and agriculture produce in the area.

(3) To manage and ensure equity and distribution of water and maximum participation of the beneficiaries for repair and maintenance of the irrigation scheme handed over by the Government.

(4) To Co-ordinate the activities of various beneficiaries of the scheme, resolve complaints, if any regarding internal distribution of water and to impose penalties to unauthorized user of water etc.

(5) To Co-ordinate with the concerned officers/officials of the Government deputed for the area for timely intimation of problem and their advice and Co-operation regarding management of water-agriculture activities and maintenance of scheme.

(6) To coordinate with the concerned officers/official of the Government for the execution of the scheme according to the specifications, design prepared by the department and agreed by the WUA.

- Names and other particulars of Managing Committee Members and Office Bearers to whom under Rules and Regulations the Management of its affairs is entrusted.

S.No.	Name	Designation	Occupation	Address
1	President			
2	Vice-President			
3	General Secretary			
4	Joint Secretary			
5	Treasurer			
6	Member			
7	Member			

PRESIDENT

GENERAL SECRETARY

CONSTITUTION OF KRISHAK VIKAS SANGH(KVS)

FOR THE FIS/LIS
TEHSIL _____, DISTRICT _____
(HIMACHAL PRADESH)

1. NOMENCLATURE:

The name of the association shall be Krishak Vikas Sangh (KVS) for FIS /LIS
_____ Tehsil _____ District _____
Himachal Pradesh.

2. HEADQUARTER:

The Headquarter of the Sangh (Association) will be at Village _____
Tehsil _____ District _____ (Himachal Pradesh).

3. BUSINESS YEAR & JURISDICTION :

The business year of the K.V.S. will be from April 1st to March 31st, of each year. The election for the vacant posts of members of Management Committee shall be held before March 31st. of each year.

The jurisdiction of the K.V.S will extend over the entire command area served by the minor canal/Flow irrigation scheme.

4. MEMBERSHIP:

The membership shall be open to all the land owners having land under the command of the scheme and is of sound mind not bankrupt, and not below the age of 18 years.

5. SUBSCRIPTION:

Each member shall subscribe Rs. 50/- annually to the association, which is not refundable or any other amount agreed by all the members in a meeting.

6. GENERAL HOUSE:

General House of the association shall consists of all irrigator member in accordance of rule 4 above.

7. MEETING OF GENERAL HOUSE:

The General House shall invariably meet once in a year and on the requisition signed by at least one tenth member of the total members with a notice of ten days.

8. QUORUM OF GENERAL HOUSE:

The quorum for the General House meeting shall consists of one third of its members. No quorum is necessary for adjourned meeting.

9. FUNCTIONS AND DUTIES OF GENERAL HOUSE:

- 1.The General House shall elect the members of the management committee for the vacant posts.
- 2.It shall pass the annual report of the General Secretary.
- 3.It shall have the powers to amend the constitution by passing with a simple majority of the total members present.
- 4.It shall pass the annual audit, accounts statements.
- 5.It shall have the powers to rectify the decisions taken by the Management Committee.
- 6.The General House shall also elect the members of Management Committee for the vacant posts.

10. MANAGEMENT COMMITTEE:

The management committee of the Association (KVS) shall consist of the following:

- 1.President.
- 2.Vice President.
- 3.General Secretary.
- 4.Joint Secretary.
- 5.Treasurer.
- 6.Two other members elected by the General House.

A member will cease to be a member of the management committee after two years or if he loses his status as bonafied irrigator. About half of the members shall retire in rotation each year. Election shall be held each year to fill in such vacancies. In the first year of formation of this KVS about half the number of members in the order of percentage of votes secured(votes secured/total number of votes polled) will be appointed for two years and the rest for one year.

One representative of the Govt. ie ADO/JE concerned will be in the management committee as an ex-officio honorary member with no voting rights in the affairs of the KVS.

11.MEETING OF THE MANAGEMENT COMMITTEE:

The management committee shall meet invariably once in a month and even earlier if so desired by the President or the Honorary General Secretary.

12.QUORUM FOR MANAGEMENT COMMITTEE MEETING:

The quorum for the management committee meeting shall consist of two third of the members.no quorum is required for adjourned meeting.

13. MANAGEMENT COMMITTEE DECISIONS:

The management committee decision shall be taken by a majority of the management committee members present in the meeting.

14. FUNCTION OF THE MANAGEMENT COMMITTEE(MC):

- 1.To decide all the policy matter of K.V.S from time to time and to frame rules to perform all functions of the Management Committee subject to the approval of General House.
- 2.To enter into an agreement with G.O.H.P.(Agriculture Department) for securing irrigation water.
- 3.To decide the crop pattern for each season for command of the schemes and their areas taking into consideration the likely availability of water, crop water requirement of different crops, dates of planting etc.
- 4.To decide the period of irrigation to be allotted to each outlet, the rotation period and the discharge to be let in the distribution system
- 5.To allocate water outletwise in every season and to ensure no un-authorized use of water & to prevent the wastage of water.
- 6.To maintain the entire distribution system in good working condition.
- 7.To decide the service charges/water rates to be charged from members/non members of the society.
- 8.To perform any or all functions in furtherance to the objective of the KVS.
- 9.To do maintenance and special repairs of the distribution system & execute such work.
- 10.To settle mutually the complaints if any regarding internal distribution of water and to impose penalties for unauthorized use of water.
- 11.To satisfy the GOHP that all necessary steps will be taken to check soil erosion due to canal water.

15.TERMS OF MANAGEMENT COMMITTEE MEMBERS:

The terms of the management committee members shall be of two years.

16. FUNCTIONS OF OFFICE MEMBERS:

D) PRESIDENT:

The president shall preside over the meeting of the General House and the Management Committee and have full control over the KVS. He shall have the right of casting vote in the meeting of General House and the management Committee in the event of dead lock.

He will also be responsible for the construction of irrigation scheme.

II) VICE PRESIDENT:

Will discharge the functions of the President in his absence. He shall also operate upon the accounts along with the Treasurer jointly.

III) HONORARY GENERAL SECRETARY:

1. He shall call and conduct the meeting of the General House and the management Committee.
2. He shall get the decisions of the General House and the management Committee implemented.
3. He shall keep with him an amount of Rs. 500/- as impress money and will have the power to incur expenditure upto Rs. 500/- at a time.
4. He shall keep and maintain all the correspondence of KVS.

IV) HONORARY JOINT SECRETARY:

He shall assist the Hony. General Secretary in his work and shall act as Hony. General Secretary in his absence.

V) TREASURER:

1. He shall maintain the account of the KVS and maintain the cash book of the day-to-day expenses.
2. He shall collect the membership fee, from the beneficiaries member of the KVS and voluntary donation alongwith the Vice President.
3. He shall operate upon the account alongwith the Vice President.
4. He shall be responsible to get the accounts of the KVS audited by the auditors appointed by the General House.
5. He shall be responsible to deposite the collection amount in the bank approved by the Management Committee.

VI) MEMBER OF MANAGEMENT COMMITTEE:

They shall attend the meeting of the Management Committee & shall give their opinion by casting their votes on the above issues put on in the Management Committee meeting. They shall also discharge other functions assigned by the President from time to time.

17. FINANCES OF THE KVS:

(a) The funds of the KVS shall be raised through the following sources:

- i) Membership fees of Rs. 50/- per annum.
- ii) Grant -in -aid from Govt. or any other source.
- iii) Water charges/service charges fixed by the Management Committee.
- iv) Voluntary donations.

The KVS open its account with the _____ bank as resolved by the WUA members.

b) CONSEQUENCES OF NON PAYMENT OF ANNUAL SUBSCRIPTION:

The member who becomes defaulter for non payment of subscription for more- than 3 months is automatically presumed to be terminated. However, the Managing Committee is empowered to restore membership of the defaulter member who clears the arrears within one month along with penalty of Rs.5/-.

c) The membership of any members of the association will be terminated by the Managing committee in the following circumstances:-

1. Become unsound mind.
2. Fails to pay subscription.
3. Acts contrary to the aims & objects of the association.
4. Absents himself/herself from three consecutive meeting of the Association.

18. UTILAZATION OF FINANCES:

The finance will be utilized to achieve the aims and objectes of KVS as decide by the Management Committee from time to time. The Managing Committee may fix a limit upto which the Hony. General Secretary may incur expenditure in cases of emergency like break in canal etc. but ex-post-facto sanction will be required to be taken from the Management Committee in all such cases.

19. VACANT VACANCIES IN THE MANAGEMENT COMMITTEE:

The President of the association shall have power to fill up vacant vacancies in the Managing Committee till election out of the member of the association by nomination not exceeding a period of three months.

20. DISSOLUTION:

In case the association is not be functioning properly or failed, it will be dissolved by 3/5-the majority of the total members and the procedure laid down in section 13 and 14 of the societies registration act 1860 will be followed.

3-4-1 HP州におけるジェンダー課題と社会的配慮

(1) ジェンダー主流化体制

ヒマチャール・プラデシュ州（以下、「HP州」と記す）では、社会正義・エンパワーメント局（Department of Social Justice and Empowerment）が、ジェンダー/女性および子ども関連の政策と開発事業を所管している。州政府が策定する計画書（Plan Document for 2010-2011）の第7章に「女性のエンパワーメントと子供の開発」が明記されている。同局は、国のジェンダー関連の法律や施策（第10次国家女性と子供エンパワーメント計画など）に基づき、州独自のジェンダーと子供開発計画を策定するとともに、啓蒙啓発活動、州内の関連省庁（農業局など）におけるジェンダー主流化を推進およびモニタリングし、社会的包摂¹を進める役目などを担っている²。2010年から、ジェンダー予算の導入も開始する予定となっており、各省の事業予算の30%は女性に関連する活動に割り当てることとしている。さらに、州内には、State Women Councilが設置されており、国家女性エンパワーメント計画の州内における実施状況を監視している。

社会正義・エンパワーメント局は、州（Department）、県（District Program Officers : ICDS）、ブロックレベル（子供開発担当官 : CDPO）、サークルオフィス（スーパーバイザー : 家庭内暴力も担当）に事務官を配置している。また、子どものための保護センターを県レベルに設置して運営している。村ごとには、Anganwari Centerを設置し（18,248カ所）、各CenterにAnganwari WorkerとAnganwari Helperをそれぞれ1名ずつ配置している。同局は、草の根レベルに最も近いところで事業を実施している。ひとつのAnganwari Centerは、約300人の住民を対象にしており、主に6歳までの児童に対する栄養補給、予防接種、成長の記録（5歳児までの体重測定など）、就学前教育、および妊産婦に対する産前産後ケア、栄養補給、家族計画、識字教育などを実施している。Anganwari Workersのための研修センターは、シムラ県（2カ所）、マンディ県（1カ所）、カングラ県（1カ所）にあり、オリエンテーション研修（1カ月）、およびリフレッシャーコースなどを実施している。

また、同局は約10年前から村落において女性の自助グループ（Self-Help Group : SHG）の形成および能力強化を支援しており、すでに州内では24,810のSHGが同局の支援で形成された（州全体では10万以上のSHGが存在すると推定されている）。同局は、それらの活動に対する資金提供はしていないが、必要に応じて、SHGを他の省庁（農業、畜産、園芸など）やNGO、マイクロクレジット機関などに紹介している。これまでに、12,951のSHGが融資を受けており、その融資総額は666.61百万ルピー（約13億円）、貯金総額は415.3百万ルピー（約8億2千万円）となっている³。

¹ 社会的排除（social exclusion）は、貧困、教育の欠如、差別などのために社会参加ができず、社会の隅に追いやられ、雇用、収入、教育機会が得られなくなっていくことを指す。社会的排除は、社会不安を引き起こすおそれがある。それに反して、社会的包摂（social inclusion）とは、貧困や社会的排除の状態にある人々が経済・社会・文化的な生活に参加し、当該社会において一般的だと考えられる標準的な生活水準および福祉を享受するために必要な資源や機会を得ること、生活に影響を与える意思決定過程に参加すること、および基本的な人権が保障される状況を指す。インドの場合、不可触カースト、寡婦など特定の被差別集団の社会からの排除をなくす政策やプロセスを指すことになる。

² 本調査団では、Ms. Prabha Rajiv（Joint Director, Department of Social Justice and Empowerment, HP）、および同局のMr. H.K. Sharma（Program Officer）、Mr. R.P. Chauham（Program Officer）に面談することができた（2010年3月3日）。

³ ひとつのSHG当たりへの融資額の平均は約10万円、貯蓄額は約7万円（2010年2月の換算レート）

(2) ジェンダー及び社会概況⁴

<人口・民族構成>

2001年人口センサスによるとHP州の総人口は6,077,000人であり、そのうち女性人口は約半数(2,989,000人、49.2%)である。性別比は男性1,000人対女性968人。1971年の1,000人対958人から改善しているが、1991年の1,000人対976人からは後退している(表1)。これは、国の子ども2人奨励政策の影響で、出産前性別診断などで男児を優先するという傾向によるものである(社会正義・エンパワーメント局)。県ごとの指標では、ソラン県、ビラスプール県、ハミルプール県、ウナ県、カングラ県は、女性比が低く900以下である。これらは、ソラン県を除いてすべて本案件の対象県であることから、本案件はHP州の中でも女児差別が厳しい地域を選択したといえる。

表1 HP州の人口推移

(単位: 1000人)

	1971年	1981年	1991年	2001年
合計	3,460	4,280	5,170	6,077
男性	1,767	2,170	2,617	3,088
女性 (%)	1,693 (48.9)	2,170 (50.7)	2,553 (49.4)	2,989 (49.2)
女性人口比(人) (男性1000人対)	958	973	976	968

出典: Plan Document for 2020-2011: Chapter 7 Empowerment of Women and Development of Children

HP州の全人口のうち、5,482,000人(90.2%)は農村地域(17,945村)に居住しており、都市部居住者は596,000人(9.8%)である。全世帯数は1,240,633世帯、世帯平均構成員数は4.9人である⁵。一見、世帯構成員数は多くないが、実際には大家族で家計管理をしていることもあるため、ベースライン調査などで世帯調査を実施する際には世帯の概念および世帯内外における意思決定の仕組みを明確にする必要がある。

HP州の人口の大半は、高位カースト(Brahmins, Soods, Thakurなど)で構成されている。貧困層が多くを占める「指定カースト」⁶は約1,502,000人(24.7%)、「指定部族」⁷は約245,000人(4.0%)で、あわせて約3割である。HP州では、部族・指定カースト計画(Tribal and Scheduled Cast Sub-Plans)を策定し、Tribal Development Departmentのもとに、Tribal Area Development Agenciesを通じて、特別な行政サービスを提供している。指定部族は、主にラハウル・スピテイ県、キナール県、チャンバ県(パンギ、パラムール)などの指定地域に居住しているが、他県にも点在している。チャンバ県の指定カーストと部族は最も貧困で生活に必要なインフラ整備がなされていない。

⁴ 本章の主な出典は、本調査団における現地調査、State Government of Himachal Pradesh(2010), Plan Document for 2020-2011: Chapter 7 Empowerment of Women and Development of Children, Shimula、およびJICA(2009), The Study on Diversified Agriculture for Enhanced Farm Income in the State of Himachal Pradesh, Final Report, Volume II, Annex Part-I, March 2009, Nippon Koei Co. LTD.などである。

⁵ 女性世帯主世帯(Female-headed Households)の割合は不明

⁶ Kolis, Chamars, Rehars, Chanals, Lohars, Baris, Dagens and Truriなど。

⁷ Kinners, Lahaulas, Pangals, Gaddis and Gujarsなど。

特定の地域やカーストでは、「女性が耕地・耕起をすると収量が減る」という民間信仰があるといわれている。カーストや民族、地域によってジェンダー役割や規範、禁忌（タブー）などがあると想定されるため、本案件が支障なく行われるためには、対象パイロット地域において、カーストや民族によるジェンダー役割・規範に関する調査分析をベースライン調査に含めることが必要である。

<貧困世帯>

HP州の農村貧困率は、1973～1974年の26.39%から1999～2000年の7.94%に減少したが、2002～2007年には10.7%に増加しているという統計がある。他方、2002～2007年の州独自の12の農村貧困基準による調査では全世帯のうち23.87%が貧困ライン以下であり、これは全国平均26.1%より高い数値となっている⁸。州内での地域格差は大きく、貧困世帯比率が最も高いのはチャンバ県（54.15%）で、低いのはクル県（Kullu）（16.24%）である⁹。ちなみに、本調査団でパイロット地域の候補地となっているビラスプール県の貧困世帯率は23.1%、ハミルプール県は20.37%であり、州平均値に近い数値となっている。

しかし、同じ県内であっても居住地域・カーストなどにより貧困率の相違があると推定される。また、概して、女性世帯主世帯（Female-headed Household）のほうが、貧困率が高い傾向があると推測されるため女性世帯や貧困世帯を除外せず、便益が公平に行きわたる方法を工夫することが望ましい。本案件において、灌漑施設建設に必要な水利組合の組織化やベースライン調査、インパクト調査などを実施する際には、貧困世帯や女性世帯主世帯の分析も行う必要がある。同時に、案件実施のプロセスにおいても同様のインパクトを継続的にモニタリングしていく必要がある。

<労働・雇用状況>

HP州の男女合わせた全労働人口は2,992,000人である。全女性労働者は1,305,803人（43.6%）で、そのうち農業従事者は約112万人（約9割）であり、ほとんどの女性が農業に従事しているといえる。他方、男性労働者は52.8%が農業従事者であり、女性より低い割合となっている。男性のほうが、公共部門（地方公務員など）やサービス部門に従事している割合が高い。ちなみにHP州の全公務員数は約227,000人である¹⁰（この中には、農業局の女性職員や普及員も含まれる）。州内では、ウッタルプラデシュ州、ハリヤナ州、ビハール州、ネパールなどから来ている多数の出稼ぎ労働者が農作業に従事している。その男女比は不明であるが、ベースライン調査時などに実態を調査しておく必要がある。

女性は正規労働者の32.1%、非正規労働者の65.8%、非労働者の54.7%を占めている。つまり男性のほうが女性より安定的な正規労働に就いており、女性は相対的に季節労働などの不安定な非正規労働に従事している（表2）。これは、女性の相対的に低い教育レベルのみならず、固定的なジェンダー役割や社会的慣習によるところが大きい。

⁸ 出典：4と同じ。A-25頁

⁹ 出典：4と同じ。A-26頁

¹⁰ 地方公務員に占める女性および社会集団による比率についての情報は、本調査団中には入手不可能だった。

表2 HP州の労働者内訳（2001年人口センサス）

	性別	(%)
[1]正規労働者	男性	13.34
	女性	6.30 [正規労働者全体の32.1%]
	全体	19.64
[2]非正規労働者	男性	3.51
	女性	6.76 [非正規労働者全体の65.8%]
	全体	10.27
[3]非労働者	男性	13.95
	女性	16.83[非労働者全体の54.7%]
	全体	30.78
全人口に占める労働者人口の割合		60.69

出典：Plan Document for 2020-2011：Chapter 7 Empowerment of Women and Development of Children

<教育>

HP州の女性の成人識字率は1971年には20.20%であったが、1981年には31.46%、1991年には52.13、2001年には67.4%（1971年の3倍）と大きく改善されてきた。2001年の男女合わせた成人識字率は76.50%で、全国平均65.4%より高い数値となっている。2005年時点では男女合わせた初等教育における就学率は100%、中等教育では93.4%となっている。近年、次世代を担う子ども（男女）の教育に熱心になってきているが、農村地域における30～50歳代の成人女性の平均就学年数は約5～8年程度であり、非識字者も多い。

女性の組織化を進め、野菜や穀物栽培、加工・流通による収入向上活動を推進する際には、会計の知識や技術（ほとんどの女性は材料費や労働は無償だと考えがちである）、マーケティング情報や知識（適正価格で販売できるようになるため）も必要となるため、女性の成人識字（機能識字）の向上をあわせて図っていくことに留意する必要がある。

表3 HP州の男女別識字率

	1971年	1981年	1991年	2001年
女性	20.20	31.46	52.13	67.40
男性	43.20	53.19	75.36	85.30
全体	31.96	43.28	63.86	76.50

出典：Plan Document for 2020-2011：Chapter 7 Empowerment of Women and Development of Children

<健康>

HP州には、116カ所の病院、505カ所のプライマリーヘルスセンターやコミュニティーヘルスセンター、2,068カ所のサブ・ヘルスセンターがある。その他、伝統医療（アユルバーダ）施設が1,122カ所ある。州の出生率は1.9人（全インドは2.7人）である。粗出生率（Crude Birth Rate：1000出生対）は年々低下している。1980年には32.1であったが、2007年には17.42（全国

平均25.4) だった(ちなみに2020年までの国家目標は15.0である)。男女合わせた出生時平均余命は65.9歳(全インドは62.5歳)である。乳児死亡率(IMR: 生後1年未満の乳児の死亡率)は出生1000対50(全インド平均は60)である。女児55、男児45であり、男女差が大きい。妊産婦死亡率は出生10万対456で、インド平均の453、およびケララ州の87に比較すると高く(日本は2004年で4.4)、30%の妊産婦が恒常的な栄養不足である。健康に関する数値は概して全国平均よりよいが、男女格差は大きい。また都市部と農村部での格差や民族・カースト別の数値は明らかではない。

HP州は全国に先駆けて、婚姻登録法[1996]¹¹を制定した。女性の平均結婚年齢は、2003年時点では22.0歳であった。避妊具の使用率は女性97.7%、男性97.9%と極めて高い。しかし、女性の避妊手術率93.9%に比較して男性は80.7%である。政府は出産に関して自宅分娩ではなく、より安全な施設分娩を促進しようとしている。しかし、出産前検診率が高い(87.2%)わりには、施設分娩は31.7%と極めて低い。

本案件で作物多様化として野菜栽培を奨励する場合には、女性の健康・栄養状態が良好でないと負荷や重労働になってしまうため、ベースライン調査で女性・男性農民の健康・栄養状態についても把握しておく必要がある。特に、産前産後のケアが十分でないまま農作業を続けると、恒常的に健康を害してしまうこともあるため留意する必要がある。

<女性に対する暴力>

HP州はインドの中では、女性が外出したり行動することが、相対的に自由な州であると考えられているが、近年女性に対する暴力は増加傾向にある。特に家庭内暴力は、2009年には2,000件以上あった(社会正義・エンパワーメント局)。さらに、女性と子どもの誘拐が増加しており、2008年時点で誘拐されていなくなった男児は106人、女児100人、女性582人であった。男児の場合は見つかることも多いが、女児と女性の場合はその確率が極めて低い。多くは偽装結婚や州外における不法労働などに従事させられていると推定されているが、家庭内の揉め事によって女性がどこかに連れ去られることもあるということである。

州は、2005年、配偶者による暴力防止法を制定し、2006年10月から同法の執行を開始した。社会正義・エンパワーメント局の統合子供開発サービス(Integrated Child Development Services: ICDS)担当官が、家庭内暴力の対応を主管している。家庭内暴力に対するシェルターは、州内にはシムラに1カ所しかない。被害を受けた女性は、ほとんど自分の親元に避難するということである。シェルターの現在の収容人数は、30~35名程度である(親が強要する結婚から逃れてきた女性も収容されている)。

¹¹ H.P. Registration of Marriage Act, 1996.

表4 HP州における女性に対する暴力

(単位：件)

		2000	2001	2002	2003	2004	2005	2006	2007	2008
1	殺人	34	36	28	31	29	24	23	30	36
2	文化的殺人	2	1	-	-	1	1	1	2	1
3	レイプ	129	124	137	126	153	141	113	159	157
4	持参金殺人	3	10	6	6	8	2	3	7	3
5	誘拐	97	106	119	96	97	101	108	153	137
6	いじめ	284	315	347	250	282	283	274	324	295
7	自殺幫助	65	84	52	50	61	61	58	69	83
8	虐待	304	326	234	221	252	228	256	343	343
9	ひやかし	16	20	11	11	13	27	31	40	44
10	ひったくり	1	-	-	-	5	1	2	1	4
11	持参金関連 行為	3	9	4	5	5	1	2	4	2
12	人身売買	1	1	2	5	4	4	-	-	1
	合計	939	1,032	920	801	910	874	871	1,132	1,106

出典：Plan Document for 2020-2011：Chapter 7 Empowerment of Women and Development of Children

<社会組織・女性組織>

HP州の農村地域には、多種多様な社会集団が存在する。例えば、農業組合（2,086）、農民グループ（Farmers Interest Groups）（約1,200）、農民開発グループ（KVS：農業局が推進）、女性の自助グループ（Self-Help Groups：SHG：10万以上）、女性グループ（約23,000）、水利組織・組合（KVK：約500）などが活動している。農業協同組合、農民グループ、水利組合などは、世帯の一人が代表してメンバーになるためほとんどが男性であることが多く、実際に農業を担っている女性の意見や関心が反映されにくい。したがって、夫が亡くなったり、長期不在で女性が世帯主であるような場合には、女性でもそのような組織のメンバーになれるように配慮していく必要がある。水利組合の場合は、灌漑用の土地所有権とメンバーシップが密接に関連しているが、土地を所有する、あるいはアクセスのみがある女性や特定のカーस्टグループの参加に関しての分析が必要である。また女性は水利組合のメンバーにならなくても、実際には灌漑施設の見廻りや用水路の掃除、施設管理をすることになるため、水利組合の意思決定に女性のニーズや意見が十分に反映させるような仕組みを考えることが必要である¹²。

¹² ちなみに、JICAが実施してきたタンザニア国灌漑農業技術普及支援体制強化計画（タンライス）では、夜間に女性世帯主が灌漑用水を自分の田に取水することが安全上難しかったため、時間帯を工夫するなどの配慮が行われた。また、灌漑用水路の掃除は女性の役割であることが多かった。タンライスが実施する灌漑稲作研修では、農民男女が、①農作業における役割の平等、②コメから得られる収益の平等な分配、③農業経営・家計運営における平等な意思決定などについて学習している。

他方、女性だけで構成される自助グループは、主に冠婚葬祭のためのまとまった費用や家屋の新築・修理などに使うために「頼母子講」だけの活動をしているものから、グループとして銀行からさらに融資を受けて農産加工品（野菜、果樹、乳製品、養蜂）、手工芸品、健康・栄養改善、飲料水の確保、森林保全、女性の社会参加の促進など、多様な活動をしているものもある。またすでに農産物加工（ピクルスや薬草など）を中心として、女性起業家が育っている地域もある（例：本調査で訪問したパランプルなど）。先進的な女性起業家をモデルとして、研修・普及に活用することも必要である¹³。

（3）農業におけるジェンダー役割

HP州では、女性が農業生産活動に果たす役割は極めて大きい。概してトラクターや飼葉の裁断などの機械を使用したり、力仕事が必要な農作業は男性農民が担っているが、そのほかの部分で女性が従事している農作業は多種多様にわたっている。特に野菜栽培と果樹栽培では、女性農民が主たる働き手であるにもかかわらず、マーケティングに関してはほとんど男性が行っている。したがって、今後、農業生産性の向上や野菜栽培で得られた収入が、夫婦間、家族構成員間で公平かつ合理的に使われるような工夫をしていくことが望ましい。そのためには、研修・普及活動の中で、男性と女性双方に農家経営や家計管理研修などを実施していく必要がある。また栽培技術の研修・普及では、それぞれの生産役割を担っている女性農民・男性農民がともに研修に参加し、普及活動の対象になるような仕組みを構築する必要がある。以下で明らかなように、ほとんどの作業に女性が参加している割合が高いため、すべての研修・普及の対象に女性農民の割合を公平に設定していくことが望ましい。

【HP州：農業における女性の労働分担】

①食糧穀物生産における女性の労働割合

耕起（land preparation）：40～45%、種蒔き：80～90%、田植：35～40%、灌漑：35～40%、堆肥作り：70～80%、施肥：40～42%、除草：80～85%、保護：20～30%、収穫：75～80%、収穫後処理：50～55%

②野菜栽培における女性の労働割合

耕起：40～45%、苗木の育成：60～65%、植え替え：50～52%、混作：60～65%、収穫・選別・包装：75～80%、マーケティング：10～20%

③果樹栽培における女性の労働割合

穴掘り：40～50%、植林：45～50%、剪定：15～20%、農薬散布：40～45%、果樹の収穫：20～25%、道路までの運搬：60～75%、マーケティング：10～15%、果樹園の管理：70～80%

出典：Population Census 2001、およびJICA, The Study on Diversified Agriculture for Enhanced Farm Income in the State of Himachal Pradesh, Final Report, Volume II, Annex Part-I, March 2009, Nippon Koei Co. LTD、A-23頁

¹³ 男性の自助グループも存在するが、その数は相対的に少ない。あわせて調査をしていくことが望ましい。

農村では、家事（食事の支度、洗濯、掃除、子どもや家族の世話など）や水汲み、家畜の世話などの再生産労働はほとんどが女性の仕事である。特に、舎飼、放牧、飼料集め、家畜の糞（dung）集め、畜舎の掃除、餌の準備、乳搾り、乳製品の生産など、家畜飼育・畜産に関する労働の80～90%は女性が行っている。

男性が必要に応じて、再生産活動を分担するようになることが望ましいが、そのような役割に対する慣習や禁忌（タブー）の存在についても調査する必要がある。他方、慣習や禁忌は、経済的な条件や判断で簡単に変化することも多い¹⁴。男女農民双方を対象としたジェンダー研修を通じて、固定的な男女役割を見直していくような試みも必要である。世帯が全体として合理的に生産活動、再生産活動に従事していくことにより作物多様化がより効果的に促進されることになるかと推察される。

また、作物多様化を進めることにより、すでに過重労働をしている女性の労働時間が現在よりも大幅に増加すると想定されることから、農作業のみならず、女性の再生産労働を軽減するような措置をあわせて工夫する必要がある。本案件で主な普及対象とされる野菜は、トマト、カリフラワー、マメ、ポテト、タマネギ、ニンジンなどであるが、栽培には手間暇がかかる。したがって、例えば、①水汲み労働が長時間にわたるような地域では、女性の水汲み労働を軽減するために居住地の近くに飲料水設備の設置をする、②燃料効率がよく短時間で調理できるかまどやバイオガス、圧力なべなどを紹介する、③家畜用の飼料穀物の品種を工夫したり早生の樹種の育種を紹介する、④女性にも使いやすい農器具や機械（耕起、除草、施肥、農薬散布、収穫など）を農業関連機関や研究所に委託して紹介したり開発する、⑤農産物加工のための使いやすい道具や機械を紹介したり新たに開発するなどの工夫が必要である。これらの課題も研修・普及教材に取り入れていくことが望ましい。

女性の1日の生活時間帯調査に関しては、2010年2月に、本調査団のコンサルタントチームがパイロット候補地区のピラスプールで実施したPCMワークショップの結果がある。参加女性は41人であったが、そのうち16人に対して詳細な聞き取り調査をした。その結果、参加者の平均家族構成員数は5人、水牛の平均所有数は3頭、ウシは2頭、ヤギは2頭、ニワトリのファームが1世帯あることが判明した。また、1日の労働時間が14時間にもなる女性が4人いた。それらの女性の場合は、家畜の数が多いことや耕作面積の広さなどが影響していると思われる。賃金労働者の雇用や家族の性別による年齢構成などは不明なので、さらに要因を分析する必要がある。1日14時間働いている女性については、一人は雄牛3頭、水牛2頭、ヤギ3頭の世話をしており、もう一人はウシ3頭、ヤギ2頭、ニワトリ500羽を飼っていた。

¹⁴ 前述のタンザニアのタンライスの対象地域で、新種の乳牛を導入した地域があったが、その地域ではウシの世話や乳搾りは、伝統的に女性の仕事だった。男性がそのようなことをすると周囲から嘲笑された。しかし、新種の乳牛は多量のミルクを生産するため、女性だけでは作業が追い付かず、収入を確保するためについて男性も乳搾りを始めた。最初は抵抗があったものの、すぐに周囲の農家も同様のことをするようになったという事例がある。

【ピラスプールにおける女性の1日の平均労働時間（16名）】

①家事の平均時間（水汲み、飼料、薪、調理、洗濯、掃除など）：4時間

②家畜の世話：3時間

③農作業：4時間

1日の労働時間の平均（①+②+③）：11時間（4人の場合は最高14時間）

出典：PCMワークショップ、2010年2月18日、ピラスプールのセノール村

以下は、パイロット候補地のひとつであるハミルプールでのヒアリングに基づいた女性の生活時間帯の例である。

【農民女性の1日の時間帯：2～3月】

午前 5～6時：起床、家畜の世話、乳搾り（ウシ2頭、水牛1頭）、
湧水への水汲み（朝は男性と子ども、往復20分）、朝食の準備

8～9時：お茶、朝食、畑でカウダン集め、飼葉集めなど。

11時半～：昼食の準備（1～1.5時間）

午後 1～2時：昼食、食器の片付けなど。3時まで休憩。

3時～：畑で飼葉集め、農作業（除草など）、乳搾り、水汲みなど。

6時半～：夕食の準備

8～9時：夕食、テレビを見る

10時：就寝

（農作業と家事、家畜の世話で毎日忙しいので、女性の自助組織はないということだった。灌漑用水があり、家畜の水やりはそれを利用している。家畜のミルクは余剰があるときのみ、近隣農家に売ることもある。飲料水は、比較的近くの湧水を利用して、朝夕に4～5往復する。野菜は、50㎡の畑で栽培しているが、主に自家消費で、足りないときは買う。マンゴー、レモン、ショウガなどのアチャールや大豆の加工品を作っているが自家消費。水があればもっと野菜栽培をしたい。電気がきていてテレビがある。）

出典：2010年2月28日、ハミルプールのフィールド調査より

（4）ジェンダー/女性に関連する研修

州内の農業関連の研修機関としては、農業局傘下のSAMETI（State Agricultural Management Training Institute）、KVK（Agricultural Science Centers：Indian Counsel of Agricultural Researchの各県にある機関）、ATMA（Agriculture Technology Management Agency）、AGRISNET、州立農業大学、その他農業関連機関などが存在する。本案件では、これらの機関と連携して各種の研修が実施される予定であるが、すべての研修には必ず女性の参加枠を設け、当該女性がすべての技術研修に公平に参加できるような割当を設けたり、女性が家族の同意を得て参加しやすくなる工夫、子連れでも参加できるような配慮をすることが望ましい。また参加者のカースト・部族構成などにも配慮していくことが望ましい。

現在、SAMETIには、研修生が宿泊できる施設（38人用）がある。講師は8人おり（5人が

正規職員)、農業普及員の導入研修・中間研修、畜産・水産、有機栽培、その他の各種の農林水産業研修を実施している。また、1993年から女性の農業振興 (Women in Agriculture Scheme) という研修プログラムを実施しており、これまでに825世帯が便益を受けている。女性農民のみならず、普及員を対象とする研修も実施している。女性の組織化、起業家育成、栽培・加工・マーケティング、収入向上活動、ジェンダー研修などの課題を取り上げている。Dr. Kiran Sharmaという講師 (女性) がジェンダー関連の研修プログラム作成を担当している。

ちなみに、近年、SAMETIにおいて実施されたジェンダー関連研修には以下のようなものがあった¹⁵。

1) 2007年5月「女性課題のための研修 (Module for Mahila Goshti)」:

内容は、女性農民グループの展示会、優秀な女性グループの表彰、女性農民を対象とした起業家育成や果樹栽培、女性農民が直面する課題などに関する講義 (1日)

2) 2007年8月「起業家育成研修 (Training on Entrepreneurship Development)」:

農業における女性起業家育成、財政支援の要請の方法、ATMAの役割、マーケットに応じたICTを活用した普及活動、地区の役所などからの支援をどのように得るかなどについての講義とグループ討論 (3日間)

3) 2010年1月「農民女性の起業家育成研修」:

農業部門における収入向上、女性農民を支援する農業局のプログラム、ピクルスの作り方 (実習)、果物と野菜の保存方法、ジャムの作り方、女性グループへの訪問 (視察)、小規模プロジェクトの作成 (きのこ、堆肥、養蜂、缶詰の作り方)、起業家の育成方法、毛織物のデザイン、苗の作り方、有機栽培と環境と女性に優しい農業、農作業の実践的方法などについての講義と実習 (5日間)

4) 2010年7月「ジェンダー研修 (Gender Sensitization)」:

ブロックレベルの普及員男女36名を対象。講師3名。インド政府主催。(3日間)

SAMETIでは、「農民女性グループの成功ストーリー (Success Stories of Farm Women)」という研修教材DVDも作成している (ヒンディー語、約15分)。シムラ、シヨギ、ランプール、テオゴなどの地域で、農産物加工、乳製品、手工芸品、リンゴの栽培などに成功した6つの農民女性グループの活動を順次紹介している。DVDの最終部分では、農業局のDr.J.C.Rana (JICAプロジェクトの主要なカウンターパート) が登場し、農民女性の役割の重要性について語っている。

KVKにおいても、農民男女を対象とした多くの研修が実施されている。ちなみに、2010年には、様々な野菜や果樹の栽培や加工、肥料などについての研修のほか、女性起業家育成 (25人、1日)、母子保健 (25人、1日)、食料安全保障に関する女性の役割 (25人、1日)、Anganwari Workers (1回)、女性と食料の日 (1日) などの研修を実施している¹⁶。なお、研修参加者の性別データはKVKに存在すると思われるが、公表されている報告書には性別データが明記さ

¹⁵ 対象者や参加人数に関しては今回情報が入手不可能だった。

¹⁶ Krishi Vigyan Kendra (2010). Annual Action Plan 2010, Hamirpur at Bara(HP) 177044, Directorate of Extension Education.

れていないため、女性の参加比率は不明である。

ヒマーチャル・プラデシュ大学（シムラ）には、女性と開発センター（**Center for Women's Studies and Development : CWSD**）がある。CWSDは、2001年7月に設置され、ジェンダー研究、ディプロマコースの実施、コミュニティー支援活動などを実施している¹⁷。調査研究としては、キノール県におけるジェンダー調査研究、コミュニティー開発に関するアクションリサーチ、政府の女性シェルターの評価調査などを行っている。コモンウェルス青少年プログラムの一環で、農村地域における女子コンピュータ教育支援も行っている。また、高等教育に従事している女性教員のエンパワーメントを促進するために、大学奨学金委員会と一緒に女性の大学教員と中学・高校の教員を対象に能力強化研修を実施している。5年前から、修士課程以上のレベルでジェンダーのディプロマコースを設置しており、毎年20名がコースを履修している。これまでに約100人の卒業生がおり、NGO職員や教員になっている。しかし、学内にはジェンダー学を専門とする教員がいないため、外部の大学のジェンダー研究者や他の教科の教員（心理学や歴史など）が合同でコースを受け持っている。CWSDのセミナー講師として農業や果樹栽培における女性の役割などについての講義を農業局に依頼したことがある。本案件において、ジェンダー研修やベースライン調査などを通じて、是非農業局との協力関係を強化していきたいということだった。

今後、SAMETIやKVK、社会正義・エンパワーメント局や女性とCWSDのみならず、他の研修機関でどのような女性農民研修やジェンダー研修が実施されているのかについても引き続き調査を実施していく必要がある。これまでの研修実績のレビューを行い、それらを参考にしつつ、今後、本案件で実施される予定の研修科目の中に、女性・男性普及員および女性農民を対象とした野菜栽培の方法、野菜・果樹の加工方法（ピクルス、ジャム、ジュース、ピューレ、乾燥フルーツ、キャンディ、フルーツワインなど）、販売・マーケティングコース、起業家育成コース、家計管理研修コース（男女双方）、ジェンダー研修（男女双方）、女性組織の運営管理研修、野菜摂取を通じた栄養・健康改善などもあわせて含めていくことが望ましい。座学のみならず、Hands-on研修や成功事例の視察などを組み合わせることが効果的である。女性起業家に関しては、すでに成功している女性もいるので、そのような場所への研修視察も有効である。さらに、州内や近隣州のジェンダー専門性の高いリソースパーソンリストも作成していくことが望ましい。

以下は、本調査で訪問調査した女性起業家の成功事例である。このグループの経済分析に関しては、農業経済ジャーナルに掲載された調査報告書に詳しい¹⁸。

¹⁷ Dr. Sudesh Negi, Director, Center for Women's Studies and Development, Himachal Pradesh University, Shimlaへのインタビューより（2010年3月4日）。初代の所長は、Prof. Usha Pathania、2代目はProf. Abha Malhotra

¹⁸ Sharma, K. D, and M.S. Pathania and G.D. Vashist(2003). "Role of Rural Women in Small Scale Agro-Processing Sector- An Economic Analysis of Samridhi Mahila Processing Co-operative Society in Himachal Pradesh", in Indian Journal of Agricultural Economics, Vol.58, No.3, July-Sept. 2003, pp576-588.

【年間50トンのアチャール作り】(面談記録)
(サムリデイ女性組合組織：カングラ県パランプール)

女性グループとして、1996年にインド・ドイツプロジェクト (Indo-German Changar Eco-Development Project) の支援で活動を開始した。現在、10～15人で構成されているグループが26グループあり、約300人の女性が参加している。森林に果物や素材が豊富だったし、余剰があつて無駄にされていたので、それらをピクルス (アチャール)、キャンディー、ジャム (スグリ)、ピューレなどに加工して販売していた。マーケティングは、最初の3年間はプロジェクトがすべて買い上げてくれた。その後、支援が終了したので、Societyを作り、2000年に政府に登録した。

ドイツの支援が終了した後、独自に活動を続けるのは非常に難しかった。自分たちで販売ルートを開拓したり、銀行から融資を受けなければならなかった。しかし、銀行は、女性には資金を貸してくれようとしなかった。70～80万ルピーを最初に口座に振り込まないと貸してくれないといわれた。しかし農民女性は資産を所有していない。地域の銀行も保証をしてくれようとしなかった。やっと20万ルピーを集めて、中央の農民銀行に何度も掛けあつて、やっと100万ルピーの融資の合意を取り付けた。ところが、中央が承認しても、地域の銀行は40万ルピーしか貸してくれなかった。

当初、生産量は年間5キロだけだったが、現在では年間50トンになった。銀行からも信用されるようになり、70万ルピーまで自由に借りることができるようになった。当初の7年間は本当に苦労の連続だった。2005年以降くらいから軌道に乗り始めた。現在、年間の売り上げは、300万ルピーになった。現在では、メンバーは1シーズンにつき30,000～35,000ルピーの収入を得ている (年間2シーズン)。ときにはボーナスとして7万ルピーを得ることもある。Societyには運営委員会があり、9人の委員がいる。製品の質や量、値段を決めている。売れないときは、この店にストックしておくこともある。

各グループは、それぞれの村で共同作業をする場所を、月200ルピーで借りて、アチャールを作っている。作り方については、標準のメニューを作って、それぞれのグループに渡している。女性たちは、朝10時に会って、その日の作業の段取りを決める。グループごとに、作業時間は異なる。平均1日、4時間くらい作業をする。

グループには指定カーストがいる。当初は差別があつたが、家を訪問しあつたり、一緒にお茶を飲んだり、会合を積み重ねることを通じて、3年くらいかけて差別を解消した。メンバーは30～45歳。教育レベルは、平均就学年数が5～8年間で非識字者が多いが、必要な署名はできるし問題はない。寡婦は15人いる。女性世帯主でも土地所有権を持っている者もいる。

得られた収入の使い道は、配偶者にもよる。配偶者が政府や学校で働いている場合は、収入は自分のものになるが、貧しい農民の場合は食器などの家庭のものに消費する。自分の場合は、子どもの教育と結婚式の費用などに使っている。自分の娘は、村で一人だけ大学に通っている女子である。息子は、チャンティガルでMBAをしている。家も建て直すことができた。

マーケティングに関しては、村の女性グループがこの事務所にアチャールを持ってきて、それをまとめて販売する。それとは別に、ここに15人のワーカーがいて、ここでも生産している。村から持ってきた半完成品を、ここでスパイスに混ぜて完成品にすることもある。販売先は、ほとんどシムラなど、州内である。年1回は、デリーに持って行って販売することもある。こ

の店に注文に来る業者もいる。カリフラワーのアチャールを作るのには3カ月かかる。手袋を使って衛生に気をつけている。ピンはデリーで、段ボール箱はウナ県で、ポリ袋はパンジャブ県、薬品はチャンディガール県から買っている。農業局からの支援はない。むしろ、ここに研修旅行や視察に来ることが多い。

出典：2010年2月27日、Ms. Veena Devi, President, Samridhi Mahila Cooperative Society, Palampur, Kangra Districtへの面接調査より

【薬草の生産と販売】（面談記録）

（バスンダラ・バン・ウタパド会社：カングラ県パランプール）

この会社は2004年1月18日に設立した。インド・ドイツプロジェクト（Indo-German Changar Eco-Development Project）の支援で開始したが、政府からの支援はない。企業として登録している。現在、28グループ、192人の女性が働いている（当初は18グループで、3種類の製品のみ）。生産しているのは、希少価値のある自然の薬草を加工したパウダーや飲み物である。胃腸、糖尿病、癌、眼疾患、心臓病などに効く。当初、村の貧困グループが参加するようにした。また、年に2カ月だけ働いて、残りの10カ月は何もしていなかったが、この活動を始めてからは年間を通じて仕事ができるようになった。州内では売れなかったが、10月のDewali祭りの時、160キロ離れているKulluに持って行ったら60万ルピー（約120万円）も売れた。それ以来、Kulluで毎年よく売れるので、トラックを借りて運んでいる。糖尿病の人で、20箱以上注文した人もいる。

メンバーの収入は、出来高払いで、月1,000～5,000ルピーである。加工作業をせずに薬草だけを集めてくる女性もいるので、そのような場合は収入が少ない。自分は、一定の給料ではなく、マーケティングを通じて、売り上げの30%をコミッションとしてもらっている。自家用車を使って販売促進をしている。会社の貯蓄としては、67,000ルピーある。自分は2005年から代表を務めている。11人のディレクターがいるが、その中から毎年選挙で選ばれる。

カーストの問題は、最初は大きかったが、会合を重ねたり食事を一緒にしたりして、差別を解消するのに3～4年間かかった。インド・ドイツプロジェクトのMr.A.S.Takurがいろいろとアドバイスをしてくれて、今でも電話をすれば助けてくれる。

女性たちは大きく変化して、今では自信をもっている。多くの活動に積極的に参加するようになった。夫や家族が最初は反対していた人もいたが、今では問題ない。自分の場合、夫や息子がマーケティングを助けてくれる。

出典：2010年2月27日、Ms.Kusum Kumari, President, Vasundhara Van Utpad Producers'Co.Ltd., Palampur, Kangra Districtへの面接調査より

（5）女性農業普及員の実態と課題

HP州の農業省農業普及局の農業普及員（Subject Matter Specialists, Agricultural Development Officers, Agricultural Extension Officers）は、種子、肥料、農薬などの配布作業に追われており、本来の農業技術の普及活動は十分に行われていない。他方、農業省には、土壌・水管理局があり、その傘下にも土壌保全スタッフや、ADO、ジュニアエンジニアなどが配置されており、小規模灌漑や土壌保全事業などを行っている。両局あわせて合計約1,000人の普及員がおり（2009年10月現在、空席ポストは35%）、数値的には、普及員一人ですべての農民に対応していることになる（通常、1,000人が限界と考えられている）。女性普及員は20名にも満たない（推定）。農業大学には女子学生が多いということであるが、僻地への異動を伴う普及員の仕

事はインド女性にとっては、安全ではなく、移動が難しい職種とみなされている。女性普及員の数が増えると女性農民への普及サービスも提供しやすくなると想定されるが、現状では急激に女性普及員の数を増加させることは難しいので、男性普及員を対象としたジェンダー研修を充実させ、すべての農業のみならず灌漑管理関連の活動において、女性農民のみならず社会的包摂の観点に立った普及サービスを公平に実施していくよう働きかけていくことが必要である。

(6) プロジェクト実施上の留意点

本案件では、PDM案に示されているように、以下のような活動をする予定であるが、そのすべての活動にジェンダーと社会的包摂の観点を含めることが望ましい。また、PDMにおいて指標を設定する場合には、可能な限りすべての指標をジェンダー別、あるいは社会グループ別、その他の適切なカテゴリーに分けて、統計集計を行い、プロジェクトが女性・男性およびそれぞれの社会グループに与えるインパクトを比較・計測することが望ましい。

1) 農業局の能力強化

- ・農業局は、作物多様化促進のためのガイドラインを策定することになっているが、ジェンダーと社会的包摂の観点に立ったガイドラインの内容にすることが望ましい。

2) 作物多様化促進のための研修計画の策定

- ・農業局は、作物多様化促進のための年間普及計画および研修計画を策定することになっているが、研修計画をジェンダーと社会的包摂の支援に立った内容にすることが望ましい。
- ・女性農民の特定のニーズがあるような場合にはそれに対応するような特別の研修プログラムを策定・実施することなどが望ましい。
- ・研修科目として、農民男女両方を対象とする家計管理研修、ジェンダー研修、起業家育成、野菜摂取を通じた栄養・健康改善なども含めることが望ましい。

3) 作物多様化促進のための研修の実施

- ・普及員を対象とした研修をする場合には、普及員が農民男女に公平にアクセスして技術普及をするような工夫をすることが望ましい。
- ・農民を対象とした研修をする場合には、参加者のジェンダーと社会グループの割合が公平になるように配慮する。
- ・農民女性が参加しやすい研修時期、時間帯や場所を選ぶなどの配慮が必要である。
- ・参加者が子連れで研修に参加しなければならないような場合には、それを可能にするような措置を講じることが望ましい。
- ・女性や特定の社会グループが研修において、積極的に発言したり実習に参加できるような教授方法を工夫することが望ましい。

4) パイロット地区における作物多様化の促進

- ・ベースライン調査、インパクト調査を実施する場合には、ジェンダーと社会的包摂に関する調査項目を含め、定期的にインパクトをモニタリングすることが必要である。
- ・農民組織化を進め、灌漑組合や水利組織を形成していくことが計画されているが、土地を所有している農民女性、水にアクセスできる権利の設定などに関して、ジェンダーと社会的包摂の観点から配慮することが望ましい。農民を対象とした説明会などには、女

- 性グループも参加できるようにすることが必要である。
- ・パイロット地区において女性グループや自助グループ（Self-Help Group）を形成し、野菜栽培、農産物加工、集荷、販売、マーケティングなどの研修の対象とする。女性自助グループの組織運営能力強化が必要である。同時に女性の農業生産及び再生産活動（家事、家畜の世話、水汲み、飼葉集めなど）の負担を軽減する措置を講じる必要がある。
 - ・パイロット地域で組織化、栽培技術普及、収穫後の処理、灌漑設備の維持管理などを進めるために、コミュニティモティベーターが男女1名ずつ雇用されることになっている。コミュニティモティベーターに対する能力強化を図る場合には、ジェンダーと社会的包摂の視点に立った活動を推進するよう研修を行うことが必要である。
 - ・パイロット地域では、小学校などに対して野菜栽培や加工の技術を伝え、栄養や健康改善の促進を図っていく予定である。子どもの健康、妊産婦の栄養などの改善に関しては、すでに村レベルで活動しているAnganwari Centerと連携協力して進めていくことが望ましい。

HP州写真（ジェンダーと社会包摂関連）



社会正義・エンパワーメント局Joint Director



ヒマーチャル・プラデシュ大学ジェンダーと
開発センター



SAMETI : 成功農民女性の事例集DVD



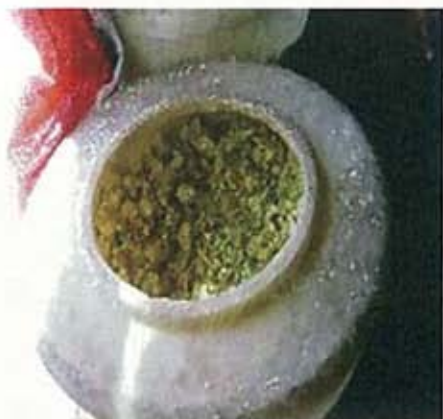
農村女性展示会（パランプル）



Samridhi Mahila Coop Societyの代表



Samridhi Mahilaのカリフラワー漬物
（アチャール）作り



Samridhi Mahila カリフラワーのアチャール



Samridhi Mahilaのチャンバ県の蜂蜜



Vashundhava Van Utpad Prod. Co.Ltd.代表



Vashundhava Van Utpad販売の薬草



ピラスプールの女性自助グループ (SHG)



ピラスプールの農民女性

3-6-1 SAMETIによる農家向け研修コースのリスト

Type of course	Participants	Training Contents	Period & participants	Cost per Trainee (Rs.)	Support
Farming					
Organic farming convention	Farmers/scientists and DOA officers		1day-course, 31participants		Departmental sponsored
Organic farming training	Farmers & DOA officers	Organic farming input production and quality control	2 time a year, 10days-course and 30 participants	Rs. 200 per training (trainers cost, textbook & materials cost, and expenses for light and fuel etc., Rs. 150 per day-person for meals, Rs. 50 per day-person for lodging	NAOF, DAHP sponsored
Awareness workshop for certification and marketing of Organic produce	Farmers and DOA officers		1day-course, 90 participants		Departmental sponsored
Polyhouse technology	Beneficiary farmers		3days-course and 30 participants		Department sponsored
One day farmers awareness camp	Farmers Theog Block		1day-course and 36 participants		SSEPER
Agro-processing					
Entrepreneurship development (Training of agro-processing and etc.)	Women farmers	Vegetable and fruits processing techniques, marketing know-how	two times a year for 5days-course and 40 women	200 per one training including trainers cost, training text and materials cost and expenses for light and fuel etc., 150 per day-person for food expense, 50 per day-person for lodging expenses	SSEPER (State Extension Programs for Extension Reforms) sponsored by Central Government in India. SSEPER is one of the programs handled by ATMA (Agricultural Technology Management Agency)
Marketing					
Workshop on Strengthening of Agriculture Marketing System	Marketing board officers and farmers		2days-course, 46 participants		Department sponsored
Price dissemination workshop	Marketing board & DOA officers with Farmers		1day-course, 30 participants		Department sponsored
Gender Issues & Women Empowerment					
Woman Farmers Mela	Farmer group and facilitator		3days-couse, 440 participants		Departmental sponsored

3-6-2 SAMETIによる農業局職員向け研修コースのリスト

Type of course	Participants Category	Contents	Training period & numbers of participants	Cost per one Trainee	Support
Farming					
Organic farming	Agriculture department officers		3days-course, 24 participants		Departmental sponsored
Organic farming convention	Farmers/scientists and officers		1day-course, 31participants		Departmental sponsored
Organic farming training for extension officers	Agriculture department officers	Principles of organic farming, vermicompost, organic manure, and liquid manure, organic pesticide, marketing, record keeping, and certification	5days-course and 32 participants		SSEPER
Organic farming: Production of organic inputs	Agriculture department officers		5days-course and 40 participants		NPOF, DAHP
Organic farming management	Agriculture department officers		2 times a year, 5days-course and 40 participants		Macromanagement DAHP sponsored
Awareness workshop for certification and marketing of Organic produce	Farmers and officers		1day-course, 90 participants		Departmental sponsored
Public Private Partnership					
Public Private Partnership	DOA senior officers		4days-course, 29 participants		SSEPER
Quality Control					
Quality control of insecticides & sampling techniques	Insecticide inspectors of Agri&Hort Dept		2days-course, 26 participants		Departmental sponsored
Quality control of Seeds	Seed inspectors & ADO		2times a year, 3days-course and 20 participants		SSEPER
Irrigation					
Watershed team leader workshop	Department team leaders		1day-course, 25 participants		Departmental sponsored

3-7-1 第1回ワークショップ（農家男性）参加者一覧

2010年2月18日
 ビラスプール県シノール村バクロア地区

No	名前	年齢	家族構成			土地所有面積 (ha)	カースト
			総数	男性	女性		
1	Jodh Singh	62	9			0.5 ha	一般
2	Mansa Ram	66	8	3	3	1.8 ha	一般
3	Jeet Ram	59	5	2	2	1.6 ha	一般
4	Hariman	65	3	2	1	0.98 ha	一般
5	Jai Sing	66	8	3	3	1.7 ha	一般
6	Sonka Ram	70	9			1 ha	指定
7	Prem Singh	74	2	1	1	0.8 ha	一般
8	Ravinder Kumar	53	5	3	2	0.4 ha	指定
9	Gian Chand	60	4			0.6 ha	一般
10	Joginder Singh	56	4			0.33 ha	一般
11	Daulat Ram	60	15	10	5	0.6 ha	一般
12	Balbir Singh	54	10			0.9 ha	一般
13	Jai Lal	55	4			1.16 ha	一般
14	Sunder Singh	54	4			1.25 ha	一般
15	Hargopal Singh Bahndari	44	9	5	4	2.08 ha	一般
16	Ram Prakash	45	4	3	1	0.83 ha	一般
17	Gilu	68	4	2	2	0.08 ha	指定
18	Ami Chand	45	4			0.91 ha	一般
19	Jagdish Kumar	52	4			0.33 ha	一般

3-7-2 第2回ワークショップ（農家女性）参加者一覧

2010年2月19日ビラスプール県シノール村バクロア地区

名前	年齢	カースト	家族構成	所有家畜数	土地面積	家事労働時間*1	家畜飼育時間*1	農業作業時間*1
1 Urmila Devi	39	一般	3人	牛1頭 ヤギ2頭	2ビカ-	5時間	2-3時間	3-4時間
2 Mamta Devi	30	一般	4人	水牛4頭	-	3時間	4-5時間	2時間
3 Shmt. Rima Devi	29	一般	9人	水牛4頭	-	3時間	2-2.5時間	4-5時間
4 Kashi Devi	50	一般	3人 (男2+女1)	雄牛2頭 ヤギ1頭 水牛2頭	20ビカ-	3時間	6時間	2-4時間
5 Barfi Devi	32	一般	5人 (男3+女2)	牛1頭 ヤギ1頭	13ビカ-	4時間	2時間	4-5時間
6 Kamla	60+	一般	2人 (男1+女1)	水牛1頭	2ビカ-	4時間	2時間	5時間
7 Kashmiri Devi	52	一般	5人 (男3+女2)	牛2頭 雄牛2頭 ヤギ3頭	13ビカ-	4-5時間	2-3時間	3-4時間
8 Sheela Devi	45	一般	4人 (男3+女1)	雄牛3頭 水牛2頭 ヤギ3頭	8-9ビカ-	4-5時間	4-5時間	4時間
9 Soma devi	52	一般	9人 (男3+女6)	水牛2頭	6ビカ-s	2-3時間	3-4時間	5時間
10 Neema Devi	30	一般	4人 (男2+女2)	牛3頭 ヤギ2頭 鶏500羽	-	4時間	4時間	5-6時間
11 Neema Devi	55	一般	5人 (男3+女2)	ヤギ2頭 水牛2頭 雄牛2頭	4ビカ-	4時間	2時間	5-6時間
12 Rupa Devi	45	一般	4人 (男2+女2)	-	6ビカ-	3-4時間	3時間	5時間
13 Soma Devi	43	一般	4人 (男3+女1)	牛2頭	-	4時間	4時間	5-6時間
14 Dropti Devi	60	一般	9人 (男5+女4)	水牛4頭	-	7時間	2時間	5時間
15 Champa Devi	44	一般	8人 (男1+女7)	水牛3頭 ヤギ1頭	12ビカ-	4-5時間	2時間	4-5時間
16 Satya Devi	19	指定	4人 (男2+女2)	-	3ビカ-	4時間	0	4-5時間
17 Ram Deyi	62	指定	1人	ヤギ3頭 鶏3羽	-	2時間	2-3時間	-
18 Phoola Devi	-	指定	-	-	-	-	-	-
19 Phoola Devi	-	指定	-	-	-	-	-	-
20 Vimla Devi	-	指定	-	-	-	-	-	-
21 Gulabi Devi	-	指定	-	-	-	-	-	-

*1: 1日当たりの労働時間

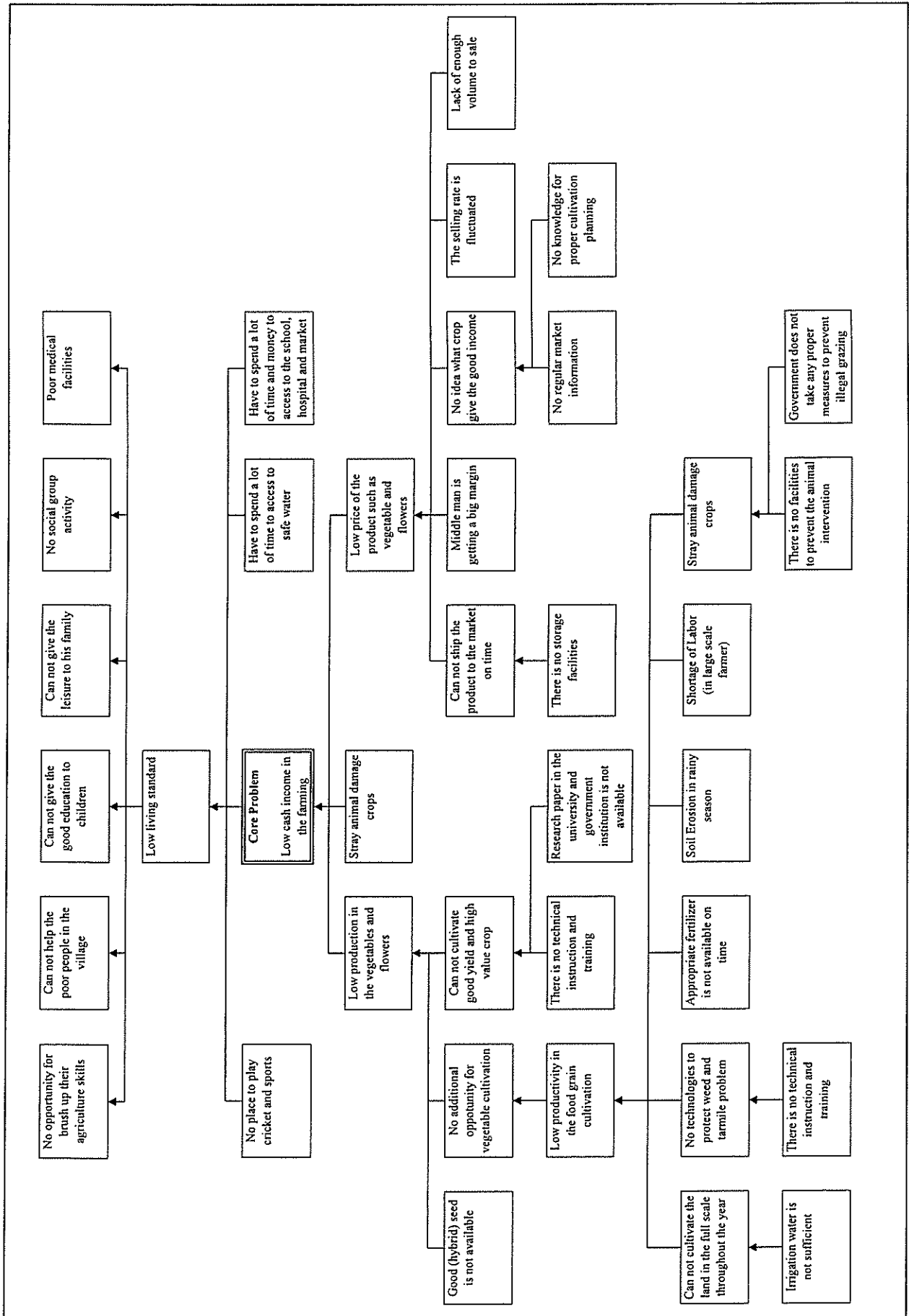
3-7-3 第3回ワークショップ（政府職員）参加者一覧

2010年2月20日 ビラズプル県 政府職員（農業局）

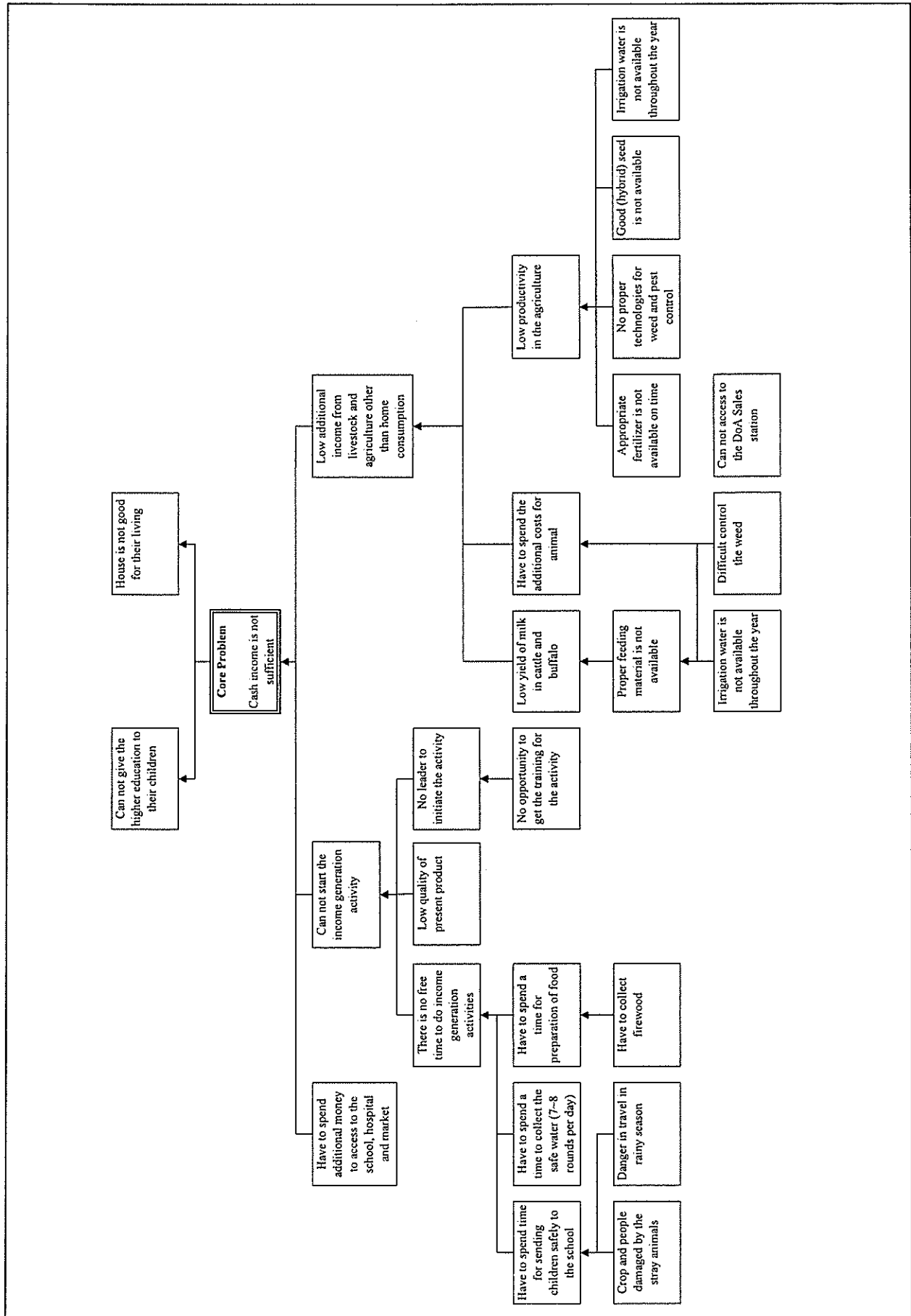
No	名前	役職	学歴
1	KBS Paul	Deputy Director Agriculture, Bilaspur	B. Sc. Agriculture
2	Ajit Sharma	SMS, Ghumarwin	B. Sc. Agriculture (Plant Breeding)
3	Albel Thakur	SDSCO, Ghumawvin	B. Sc. Agriculture (Agronomy)
4	Sushma Sharma	ADO, (District Headquater)	B. Sc. Agriculture (Plant Pathology)
5	Shashi Pal Sharma	ADO, (District Headquater)	B. Sc. Agriculture (Plant Pathology)
6	Santosh Kumar	JE, Ghumarwin	
7	RK Thakur	ADO, Ghumawvin	B. Sc. Agriculture (Agronomy)
8	Inder Singh	JE, Bilaspur	
9	Pratap Chandel	ADO, Buturi	B. Sc. Agriculture
10	Sunder Lal Sharma	ADO	B. Sc. Agriculture (Vegetables)
11	Desh Raj Sharma	ADO	M. Sc. Agriculture
12	Hem Raj	ADO	B. Sc. Agriculture
13	Suresh Kumar	ADO, Sadar	B. Sc. Agriculture (Horticulture)

脚注 SMS: Subject Matter Specialist
SDSCO: Sub-Divisional Soil Conservation Officer
ADO: Agricultural Development Officer
JE: Junior Engineer

3-7-4 第1回ワークショップ（農家男性）における問題分析結果



3-7-5 第2回ワークショップ（農家女性）における問題分析結果



3-7-6 第3回ワークショップにおける現状の問題および解決策に関する討議結果

問題点(課題)	解決策
1. Mismatch between the farmers demand and inputs supplied by the DOA	<ul style="list-style-type: none"> a. Present rate contract system for procurement of farm input should be modified and improved. b. Authorization should be given to the field staff to purchase the inputs required by the farmers. c. Continuous consultancy and guidance should be provided to the farmers. d. Farming schedule should be planned by farmer and inform to DOA in advance.
2. Extension officers can not support marketing development to the farmers	<ul style="list-style-type: none"> a. Awareness and proper capacity development training should be given to DOA staff on marketing of the agriculture products b. Refrigeration vans and transportation facility should be made available for practical training of the marketing. c. Making the linkages between private agriculture firms and farmers. d. Village level market yards and collection points should be set up.
3. The extension officer can not give the latest and appropriate technologies to farmers	<ul style="list-style-type: none"> a. Extension staff has to have the necessary IT skills and facilities to access and collect updated information on time. b. Providing the Audio/Video tools to the extension officer to demonstrate the appropriate technologies to the farmers in the field and office. c. Information and research result should be published on web site or/and leaflet and having the regular exchange program among researchers and DOA staff. d. On farm demonstrations and training sessions should be conducted by scientists. e. The research subject should be decided with farmer oriented and should be based on practical problems faced on the field. The results should be compiled in a simple and adaptable manner so that farmer can understand it. f. Researchers and Scientists should take regular feedback from the field staff.
4. Irrigation development is not carried out in the appropriate scale and plan	<ul style="list-style-type: none"> a. Farmer' s financial contribution towards Scheme expenses should be mandatory b. Promotion of rain water harvesting more in the project and save the cost. c. Making the mid-term plan in some area and allocating the fund on time in the proper scale.
5. Can not provide the training to the farmers on the food processing	<ul style="list-style-type: none"> a. Organize women' group for food processing. b. Linking to the private sector and procure the food processing unit. c. Providing the post harvest training to SHG.

問題点(課題)	解決策
6. Can not give the proper technical knowledge and information to the farmers	a. Resources for mobility of field staff should be provided. b. Travel allowance should be based on actual expenditure. c. 'Contact Farmer' system should be established or revived.
7. Low quality of training given to DOA staff	a. Exposure visits should be organized regularly (within India and Abroad). b. Training contents should be upgraded according to latest advancements in the field of Agriculture. c. Greater focus and time should be given for practical training rather than classroom sessions. d. Field trips should be organized to private farms which have adapted latest technology/techniques successfully.
8. Scheme guidelines are not prepared on time and it is not uniformed.	a. Guidelines to implement the scheme should be communicated in advance and minimum changes should be made during the implementation period. b. Field staff should be consulted at the stage of designing a Scheme and their feedback on its implementation must be taken regularly.
9. Difficulty in the formation and development of KVS	a. Farmers should not be involved at the construction stage. b. KVS should act as a monitoring agency rather than an implementing agency. c. Transparency should be maintained by both DOA and KVS. d. Prevent political intervention with keeping transparency.
10. Less incentive to fulfill the farmers demand	a. Reward and evaluation system should be introduced in DOA.

4-1-1 パイロット地区の選定

1. パイロット地区の目的

作物多様化を促進するためには農業局の普及職員に対する研修および農家に対する研修を圃場レベルの現地研修を通して実施することが必要である。このためパイロット地区において施設の計画設計段階から参加型アプローチを導入し、農民組織化、灌漑水管理、施設運営維持管理、栽培管理、営農、収穫後処理、加工、流通にわたる包括的な活動を対象とした現地研修を行い、得られた知見や経験を作物多様化モデルとして構築する。このような観点からパイロット地区の目的を以下のとおり設定した。

- ・ 農民組織化・インフラ整備・生産・流通・加工を一体的に推進する作物多様化モデルの構築
- ・ 作物多様化の促進を担う中核普及職員の能力向上
- ・ 円借款事業への適用
- ・ サブパイロット地区への波及効果

2. パイロット地区選定候補グループ

パイロット地区を選定するにあたり、以下のグループからの選定が想定される。

- ・ 既存灌漑地区
- ・ 公的機関保有圃場
- ・ 円借款対象の第1優先地区6カ所（1st Priority sub-projects、協力準備調査にて選定）
- ・ 新規灌漑地区

【既存灌漑地区】

農業局が灌漑施設整備を実施した既存灌漑地区（農業局が管轄する灌漑施設整備は、RIDFを主とする中央政府の支援により実施されている）。

【公的機関保有圃場】

農業局、SAMETI、大学機関、KVK、ATMAなどが所有する圃場。

【円借款第1優先地区（協力準備調査にて選定）】

円借款事業に係る協力準備調査（以下、「協力準備調査」と記す）で、円借款事業内で第1優先地区（1st Priority sub-projects）として選定された6カ所の灌漑予定地区。

第1優先地区（6カ所）

No.	サブプロジェクト	県	灌漑面積 (ha)	灌漑施設
1	Bakroa	Bilaspur	12	LIS : List Irrigation System (ポンプ灌漑)
2	Larli	Hamirpur	40	LIS : List Irrigation System (ポンプ灌漑)
3	Mathrehad	Kangra	30	FIS : Flow Irrigation System (重力灌漑)
4	Majhetli	Kangra	30	FIS : Flow Irrigation System (重力灌漑)
5	Tikroo	Mandi	20	FIS : Flow Irrigation System (重力灌漑)
6	Jankour	Una	40	STW : Shallow Tube Well (浅井戸灌漑)

【新規灌漑地区】

農業局が灌漑施設整備を実施する予定の新規灌漑地区（既存のスキームに加え、円借款事業で実施する灌漑地区も含む）。

3. パイロット地区選定候補グループの選定基準

パイロット地区選定候補グループの選定基準を以下のとおり示す。

- ・パイロット地区の目的（項目1参照）達成が可能であること
- ・プロジェクトの迅速性が担保されること

上記、パイロット地区選定候補グループの選定基準をもとに検討した結果を以下に示す。

パイロット地区選定候補グループの選定結果

選定候補グループ	既存灌漑地区	公的機関圃場	第1優先地区 6カ所	新規灌漑地区
パイロット地区の目的達成	×	×	○	○
プロジェクトの迅速性	○	○	△	×
総合判断	×	×	○	×

脚注：○適合、△ほぼ適合、×不適合（落選）
出典：調査団

不適合（落選）とした理由は以下のとおりである。

【既存灌漑地区】

既存灌漑地区はパイロット地区として、栽培管理、農家経営、収穫後処理、加工、マーケティングの現地研修を行ううえでは有効であるが、組織化、水管理の観点からは不適切である。灌漑施設の運営維持管理を適切に行い施設の持続性を保つためには、水利組合が十分に機能していることが前提となる。そのためには、水利組合の施設へのオーナーシップを醸成することが不可欠である。この施設に対するオーナーシップを醸成するためには、施設の計画段階から水利組合を巻き込んだ活動を行う必要がある。そのため、既存灌漑地区でのパイロット地区設置は、栽培管理、農家経営、収穫後処理、加工、マーケティングに関しては大いに寄与するが、総合的な作物多様化モデルを構築するうえでは不十分である。

また、既存灌漑地区では、将来想定される円借款事業を円滑に実施するうえで重要な農業局内の内部手続き（DPRの審査、PQおよび入札手続、施工監理）を農業局職員に疑似体験させることができない。

【公的機関保有圃場】

農業局・SAMETI・KVKなど公的機関保有の圃場について現地での聞き取り調査の結果、パイロット地区の目的達成に適した圃場をみつけることができなかった。KVKには展示圃場はあるものの、灌漑施設が十分に整備されておらず、技術協力プロジェクトの一体的な研修・指導を行うことが難しい状況にあった。

さらに、公的機関保有の圃場を使用した場合、既存灌漑地区と同様に農民組織化や水管理の実

地研修を行うことができず、講義のみの研修となる。作物多様化モデルを構築するためには、実際の農家が存在するコミュニティを巻き込んだパイロット地区の設置が望ましい。

他方で、SAMETI・KVKは技術的なリソースを有すること、研修用の施設が整備され、農民への指導経験が豊富であることなど、栽培マニュアルの作成や研修の一部で連携することが可能であり、特に事業開始直後でパイロット地区が整備されていない段階では、パイロット地区での活動を公的機関で補完することが期待できる。

【新規灌漑地区】

新規灌漑地区は、灌漑地区選定プロセスや計画段階での農業局職員に対する技術指導の面から有効である。また、作物多様化モデルを構築するうえでも支障を来すことはない。しかし、新規灌漑地区では技術協力プロジェクトの開始後に灌漑地区を選定して概略設計まで少なくとも6か月以上を必要とする。これによりプロジェクトの迅速性の面から不利である。

以上の結果からパイロット地区の目的である①農民組織化、インフラ整備、生産・流通・加工を一体的に推進する作物多様化モデルの構築、②作物多様化の促進を担う中核普及職員の能力向上、③円借款事業への適用、④サブパイロット地区への波及効果を達成するためには、円借款事業対象の第1優先地区から選定することが妥当であると判断する。また、第1優先地区はすでに協力準備調査にて概略設計を実施されていることから、プロジェクトの迅速性についても支障を来すことはないものと判断する。

4. 第1優先地区からの絞込み

円借款事業対象の第1優先地区（6カ所）の基本情報を以下に示す（場所は位置図を参照）。

1st Priorityサブプロジェクト（6カ所）の基本情報

サブプロジェクト名	Bakroa	Lalri*1	Majhetli	Mathred	Tikroo	Jankour
基本情報						
県名	Bilaspur	Hamirpur	Kangra	Kangra	Mandi	Una
ブロック名	Geharwin	Hamirpur	Sulah	Sulah	Chauntra	Una
農業生態系ゾーン ^{*2}	ゾーン1	ゾーン1	ゾーン1	ゾーン1	ゾーン1	ゾーン1
作物多様化ポテンシャル ^{*3}	類型III	類型III	類型III	類型III	類型III	類型III
施設整備						
水源	表流水	表流水	表流水	表流水	表流水	地下水
取水施設	溪流取水工 (W-20m)	溪流取水工 (W-16m) ^{*1} (W-12m) ^{*1}	溪流取水工 (W-30m)	溪流取水工 (W-19m)	溪流取水工 (W-14m)	浅井戸 (D-28m)
水路延長	1,136m	3,343m ^{*1} 1,503m ^{*1}	2,904m	4,442m	2,835m	5,005m
灌漑面積 ^{*4}	12 ha	27 ha ^{*1} 13 ha ^{*1}	30 ha	30 ha	20 ha	40 ha
受益者 ^{*5}	22 世帯	100 世帯	100 世帯	140 世帯	60 世帯	130 世帯
灌漑施設 ^{*6}	LIS	LIS	FIS	FIS	FIS	STW
整備費用 (Rs.)	4,953,000	9,103,000 ^{*1} 5,624,000 ^{*1}	6,711,000	7,804,000	5,257,000	9,656,000
作付体系 (案) ^{*7}						
穀物栽培 (Kharif)	メイズ	メイズ	米	米	米	米
穀物栽培 (Rabi)	小麦	小麦	小麦	小麦	小麦	小麦
野菜販売経験	有り	無し	無し	無し	無し	有り
社会環境						
マジョリティ ^{*6}	SC	GC	OBCs	?	OBCs	GC

注：*1 Lalriは、左岸側にJamli川、右岸側にHathli川に囲まれた地域であることから、協力準備調査では、水源の利用可能性から両岸取水を提案している。各取水施設の対象灌漑面積は次のとおりである。左岸取水施設 (Jamli川)：27 ha、右岸取水施設 (Hathli川)：13ha

*2 ゾーン1：熱帯性準湿潤気候、低丘陵地、標高240～1,000m

*3 類型III：穀物栽培地区で多様化後進地区（野菜作付面積率5.0%未満）しかし作物多様化の可能性が高い地区

*4 現地での聞き取り調査結果のため、詳細調査の中で住民との協議を行い決定する必要がある。

*5 LIS：List Irrigation System（ポンプ灌漑）、FIS：Flow Irrigation System（重力灌漑）、STW：Shallow Tube Well（浅井戸灌漑）

*6 作付体系（案）は別途添付

*7 GC：General Caste（一般階級）、SC：Scheduled Caste（指定階級）、ST：Scheduled Tribe（指定部族）、OBCs：Other Backward Class（後進階級）

出典：円借款事業に係る協力準備調査

5. 第1優先地区（6カ所）からの絞込み基準

円借款事業対象の第1優先地区（6カ所）からの絞込み基準を以下のとおり示す。

- ・アクセスの容易性
- ・灌漑施設のモデル性
- ・自然条件からみた汎用性

【アクセスの容易性】

パイロット地区は、作物多様化モデルの構築とともに他地域への波及を担う中核普及職員の育成の場として活用される。また、円借款事業に従事する普及職員の能力強化にも寄与することから、パイロット地区の選定にあたっては、円借款事業対象地域5県およびその他地域からのアク

セスが重要視される。さらに、他地域からの普及職員の宿泊施設や研修施設の充実度も考慮されるべきである。

【灌漑施設のモデル性】

対象地域の灌漑施設は、LIS（ポンプ灌漑）、FIS（重力灌漑）、STW（浅井戸灌漑）に分類される。各灌漑施設によって、施工方法、運営維持管理、水管理の方法は異なる。パイロット地区では、施設の詳細設計、施工方法および監理、運営維持管理、水管理の一連の流れを農業局職員、農民に体感させることにより灌漑施設に係る包括的な能力を向上させる目的がある。また、その経験を他地域の灌漑施設でも活用できる技術であることが望ましい。そのため、パイロット地区に建設される灌漑施設の汎用性の観点からの選定が求められる。

【自然条件からみた汎用性】

HP州は標高350mから7,000mのヒマラヤ西部山塊に位置し、起伏に富んでいる。同州の気候は、南部低地の熱帯性準湿潤気候（標高350～1,000m）から北東部山岳高地の極寒・氷河気候（標高2,500～7,000m）まで標高によって大きく変化する。HP州の農業生態区分は標高と降雨量によって4種類のゾーンに区分される。HP州の特徴である冷涼気候は、平原部他州にとっての端境期において、需要が急速に伸びている野菜類や温帯果樹などの高付加価値作物の生産に適しており、これがHP州農業セクターが優位にある点である。

パイロット地区では、自然条件からみて広く他地域で適用できるモデルの構築が必要とされることから、農業生態ゾーンの汎用性についても検討する必要がある。

パイロット地区の選定結果

サブプロジェクト名	Bakroa	Lalri	Majhetli	Mathred	Tikroo	Jankour
アクセスの容易性	○	○	×	×	×	×
灌漑施設のモデル性	○	○	×	×	×	×
自然条件からみた汎用性	○	○	○	○	○	○

評価結果：

【アクセスの容易性】

Majhetli、Mathred、Tikrooは5県北部に位置し、JankourはHP州の最も西部に位置していることから、普及職員のアクセスに困難を生じる。Lalriは5県の中心に位置し、他の4県からのアクセスに偏りが無い。Bakroaは、5県の南部に位置するが、州都シムラおよび5県以外の県からのアクセスが容易である。また、Lalri、Bakroaは県の中心部に近いため研修時に必要となる宿泊施設や研修施設の確保が他地区に比べて容易である。

【灌漑施設のモデル性】

Majhetli、Mathred、Tikrooで建設がされるFISは、重力灌漑のため施設の運営維持管理を実施するうえで、最もプラクティスが必要なポンプの運営維持管理をパイロット地区で検証することができない。対象地域での水源のほとんどが表流水であるのに対し、JankourのSTWは地下水を水源とする灌漑施設であるため、他地域への汎用性が低いと判断できる。また、本技術協力プロジェクトで技術面の検証を期待している土砂流入を予防した溪流取水工を検証することができない。Bakroa、LalriのLISは、表流水を水源としており溪流取水工を採用することで、土砂流入の予防を検証することができる。また、ポンプ灌漑のため、水利組合によるポンプの運営維持管理をパイロット地区の中で検証することができる。

【自然条件からみた汎用性】

Bakroa、Lalri、Majhetli、Mathred、Tikrooは、すべて農業生態ゾーン1に属している。協力準備調査の結果によると、円借款対象地域5県の60%以上を占める地域が、ゾーン1に属していることから、6地区すべてにおいて他地域への自然条件からみた汎用性は高いことがわかる。

以上、パイロット地区設立に必要な条件：①アクセスの容易性、②灌漑施設のモデル性、③自然条件からみた汎用性、を総合的に評価した結果、パイロット地区はBakroa、またはLalriを選定することが妥当であると判断する。上記を踏まえ農業局と協議した結果、パイロット地区をBakroa、Lalriから選定する妥当性について農業局側の理解を得た。

6. BakroaとLalriの比較

Bakroa地区、Lalri地区のパイロット地区としてのメリット、デメリットを以下に示す。

パイロット地区としてのメリット・デメリット

サブプロジェクト名	Bakroa	Lalri
メリット	<ul style="list-style-type: none"> ・公営の研修施設が近い。 ・州都（シムラ）からのアクセスが容易である。 ・ビニールハウスによる花卉栽培の経験がある先進的農家がいる。 	<ul style="list-style-type: none"> ・マーケティングヤードが近い。 ・KVKが州内で最も優秀である。 ・5県の中心に位置している。 ・開発調査時から優先候補地に選定されている。 ・バイパス道路の建設が予定されている。 ・砂質土が野菜栽培に適している。
デメリット	<ul style="list-style-type: none"> ・シロアリの被害が報告されている。 ・普及職員の活動が活発でない。 	<ul style="list-style-type: none"> ・公営の研修施設が遠い。 ・野菜栽培の経験が乏しい。
その他		
社会環境	<ul style="list-style-type: none"> ・指定階級が大半を占める。 	<ul style="list-style-type: none"> ・退役軍人が多く存在し、一般階級が大半を占める。

7. パイロット地区の小規模灌漑施設建設に係る設計及び積算

パイロット地区として選定されたBakroa地区、Lalri地区において、小規模灌漑施設建設に係る概略設計を行った。以下に、施設設計および積算の概要を示す。

9. 調達方法及び施工方法

パイロット地区の主な目的は作物多様化モデルの構築であり、その中には小規模灌漑施設建設に係る適切な調達実施も含まれている。また、円借款事業への適用を目的としていることから、パイロット地区の建設に係る土木業者の調達においては、今後実施が予定されている円借款事業での調達方法を事前に試行することで、農業局職員にPQ→入札→審査の過程を疑似体験させることで、円借款事業へのLessons Learntを導き出すこととする。

調達手順は、上記実施スケジュールに示したとおり以下の手順で行う。

①PQ図書の作成および承認→②PQ図書の配布および評価→③入札図書の作成→④入札および審査→⑤契約交渉および契約締結

現行のRIDF等では、価格競争での入札のみが実施され技術面、品質面での業者の選定が欠落している。つまり、土木業者に対する事前評価（PQ）が実施されていない。パイロット地区の調達においては、事前評価（PQ）実施を徹底し、技術面のクライテリアを明確にすることで施設建設における品質面での信頼度を確実にする。

パイロット地区調達に先立ち、調達ガイドライン（案）を作成する。さらに、調達終了後、段階ごとのLessons Learntを反映した円借款事業の調達ガイドラインを取りまとめる。

10. サブパイロット地区の選定基準

パイロット地区で構築される作物多様化モデルの他地域への波及促進と普及職員の能力強化のために5県以外を含めた州全域でサブパイロット地区選定する。

サブパイロット地区は、パイロット地区で実地研修を受講した普及職員がインフラ整備を伴わないことを条件に、既存施設を利用して研修の成果を発揮する場を示す。

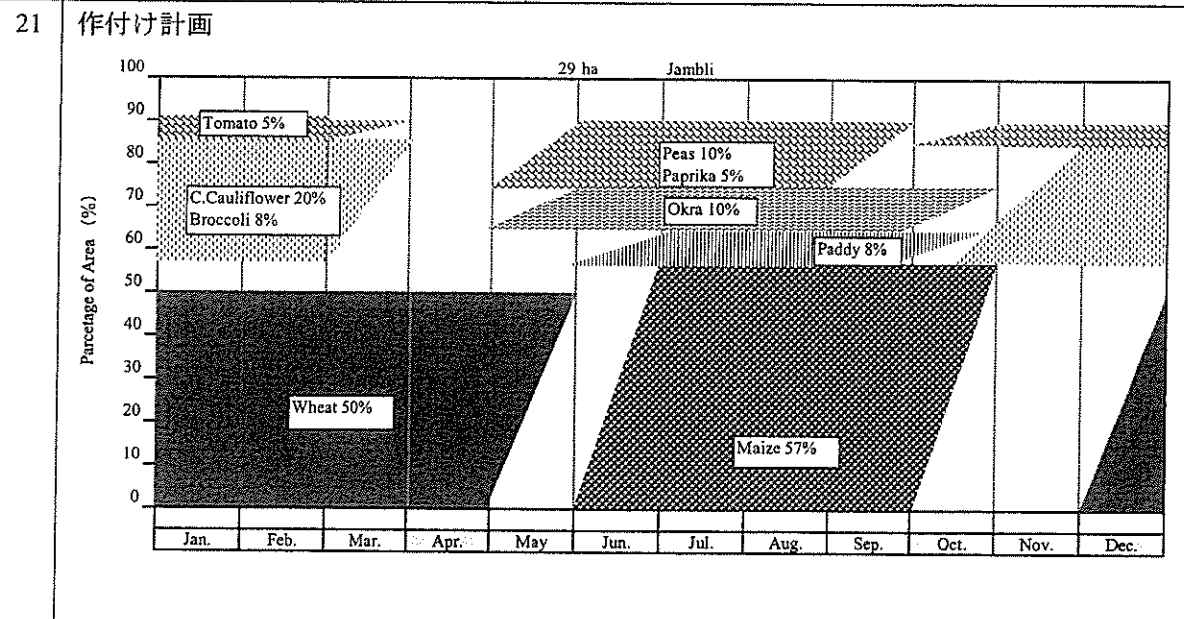
サブパイロット地区については、技術協力プロジェクト開始後、農業局との協議のうえ州全域を対象に地域の偏りがないように考慮し、以下の項目に条件を設定して、できる限り多く満たされている地区を選定することを想定する。

- ・ 農業生態ゾーン
- ・ 作物多様化ポテンシャル
- ・ 灌漑施設の整備状況/整備予定
- ・ 水源状況
- ・ 農民グループの活動状況/意欲
- ・ 普及サービスの現況
- ・ 市場へのアクセス
- ・ 野菜の需給動向

4-1-2 パイロット候補地区のインフラ整備積算・図面資料
ラルリ（Larli）灌漑右岸地区

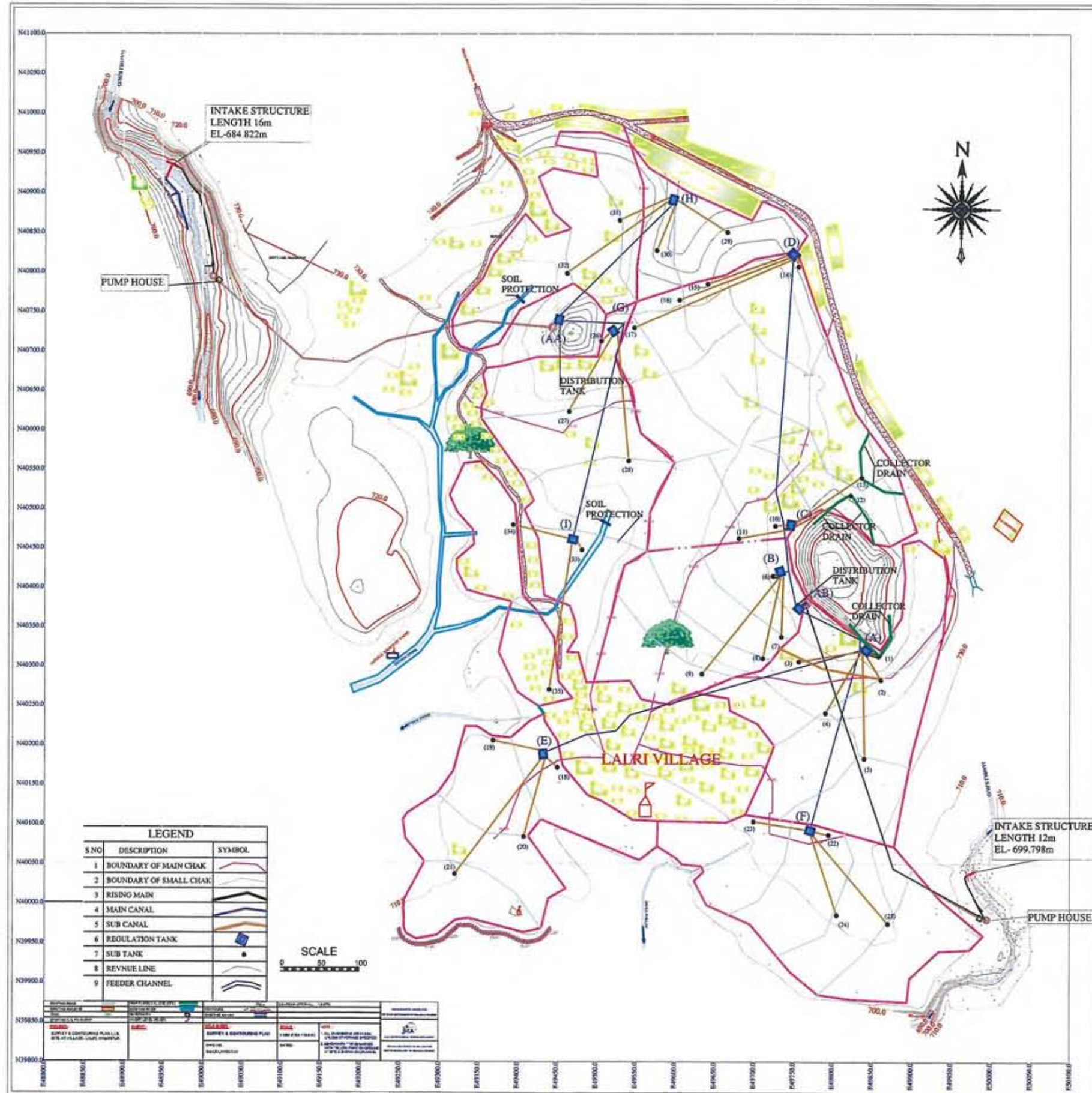
パイロット候補地区の緒言

No	項目	記述
1	パイロット地区名	ラルリ (Lalri) 灌漑地区 (右岸)
2	村名	ラルリ (Lalri)
3	行政村 (Gram Panchayat) 名	ラルリ (Lalri)
4	開発ブロック名	ハミルプール
5	県名	ハミルプール
6	受益者数	About 100 Households (25% of Village Population)
7	灌漑面積	12 (ha)
8	Agro Ecological ゾーン	Zone-1
9	年降雨量	1,318 mm
10	年平均気温	22.5 °C
11	灌漑方法	ポンプ灌漑
12	水源	ハトリ川
13	基底流量	240.0 lit/s
14	取水工の種類	溪流取水工 (幅=16 m)
15	計画取水量	14.0 lit/s
16	ポンプ揚程	50.0 m
17	ポンプ容量	20 HP
18	水路長	4,943 m
19	調整タンク	3 箇所
20	調整サブタンク	10 箇所



概略図面

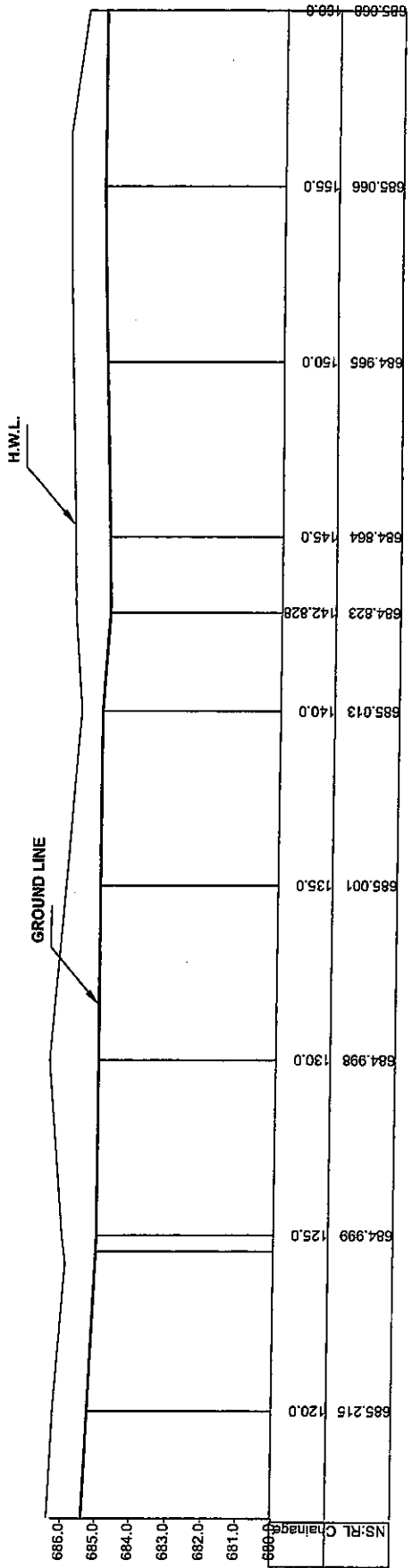
ラルリ (Larli) 灌漑右岸地区



LEGEND		
S.NO	DESCRIPTION	SYMBOL
1	BOUNDARY OF MAIN CHAK	
2	BOUNDARY OF SMALL CHAK	
3	RISING MAIN	
4	MAIN CANAL	
5	SUB CANAL	
6	REGULATION TANK	
7	SUB TANK	
8	REVNUC LINE	
9	FEEDER CHANNEL	

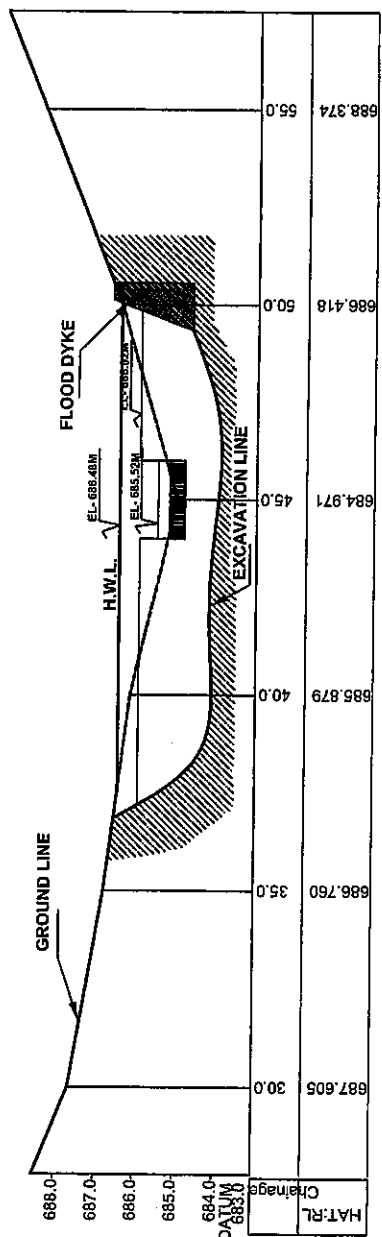
SCALE
0 50 100

NO.	REVISION	DATE	BY	CHECKED	APPROVED
1	ISSUED FOR TENDER	15/08/2024	...	...	...
2	...	...	...	...	...
3	...	...	...	...	...



L-SECTION OF NALLAH

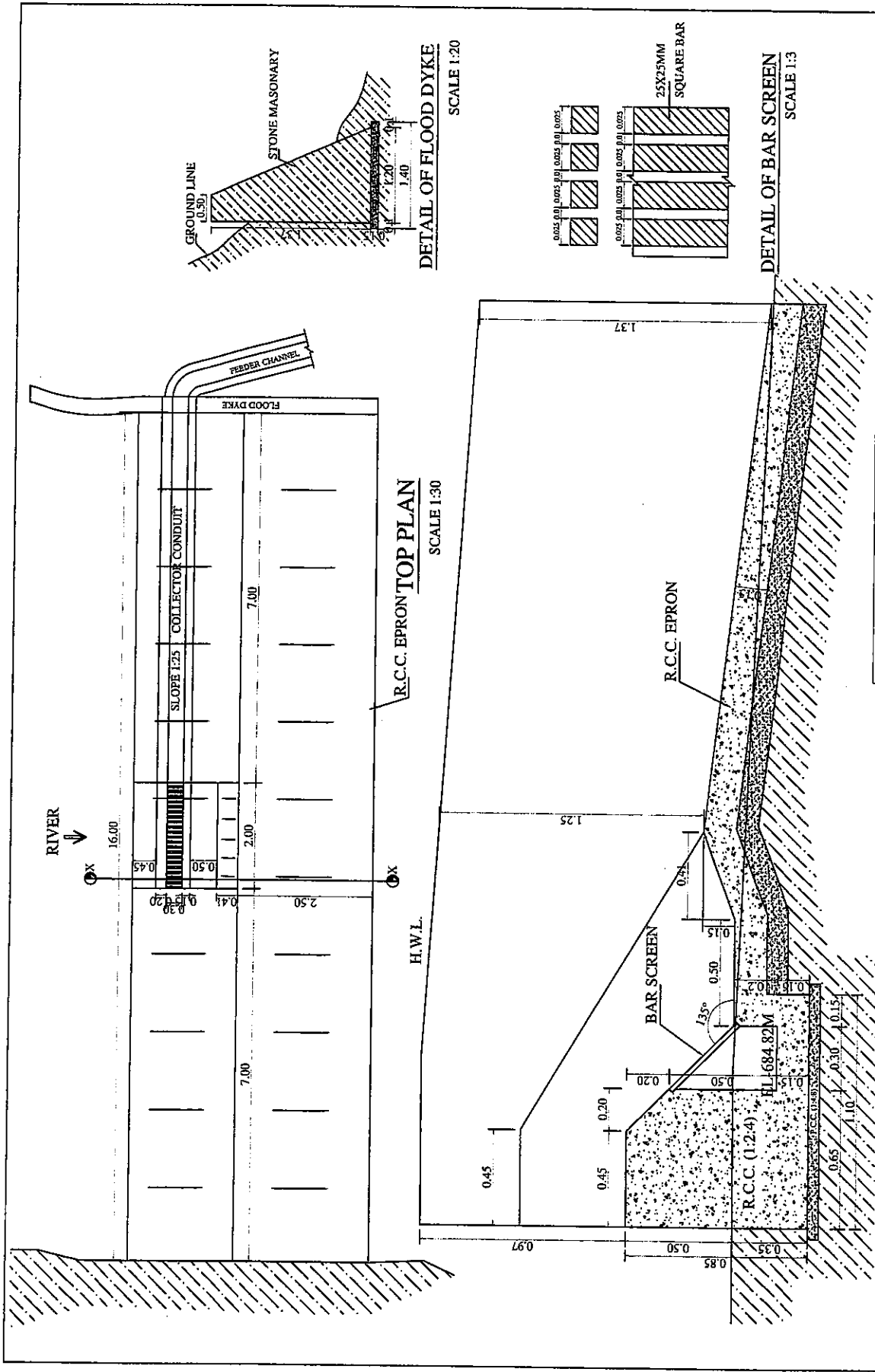
SCALE 1:170



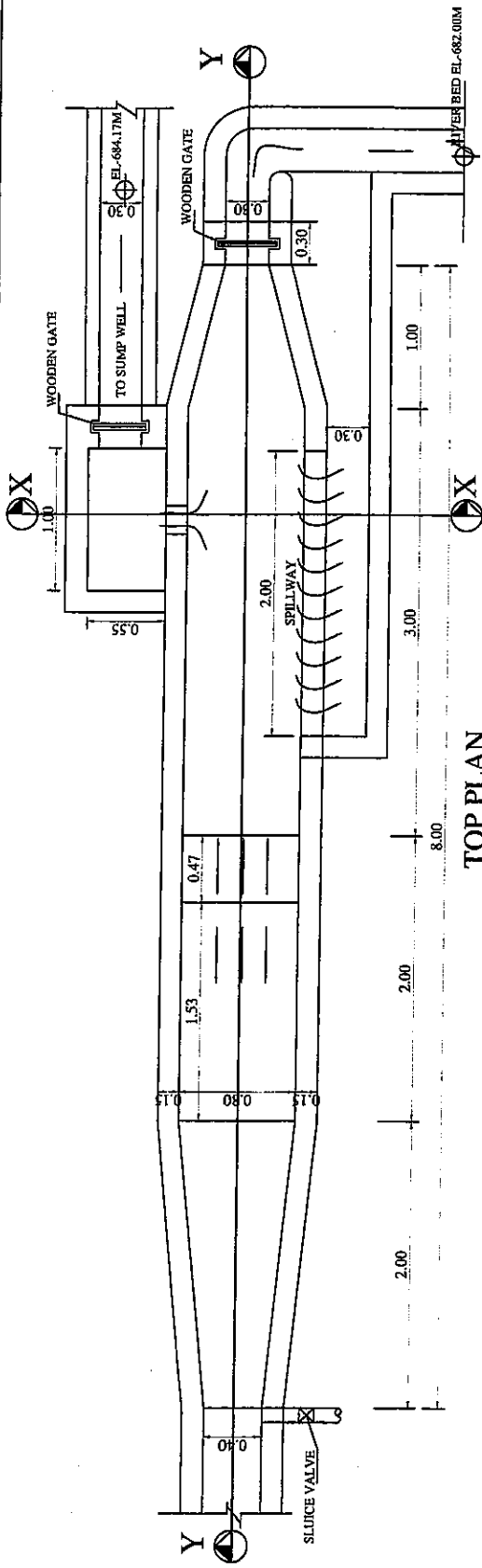
X-SECTION OF NALLAH

SCALE 1:170

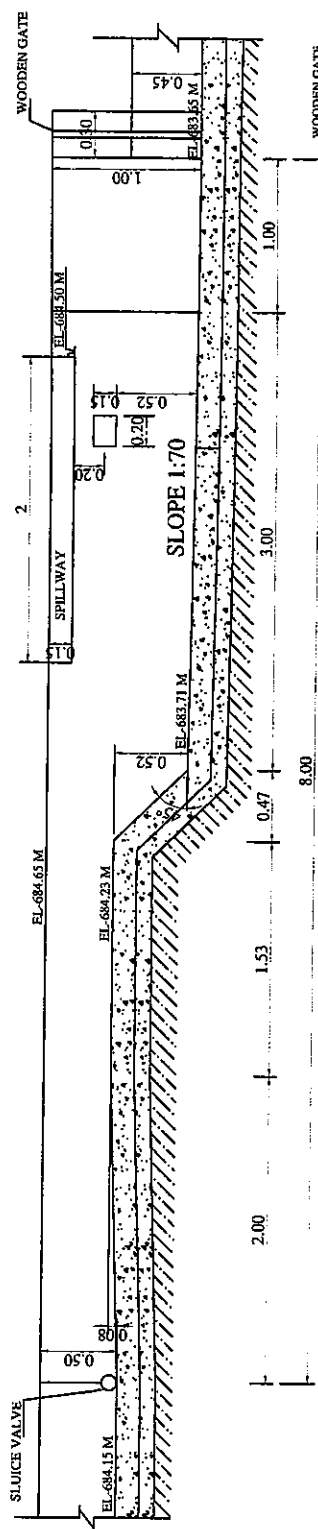
PROJECT:- L.I.S. SITE AT VILLAGE LAUR, HANIPUR (MAYIL)	CLIENT:-	NOTE:- 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 197.00 MARKED WITH YELLOW PAINT ON GROUND AT SITE IS CONTROL POINT OF CONTROL.	DATE 04-12-2009
FILE SHEET:- L-SECTION OF NALLAH	SCALE:-	NOTE:- THE STATE GOVERNMENT OF MADHYA PRADESH	DATE 04-12-2009
DWG. NO.	DATED	PROJECT NO.	DATE
HA-IT-SECTION-03	04-12-2009	04-12-2009	04-12-2009



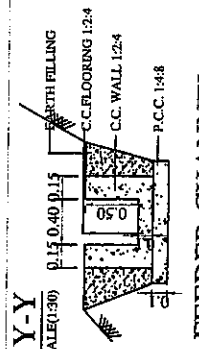
PROJECT: U.S. SITE AT VILLAGE- LACHYIMHURUPANTHALI	CLIENT:	TITLE SHEET: INTAKE STRUCTURE	SCALE:	NOTE: 1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SPECIFIED. 2. WITH REFERENCE TO THE PROPOSED AT SITE & SHOWN ON DRAWING.	DEPARTMENT OF AQUACULTURE THE STATE GOVERNMENT OF KERALA, INDIA
DWG. NO.: LACHY15-04	DATE: 04-12-2009				JICA JAPAN INTERNATIONAL COOPERATION AGENCY OFFICE OF AQUACULTURE DEVELOPMENT CITY OF FUKUOKA, JAPAN



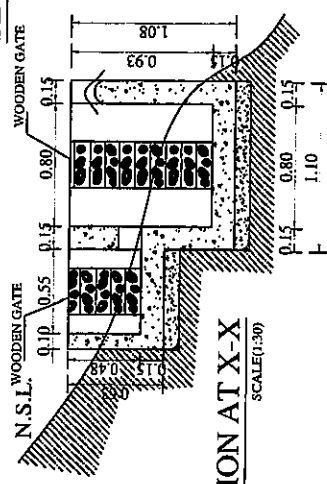
TOP PLAN
SCALE(1:30)



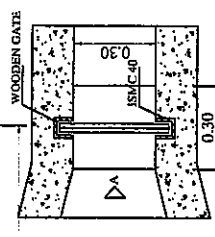
SECTION AT Y-Y
SCALE(1:30)



FEEDER CHANNEL
SCALE(1:30)



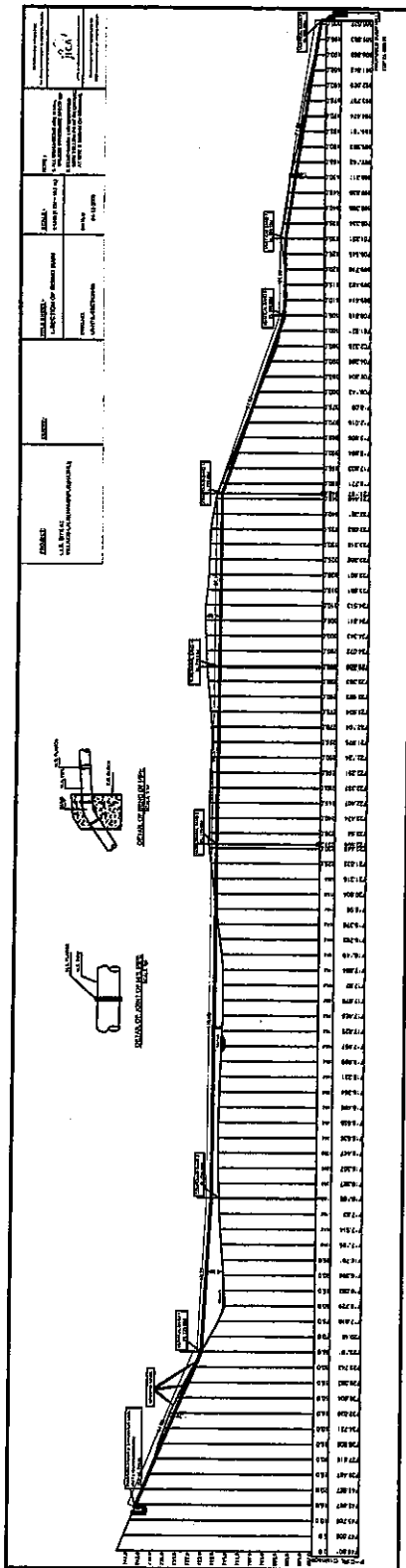
SECTION AT X-X
SCALE(1:30)

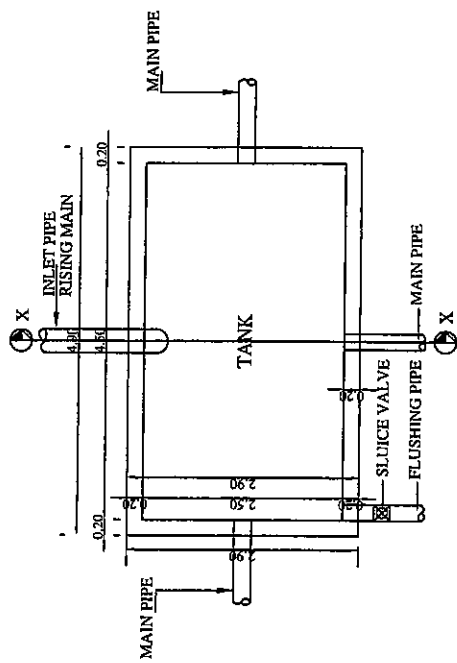


X-SECTION OF GATE
SCALE(1:10)

PROJECT: U.S. SITE AT VILAGE, LAURHAMPTON(ATTN:J)	CLIENT:	TITLE SHEET: DESILTING TANK	SCALE:	NOTE:- 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 1187.50 MARKED AT THE YELLOW PAINT CORNER AT SITE IS POINT OF CONTROL.	PREPARED BY: JICA DATE: 04-12-2009
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FOR THE GOVERNMENT OF JHARKHAND
THE STATE DEPARTMENT OF INDUSTRIAL PROMOTION
JICA
JAPAN INTERNATIONAL CO-OPERATION AGENCY
PREPARED BY JICA ENGINEER (CIVIL) FOR THE
RIP AND PROTECT WORK FOR THE LAURHAMPTON

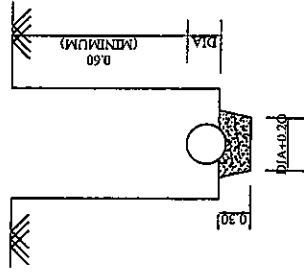




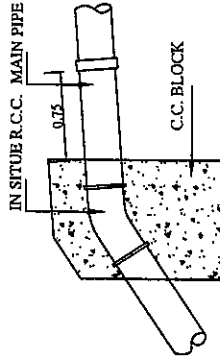
TOP PLAN
SCALE 1:30

DIMENSION TABLE FOR MAIN CANAL

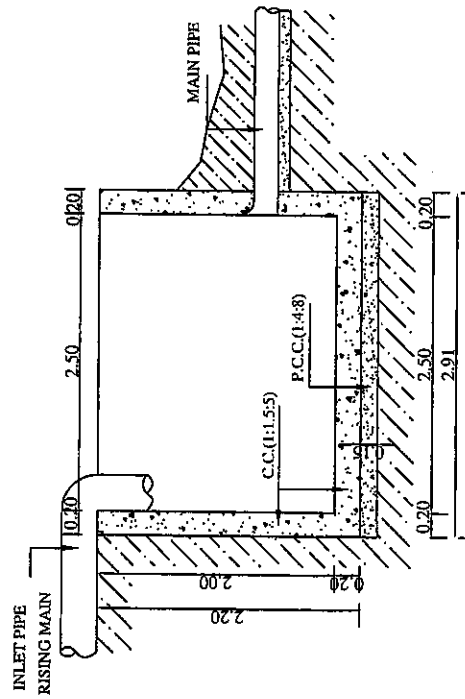
S.NO	NAME	LENGTH (m)	DESIGN DISCHARGE (cfs)	DIAMETER (mm)	ACTUAL HEAD (m)	MATERIAL
1	AA-H	216.97	28	200	1.0000	R.C.C. PIPE
2	AA-G	85.89	28	200	0.5000	R.C.C. PIPE
3	G-I	264.90	28	150	25.5000	R.C.C. PIPE



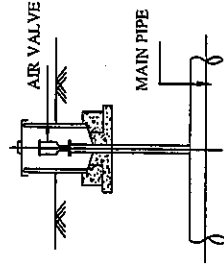
TYPICAL X-SECTION OF MAIN CANAL
SCALE 1:30



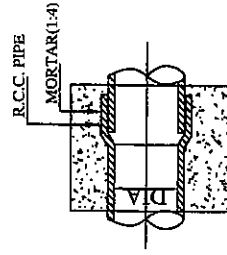
DETAIL OF BEND OF PIPE
SCALE 1:15



SECTION AT X-X
SCALE 1:20

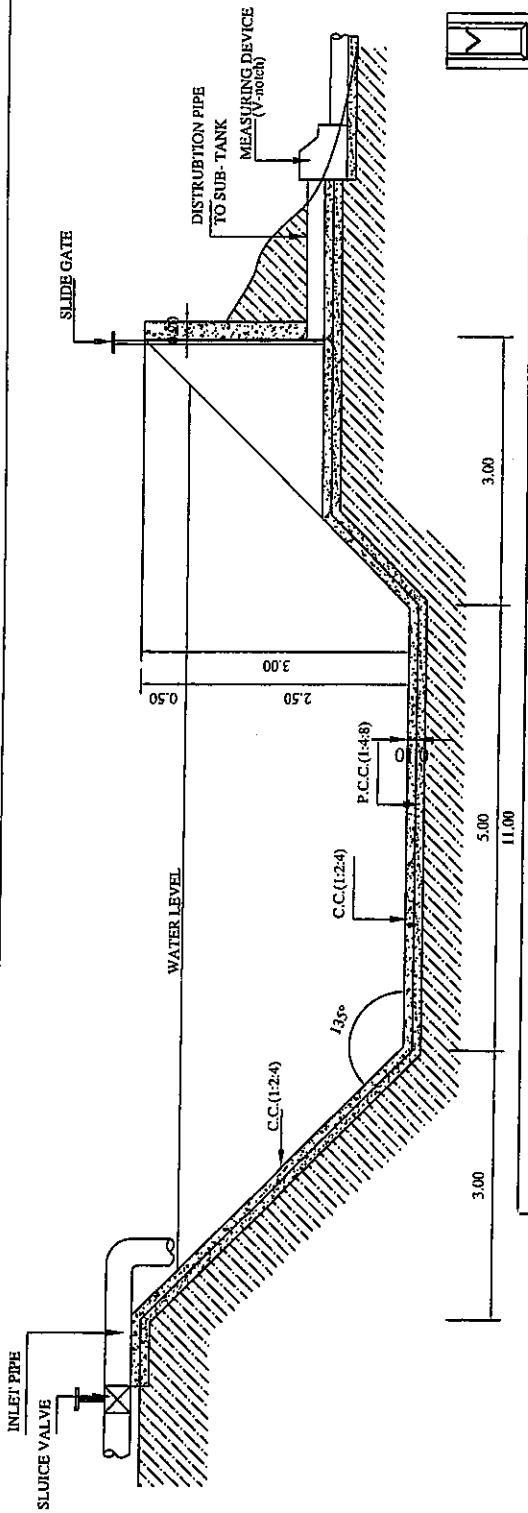


DETAIL OF AIR VALVE
SCALE 1:15



DETAIL OF JOINT OF PIPE
SCALE 1:10

PROJECT: L.I.S. SITE AT VILLAGE - LAURI, HAMIRPUR (P.H.T.C.)	CLIENT:	TITLE SHEET: DISTRIBUTION CHAMBER & MAIN CANAL	SCALE:	NOTE: 1. ALL DIMENSIONS ARE IN INCH UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 107.00 MARKED AT SITE & SHOWN IN DRAWING.	DEPARTMENT OF AGRICULTURE THE STATE GOVERNMENT OF HIMACHAL PRADESH
		DWG. NO. L.I.H.T.C.-48		DATED 04-12-2008	JICA JAPAN INTERNATIONAL COOPERATION AGENCY P.O. BOX 100, TOKYO 100, JAPAN COPYRIGHT © 2008 BY JICA



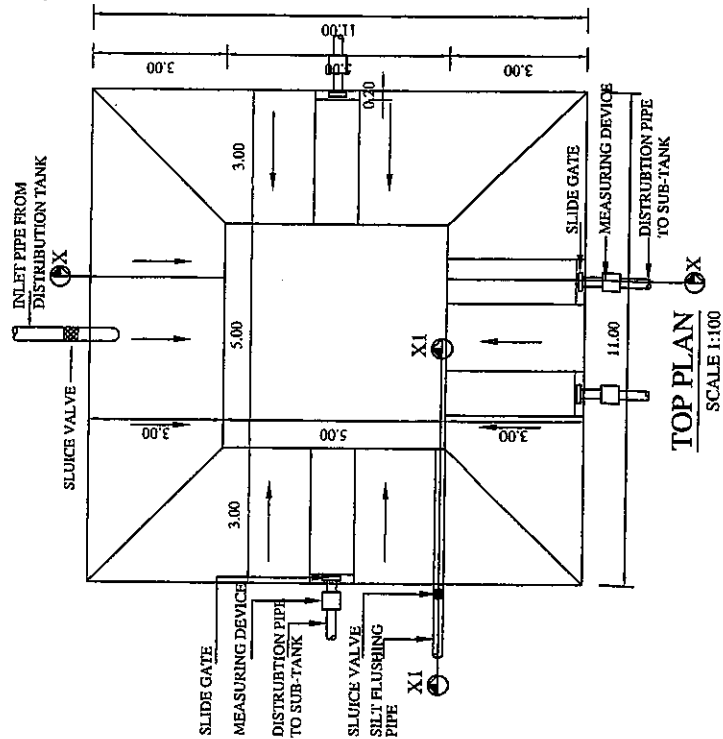
SECTION AT X-X
SCALE 1:50

DETAIL OF MEASURING DEVICE

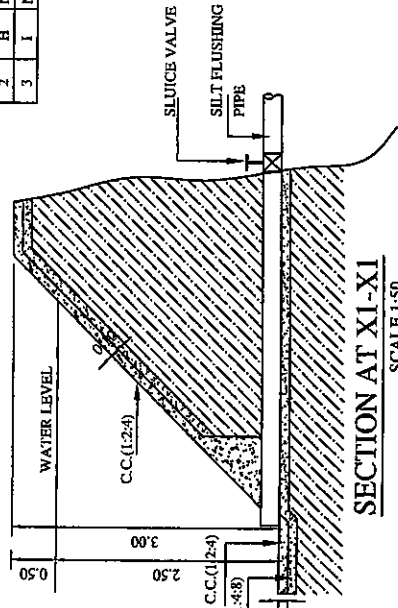


LOCATION OF REGULATION TANK

S. NO	NAME	NORTH	EAST
1	G	N-10084.15	E-20473.63
2	H	N-10214.49	E-20421.26
3	I	N-10181.61	E-20311.67

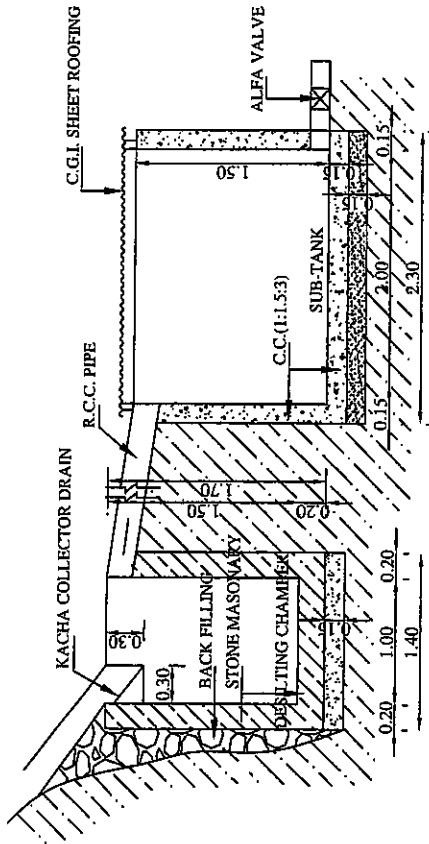


TOP PLAN
SCALE 1:100

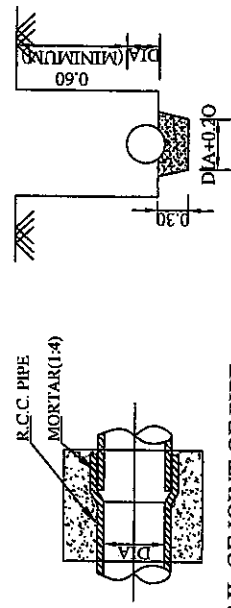


SECTION AT XI-XI
SCALE 1:50

PROJECT:- U.S. SITE AT VILLAGE LAUR/HAMRIPUR/ATULI	CLIENT:-	TITLE SHEET:- REGULATION TANK	SCALE:-	NOTE:- 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 192.29 MARKED WITH YELLOW PAINT ON GROUND AT SITE IS TO BE USED FOR SURVEILLING	REGULATORY AUTHORITY INDIA THE STATE GOVERNMENT OF MADHARAJ PRDESH
		DWG. NO. U.S.14/REGULATION TANK-03	DATED 04-12-2009		



SECTION AT X-X
SCALE 1:20

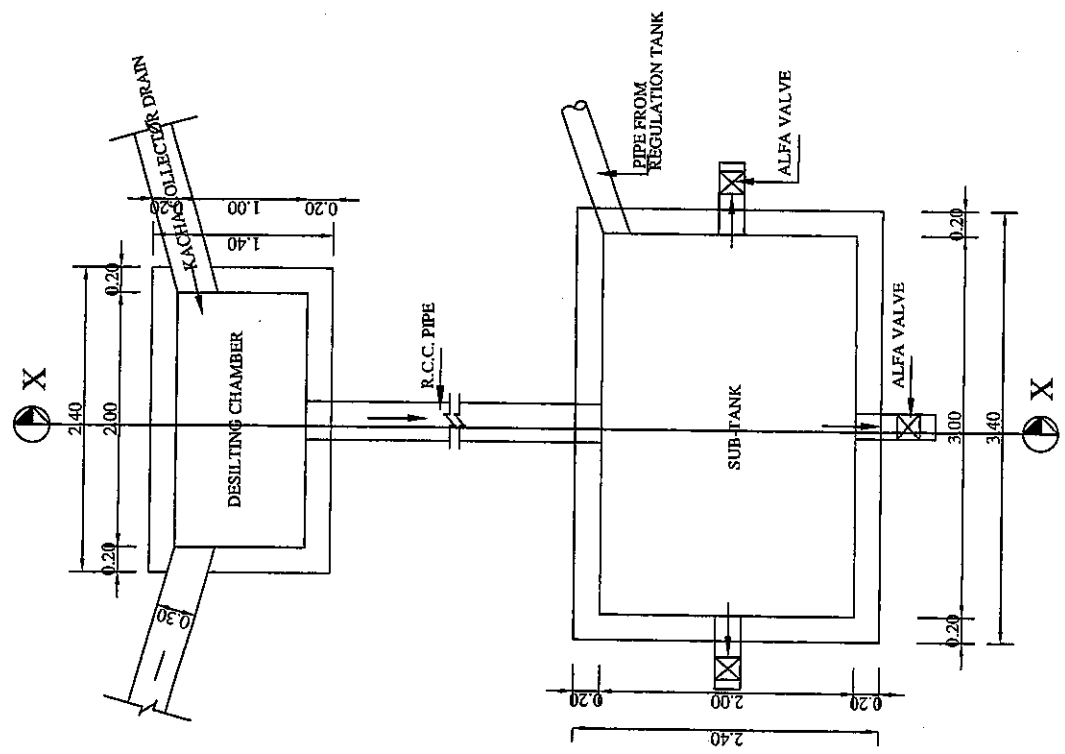


DETAIL OF JOINT OF PIPE
SCALE 1:10

DIMENSION TABLE FOR SUB-CANAL

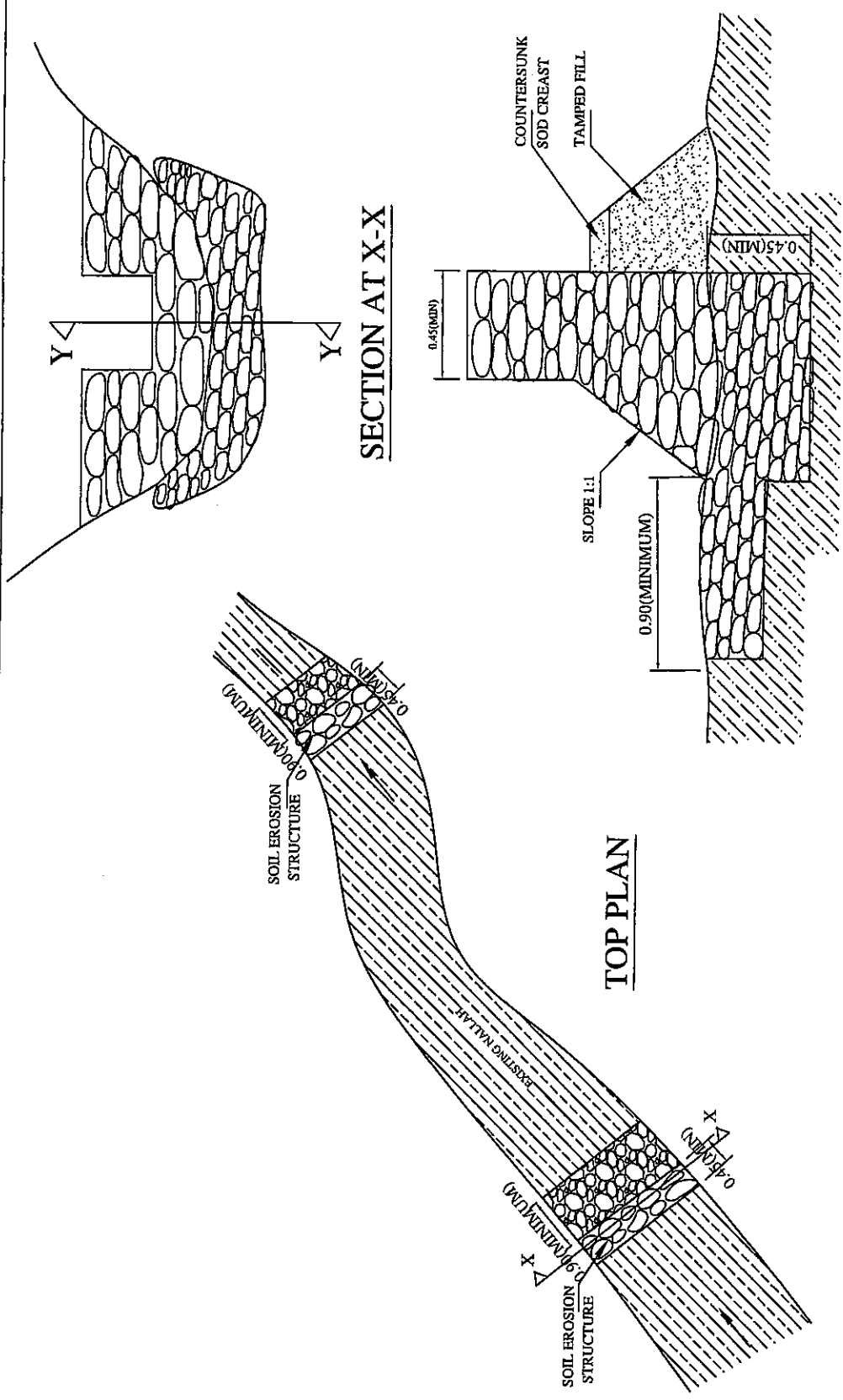
S.NO	NAME	LENGTH (M)	DESIGN DISCHARGE (M ³ /D)	DIMENSION (MM)	ACTUAL HEAD (M)	MATERIAL
1	G-28	20.00	9	200	3.900	R.C.C. PIPE
2	G-27	10.00	9	200	1.700	R.C.C. PIPE
3	G-28	14.20	9	200	2.900	R.C.C. PIPE
4	R-29	75.15	9	200	0.100	R.C.C. PIPE
5	R-30	61.35	9	150	0.100	R.C.C. PIPE
6	R-31	75.00	9	150	0.100	R.C.C. PIPE
7	H-32	155.00	9	200	0.100	R.C.C. PIPE
8	H-33	20.00	9	150	0.100	R.C.C. PIPE
9	H-34	72.80	9	150	0.100	R.C.C. PIPE
10	H-35	187.00	9	150	0.100	R.C.C. PIPE

TYPICAL X-SECTION
OF MAIN CANAL
SCALE 1:20



TOP PLAN
SCALE 1:20

PROJECT:	L.I.S. SITE AT VILLAGE LAUR, HMIRPURPATNA.	CLIENT:		TITLE SHEET:	COLLECTOR DRAIN SUB-TANK	SCALE:		NOTE:	1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 1197.00 MARKED WITH AN IRON NAIL IS USED AS A BENCHMARK AT SITE AS SHOWN ON DRAWING.
DWG. NO.	LR-RT/C.D./S.T.-10	DATED:	04-12-2019	DEPARTMENT OF AGRICULTURE					
								JICA JAPAN INTERNATIONAL COOPERATION AGENCY PROJECT OFFICE: JICA FIELD OFFICE LAUR 10/F, 1000 SHIMIZU BLDG. 1-1-1, LAUR	



PROJECT: L.I.S. SITE AT VILLAGE-LAIRI, HAMIRPUR.	CLIENT:	TITLE SUBJECT: SOIL CONSERVATION STRUCTURE	SCALE:	NOTE:- 1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 1971/50 MARKED ON THE DRAWING IS TO BE USED AS A REFERENCE POINT FOR ALL DIMENSIONS AT THE SITE.	DESIGNED BY: M. S. SINGH
		DWG. NO.: LRS/ES-17			DATE: 04-12-2009
				JICA JAPAN INTERNATIONAL COOPERATION AGENCY PREPARED BY THE JICA CONSULTANTS FOR THE GOVERNMENT OF HIMACHAL PRADESH	

積算資料

ラルリ (Larli) 灌漑右岸地区

LIS SCHEME AT HATHLI - LALRI HAMIRPUR

GENERAL ABSTRACT OF COST

SR.No.	Particulars	Annexure	Amount
1	CONSTRUCTION OF INTAKE STRUCTURE	"A"	333,997
2	FEEDER CHANNEL	"B"	165,935
3	DESILTING CHAMBER	"C"	45,298
4	SUMP WELL	"D"	78,713
5	RISING MAIN	"E"	1,349,994
6	DISTRIBUTION PIPE (RCC)	"F"	977,380
7	DISTRIBUTION TANK	"G"	69,091
8	SUB TANKS (10 NOS)	"H"	385,883
9	REGULATION TANK	"I"	779,662
10	PUMP HOUSE	"J"	104,570
11	PUMPING MACHINERY	"K"	225,000
12	COLLECTOR DRAIN FOR RAIN WATER	"L"	227,382
13	MS JOINT NEAR REGULATION TANK	"M"	147,423
	TOTAL		4,890,328
11	SOP (SUPPLY OF POWER) FROM HPSEB @ 15%		733,549
	GRAND TOTAL	RS.	5,623,877

ABSTRACT OF COST

INTAKE STRUCTURE					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed.	66.06	225.54	Cum	14,900
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	13.10	3182.18	Cum	41,699
3	Square rubble masonry with hard stone in C:M 1:4	11.25	3514.66	Cum	39,540
4	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal sizes) and curing complete including cost of form work in foundation and plinth. In RCC Work	25.31	4109.39	Cum	103,996
5	Form work of steel plates including centring and propping up so as to give a fair finish.	14.56	144.34	Sqmt.	2,101
6	Providing & laying TOR steel skin reinforcement	885.75	49.21	kgs	43,589
7	Providing & laying MS bars for bar screen 25 mm dia.	181.00	72.77	Qtl	13,171
8	Charges for water handling during the construction of intake structures & allied works.		L/S		10,000
9	Handling & removing of big boulder near intake location		L/S		15,000
10	Construction of flood dykes		L/S		50,000
				Total	333,997

ABSTRACT OF COST

FEEDER CHANNEL					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in drains & channels in earth work including dressing of sides and bed and earth up to a lead of 20 mtrs. and lift upto 1.5 mtrs. Disposed earth to be levelled neatly .	48.60	225.54	Cum.	10,961
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement:4 Sand : 8aggregates 40 mm nominal siges) and curing complete including cost of form work in foundation and plinth.	10.80	3182.18	Cum.	34,368
3	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal siges) and curing complete including cost of form work in foundation and plinth.	28.35	4109.39	Cum.	116,501
4	Extra allowance for form work in CC lining	94.50	43.44	Rmt.	4,105
				Total	165,935

ABSTRACT OF COST

DESILTING CHAMBER

S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	10.64	225.54	Cum	2,399
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	1.50	3182.18	Cum	4,761
3	providing & laying C.C.1:1.5:3(1 cement 1.5sand 3 graded stone agg. 20 mm nominal size in foundation & plinth including curing etc complete	4.57	4519.19	Cum	20,645
4	Form work of steel plates including centring and propping up so as to give a fair finish.	13.80	144.34	Sqmt.	1,992
5	Providing & laying MS pipe 300 mm dia D/S side of desilting chamber with provision of sluice valve for stop log arrangement i/c flanges etc complete	L/S			15,000
6	Water measuring device (V- notch)	1Nos.	500 (L.S)	each	500
				Total	45,298

ABSTRACT OF COST

SUMP WELL					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	27.34	225.54	Cum	6,166
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	1.09	3182.18	Cum	3,480
3	providing & laying C.C.1:1.5:3(1 cement 1.5sand 3 graded stone agg. 20 mm nominal size in foundation & plinth including curing etc complete	10.84	4519.19	Cum	48,970
4	15 mm cement plaster in single coat on rough side of brick/ stone masonry for interior plastering up to floor two level, including arises, internal rounded angles not 80mm in girth and finished 1:04 (1 cement : 4 sand).	25.20	115.66	Sqmt.	2,915
5	C.C.Flooring 1:2:4(1 cement 2sand 4 graded stone agg. 20mm nominal size. 100mm thick	3.24	4109.39	Cum	13,314
6	Providing , laying & jointing to level or slopes in trenches including jointing with cement mortar 1:3 & testing the joints complete. 2. 0 m length each. 300 mm dia RCC pipe	8.00	483.55	Rmt	3,868
				Total	78,713

ABSTRACT OF COST

RISING MAIN					
S.No.	Description of items	Qty	Rate	Unit	Amount
1	Excavation in foundation and trenches (For pipes and pits) up to all depths and in all classification of earth work such as pick work, jumper work, saturated soil including bailing or pumping out of water, blasting soft or hard rock or chiselling or wedging out of soft/hard rock , where blasting is prohibited, in all lifts including trimming and dressing of sides, levelling of beds to correct grade including shoring, strutting , planking, timbering and dewatering where ever required. Stacking usable and unusable material/soil seperately and after laying, jointing and testing of pipes, returning the usable soil in 15cm layers by ramming and watering and then disposing of all surplus excavated soil/ unusable material as directed within all leads/ lifts including restoration of unmetalled surfaces to its original condition and including cost of diversion for traffic, night signal boards, fixing caution boards, crossing over trenches for access to houses, fencing etc. complete in all respects within all leads and lifts as per direction of the Engineer-in-charge.	291.55	225.54	Cum	65,755
2	Providing, laying, jointing and testing in trenches (to be levelled to grades) GI flanged pipes of following diameter, class & wall thickness and IS specification capable to withstand the required hydraulic test pressure as per IS Code in a random length of 4 mtrs. to 7 mtrs. with bevelled ends and jointed with flange table mentioned below conforming to IS-6392-1971(latest with up to date amendments) i/c all fittings such as bends , tees & tail pieces etc. The welding of flanges to be done on both faces in double layer to make the joint leak proof according to relevant BIS standard and specifications. The pipe including nuts and bolts of required size, 3mm thick compressed asbestos fibre jointing gasket/ synthatic rubber jointing gasket should be conforming to relevant BIS code. Laying will include all operations such as cutting, welding, painting and jointing including flushing, cleaning and hydraulic testing of pipe complete in all respect and to the entire satisfaction of the Engineer-in-Charge.				
(a)	250MM DIA	490	1935.44	Rmt.	948,366
(b)	Bends @ 10 %	49	6854.56	Rmt.	335,873
				Rs.	1,349,994

ABSTRACT OF COST

DISTRIBUTION PIPE (RCC)					
Sr.No	Description	Qty.	Unit	Rate	Amount
1	Excavation in drains and channels in earth work including dressing of sides slopes and bed and disposal of excavated earth up to a lead of 20meters & lift up to 1.50m ,disposed earth to be leveled and neatly dressed (50%Pick work+ 50% Jumper Work)	931.95	Cum	225.54	210,188
2	Providing and laying of RCC pipe 150mm and 200mm				
	i) 150mm dia R.C.C.Pipe (P1)	416.56	Rmt	399.15	166,270
	ii) 200 mm dia R.C.C.Pipe (P1)	334.78	Rmt	493	165,047
	i) 150mm dia R.C.C.Pipe (P3)	338.80	Rmt	468.75	158,813
	ii) 200 mm dia R.C.C.Pipe (P3)	413.23	Rmt	666.95	275,604
3	Providing and fixing CI Grating for Outlets pipe 150mm and 200mm				
	i) 150mm dia R.C.C.Pipe	7	Each	80.00	560
	ii) 200 mm dia R.C.C.Pipe	6	Each	150.00	900
	Total:-				977,380

ABSTRACT OF COST

DISTRIBUTION TANK					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	20.39	Cum.	225.54	4,600
2	Providing and laying cement concrete 1.4.8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	2.37	Cum.	3182.18	7,547
3	Providing and laying cement concrete 1:2:4 (1 cement 2 sand : 4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	7.46	Cum.	4109.39	30,654
4	Cement concrete flooring 1:2:4 (1 cement :2 sand : 4 graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement 40 mm thick	11.25	Sqm	192.57	2,166
5	15 mm cement plaster in two coats, backing coat 10 mm. and finishing coat 5 mm. thick on fair side of brick masonry/ stone masonry/ concrete walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers, and/or rounded angles not exceeding 80 mm. in girth and finished even and smooth :- Cement mortar 1: 3 Cement Mortar (1:4) 1Cement : 4sand	46.56	Sqm	115.66	5,385
6	Providing TOR steel for skin reinforcement including bending binding & placing in position complete.	195.00	kgs	49.21	9,596
7	Providing form work in steel plates including centering shuttering , strutting & propping etc. complete.	63.34	sqm	144.34	9,143
G.Total:-					69,091

ABSTRACT OF COST

SUB TANKS of Size 3.0m x 2.0m x 1.5m (Wall th. 150 mm)					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	8.75	Cum.	225.54	1,973
2	Providing and laying cement concrete 1.4.8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	1.31	Cum.	3182.2	4,177
3	Providing and laying cement concrete 1.2.4 (1 cement 2 sand : 4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work in: (a) walls & floor	3.14	Cum.	4109.39	12,920
4	Cement concrete flooring 1:2:4 (1 cement :2 sand : 4 graded stone aggregate 20mm nominal size) laid in one layer. finished with a floating coat of neat cement 40 mm thick	6.00	Sqm	192.57	1,155
5	15 mm cement plaster in two coats, backing coat 10 mm. and finishing coat 5 mm. thick on fair side of brick masonry/ stone masonry/ concrete walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers, and/or rounded angles not exceeding 80 mm. in girth and finished even and smooth :- Cement Mortar (1;4) 1Cement : 4sand	24.14	Sqm	115.66	2,792
6	Providing form work in steel plates including centering shuttering , strutting & propping etc. complete.	32.96	sqm	144.34	4,758
7	Providing TOR steel for skin reinforcement including bending binding & placing in position complete.	110.00	kgs	49.21	5,413
8	providing & fixing G.I pipe conforming to ISI specifications 100 mm dia including coupling arrangement at the end for fixing farmers	15.00	kgs	60.00	900
9	Providing and fixing Alfa-Valve	3.00	Each	1500.00	4,500
Total:-					38,588
IONOS OF SUB TANKS					G. TOTAL
					385,883

ABSTRACT OF COST

REGULATION TANK					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	211.68	225.54	Cum	47,741
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	16.75	3182.18	Cum	53,290
3	Providing & Laying cement concrete 1 : 1.5 : 3 (1 cement: 1.5 Sand : 3 aggregates 20 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	16.41	4519.19	Cum	74,147
4	Providing form work in steel including centering shuttering, propping etc. complete.	135.68	144.34	Sqmt.	19,585
5	Providing & fixing V- notch including chamber for the same	3	5500	per no	16,500
6	Providing & fixing Sluice valves for scour pipe , Discharge pipe & inlet pipe	1	12000	per no	12,000
7	providing MS pipe for scour discharge & inlet.	110.4	60	kg	6,624
8	Providing & fixing Slide gate	3	10000	per no	30,000
	TOTAL				259,887
	3 NOS REGULATION TANKS				779,662

ABSTRACT OF COST

PUMP HOUSE (3.00 x 3.00 x 3.00 m)					
Sr. No.		Qty.	Unit	Rate	Amount Rs.
1	Excavation in foundation & trenches etc. in earth work lift up to 1.50 mtrs. Stacking the excavated soil not more than 3 mtrs clear from the edge of excavation and then returning the stacked soil in 15 cm. layers, when required in to plinths sides of foundations etc. , consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated earth up to lead of 20 mteres.	10.47	Cum	225.54	2,361
2	Providing and laying cement concrete 1:5:10 (1 Cement :6 Sand : 12 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of cenetring & shuttering in foundation and plinth	1.74	Cum	2807.47	4,885
3	Brick work using common burnt clay building bricks in foundation and plinth in cement mortar 1:6 (1 Cement : 6 Sand) 2nd class brick work :	4.90	Cum	3027.89	14,837
4	Providing and laying Damp proof course 38 mm thick with cement concrete 1:2:4 (1 cement : 2 sand :4 graded stone aggregate 20 mm nominal size) and curing complete	2.23	Sqm	192.57	429
5	Applying coat of hot bitumen(mexphalt 80/100 or equivalent) using 170 Kg. per Sqm. On damp proof course after cleaning the surface with piece of cloth likely soaked with kerosene.	2.23	Sqm	112.33	250
6	Brick work using common burnt clay building bricks in foundation and plinth in cement mortar 1:6 (1 Cement : 6 Sand) 2nd class brick work in super structure :	7.78	Cum	3027.89	23,557
7	Providing form work with steel plates 3.15 mm thick welded with angle iron in 30x30x5 mm so as to give a fair finish including centering shuttering and propping etc. with wooden battens and ballies, height of propping and cenering below supporting floor to ceiling not exceeding 4 mtrs. And removal of the same for insitu-reinforced concrete & plain concrete work in :-				
	I) Beams, Cantilevers, Girders and lintels sides& soffits of beams, beam haunchings, cantilevers, breasurers & Lintels not exceeding 1.00 mtr. In depth in all heights from floor:-	19.91	Cum	144.34	2,874
8	Providing and laying Cement concrete 1 : 2 : 4 (1 cement :2 sand :4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work and reinforcement for R.C.C. work in suspended floors, roofs, landings, shelves and their supports, balconies, beams, girders, breasurers and cantilevers up to floor two level:-	2.20	Cum	4109.39	9,041
9	Providing Mild Steel / Tor Steel reinforcement for R.C.C. work including bending, binding placing in position complete up to floor two level:-	176	Kg.	49.21	8,661
10	15 mm cement plaster in single coat on rough side of bricks/ concrete / stone walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers and / or rounded angles not exceeding 80 mm in girth and finished even and smooth.in cement mortar 1: 5 (1 cement : 5 sand)	30.73	Sqm	115.66	3,554

11	Pointing on brick work with Cement mortar 1:3 (1 Cement : 3 Sand).	47.51	Sqm	64.63	3,071
12	Providing & Fixing Pressed steel doors frames manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jump lock, jamb, bead and if required angle threshold of mild steel angle section 50 x 25 mm or base ties of 1.25 mm Pressed or rigidly fixed together by mechanical means, adjustable lugs with split and tails to each jamb including steel butt hinges 2.5 mm thick with guards, lock, strike plate and shock as specified and applying a coat of approved steel primer after pre treatment of the surface as directed by Engineer-in-charge.				
	Profile "A"	22.10	mtr.	122.90	2,716
	Profile "B"	3.60	mtr.	121.40	437
13	Providing and fixing 1 mm thick M.S. sheet door with frame of 40 x 40 x 6 mm angle iron 3.15 mm M.S. Gusset plates at the junctions and corners, all necessary fittings complete including applying a priming coat of red lead paint.	6.78	Sqm	2167.75	14,697
14	Filling in plinth with sand under floors including watering, ramming consolidating and dressing complete.	1.35	Cum	622.65	841
15	Providing and laying cement concrete 1:4:8 (1 Cement : 4 Sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in foundation and plinth.	0.9	Cum	3182.18	2,864
16	Cement Concrete flooring 1: 2: 4 (1 Cement : 2 Sand : 4 graded Stone aggregate 20 mm nominal size) laid in one layer finished with a floating coat of neat cement: 40 mm thick.	9	Sqm	192.57	1,733
17	Providing & fixing on wall face C.I. rain water pipes including fitting the joints with spun yarn and cement mortar 1:2 (1 Cement : 2 Sand). 100 mm dia.	6.80	Rmt.	333.00	2,264
18	White washing with lime on undecorated wall surfaces two coats to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar dirt and other foreign matters.	30.73	Sqm	5.15	158
19	Hirmachi colour wash on undecorated wall surfaces (two coats) to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar dirt and other foreign matters.	40.91	Sqm	5.50	225
20	Providing plinth protection 50 mm thick in cement concrete 1:3:6 (1 cement : 3 Sand : 6 graded stone aggregate 20 mm nominal size).	7.46	Sqm	145.45	1,085
20 B	Providing under layer for plinth protection of 75 mm thick (unconsolidated) bed dry bricks / stone aggregated 40 mm nominal size well rammed and consolidated and grouted with fine sand including preparation of ground.	7.46	Sqm	116.5	869
21	Painting two coats (excluding priming coat) on new Steel and other metal surfaces under coat with ready mixed paint brushing to give an even shade including cleaning the surface of dirt, dust and other foreign matter, sand papering and stopping.				
	With ready mixed paint other than white	6.78	Sqm	18.25	124
22	Providing and fixing anodized aluminium sliding door bolt anodized to colour and shade with bolts and nuts screws etc.				
	250x16 mm	1	each	102.60	103

23	Providing and fixing aluminium handles anodized transparent or dyed to required colour of shade with necessary screws etc. complete.				
	Door 125 mm	2	each	17.45	35
	Window 100 mm	6	each	15.15	91
24	Providing and fixing aluminium tower bolt (barrel type) anodized transparent or dyed to required shade and colour with screws etc. complete.				
	250x10 mm Door	4	each	29.70	119
	200x10 mm Window	12	each	25.10	301
25	Providing & Fixing M.S. fan clamp type-I of 16 mm dia M.S. bar bent to shape with hooked ends in R.C.C. slab during laying including painting the exposed portion of loop, all as per standard design complete.	1	each	128.35	128
26	Providing & fixing M.S grill of required pattern in wooden frame of windows etc. with M.S flats, square or round bars with round headed bolts & nuts or by screws.				
	Plain grill. Windows	35.77	Kg.	63.15	2,259
				G Total	104,570

ANNEXURE-K

ABSTRACT OF COST

PUMPING MACHINERY					
S.N.	Particulars	Qty.	Rate	Unit	Amount
1	Providing and installing pump set	30	7500	BHP	225,000

ABSTRACT OF COST

COLLECTOR DRAIN FOR RAIN WATER					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	16.61	Cum.	225.54	3,746
2	Providing and laying cement concrete 1:4:8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	0.77	Cum.	3182.2	2,444
3	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal siges) and curing complete including cost of form work in foundation and plinth. In RCC Work	3.18	Cum.	4109.39	13,084
4	Form work of steel plates including centring and propping up so as to give a fair finish.	24.00	SQM	144.34	3,464
				Total	22,738
	10 NOS OF COLLECTOR DRAIN FOR RAIN WATER				227,382

ABSTRACT OF COST

MS JOINT NEAR REGULATION TANK							
S.N.	Description of item	Dia	No.	Length	Rate		Amount
1	Providing & fixing MS pipe of different dia for welding into T- joint near the regulation tank	300 mm	1	10		2250	22,500
2	Providing & fixing CI sluice valves for the pipe joint fixed with appropriate table of flanges	300 mm	1			24000	24,000
3	Providing & laying cement concrete 1:1.5:3 less (-) for pipe	2	0.6	0.6	0.9	0.648	
		0.785	0.3	0.3	0.9	0.064	
					0.584	4519.19	2,641
	Total						49,141
	TOTAL NO. OF JOINTS	3					147,423

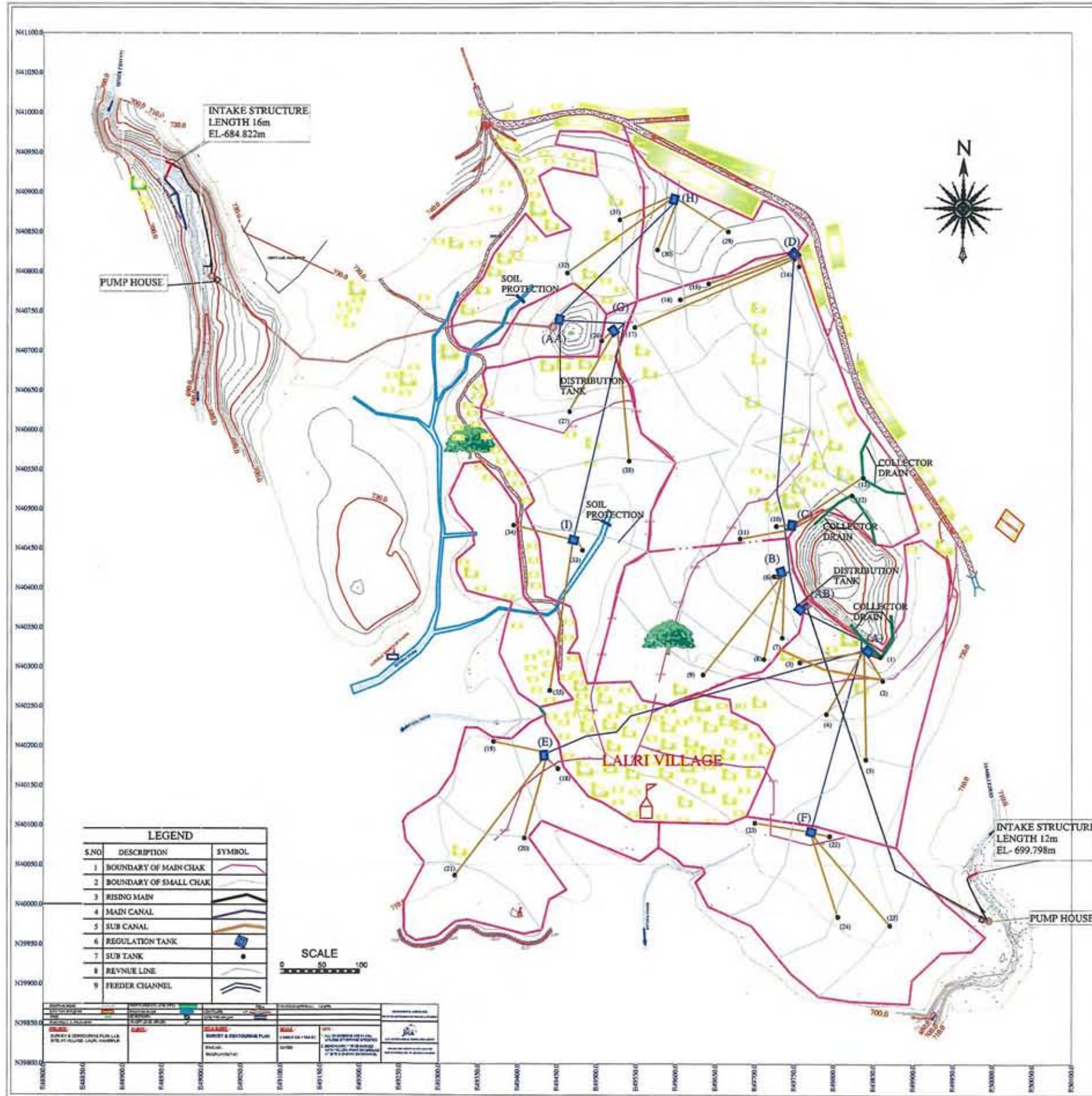
4-1-3 パイロット候補地区のインフラ整備積算・図面資料
ラルリ（Larli）灌漑左岸地区

パイロット候補地区の緒言

No	項目	記述																																																																																																												
1	パイロット地区名	ラルリ (Lalri) 灌漑地区 (左岸)																																																																																																												
2	村名	ラルリ (Lalri)																																																																																																												
3	行政村 (Gram Panchayat) 名	ラルリ (Lalri)																																																																																																												
4	開発ブロック名	ハミルプール																																																																																																												
5	県名	ハミルプール																																																																																																												
6	受益者数	About 100 Households (25% of Village Population)																																																																																																												
7	灌漑面積	28 (ha)																																																																																																												
8	Agro Ecological ゾーン	Zone-1																																																																																																												
9	年降雨量	1,318 mm																																																																																																												
10	年平均気温	22.5 °C																																																																																																												
11	灌漑方法	ポンプ灌漑																																																																																																												
12	水源	ジャムリ川																																																																																																												
13	基底流量	32.0 lit/s																																																																																																												
14	取水工の種類	溪流取水工 (幅=12 m)																																																																																																												
15	計画取水量	28.0 lit/s																																																																																																												
16	ポンプ揚程	35.0 m																																																																																																												
17	ポンプ容量	25 HP																																																																																																												
18	水路長	4,943 m																																																																																																												
19	調整タンク	6 箇所																																																																																																												
20	調整サブタンク	25 箇所																																																																																																												
21	作付け計画	<p style="text-align: center;">29 ha Jambli</p> <table border="1"> <caption>Crop Planting Schedule Data</caption> <thead> <tr> <th>Month</th> <th>Crop</th> <th>Percentage of Area (%)</th> </tr> </thead> <tbody> <tr> <td>Jan.</td> <td>Wheat</td> <td>50%</td> </tr> <tr> <td>Feb.</td> <td>Wheat</td> <td>50%</td> </tr> <tr> <td>Mar.</td> <td>C. Cauliflower</td> <td>20%</td> </tr> <tr> <td>Mar.</td> <td>Broccoli</td> <td>8%</td> </tr> <tr> <td>Mar.</td> <td>Tomato</td> <td>5%</td> </tr> <tr> <td>May</td> <td>Maize</td> <td>57%</td> </tr> <tr> <td>Jun.</td> <td>Maize</td> <td>57%</td> </tr> <tr> <td>Jun.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Jun.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Jun.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Jun.</td> <td>Paddy</td> <td>8%</td> </tr> <tr> <td>Jul.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Jul.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Jul.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Jul.</td> <td>Paddy</td> <td>8%</td> </tr> <tr> <td>Aug.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Aug.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Aug.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Aug.</td> <td>Paddy</td> <td>8%</td> </tr> <tr> <td>Sep.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Sep.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Sep.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Sep.</td> <td>Paddy</td> <td>8%</td> </tr> <tr> <td>Oct.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Oct.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Oct.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Oct.</td> <td>Paddy</td> <td>8%</td> </tr> <tr> <td>Nov.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Nov.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Nov.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Nov.</td> <td>Paddy</td> <td>8%</td> </tr> <tr> <td>Dec.</td> <td>Peas</td> <td>10%</td> </tr> <tr> <td>Dec.</td> <td>Paprika</td> <td>5%</td> </tr> <tr> <td>Dec.</td> <td>Okra</td> <td>10%</td> </tr> <tr> <td>Dec.</td> <td>Paddy</td> <td>8%</td> </tr> </tbody> </table>	Month	Crop	Percentage of Area (%)	Jan.	Wheat	50%	Feb.	Wheat	50%	Mar.	C. Cauliflower	20%	Mar.	Broccoli	8%	Mar.	Tomato	5%	May	Maize	57%	Jun.	Maize	57%	Jun.	Peas	10%	Jun.	Paprika	5%	Jun.	Okra	10%	Jun.	Paddy	8%	Jul.	Peas	10%	Jul.	Paprika	5%	Jul.	Okra	10%	Jul.	Paddy	8%	Aug.	Peas	10%	Aug.	Paprika	5%	Aug.	Okra	10%	Aug.	Paddy	8%	Sep.	Peas	10%	Sep.	Paprika	5%	Sep.	Okra	10%	Sep.	Paddy	8%	Oct.	Peas	10%	Oct.	Paprika	5%	Oct.	Okra	10%	Oct.	Paddy	8%	Nov.	Peas	10%	Nov.	Paprika	5%	Nov.	Okra	10%	Nov.	Paddy	8%	Dec.	Peas	10%	Dec.	Paprika	5%	Dec.	Okra	10%	Dec.	Paddy	8%
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概略図面

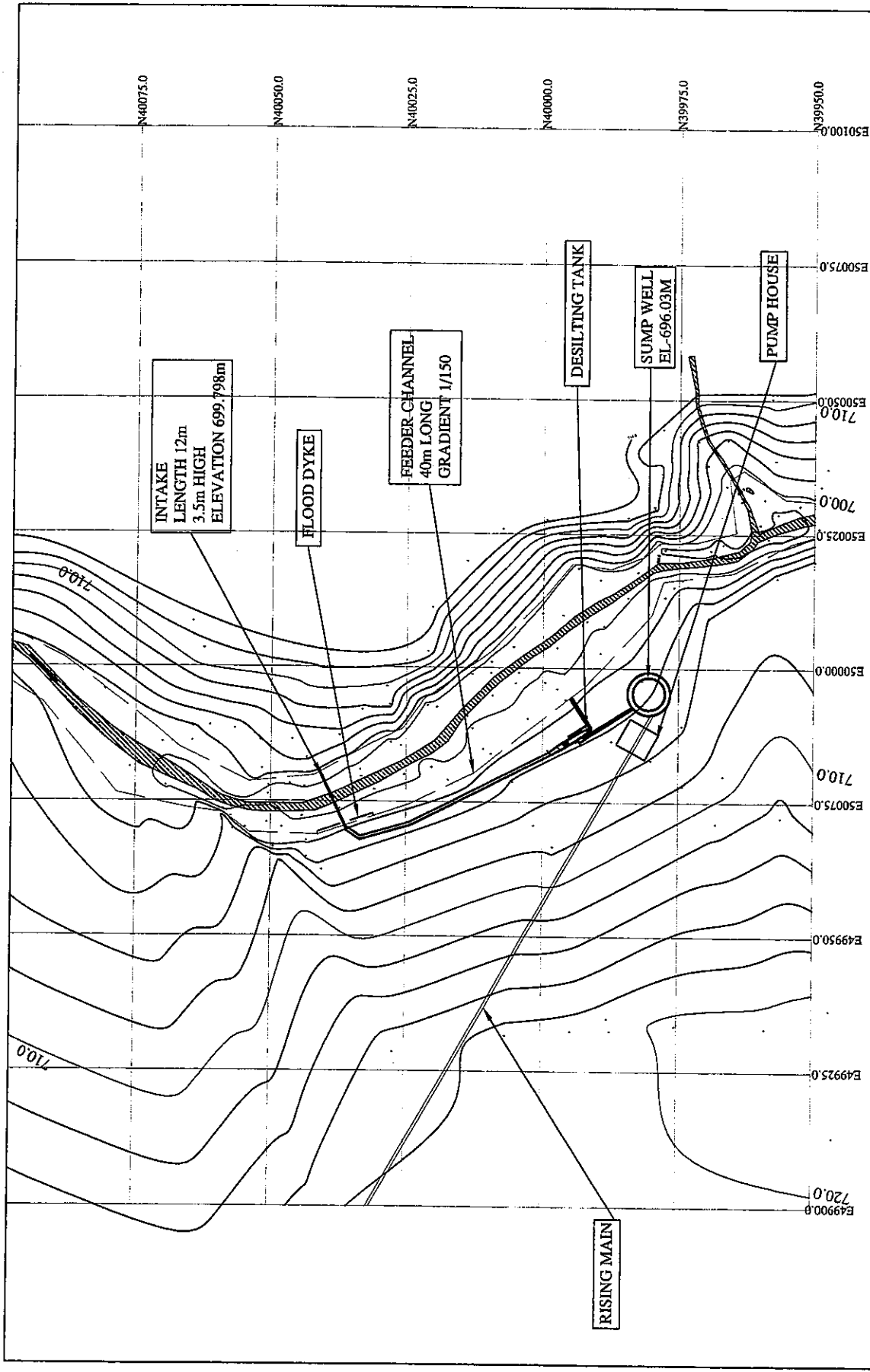
ラルリ (Larli) 灌漑左岸地区



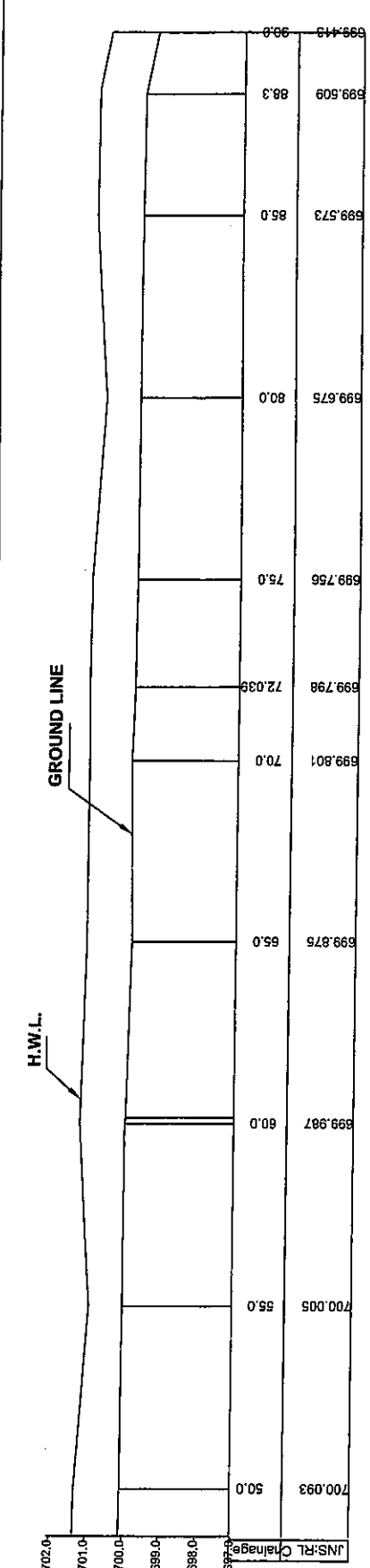
LEGEND		
S.NO	DESCRIPTION	SYMBOL
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2	BOUNDARY OF SMALL CHAK	(Black line)
3	RISEING MAIN	(Blue line)
4	MAIN CANAL	(Red line)
5	SUB CANAL	(Blue line)
6	REGULATION TANK	(Blue square)
7	SUB TANK	(Black dot)
8	REYVUE LINE	(Black line)
9	FEDDER CHANNEL	(Blue line)



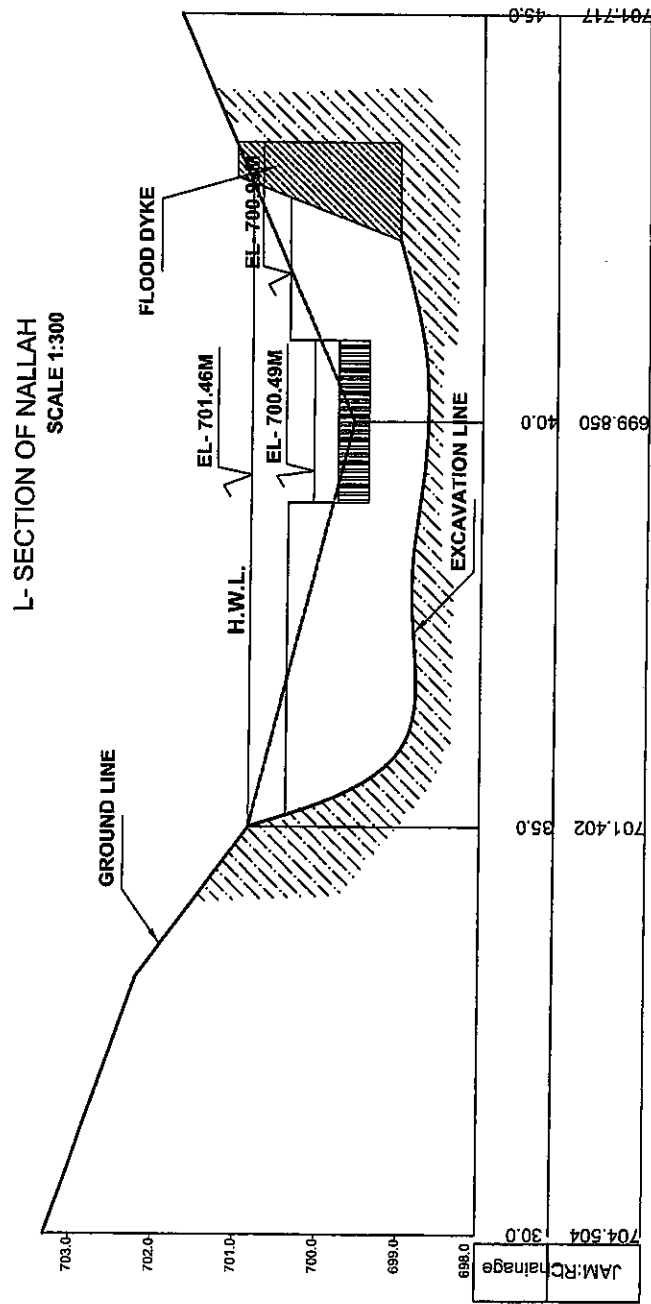
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25/05/2018	FINAL	[Signature]	[Signature]	[Signature]



PROJECT:	CLIENT:	TITLE SHEET:	SCALE:	NOTE:	DATE:
LLS SITE AT VILLAGE LAUR/HAMIPUR(PHATLI)		PLANE TABLE OF INTAKE	1:500	1. ALL DIMENSIONS ARE IN M. UNLESS OTHERWISE SPECIFIED.	04-12-2009
				2. BENCHMARK 1972/08 MARKED AT SITE & SHOWN ON DRAWING.	
		DWG. NO. CR-JMP.T-02			
DRAWN BY: SUDHAR K. S. (SCALE: 1:500) CHECKED BY: SUDHAR K. S. (SCALE: 1:500) APPROVED BY: SUDHAR K. S. (SCALE: 1:500) DATE: 04-12-2009					



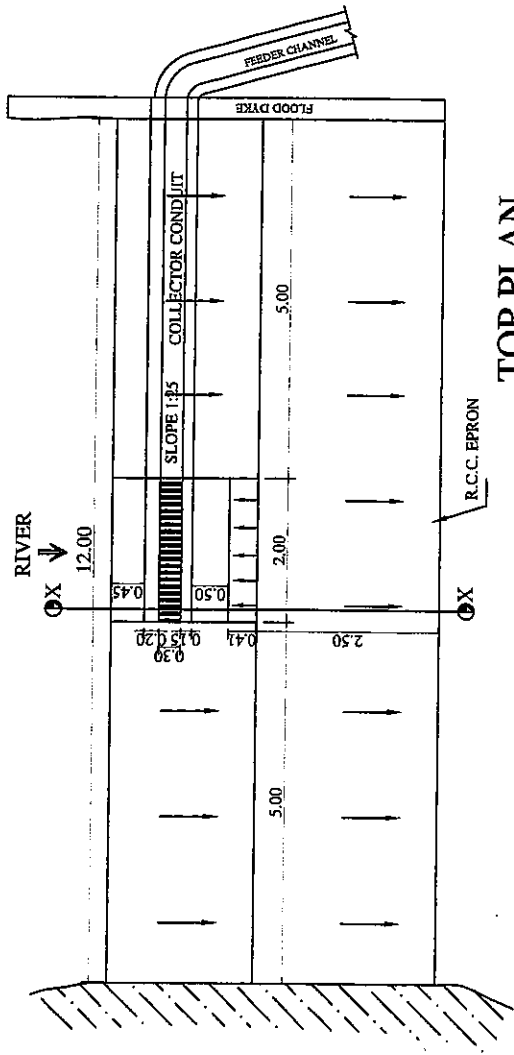
L-SECTION OF NALLAH
SCALE 1:300



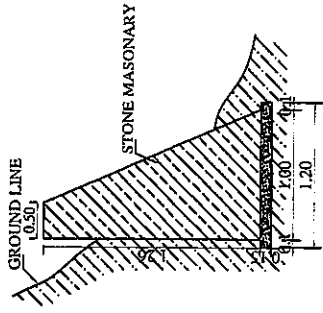
X-SECTION OF NALLAH
SCALE 1:600

PROJECT:		CLIENT:		TITLE SHEET:		SCALE:		NOTE:	
U.S. SITE AT VILLAGE, LAUN (DUMURJAMU).				L-X-SECTION OF NALLAH		L-X-SECTION OF NALLAH		1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.	
				DWG. NO.		DATED		2. DIMENSIONS SHOWN WITH YELLOW PINK ON GROUND AT SITE & SHOWN ON DRAWING.	
				NH-175SECTION-03		04-12-2006			

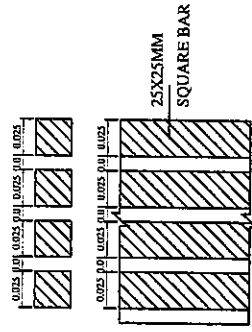
DEPARTMENT OF AGRICULTURE
THE STATE GOVERNMENT OF MADHYA PRADESH
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
PROJECT SUPPORT CENTER FOR AGRICULTURE
CENTRE FOR WATER MANAGEMENT PROJECTS



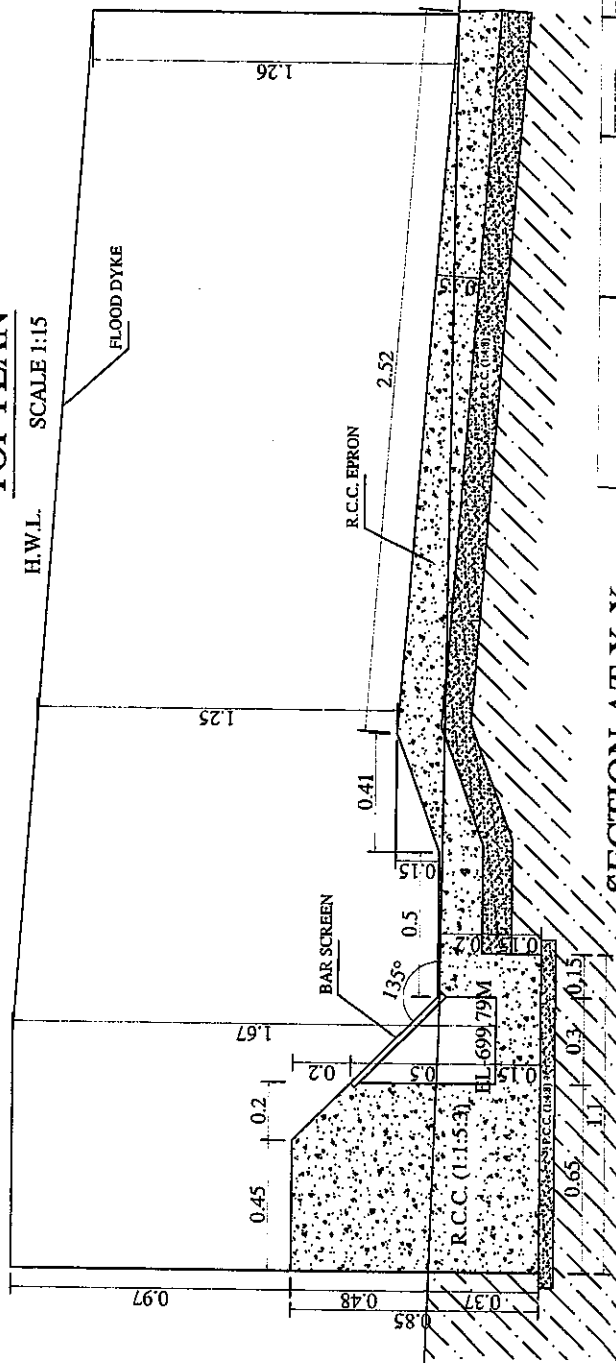
TOP PLAN
SCALE 1:15
H.W.L.



DETAIL OF FLOOD DYKE
SCALE 1:30

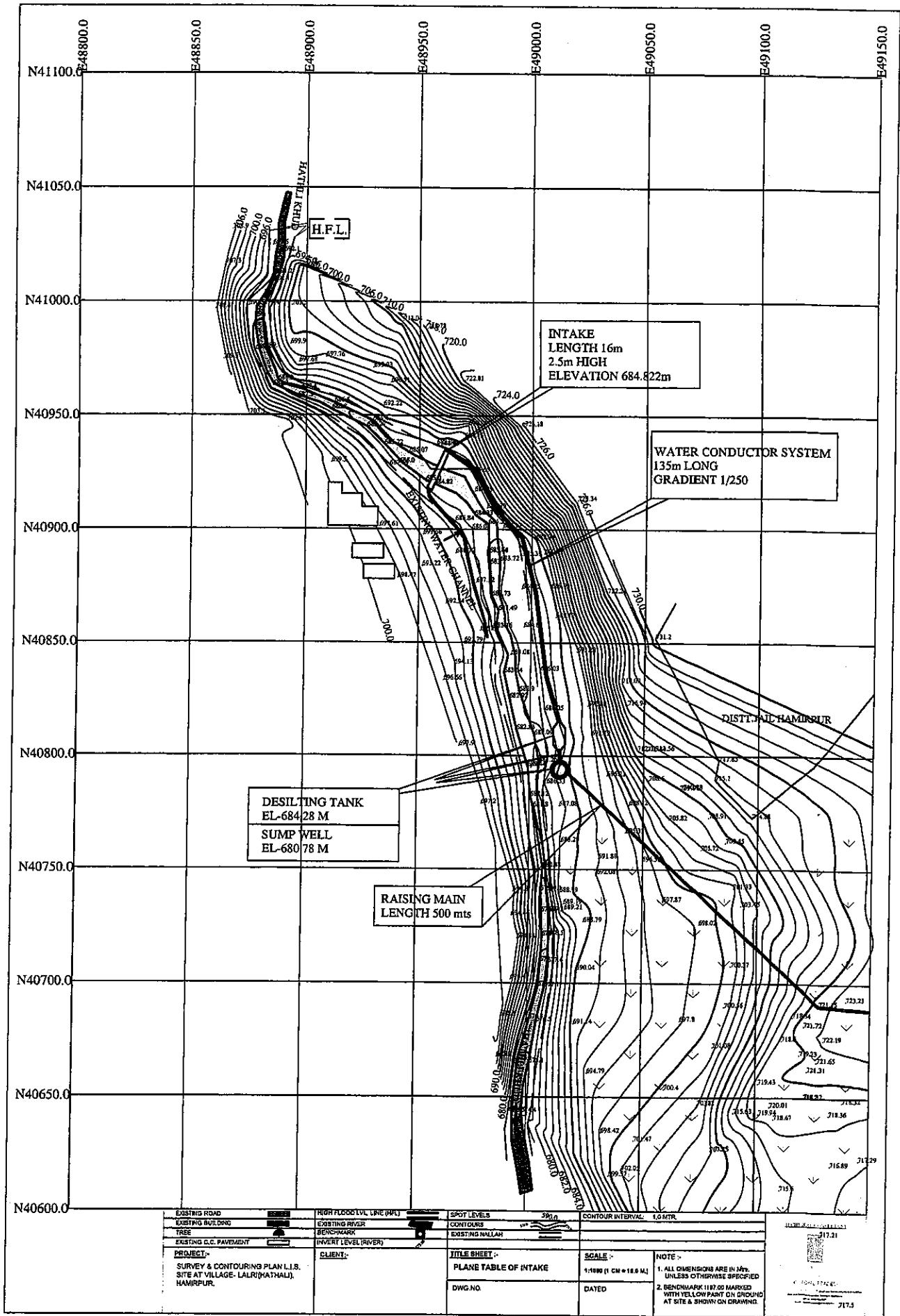


DETAIL OF BAR SCREEN
SCALE 1:3

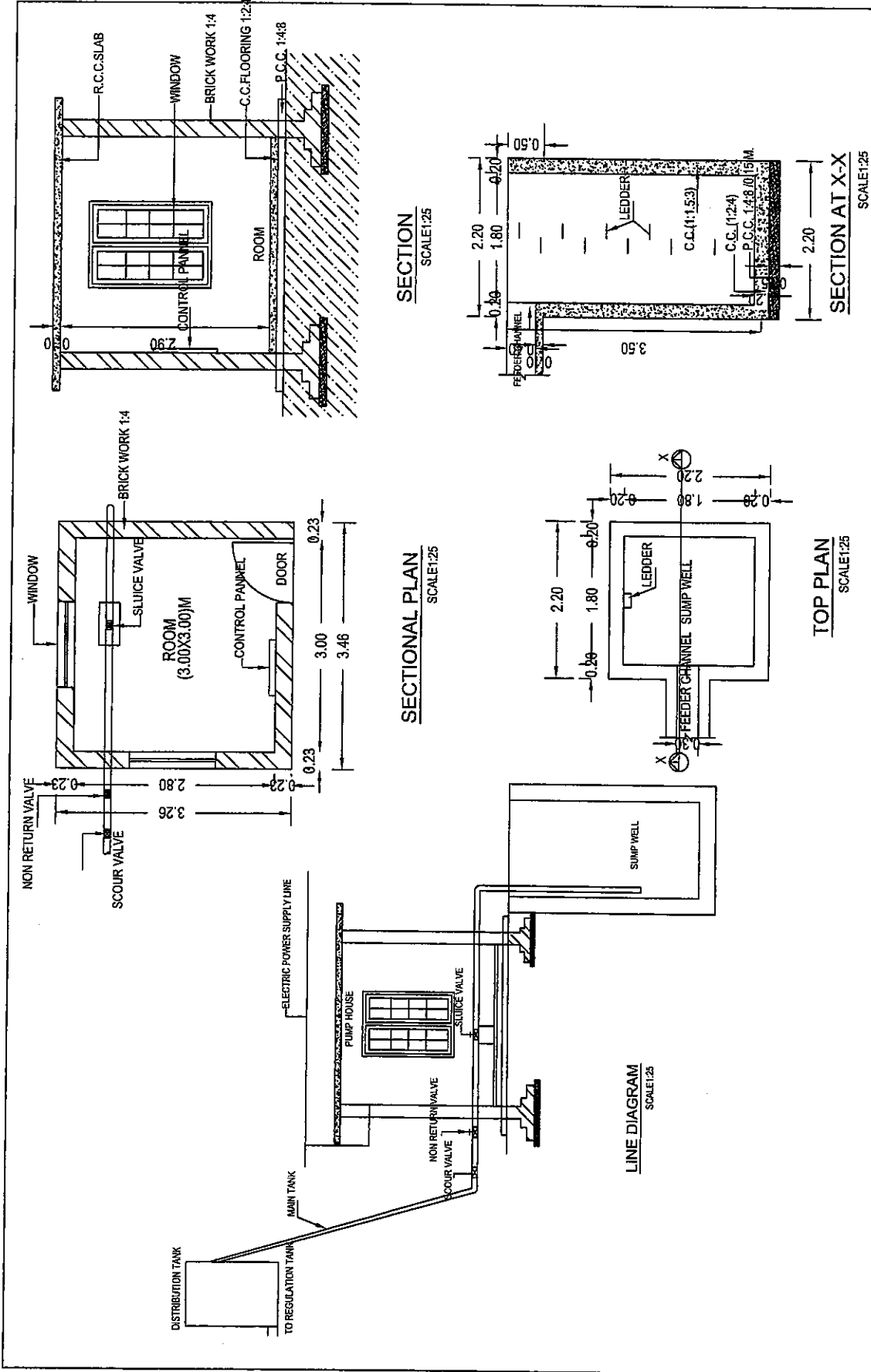


SECTION AT X-X
SCALE 1:60

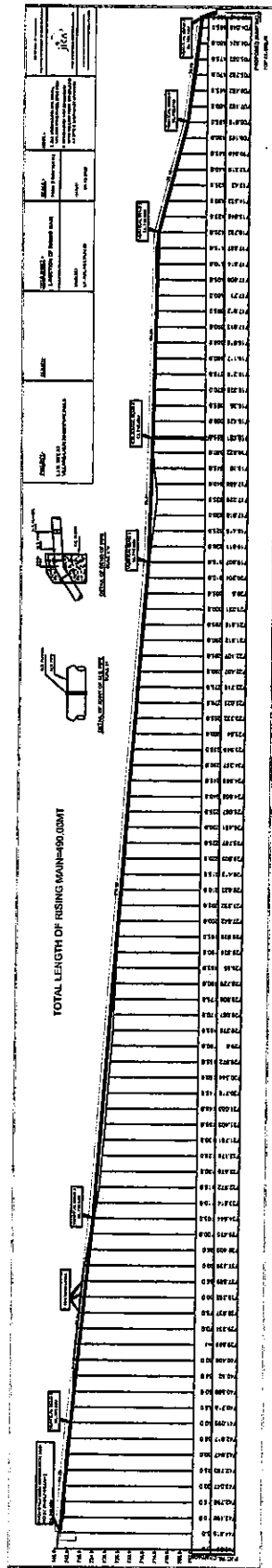
PROJECT:	LLS SITE AT VILLAGE LAUR/MAMPUR(MAULI)
TITLE SHEET:	INTAKE STRUCTURE
SCALE:	
NOTE:	1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 1970S MARKED WITH YELLOW PAINT ON GROUND AT SITE IS SHOWN IN DRAWING
DRAWING:	LR-JMS-04
DATED:	04-12-2007
DEPARTMENT OF ARCHITECTURE	THE INSTITUTION OF BUILDING ENGINEERS
<small>INTERNATIONAL CENTRAL ENGINEERING CONSULTANTS PROVIDING TECHNICAL ASSISTANCE TO THE GOVERNMENT OF LAOS FOR IMPROVING THE WATER SUPPLY AND SANITATION IN THE VILLAGE OF LAUR/MAMPUR (MAULI)</small>	

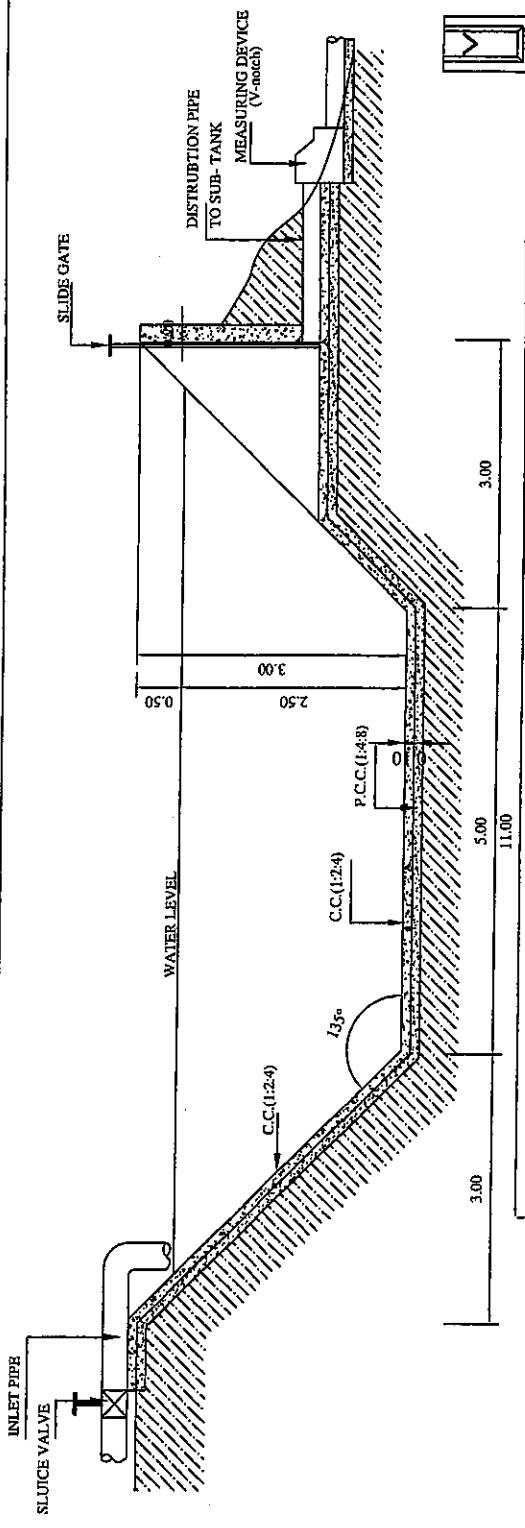


EXISTING ROAD	HIGH FLOOD LEVEL LINE (H.F.L.)	SPOT LEVELS	CONTOUR INTERVAL: 1.0 MTR
EXISTING BUILDING	EXISTING RIVER	CONTOUR	
TREE	BENCHMARK	EXISTING MALLAH	
EXISTING C.C. PAVEMENT	INVERT LEVEL (RIVER)		
PROJECT:- SURVEY & CONTOURING PLAN I.L.S. SITE AT VILLAGE - LALRI (MATHALI), HAMIRPUR.	CLIENT:-	TITLE SHEET:- PLANE TABLE OF INTAKE	SCALE:- 1:1000 (1 CM = 10.0 M)
		DWG. NO.	NOTE:- 1. ALL DIMENSIONS ARE IN METERS. UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 1187.00 MARKED WITH YELLOW PAINT ON GROUND AT SITE & SHOWN ON DRAWING.
		DATED	



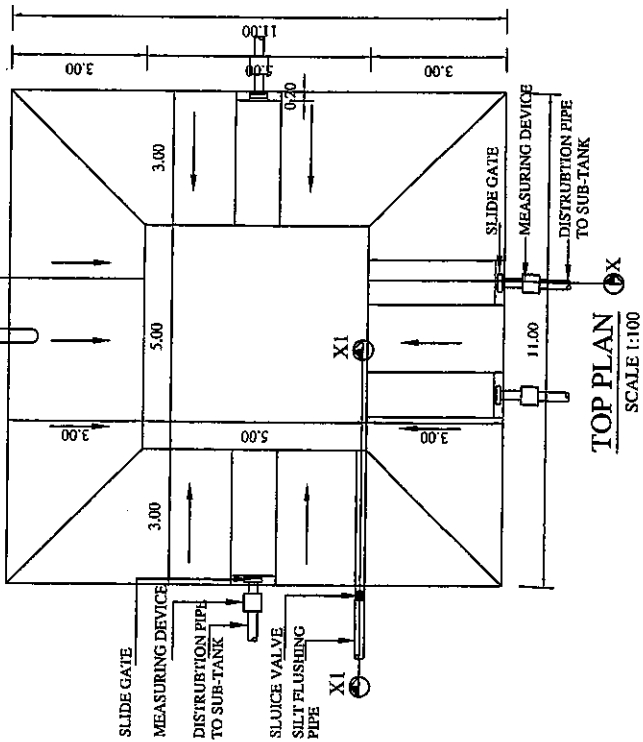
PROJECT	CLIENT	TITLE SHEET	SCALE	DATE	DATE
L.I.S. SIBAI VILLAGES LAUK, HAMRUPUN (AMAL)		SUMP WELL & PUMP HOUSE		04-11-2009	
		DESIGNER	DATE		
		04-11-2009			
		NOTE			
		1. ALL DIMENSIONS ARE IN METERS			
		2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		6. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		7. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		8. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		9. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			
		10. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED			





SECTION AT X-X
SCALE 1:50

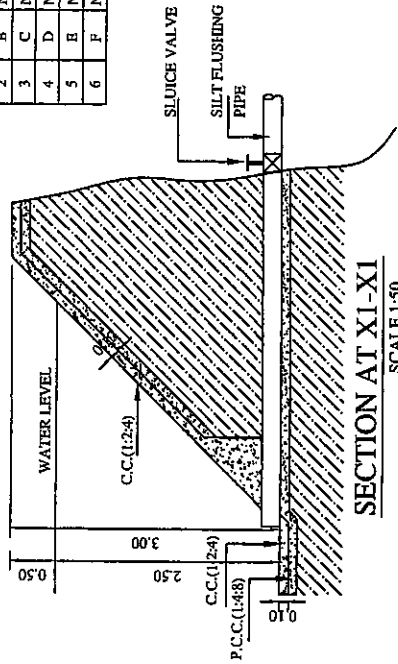
DETAIL OF MEASURING DEVICE



TOP PLAN
SCALE 1:100

LOCATION OF REGULATION TANK

S. NO	NAME	NORTH	EAST
1	A	N-40319.91	E-49842.56
2	B	N-40420.52	E-49733.23
3	C	N-40479.42	E-49746.77
4	D	N-40821.34	E-49750.48
5	E	N-40788.50	E-49433.49
6	F	N-40091.95	E-49771.22



SECTION AT XI-XI
SCALE 1:50

PROJECT:	LLS SITE AT VILAGE-LAURI, HANUR(U)AMUL
TITLE SHEET:	REGULATION TANK
DWG. NO.	LLS-REGULATION TANK-09
DATE:	04-12-2009
SCALE:	
NOTE:	1. ALL DIMENSIONS ARE IN M. UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK: 1197.00 MARKED WITH YELLOW PAINT ON GROUND AT SITE. IS SHOWN ON DRAWING.

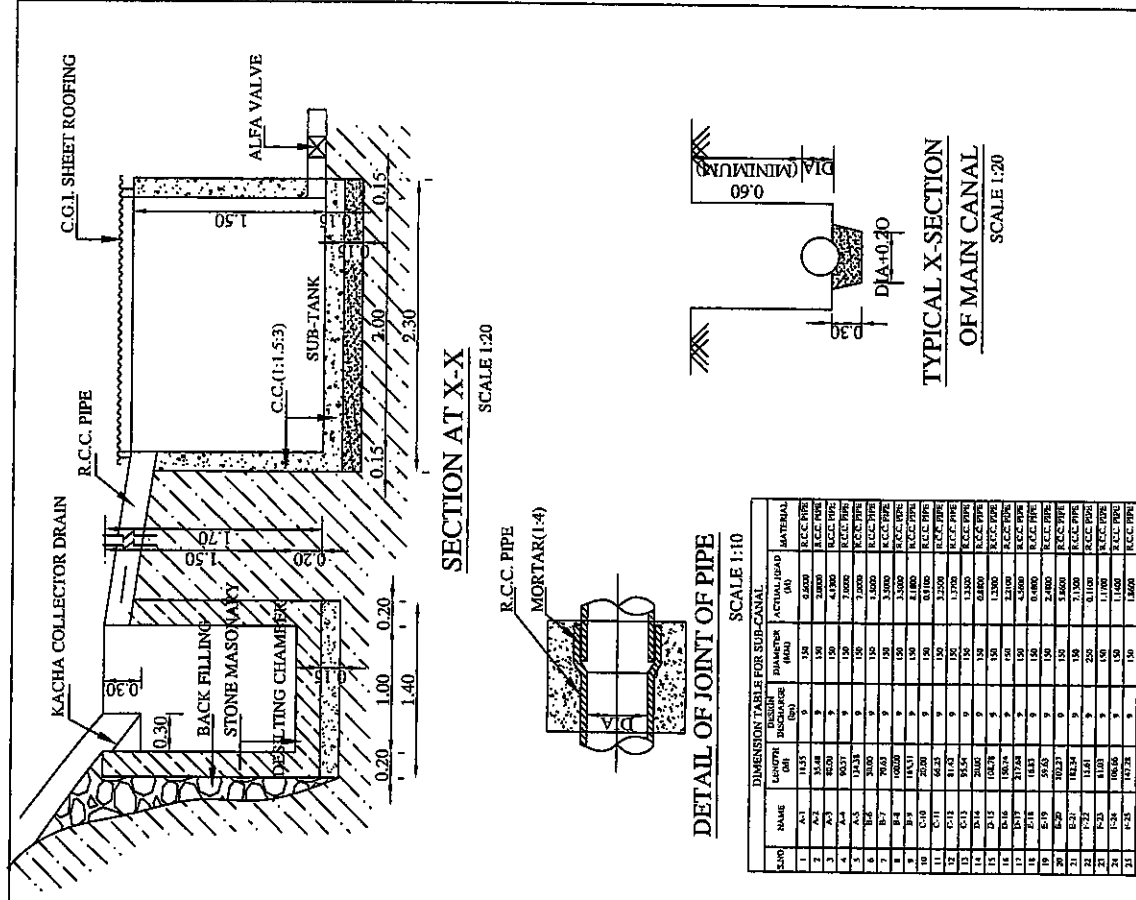
DESIGNED BY: S. S. SURESH
DRAWN BY: S. S. SURESH
CHECKED BY: S. S. SURESH
APPROVED BY: S. S. SURESH

REVISIONS TO BE MADE AS PER JICA

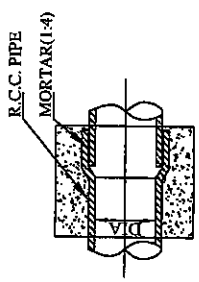
JICA

INTERNATIONAL COOPERATION AGENCY

FOR FINANCING PROJECTS UNDER THE YAMATO PLAN



SECTION AT X-X
SCALE 1:20

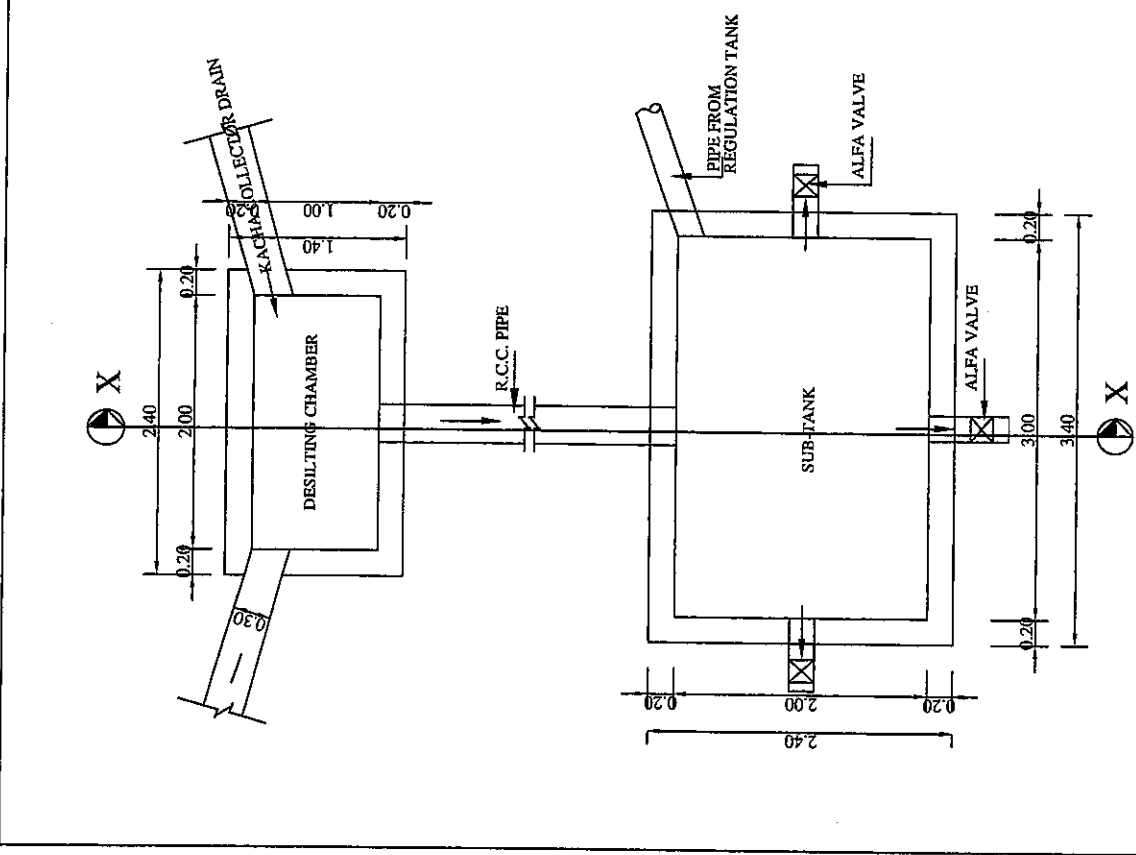
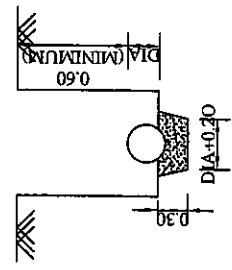


DETAIL OF JOINT OF PIPE
SCALE 1:10

DIMENSION TABLE FOR SUB-CANAL SCALE 1:10

SNO	NAME	LENGTH (MM)	DESIGN THICKNESS (MM)	THICKNESS (MM)	ACTUAL (MM)	MATERIAL
1	A-1	112.5	9	150	2.6000	R.C.C. PIPE
2	A-2	35.48	9	150	2.6000	R.C.C. PIPE
3	A-3	82.00	9	150	4.1300	R.C.C. PIPE
4	A-4	124.37	9	150	7.2000	R.C.C. PIPE
5	A-5	124.37	9	150	4.1300	R.C.C. PIPE
6	B-1	30.00	9	150	1.5000	R.C.C. PIPE
7	B-2	70.00	9	150	3.3000	R.C.C. PIPE
8	B-3	100.00	9	150	3.3000	R.C.C. PIPE
9	B-4	183.01	9	150	4.1000	R.C.C. PIPE
10	B-5	200.00	9	150	6.1000	R.C.C. PIPE
11	B-6	200.00	9	150	3.3000	R.C.C. PIPE
12	B-7	31.70	9	150	1.5000	R.C.C. PIPE
13	B-8	61.33	9	150	1.5000	R.C.C. PIPE
14	B-9	20.00	9	150	0.8000	R.C.C. PIPE
15	B-10	100.78	9	150	1.3000	R.C.C. PIPE
16	B-11	100.78	9	150	2.1000	R.C.C. PIPE
17	B-12	100.78	9	150	2.1000	R.C.C. PIPE
18	B-13	18.85	9	150	0.8000	R.C.C. PIPE
19	B-14	55.65	9	150	0.8000	R.C.C. PIPE
20	B-15	102.37	9	150	1.5000	R.C.C. PIPE
21	B-16	182.34	9	150	7.1000	R.C.C. PIPE
22	B-17	11.61	9	250	0.1100	R.C.C. PIPE
23	B-18	81.00	9	150	1.1700	R.C.C. PIPE
24	B-19	100.78	9	150	1.1000	R.C.C. PIPE
25	B-20	102.37	9	150	1.8000	R.C.C. PIPE

TYPICAL X-SECTION
OF MAIN CANAL
SCALE 1:20



TOP PLAN
SCALE 1:20

PROJECT: L.I.S. SITE AT VILLAGE LAUR/HAIRPUR/PAWIL

CLIENT:

TITLE SHEET: COLLECTOR DRAIN SUB-TANK

SCALE: 1:20

DATE: 04-12-2009

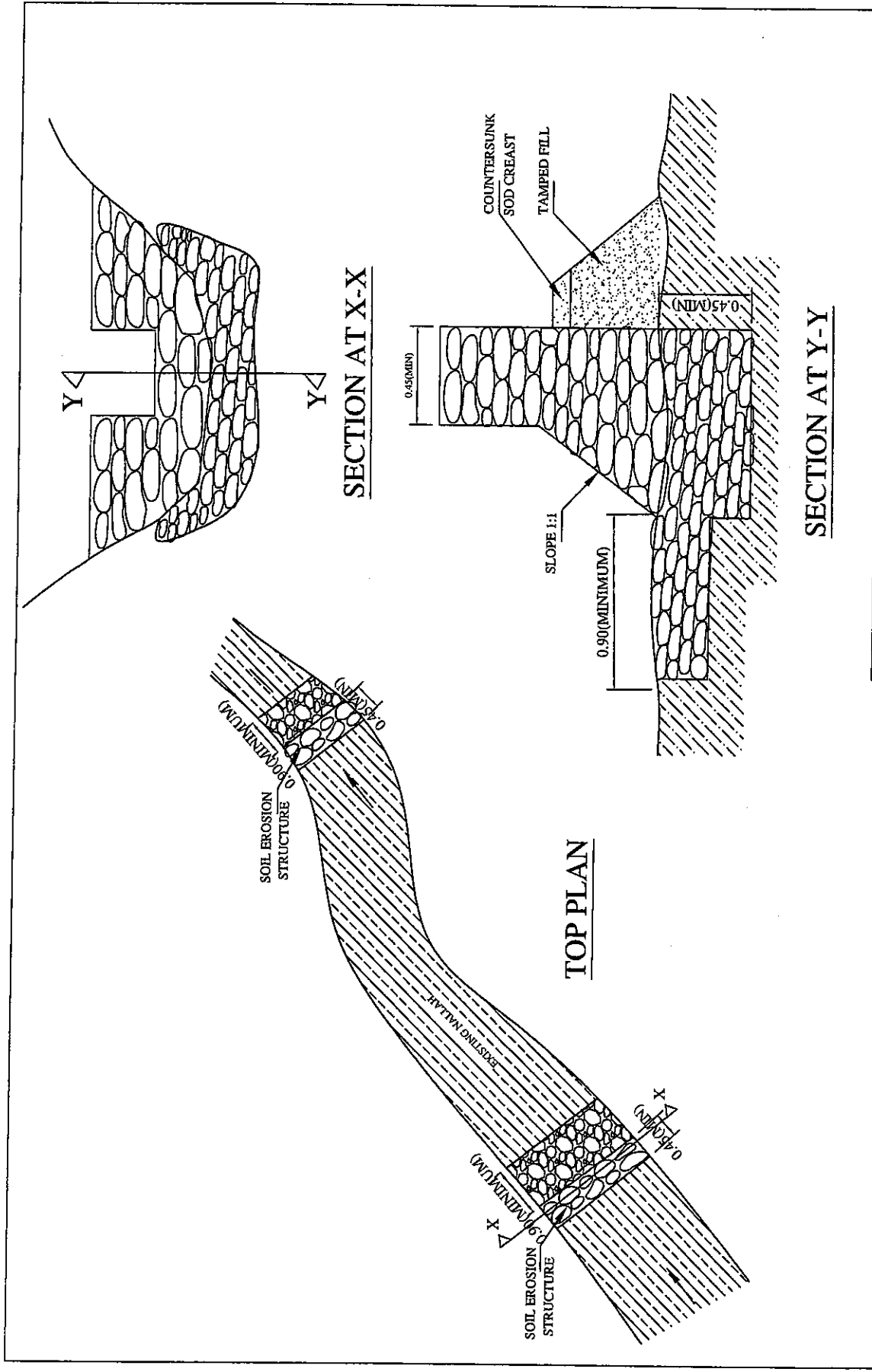
DWG. NO. L.R.-J.M.C.D.S.T.-10

NOTE: 1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 197.05 MARKED WITH YELLOW PAINT ON CRIBBARD AT SITE IS STATION UNDRAWN.

DEPARTMENT OF AGRICULTURE THE GOVT. OF PUNJAB

JICA

AGRICULTURAL ENGINEERING WORKS PROGRAMME SUPPORTED BY JICA FOR THE PUNJAB STATE IN INDIA (1991-1999)



PROJECT: U.S. SITE AT VILLAGE LAURI, HAMRUPUR	CLIENT:	TITLE SHEET: SOIL CONSERVATION STRUCTURE	SCALE:	NOTE: 1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 1197.20 MARKED ON THE DRAWING IS THE CONTROL POINT AT SITE & SHOWN ON DRAWING.	DESIGNER/ENGINEER: JCA JCA CONSULTANTS PUNJAB ENGINEERING CONSULTANTS DATE OF PREPARATION: 08/12/2009
		DWG. NO.: U.F.R.E.S.-11	DATED: 04-12-2009		

積算資料

ラルリ (Larli) 灌漑左岸地区

LIS SCHEME AT JAMLI - LALRI HAMIRPUR

GENERAL ABSTRACT OF COST

SR.No.	Particulars	Annexure	Amount
1	CONSTRUCTION OF INTAKE STRUCTURE	"A"	276,213
2	FEEDER CHANNEL	"B"	48,951
3	DESILTING CHAMBER	"C"	45,199
4	SUMP WELL	"D"	76,912
5	RISING MAIN	"E"	1,551,015
6	DISTRIBUTION PIPE (RCC)	"F"	1,962,205
7	SUB TANKS (25 NOS)	"G"	962,534
8	REGULATION TANK (6 NOS)	"H"	1,551,904
9	DISTRIBUTION TANK	"I"	68,942
10	PUMP HOUSE	"J"	118,832
11	PUMPING MACHINERY	"K"	375,000
12	COLLECTOR DRAIN FOR RAIN WATER	"L"	531,355
13	MS JOINT NEAR REGULATION TANK	"M"	294,860
14	SOIL CONSERVATION STRUCTURES	"N"	52,143
	TOTAL		7,916,065
15	SOP (SUPPLY OF POWER) FROM HPSEB @ 15 %		1,187,410
	GRAND TOTAL	RS.	9,103,475

ABSTRACT OF COST

INTAKE STRUCTURE					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed.	51.65	225.54	Cum	11,648
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	10.28	3104.30	Cum	31,906
3	Square rubble masonry with hard stone in C:M 1:4	11.25	3517.14	cum	39,568
4	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal sizes) and curing complete including cost of form work in foundation and plinth. In RCC Work	18.44	4113.45	Cum	75,848
5	Form work of steel plates including centring and propping up so as to give a fair finish.	10.96	144.37	Sqmt.	1,582
6	Providing TOR steel as skin reinforcement including centering & shuttering all.	645.37	49.20	kgs	31,755
7	Providing & laying MS bars for bar screen 25 mm dia	181.00	49.20	Qtl	8,906
8	Charges for water handling during the construction of intake structures & allied works.	L/S			10,000
9	Handling & removing of big boulder near intake location	L/S			15,000
10	Construction of flood dykes	L/S			50,000
				Total	276,213

ABSTRACT OF COST

FEEDER CHANNEL					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in drains & channels in earth work including dressing of sides and bed and earth up to a lead of 20 mtrs. and lift upto 1.5 mtrs. Disposed earth to be levelled neatly .	14.40	225.54	Cum.	3,248
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement:4 Sand : 8aggregates 40 mm nominal siges) and curing complete including cost of form work in foundation and plinth.	3.20	3104.30	Cum.	9,934
3	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal siges) and curing complete including cost of form work in foundation and plinth.	8.40	4113.45	Cum.	34,553
4	Extra allowance for form work in CC lining	28.00	43.44	Rmt.	1,216
				Total	48,951

ABSTRACT OF COST

DESILTING CHAMBER					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed, 50% pick & 50% jumper work	10.64	225.54	Cum	2,399
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	1.50	3104.30	Cum	4,644
3	providing & laying C.C.1:1.5:3(1 cement 1.5sand 3 graded stone agg. 20 mm nominal size in foundation & plinth including curing etc complete	4.57	4523.07	cum	20,663
4	Form work of steel plates including centring and propping up so as to give a fair finish.	13.80	144.37	Sqmt.	1,993
5	Providing & laying MS pipe 300 mm dia D/S side of desilting chamber with provision of sluice valve for stop log arrangement i/c flanges etc complete	L/S			15,000
6	Water measuring device (V- notch)	1Nos.	500 (L.S)	each	500
				Total	45,199

ABSTRACT OF COST

SUMP WELL					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	25.52	225.54	Cum	5,755
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	1.09	3104.30	Cum	3,395
3	providing & laying C.C.1:1.5:3(1 cement 1.5sand 3 graded stone agg. 20 mm nominal size in foundation & plinth including curing etc complete	10.54	4523.07	Cum	47,651
4	15 mm cement plaster in single coat on rough side of brick/ stone masonry for interior plastering up to floor two level, including arises, internal rounded angles not 80mm in girth and finished 1:04 (1 cement : 4 sand).	25.20	115.71	Sqmt.	2,916
5	C.C. Flooring 1:2:4(1 cement 2sand 4 graded stone agg. 20mm nominal size. 100mm thick	3.24	4113.45	Cum	13,328
6	Providing , laying & jointing to level or slopes in trenches including jointing with cement mortar 1:3 & testing the joints complete. 2. 0 m length each. 300 mm dia RCC pipe	8.00	483.55	Rmt	3,868
				Total	76,912

ABSTRACT OF COST

RISING MAIN					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in foundation trenches in all kinds of soil such as pick work, jumper work, blasting work, kankar, moorum single including decomposed soft and had rock including chiseling/ blasting/ wedging etc. in all lifts, stacking the excavaed soil not more than three metre clear from the edge of excavation and then returning the stacked soil in 15cm kaer, when required, consolidating each deposit layer by ramming and watering and then disposing af all surplus excavated earth within all leads and lifts complete, as directed to the Engineer-in-Charge.	249.90	225.54	Cum.	56,361
2	<p>Providing and laying in trenches MSERW pipes as per IS-1979 latest edition, of following diameters, wall thickness and grade designation with beveled ends capable of withstanding required test pressure in random lengths of 4m to 7m. The pipe including special such as reducers, tail pieccs, bends of 11 degrees, tees etc. in convenient lengths as per site requirement and as directed by Engineer-in-Charges, shall be flanged at 18m interval. the cut end of the pipes shall be made beveled. laying will include all operations such as cutting, welding and jounting etc. and the cost of fabricaion of bends tees which shall be as per the requirement of Petroleum Refinery Book and as discussed in detailed specifications. the bends shall be fabricated from parent tube with three or four gussets with radius not less than 5 pipe dia. Pipes and specials shall have -</p> <p>outsides coating of primer as pere AWWA specifications C5-2031978, followed by flood coat of coal tar including clearing of all dirt, dust and other foreign matter as per the direction of Engineer-in-Charge. The inside coating of pipes and specials shall be of black ready made bituminous anticorrosive paint over base coat of primer as AWWA specifications C-203-1978 as descrubed ub detailed specifications (earth work and flanged joints will be measured and paid for separately).</p> <p>Providing and fixing of MS flanged joints joints to MSERW pipes including gaskets, nuts, bolts and welding etc. complete with flanges, as per IS-6392-1971 and table mentioned below. with 3mm thick compressed asbestos fiber gaskets as per IS 2712, and nuts and bolts shall conform to IS-3138-1986. The size of right angle of right fillet weld for attachment and seal weld shall be as described in specifications of welding and fabrication etc.</p>				
	300 MM DIA	490.00	2254.47	Rmt.	1,104,690
	Bends @10 %	49	7958.43	Rmt.	389,963
				Rs.	1,551,015

ABSTRACT OF COST

DISTRIBUTION PIPE (RCC)					
Sr.No	Description	Qty.	Unit	Rate	Amount
1	Excavation in drains and channels in earth work including dressing of sides slopes and bed and disposal of excavated earth up to a lead of 20meters & lift up to 1.50m ,disposed earth to be leveled and neatly dressed (50%Pick work+ 50% Jumper Work)	2023.71	Cum	225.54	456,418
2	Providing and laying of RCC pipe 150mm and 200mm				
	i) 150 mm dia R.C.C.Pipe (P1)	2170.53	Rmt	399.15	866,367
	ii) 200 mm dia R.C.C.Pipe (P1)	0.00	Rmt	493	0
	i) 150 mm dia R.C.C.Pipe (P3)	731.90	Rmt	468.75	343,078
	ii) 200 mm dia R.C.C.Pipe (P3)	441.01	Rmt	666.95	294,132
3	Providing and fixing CI Grating for Outlets pipe 150mm and 200mm				
	i) 150 mm dia R.C.C.Pipe	19	Each	80.00	1,520
	i) 150 mm dia R.C.C.Pipe	3	Each	80.00	240
	ii) 200mm dia R.C.C.Pipe	3	Each	150.00	450
	Total:-				1,962,205

ABSTRACT OF COST

SUB TANKS of Size 3.0m x 2.0m x 1.5m (Wall th. 150 mm)					
Sr. No.	Description / Sub head of Items of Work.	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	8.75	Cum.	225.54	1,973
2	Providing and laying cement concrete 1.4.8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	1.31	Cum.	3104.3	4,074
3	Providing and laying cement concrete 1.2.4 (1 cement 2 sand : 4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work in: (a) walls & floor	3.14	Cum.	4113.45	12,933
4	Cement concrete flooring 1:2:4 (1 cement :2 sand : 4 graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement 40 mm thick	6.00	Sqm	192.74	1,156
5	15 mm cement plaster in two coats, backing coat 10 mm. and finishing coat 5 mm. thick on fair side of brick masonry/ stone masonry/ concrete walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers, and/or rounded angles not exceeding 80 mm. in girth and finished even and smooth : - Cement Mortar (1:4) 1Cement : 4sand	24.14	Sqm	115.71	2,793
6	Providing form work in steel plates including centering shuttering , strutting & propping etc. complete.	32.96	sqm	144.37	4,759
7	Providing TOR steel for skin reinforcement including bending binding & placing in position complete.	110.00	kgs	49.20	5,413
8	providing & fixing G.I pipe conforming to ISI specifications 100 mm dia including coupling arrangement at the end for fixing farmers	15.00	kgs	60.00	900
9	Providing and fixing Alfa-Valve	3.00	Each	1500.00	4,500
Total:-					38,501
25 NOS OF SUB TANKS					G. TOTAL
					962,534

ABSTRACT OF COST

REGULATION TANK					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	211.68	225.54	Cum	47,741
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	16.75	3104.30	Cum	51,986
3	Providing & Laying cement concrete 1 : 1.5 : 3 (1 cement: 1.5 Sand : 3 aggregates 20 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	16.41	4523.07	Cum	74,211
4	Providing form work in steel including centering shuttering, propping etc. complete.	135.68	144.37	Sqmt.	19,589
5	providing & fixing V- notch including chamber for the same	3	5500	per no	16,500
6	Providing & fixing Sluice valves for scour pipe , Discharge pipe & inlet pipe	1	12000	per no	12,000
7	Providing MS pipe for scour discharge & inlet.	110.4	60	kg	6,624
8	Providing & fixing Slide gate	3	10000	per no	30,000
	Total				258,651
	6 (FIVE NOS OF REGULATION TANKS)		G. TOTAL		1,551,904

ABSTRACT OF COST

DISTRIBUTION TANK					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	20.39	Cum.	225.54	4,600
2	Providing and laying cement concrete 1:4.8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	2.37	Cum.	3104.30	7,362
3	Providing and laying cement concrete 1:2:4 (1 cement 2 sand : 4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	7.46	Cum.	4113.45	30,684
4	Cement concrete flooring 1:2:4 (1 cement :2 sand : 4 graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement 40 mm thick	11.25	Sqm	192.74	2,168
5	15 mm cement plaster in two coats, backing coat 10 mm. and finishing coat 5 mm. thick on fair side of brick masonry/ stone masonry/ concrete walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers,and/or rounded angles not exceeding 80 mm. in girth and finished even and smooth : - Cement mortar 1: 3 Cement Mortar (1:4) 1Cement : 4sand	46.56	Sqm	115.71	5,388
6	Providing TOR steel for skin reinforcement including bending binding & placing in position complete.	195.00	kgs	49.20	9,595
7	Providing form work in steel plates including centering shuttering , strutting & propping etc. complete.	63.34	sqm	144.37	9,145
G.Total:-					68,942

ABSTRACT OF COST

PUMP HOUSE					
Sr. No.	Description	Qty.	Unit	Rate	Amount Rs.
1	Excavation in foundation & trenches etc. in earth work lift up to 1.50 mtrs. Stacking the excavated soil not more than 3 mtrs clear from the edge of excavation and then returning the stacked soil in 15 cm. layers, when required in to plinths sides of foundations etc. , consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated earth up to lead of 20 mteres.	10.47	Cum	225.54	2,361
2	Providing and laying cement concrete 1:5:10 (1 Cement :5 Sand : 10 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of cenetring & shuttering in foundation and plinth	1.74	Cum	2732.22	4,754
3	Brick work using common burnt clay building bricks in foundation and plinth in cement mortar 1:6 (1 Cement : 6 Sand) 2nd class brick work :	4.90	Cum	3029.22	14,843
4	Providing and laying Damp proof course 38 mm thick with cemnet concrete 1:2:4 (1 cement : 2 sand :4 graded stone aggregate 20 mm nominal size) and curing complete	2.23	Sqm	192.74	430
5	Applying coat of hot bitumen(mexphalt 80/100 or equivalent) using 170 Kg. per Sqm. On damp proof course after cleaning the surface with piece of cloth likely soaked with kerosene.	2.23	Sqm	112.33	250
6	Brick work using common burnt clay building bricks in foundation and plinth in cement mortar 1:6 (1 Cement : 6 Sand) 2nd class brick work in super structure :	7.78	Cum	3509.59	27,305
7	Providing form work with steel plates 3.15 mm thick welded with angle iron in 30x30x5 mm so as to give a fair finish including centering shuttering and propping etc. with wooden battens and ballies, height of propping and cenering below supporting floor to ceiling not exceeding 4 mtrs. And removal of the same for insitu-reinforced concrete & plain concrete work in :-				
	I) Beams, Cantilevers, Girders and lintels sides& soffits of beams, beam haunchings, cantilevers, breasurers & Lintels not exceeding 1.00 mtr. In depth in all heights from floor:-	19.91	Cum	144.37	2,874
8	Providing and laying Cement concrete 1 : 2 : 4 (1 cement :2 sand :4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work and reinforcement for R.C.C. work in suspended floors, roofs, landings, shelves and their supports, balconies, beams, girders, breasurers and cantilevers up to floor two level.:-	2.20	Cum	4113.45	9,050
9	Providing Mild Steel / Tor Steel reinforcement for R.C.C. work including bending, binding placing in position complete up to floor two level:-	176	Kg.	46.65	8,210
10	15 mm cement plaster in single coat on rough side of bricks/ concrete / stone walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers and / or rounded angles not exceeding 80 mm in girth and finished even and smooth.in cement mortar 1: 5 (1 cement : 5 sand)	30.73	Sqm	63.55	1,953
11	Pointing on brick work with Cement mortar1:3 (1 Cement : 3 Sand).	47.51	Sqm	333.00	15,821

12	Providing & Fixing Pressed steel doors frames manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jump lock, jamb, bead and if required angle threshold of mild steel angle section 50 x 25 mm or base ties of 1.25 mm Pressed or rigidly fixed together by mechanical means, adjustable lugs with split and tails to each jamb including steel but hinges 2.5 mm thick with guards, lock, strike plate and shock as specified and applying a coat of approved steel primer after pre treatment of the surface as directed by Engineer-in-charge.				
	Profile "A"	22.10	mtr.	122.90	2,716
	Profile "B"	3.60	mtr.	121.40	437
13	Providing and fixing 1 mm thick M.S. sheet door with frame of 40 x 40 x 6 mm angle iron 3.15 mm M.S. Gusset plates at the junctions and corners, all necessary fittings complete including applying a priming coat of red lead paint.	6.78	Sqm	2167.75	14,697
14	Filling in plinth with sand under floors including watering, ramming consolidating and dressing complete.	1.35	Cum	622.65	841
15	Providing and laying cement concrete 1:4:8 (1 Cement : 4 Sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in foundation and plinth	0.9	Cum	3104.30	2,794
16	Cement Concrete flooring 1: 2: 4 (1 Cement : 2 Sand : 4 graded Stone aggregate 20 mm nominal size) and in one layer finished with a floating coat of neat cement, 40 mm thick.	9	Sqm	192.74	1,735
17	Providing & fixing on wall face C.I. rain water pipes including fitting the joints with spun yarn and cement mortar 1:2 (1 Cement : 2 Sand), 100 mm dia.	6.80	Rmt.	333.00	2,264
18	White washing with lime on undecorated wall surfaces two coats to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar dirt and other foreign matters:	30.73	Sqm	5.15	158
19	Himmachi colour wash on undecorated wall surfaces (two coats) to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar dirt and other foreign matters:	40.91	Sqm	5.50	225
20	Providing plinth protection 50 mm thick in cement concrete 1:3:6 (1 cement : 3 Sand : 6 graded stone aggregate 20 mm nominal size).	7.46	Sqm	145.45	1,085
20 B	Providing under layer for plinth protection of 75 mm thick (unconsolidated) bed dry bricks / stone aggregated 40 mm nominal size well rammed and consolidated and grouted with fine sand including preparation of ground.	7.46	Sqm	116.5	869
21	Painting two coats (excluding priming coat) on new Steel and other metal surfaces under coat with ready mixed paint brushing to give an even shade including cleaning the surface of dirt, dust and other foreign matter, sand papering and stopping.				
	With ready mixed paint other than white	6.78	Sqm	18.25	124
22	Providing and fixing anodized aluminium sliding door bolt anodized to colour and shade with bolts and nuts screws etc.				
	250x16 mm	1	each	102.60	103
23	Providing and fixing aluminium handles anodized transparent or dyed to required colour of shade with necessary screws etc. complete.				
	Door 125 mm	2	each	17.45	35
	Window 100 mm	6	each	15.15	91

24	Providing and fixing aluminium tower bolt (barrel type) anodized transparent or dyed to required shade and colour with screws etc. complete.				
	250x10 mm Door	4	each	29.70	119
	200x10 mm Window	12	each	25.10	301
25	Providing & Fixing M.S. fan clamp type-I of 16 mm dia M.S. bar bent to shape with hooked ends in R.C.C. slab during laying including painting the exposed portion of loop, all as per standard design complete.	1	each	128.35	128
26	Providing & fixing M.S grill of required pattern in wooden frame of windows etc. with M.S flats, square or round bars with round headed bolts & nuts or by screws.				
	Plain grill. Windows	35.77	Kg.	63.15	2,259
				G Total	118,832

ANNEXURE-K

ABSTRACT OF COST

PUMPING MACHINERY					
S.N.	Particulars	Qty.	Rate	Unit	Amount
1	Providing and installing pump set	50	7500	BHP	375000

ABSTRACT OF COST

COLLECTOR DRAIN FOR RAIN WATER					
Sr. No.	Description / Sub head of Items of Work.	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	10.23	Cum.	225.54	2,308
2	Providing and laying cement concrete 1:4:8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	0.77	Cum.	3104.3	2,384
3	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal siges) and curing complete including cost of form work in foundation and plinth. In RCC Work	3.18	Cum.	4113.45	13,097
4	Form work of steel plates including centring and propping up so as to give a fair finish.	24.00	SQM	144.37	3,465
				Total	21,254
	25 NOS COLLECTOR DRAIN FOR RAIN WATER				531,355

ABSTRACT OF COST

MS PIPE JOINT IN EACH REGULATION TANK							
S.N.	Description of item	Dia	No.	Length	Rate		Amount
1	Providing & fixing MS pipe of different dia for welding into T- joint near the regulation tank	300 mm	1	10		2250	22,500
2	Providing & fixing CI sluice valves for the pipe joint fixed with appropriate table of flanges	300 mm	1			24000	24,000
3	Providing & laying cement concrete 1:1.5:3 less (-) for pipe	2	0.6	0.6	0.9	0.648	
		0.785	0.3	0.3	0.9	0.064	
						0.584	4523.07
	Total						49,143
	TOTAL NO. OF JOINTS	6					294,860

ABSTRACT OF COST

SOIL CONSERVATION STRUCTURE					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	9.45	Cum.	225.54	2,131
2	RR masonry in dry stone hand packed for raising structures	16.54	Cum.	1395.0	23,070
3	Construction of embankment in earthwork including bringing the soil in 15 cm layers, ramming & watering the same in bed & slopes (banking of earthwork)	7.88	Cum.	110.53	870
	Total:-				26,072
	2 NOS OF STRUCTURE				52,143

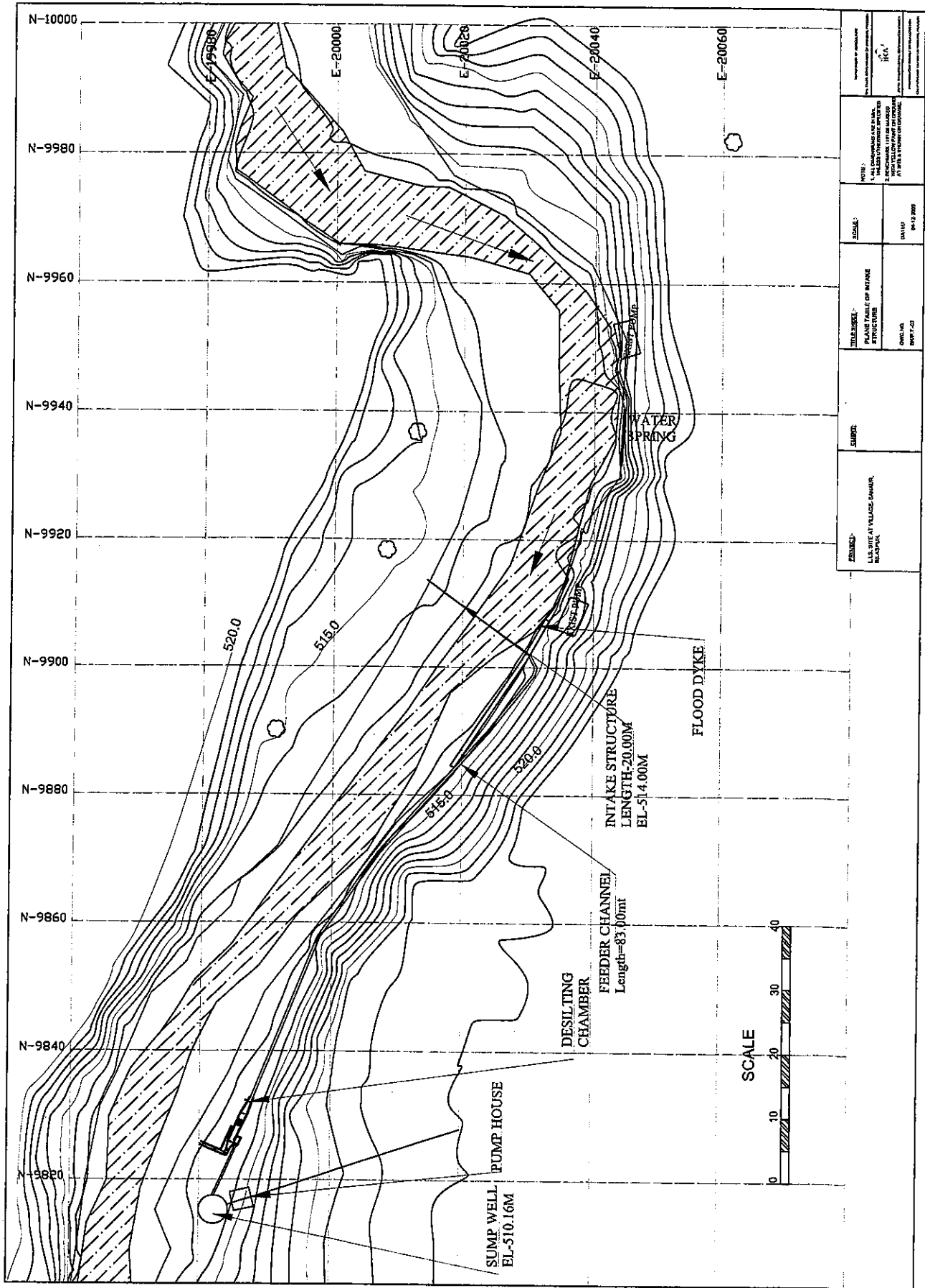
4-1-4 パイロット候補地区のインフラ整備積算・図面資料
バクロア (Bakroa) 灌漑地区

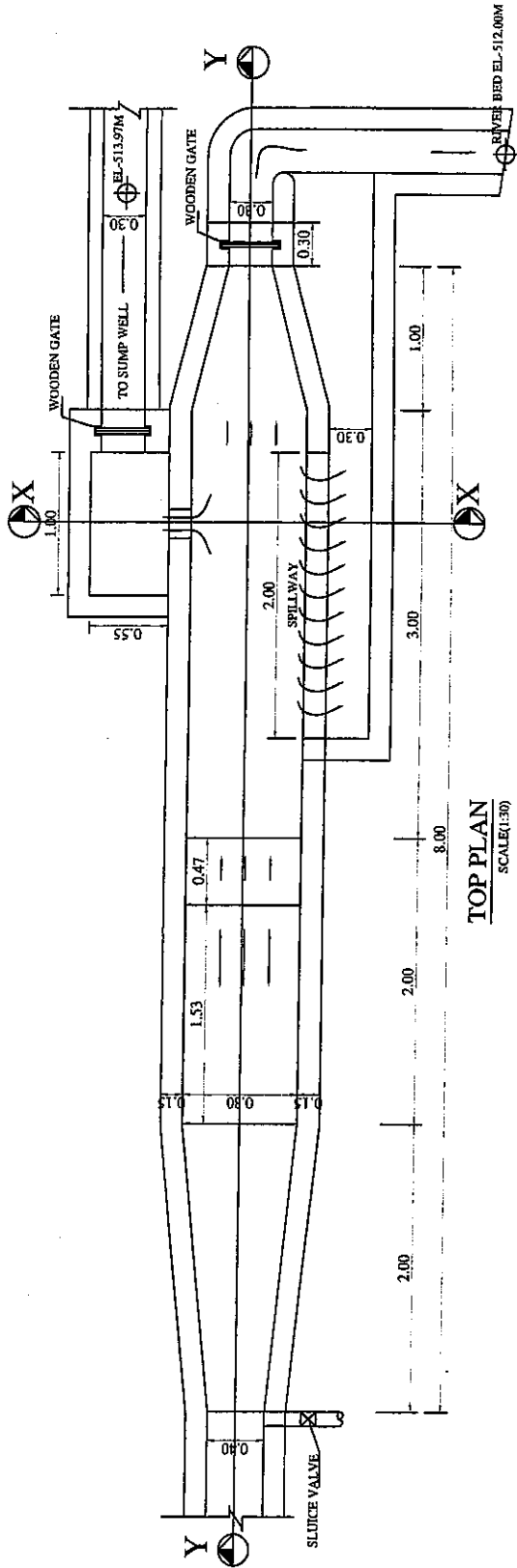
パイロット候補地区の緒言

No	項目	記述
1	パイロット地区名	バクロア (Bakroa) 灌漑地区
2	村名	シノール
3	行政村 (Gram Panchayat) 名	Fatoh
4	開発ブロック名	Jhandutta
5	県名	ビラスプール
6	受益者数	22 世帯
7	灌漑面積	12 (ha)
8	Agro Ecological ゾーン	ゾーン 3
9	年降雨量	1,162 mm
10	年平均気温	19.3 °C
11	灌漑方法	ポンプ灌漑
12	水源	河川水
13	基底流量	28.0 lit/s
14	取水工の種類	溪流取水工 幅 W=20 m
15	計画取水量	28.0 lit/s
16	ポンプ揚程	25 m
17	ポンプ容量	20 HP
18	水路長	1,275 m
19	調整タンク	4 箇所
20	調整サブタンク	10 箇所
21	作付け計画	<p>The chart displays the percentage of area used for different crops over a 12-month period. The y-axis represents the 'Percentage of Area (%)' from 0 to 100. The x-axis shows the months from Jan. to Dec. The crops and their respective percentages are: Wheat (43%), Cabbage (16%), Red onion & Garlic (20%), Romanesuco (10%), Tomato (5%), Paprika (5%), Paddy (4%), and Maize (69%).</p>

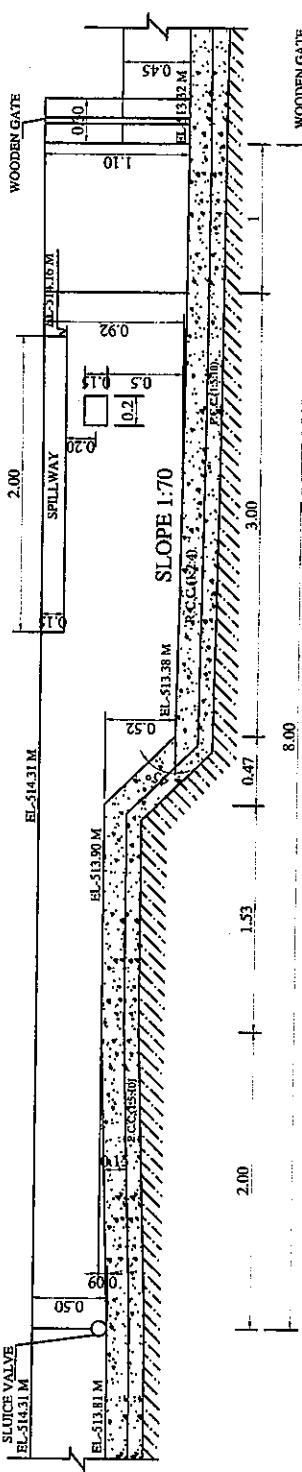
概略図面

バクロア(Bakroa) 灌漑地区

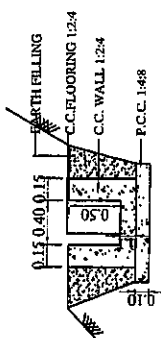




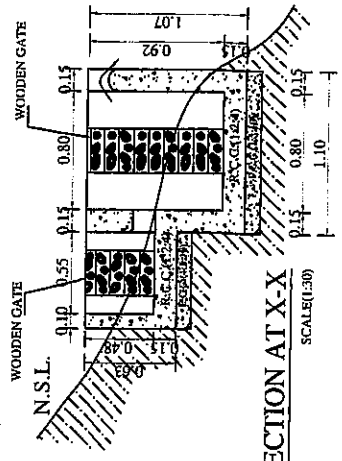
TOP PLAN
SCALE(1:30)



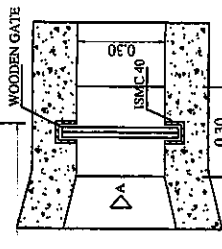
SECTION AT Y-Y
SCALE(1:30)



FEEDER CHANNEL
SCALE(1:30)

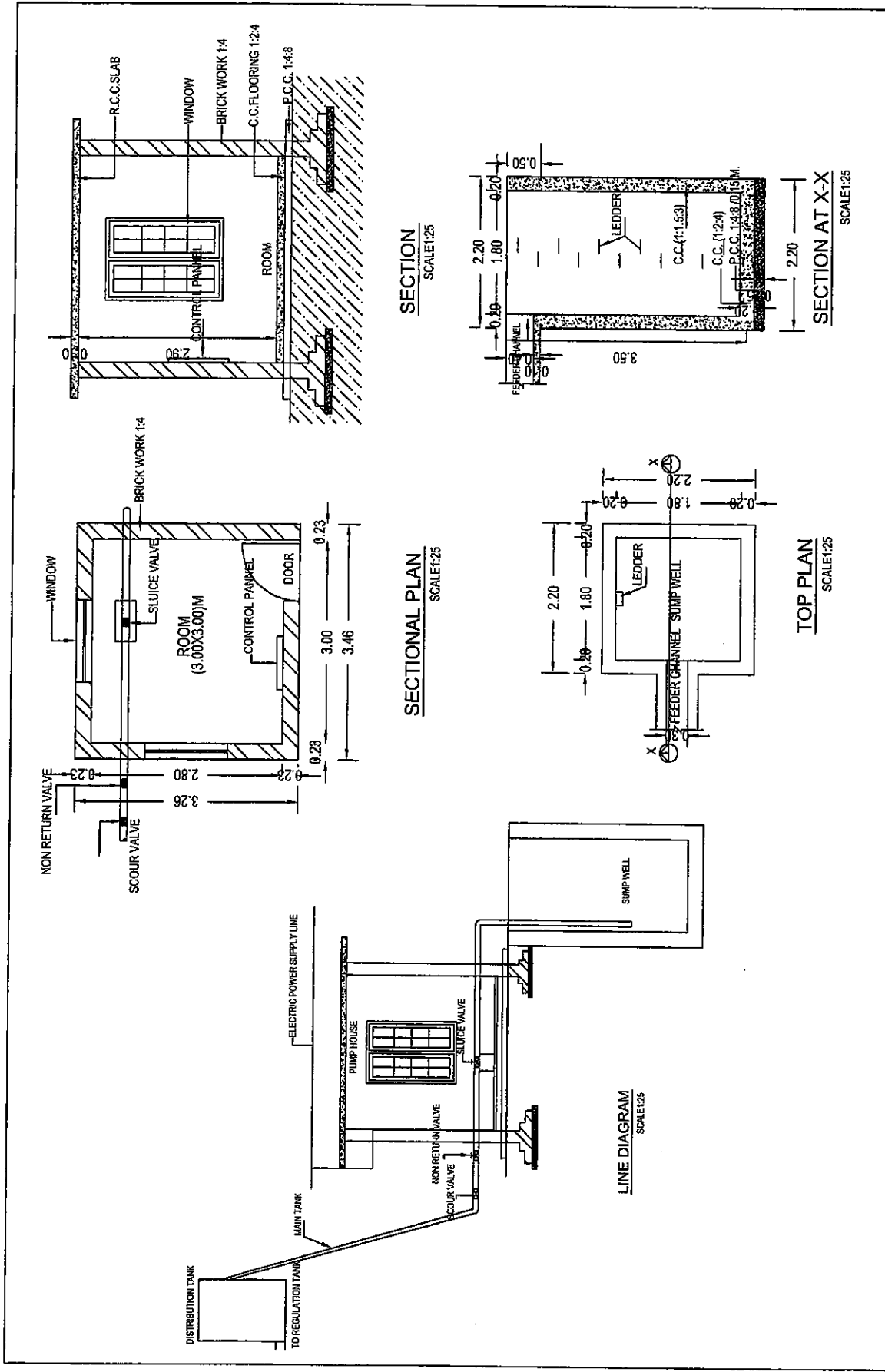


SECTION AT X-X
SCALE(1:30)

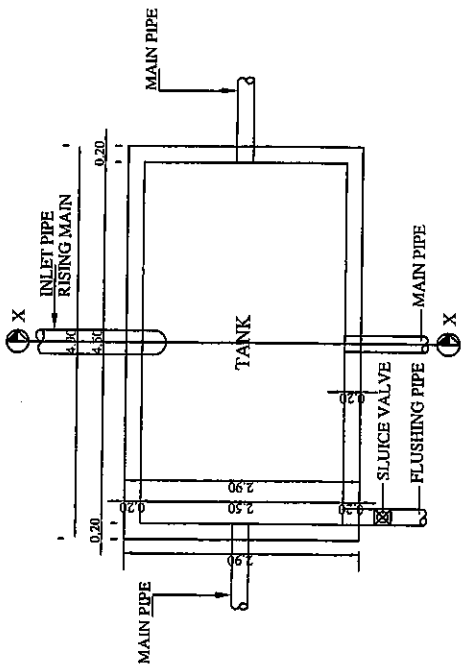


X-SECTION OF GATE
SCALE(1:10)

PROJECT: L.I.S. SITE AT VILLAGES SANOUR, BILASPUR.	CLIENT:	TITLE SHEET: DESULTING TANK	SCALE:	NOTE: 1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED 2. BENCHMARK 117/20 MARKED BY SURVEYOR AND SHOWN ON DRAWING AT SITE IS SHOWN ON DRAWING.	DEPARTMENT OF AGRICULTURE THE STATE GOVERNMENT OF BIHAR, PATNA
		DESIGNING TANK			
		DWG. NO. B/02-TANK-05	DATED 04-12-2009		



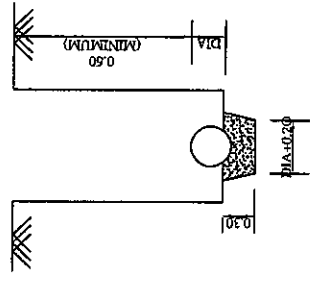
PROJECT U.S. BRITAY VILLAGES SANAAK, HILASAYK	SHEET	TITLE SHEET PUMP WELL & PUMP HOUSE	SCALE	NOTE 1. ALL DIMENSIONS IN METERS TO NEAREST MILLIMETER UNLESS OTHERWISE SPECIFIED. 2. ALL WALLS TO BE CONCRETE WITH BRICKWORK ON INSIDE. 3. ALL FLOORING TO BE CONCRETE WITH BRICKWORK ON TOP. 4. ALL ROOFING TO BE CONCRETE WITH BRICKWORK ON TOP.
		PRO. NO. BNS 10/11/16	DATE 14-12-2017	DESIGNER JICA



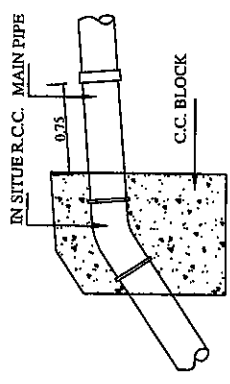
TOP PLAN
SCALE 1:30

DIMENSION TABLE FOR MAIN CANAL

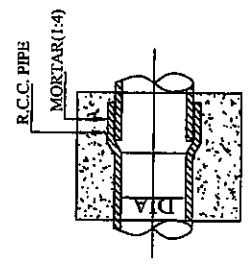
S.NO	NAME	LENGTH (M)	DESIGN DISCHARGE (lps)	DIAMETER (mm)	ACTUAL HEAD (m)	MATERIAL
1	B-G	63.86	28	150	18.9700	R.C.C. PIPE
2	B-F	73.62	28	150	10.2400	R.C.C. PIPE
3	B-C	290.50	28	150	7.6900	R.C.C. PIPE
4	C-D	161.80	28	200	0.8200	R.C.C. PIPE
5	D-E	119.43	28	150	6.9000	R.C.C. PIPE



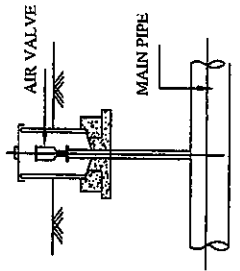
TYPICAL X-SECTION OF MAIN CANAL
SCALE 1:30



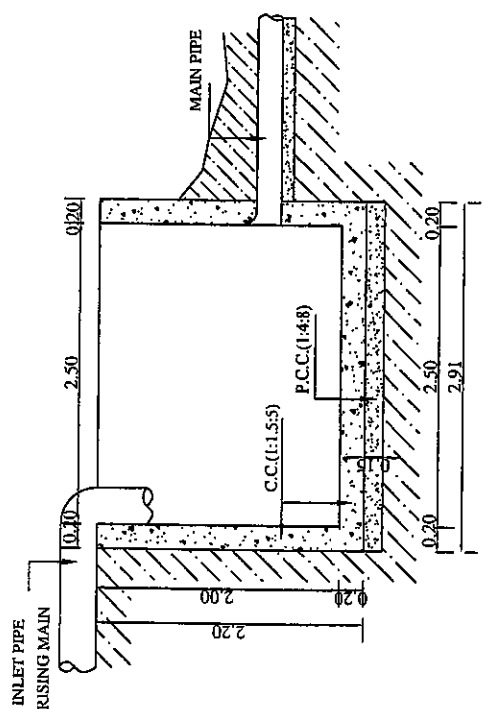
DETAIL OF BEND OF PIPE
SCALE 1:15



DETAIL OF JOINT OF PIPE
SCALE 1:10

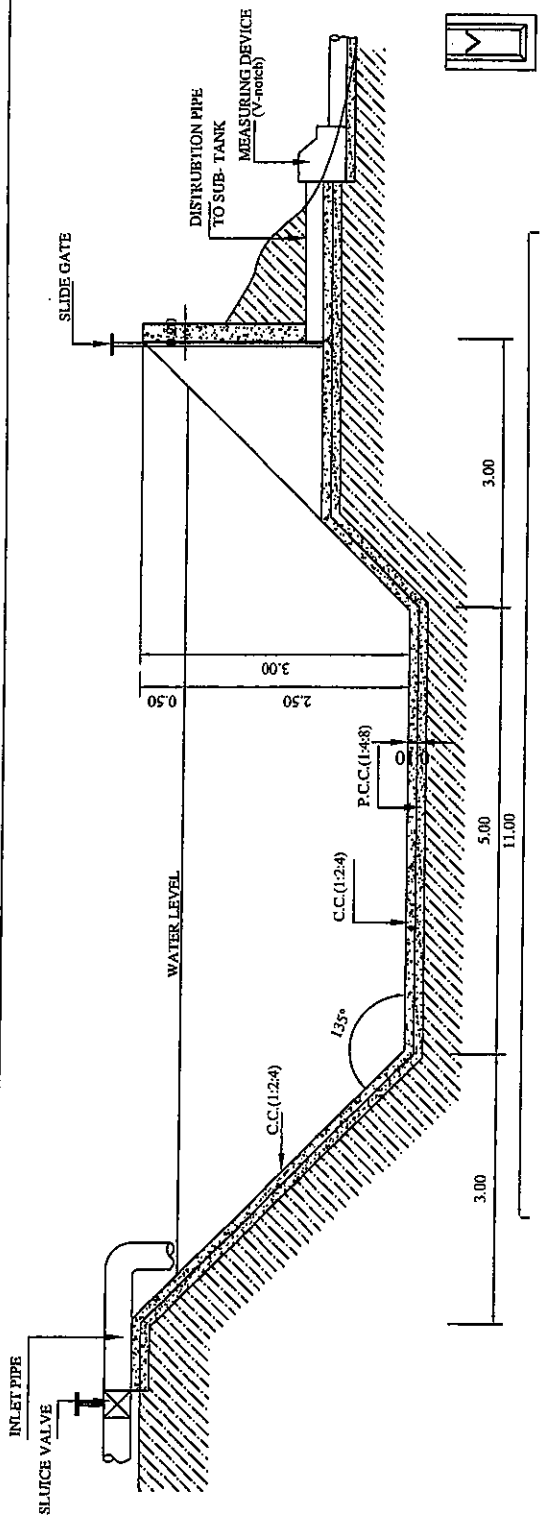


DETAIL OF AIR VALVE
SCALE 1:15



SECTION AT X-X
SCALE 1:30

PROJECT: SHE SITE AT VILAGE SAHARU, RAIPUR	DATE:	DESIGNER: RUPAK	SCALE: 1:15	DATE: 04-11-2020	APPROVED BY: RUPAK
TITLE: SHE SITE AT VILAGE SAHARU, RAIPUR	DATE:	DESIGNER: RUPAK	SCALE: 1:15	DATE: 04-11-2020	APPROVED BY: RUPAK
PROJECT: SHE SITE AT VILAGE SAHARU, RAIPUR	DATE:	DESIGNER: RUPAK	SCALE: 1:15	DATE: 04-11-2020	APPROVED BY: RUPAK

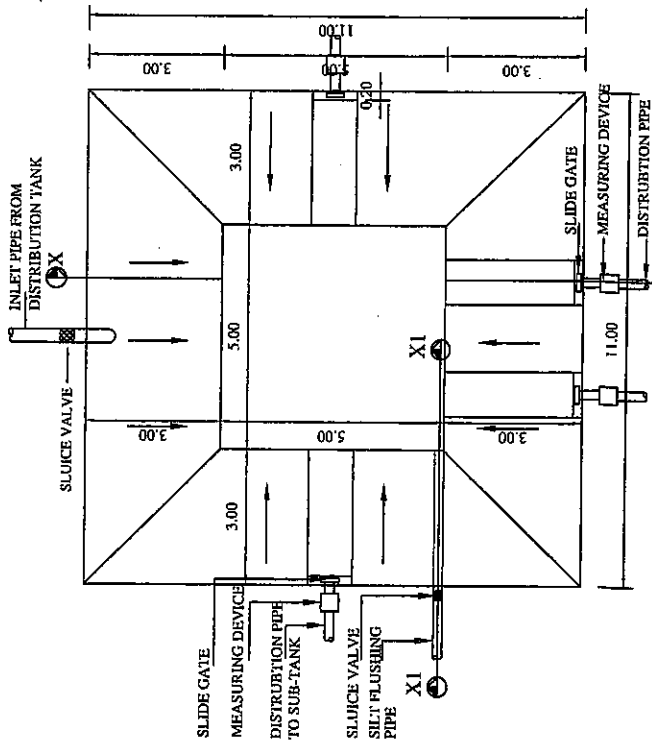


SECTION AT X-X
SCALE 1:50

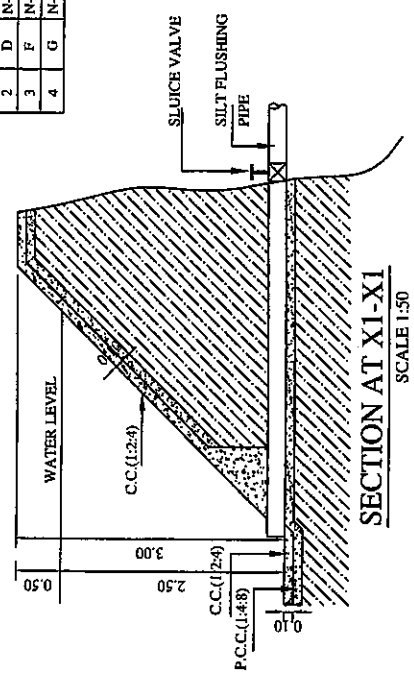
DETAIL OF MEASURING DEVICE

LOCATION OF REGULATION TANK

S. NO	NAME	NORTH	EAST
1	C	N-10084.15	E-20473.63
2	D	N-10214.49	E-20421.26
3	F	N-9880.27	E-20176.27
4	G	N-9989.03	E-20179.48

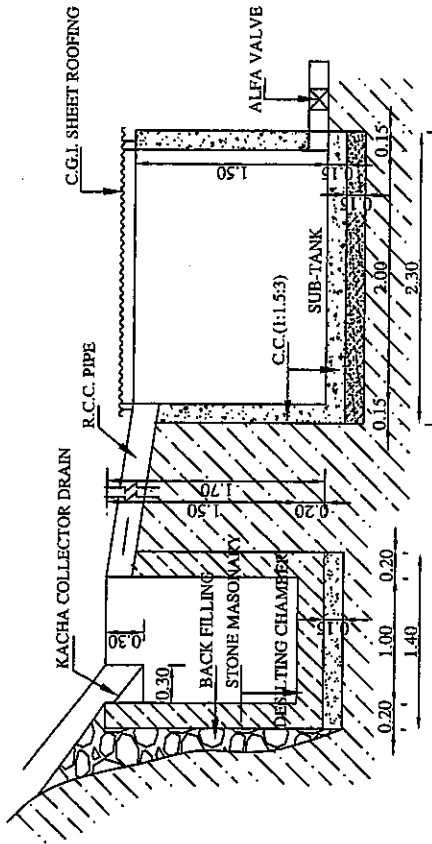


TOP PLAN
SCALE 1:100

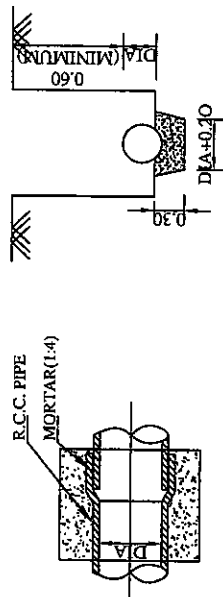


SECTION AT X1-X1
SCALE 1:50

PROJECT:	U.S. SITE AT VILLAGE-BARODA, BILASPUR	
	SUBJECT:	REGULATION TANK
TITLE SHEET:	NO. NO.	04-12-2009
	DATE	04-12-2009
SCALE:	1:50	
NOTE:	1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SPECIFIED. 2. DIMENSIONS OF REGULATION TANK WITH YELLOW TINT ON DRAWING AT SITE & SHOWN ON DRAWING.	
DESIGNED BY:	JICA	
APPROVED BY:	JICA	



SECTION AT X-X
SCALE 1:20

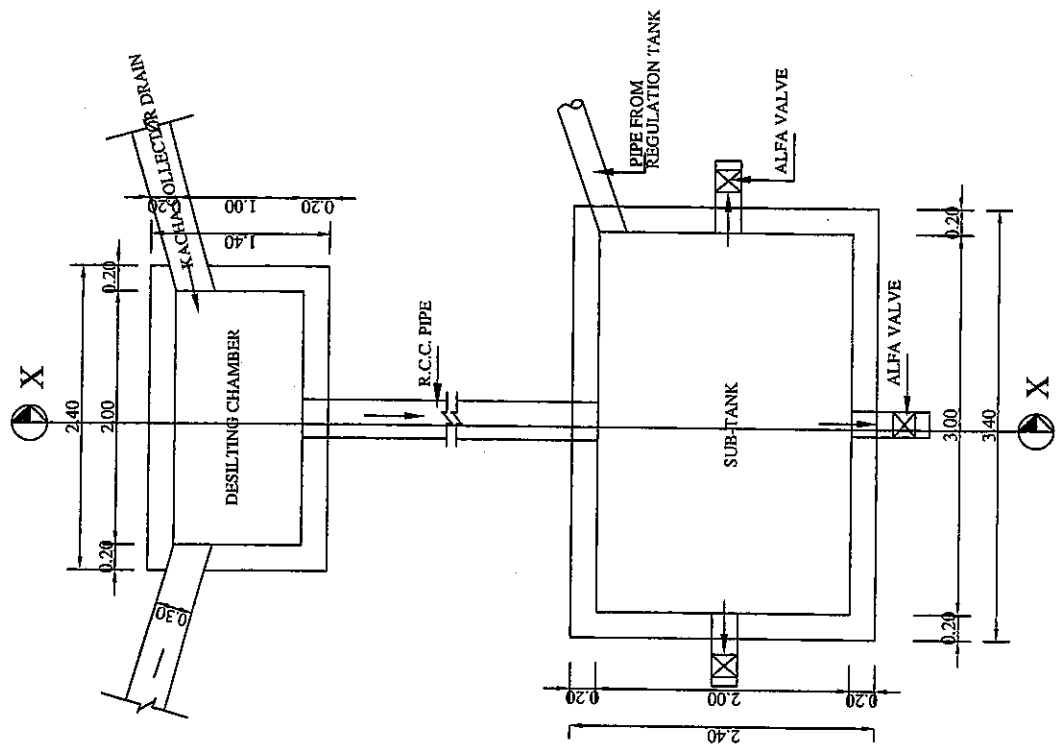


DETAIL OF JOINT OF PIPE
SCALE 1:10

TYPICAL X-SECTION
OF MAIN CANAL
SCALE 1:20

DIMENSION TABLE FOR SUB-CANAL

S.NO	NAME	LENGTH (M)	DISCHARGE (LPS)	DIAMETER (MM)	ACTUAL HEAD (M)	MATERIAL
1	C1	8.76	21	150	24.870	R.C.C. PIPE
2	C2	21.35	14	150	0.8100	R.C.C. PIPE
3	C3	10.77	14	150	0.8100	R.C.C. PIPE
4	E1	25.28	14	150	1.0000	R.C.C. PIPE
5	E2	10.83	14	150	0.8300	R.C.C. PIPE
6	E3	10.83	14	150	0.7200	R.C.C. PIPE
7	E4	10.83	14	150	0.2800	R.C.C. PIPE
8	D1	35.85	14	200	0.7700	R.C.C. PIPE
9	D2	21.38	14	200	0.7700	R.C.C. PIPE
10	E5	11.94	28	150	0.9000	R.C.C. PIPE



TOP PLAN
SCALE 1:20

PROJECT: U.S. SITE AT VILLAGE BARRON, BIHAR.

CUSTOMER: BARCEL S.S. 1-10

DATE: 04-12-2005

SCALE: 1:20

NOTE: 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 1197.20 MARKED WITH YELLOW PAINT ON GROUND AT SITE IS SHOWN ON DRAWING.

PREPARED BY: RAJESH K. GUPTA

DATE: 04-12-2005

SCALE: 1:20

PROJECT: U.S. SITE AT VILLAGE BARRON, BIHAR.

CUSTOMER: BARCEL S.S. 1-10

DATE: 04-12-2005

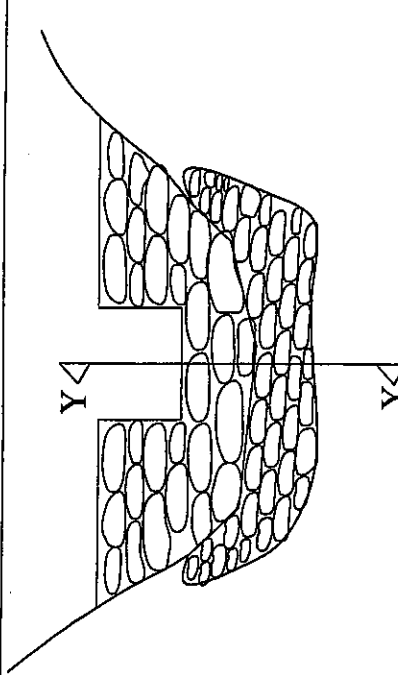
SCALE: 1:20

NOTE: 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 1197.20 MARKED WITH YELLOW PAINT ON GROUND AT SITE IS SHOWN ON DRAWING.

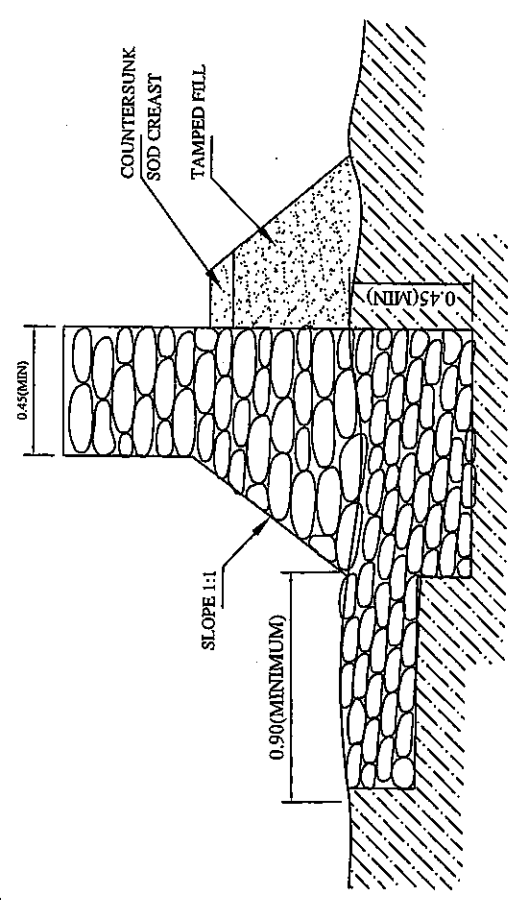
PREPARED BY: RAJESH K. GUPTA

DATE: 04-12-2005

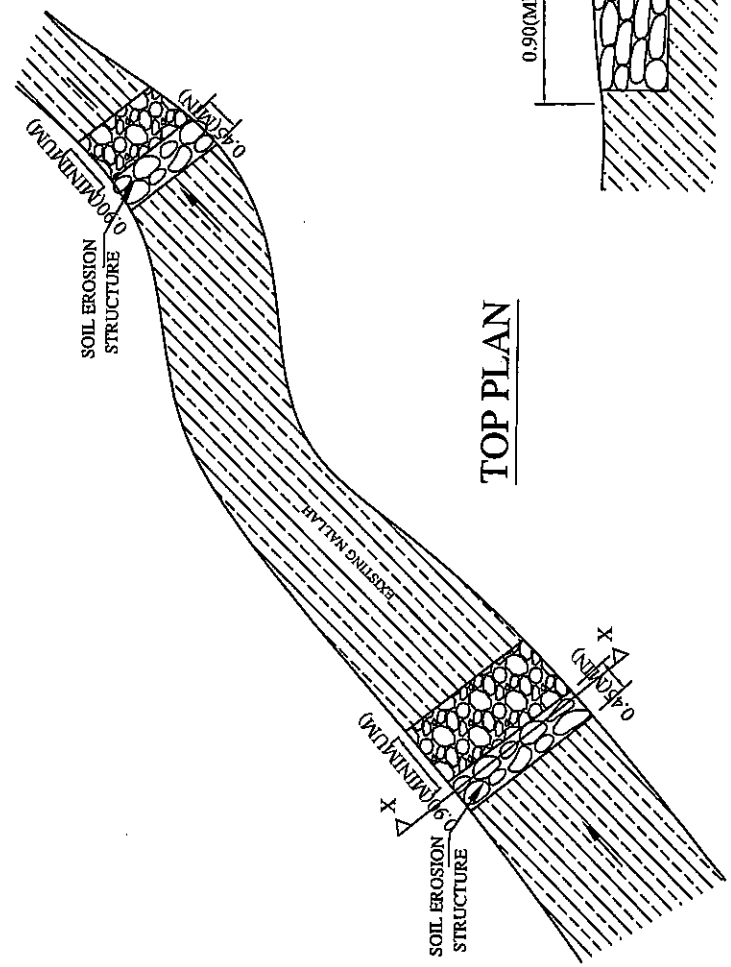
SCALE: 1:20



SECTION AT X-X



SECTION AT Y-Y



TOP PLAN

PROJECT: L.I.S. SITE AT VILLAGE - BARODA BILASPUR	CLIENT:	TITLE SHEET: SOIL CONSERVATION STRUCTURE	SCALE:	NOTE: 1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE SPECIFIED. 2. BENCHMARK 1972/09 MARKED WITH YELLOW PAINT ENROUNDING AT SITE IS SUBJECT TO CORRECTION.	DESIGNER/IN-CHARGE: THE STATE DEPARTMENT OF TECHNICAL PURCHASE
		DWG. NO.: BMS.E.S.-11	DATED: 04-12-2009		APPROVED: jica INTERNATIONAL DEVELOPMENT ASSOCIATION PROJECT SUPPORT CENTER FOR INDIA

積算資料

バクロア(Bakroa) 灌漑地区

LIS SCHEME AT SANOUR - BAKROA BILASPUR

GENERAL ABSTRACT OF COST

SR.No.	Particulars	Annexure	Amount
1	CONSTRUCTION OF INTAKE STRUCTURE	"A"	385,051
2	FEEDER CHANNEL	"B"	101,058
3	DESILTING CHAMBER	"C"	45,059
4	SUMP WELL	"D"	43,384
5	RISING MAIN	"E"	769,231
6	DISTRIBUTION PIPE (RCC)	"F"	665,391
7	SUB TANKS (10 NOS)	"G"	384,099
8	REGULATION TANK (4)	"H"	1,035,049
9	DISTRIBUTION TANK	"I"	71,938
10	PUMP HOUSE	"J"	129,532
11	PUMPING MACHINERY	"K"	225,000
12	COLLECTOR DRAIN FOR RAIN WATER	"L"	211,341
13	MS JOINTS NEAR REGULATION TANKS	"M"	196,460
14	SOIL CONSERVATION STRUCTURE	"N"	44,694
	TOTAL		4,307,288
15	SOP (SUPPLY OF POWER) FROM HPSEB @ 15 %		646,093
	GRAND TOTAL	RS	4,953,381

ABSTRACT OF COST

INTAKE STRUCTURE					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed.	80.48	225.54	Cum	18,151
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	15.93	3158.94	Cum	50,322
3	Square rubble masonry with hard stone in C:M 1:4	11.25	3524.13	Cum	39,647
4	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal sizes) and curing complete including cost of form work in foundation and plinth. In RCC Work	32.18	4063.10	Cum	130,730
5	Form work of steel plates including centring and propping up so as to give a fair finish.	18.16	144.30	Sqmt.	2,620
6	Providing TOR steel reinforcement for skin reinforcement including bending & placing in position complete.	1126.13	49.20	kgs	55,407
7	Providing & laying MS steel bars for bar screen. 25 mm dia	181.00	72.79	Qtl	13,175
8	Charges for water handling during the construction of intake structures & allied works.	L/S			10,000
9	Handling & removing of big boulder near intake location	L/S			15,000
10	Construction of flood dykes	L/S			50,000
				Total	385,051

ABSTRACT OF COST

FEEDER CHANNEL					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in drains & channels in earth work including dressing of sides and bed and earth up to a lead of 20 mtrs. and lift upto 1.5 mtrs. Disposed earth to be levelled neatly.	29.88	225.54	Cum.	6,739
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement:4 Sand : 8aggregates 40 mm nominal siges) and curing complete including cost of form work in foundation and plinth.	6.64	3158.94	Cum.	20,975
3	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal siges) and curing complete including cost of form work in foundation and plinth.	17.43	4063.10	Cum.	70,820
4	Extra allowance for form work in CC lining	58.10	43.44	Rmt.	2,524
				Total	101,058

ABSTRACT OF COST

DESILTING CHAMBER					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	10.64	225.54	Cum	2,399
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	1.50	3158.94	Cum	4,726
3	Providing & laying C.C.1:1.5:3(1 cement 1.5sand 3 graded stone agg. 20 mm nominal size in foundation & plinth including curing etc complete	4.57	4474.70	Cum	20,442
4	Form work of steel plates including centring and propping up so as to give a fair finish.	13.80	144.30	Sqmt.	1,992
5	Providing & laying MS pipe 300 mm dia D/S side of desilting chamber with provision of sluice valve for stop log arrangement i/c flanges etc complete	L/S			15,000
6	Water measuring device (V- notch)	1Nos.	500 (L.S)	each	500
				Total	45,059

ABSTRACT OF COST

SUMP WELL					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	20.16	225.54	Cum	4,547
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	0.86	3158.94	Cum	2,729
3	Providing & laying C.C.1:1.5:3(1 cement 1.5sand 3 graded stone agg. 20 mm nominal size in foundation & plinth including curing etc complete	5.60	4474.70	Cum	25,058
4	15 mm cement plaster in single coat on rough side of brick/ stone masonry for interior plastering up to floor two level, including arises, internal rounded angles not 80mm in girth and finished 1:04 (1 cement : 4 sand).	25.20	116.15	Sqmt.	2,927
5	C.C.Flooring 1:2:4(1 cement 2sand 4 graded stone agg. 20mm nominal size. 100mm thick	3.24	190.65	Sqmt.	618
6	Form work of steel plates including centring and propping up so as to give a fair finish.	25.20	144.30	Sqmt.	3,636
7	Providing , laying & jointing to level or slopes in trenches including jointing with cement mortar 1:3 & testing the joints complete. 2. 0 m length each. 300 mm dia RCC pipe	8.00	483.55	Rmt	3,868
				Total	43,384

ABSTRACT OF COST

RISING MAIN					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in foundation trenches in all kinds of soil such as pick work, jumper work, blasting work, kankar, moorum single including decomposed soft and had rock including chiseling/ blasting/ wedging etc. in all lifts, stacking the excavaed soil not more than three metre clear from the edge of excavation and then returning the stacked soil in 15cm kaer, when required, consolidating each deposit layer by ramming and watering and then disposing af all surplus excavated earth within all leads and lifts complete, as directed to the Engineer-in-Charge.	143.39	225.54	Cum.	32,340
2	<p>Providing and laying in trenches MSERW pipes as per IS-1979 latest edition, of following diameters, wall thickness and grade designation with beveled ends capable of withstanding required test pressure in random lengths of 4m to 7m. The pipe including special such as reducers, tail pieces, bends of 11 degrees, tees etc. in convenient lengths as per site requirement and as directed by Engineer-in-Charges, shall be flanged at 18m interval. the cut end of the pipes shall be made beveled. laying will include all operations such as cutting, welding and jounting etc. and the cost of fabricaion of bends tees which shall be as per the requirement of Petroleum Refinery Book and as discussed in detailed specifications. the bends shall be fabricated from parent tube with three or four gussets with radius not less than 5 pipe dia. Pipes and specials outsides coating of primer as pere AWWA specifications C5-2031978, followed by flood coat of coal tar including clearing of all dirt, dust and other foreign matter as per the direction of Engineer-in-Charge. The inside coating of pipes and specials shall be of black ready made bituminous anticorrosive paint over base coat of primer as AWWA specifications C-203-1978 as descrubed ub detailed specifications (earth work and flanged joints will be measured and paid for separately).</p> <p>Providing and fixing of MS flanged joints joints to MSERW pipes including gaskets, nuts, bolts and welding etc. complete with flanges, as per IS-6392-1971 and table.mentioned below. with 3mm thick compressed asbestos fiber gaskets as per IS 2712, and nuts and bolts shall conform to IS-3138-1986. The size of right angle of right fillet weld for attachment and seal weld shall be as described in specifications of welding and fabrication etc.</p>				
	250 MM DIA	281.16	1935.44	Rmt.	544,168
	bends @10 %	28.116	6854.56	Rmt.	192,723
				Rs.	769,231

ABSTRACT OF COST

DISTRIBUTION PIPE (RCC)					
Sr.No	Description	Qty.	Unit	Rate	Amount
1	Excavation in drains and channels in earth work including dressing of sides slopes and bed and disposal of excavated earth up to a lead of 20meters & lift up to 1.50m ,disposed earth to be leveled and neatly dressed (50% Pick work+ 50% Jumper Work)	688.08	Cum	225.54	155,186
2	Providing and laying of RCC pipe 150mm and 200mm				
	i) 150mm dia R.C.C.Pipe (P1)	387.38	Rmt	399.15	154,623
	ii) 200mm dia R.C.C.Pipe (P1)	198.75	Rmt	493	97,984
	i) 150mm dia R.C.C.Pipe (P3)	547.41	Rmt	468.75	256,598
	ii) 200mm dia R.C.C.Pipe (P3)	0	Rmt	666.95	0
3	Providing and fixing CI Grating for Outlets pipe				
	i) 150mm dia R.C.C.Pipe	12	Each	70.00	840
	ii) 200 mm dia R.C.C.Pipe	2	Each	80.00	160
	Total:-				665,391

ABSTRACT OF COST

SUB TANKS of Size 3.0m x 2.0m x1.5m (Wall th. 150 mm)					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	8.75	Cum.	225.54	1,973
2	Providing and laying cement concrete 1:4:8 (1 cement : 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	1.31	Cum.	3158.9	4,146
3	Providing and laying cement concrete 1:2:4 (1 cement : 2 sand : 4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work in: (a) walls & floor	3.14	Cum.	4063.10	12,774
4	Cement concrete flooring 1:2:4 (1 cement :2 sand : 4 graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement 40 mm thick	6.00	Sqm	190.65	1,144
5	15 mm cement plaster in two coats, backing coat 10 mm. and finishing coat 5 mm. thick on fair side of brick masonry/ stone masonry/ concrete walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers, and/or rounded angles not exceeding 80 mm. in girth and finished even and smooth : Cement Mortar (1;4) 1Cement : 4sand	24.14	Sqm	116.15	2,804
6	Providing form work in steel plates including centering shuttering , strutting & propping etc. complete.	32.96	sqm	144.30	4,756
7	Providing TOR steel for skin reinforcement including bending binding & placing in position complete.	110.00	kgs	49.20	5,412
8	Providing & fixing G.I pipe conforming to ISI specifications 100 mm dia including coupling arrangement at the end for fixing farmers	15.00	kgs	60.00	900
9	Providing and fixing Alfa-Valve	3.00	Each	1500.00	4,500
				Total:-	38,410
10 NOS OF SUB TANKS				G. TOTAL	384,099

ABSTRACT OF COST

REGULATION TANK					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Excavation in earth work and disposal of all excavated earth up to a lead of 20 metres and lift up to 1.5 mtrs. Disposed earth to be levelled and neatly dressed. 50% pick & 50% jumper work	211.68	225.54	Cum	47,741
2	Providing & Laying cement concrete 1 : 4 : 8 (1 cement: 4 Sand : 8 aggregates 40 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	16.75	3158.94	Cum	52,901
3	Providing & Laying cement concrete 1 : 1.5 : 3 (1 cement: 1.5 Sand : 3 aggregates 20 mm nominal sizes) and curing complete including cost of form work in foundation and plinth.	16.41	4474.70	Cum	73,417
4	Providing form work in steel including centering shuttering, propping etc. complete.	135.68	144.30	Sqmt.	19,579
5	Providing & fixing V- notch including chamber for the same	3	5500	per no	16,500
6	Providing & fixing Sluice valves for scour pipe, Discharge pipe & inlet pipe	1	12000	per no	12,000
7	Providing MS pipe for scour discharge & inlet.	110.40	60	kg	6,624
8	Providing & fixing Slide gate	3	10000	per no	30,000
	TOTAL				258,762
	4 (FOUR NOS OF REGULATION TANKS)				1,035,049

ABSTRACT OF COST

DISTRIBUTION TANK (4.5 x 2.5 x 2 m) (wall Th. 200 mm)					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	20.39	Cum.	225.54	4,600
2	Providing and laying cement concrete 1:4:8 (1 cement : 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	2.37	Cum.	3158.94	7,491
3	Providing and laying cement concrete 1:2:4 (1 cement : 2 sand : 4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	7.46	Cum.	4063.10	30,308
4	Cement concrete flooring 1:2:4 (1 cement : 2 sand : 4 graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement 40 mm thick	11.25	Sqm	190.65	2,145
5	15 mm cement plaster in two coats, backing coat 10 mm. and finishing coat 5 mm. thick on fair side of brick masonry/ stone masonry/ concrete walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers, and/or rounded angles not exceeding 80 mm. in girth and finished even and smooth : - Cement Mortar (1:4) 1 cement : 4 sand	46.56	Sqm	116.15	5,408
6	Providing TOR steel for skin reinforcement including bending binding & placing in position complete.	261.08	kgs	49.20	12,845
7	Providing form work in steel plates including centering shuttering , strutting & proping etc. complete.	63.34	sqm	144.30	9,141
				Total	71,938

ABSTRACT OF COST

PUMP HOUSE (3.00 x 3.00 x 3.00 m)					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundation & trenches etc. in earth work lift up to 1.50 mtrs. Stacking the excavated soil not more than 3 mtrs clear from the edge of excavation and then returning the stacked soil in 15 cm. layers, when required in to plinths sides of foundations etc. , consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated earth up to lead of 20 mteres.	10.47	Cum	225.54	2,361
2	Providing and laying cement concrete 1:5:10 (1 Cement : 5 Sand : 10 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of cenetring & shuttering in foundation and plinth	1.74	Cum	2785.58	4,847
3	Brick work using common burnt clay building bricks in foundation and plinth in cement mortar 1:6 (1 Cement : 6 Sand) 2nd class brick work :	4.90	Cum	3035.60	14,874
4	Providing and laying Damp proof course 38 mm thick with cemnet concrete 1:2:4 (1 cement : 2 sand :4 graded stone aggregate 20 mm nominal size) and curing complete	2.23	Sqm	190.65	425
5	Applying coat of hot bitumen(mexphalt 80/100 or equivalent) using 170 Kg. per Sqm. On damp proof course after cleaning the surface with piece of cloth likely soaked with kerosene.	2.23	Sqm	112.33	250
6	Brick work using common burnt clay building bricks in foundation and plinth in cement mortar 1:6 (1 Cement : 6 Sand) 2nd class brick work in super structure :	7.78	Cum	3035.60	23,617
7	Providing form work with steel plates 3.15 mm thick welded with angle iron in 30x30x5 mm so as to give a fair finish including centering shuttering and propping etc. with wooden battens and ballies, height of propping and cenering below supporting floor to ceiling not exceeding 4 mtrs. And removal of the same for insitu-reinforced concrete & plain concrete work in :-				
	I) Beams, Cantilevers, Girders and lintels sides& soffits of beams, beam haunchings, cantilevers, breasurers & Lintels not exceeding 1.00 mtr. In depth in all heights from floor:-	19.91	Cum	144.30	2,873
8	Providing and laying Cement concrete 1 : 2 : 4 (1 cement :2 sand :4 graded stone aggregate 20 mm nominal size) and curing complete excluding cost of form work and reinforcement for R.C.C. work in suspended floors, roofs, landings, shelves and their supports, balconies, beams, girders, breasurers and cantilevers up to floor two level:-	2.20	Cum	4063.10	8,939
9	Providing Mild Steel / Tor Steel reinforcement for R.C.C. work including bending, binding placing in position complete up to floor two level:-	176	Kg.	49.20	8,659
10	15 mm cement plaster in single coat on rough side of bricks/ concrete / stone walls for interior plastering up to floor two level including arrises, internal rounded angles, chamfers and / or rounded angles not exceeding 80 mm in girth and finished even and smooth.in cement mortar 1: 5 (1 cement : 5 sand).	30.73	Sqm	116.15	3,569

11	Pointing on brick work with Cement mortar 1:3 (1 Cement : 3 Sand).	47.51	Sqm	64.67	3,072
12	Providing & Fixing Pressed steel doors frames manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jump lock, jamb, beed and if required angle threshold of mild steel angle section 50 x 25 mm or base ties of 1.25 mm Pressed or rigidly fixed together by mechanical means, adjustable lugs with split and tails to each jamb including steel but hinges 2.5 mm thick with guards, lock, strike plate and shock as specified and applying a coat of approved steel primer after pre treatment of the surface as directed by Engineer-in-Charge.				
	Profile "A"	22.10	mtr.	122.90	2,716
	Profile "B"	3.60	mtr.	121.40	437
13	Providing and fixing 1 mm thick M.S. sheet door with frame of 40 x 40 x 6 mm angle iron 3.15 mm M.S. Gusset plates at the junctions and corners, all necessary fittings complete including applying a priming coat of red lead paint.	6.78	Sqm	2167.75	14,697
14	Filling in plinth with sand under floors including watering, ramming consolidating and dressing complete.	1.35	Cum	622.65	841
15	Providing and laying cement concrete 1:4:8 (1 Cement : 4 Sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in foundation and plinth	0.9	Cum	3158.94	2,843
16	Cement Concrete flooring 1: 2: 4 (1 Cement : 2 Sand : 4 graded Stone aggregate 20 mm nominal size) aid in one layer finished with a floating coat of neat cement: 40 mm thick.	9	Sqm	190.65	1,716
17	Providing & fixing on wall face C.I. rain water pipes including fitting the joints with spun yarn and cement mortar 1:2 (1 Cement : 2 Sand).				
	100 mm dia.	6.80	Rmt.	333.00	2,264
18	White washing with lime on undecorated wall surfaces two coats to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar dirt and other foreign matters:	30.73	Sqm	5.15	158
19	Hirmachi colour wash on undecorated wall surfaces (two coats) to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar dirt and other foreign matters:	40.91	Sqm	5.50	225
20	Providing plinth protection 50 mm thick in cement concrete 1:3:6 (1 cement : 3 Sand : 6 graded stone aggregate 20 mm nominal size).	7.46	Sqm	3500.99	26,117
20 B	Providing under layer for plinth protection of 75 mm thick (unconsolidated) bed dry bricks / stone aggregated 40 mm nominal size well rammed and consolidated and grouted with fine sand including preparation of ground.	7.46	Sqm	116.5	869
21	Painting two coats (excluding priming coat) on new Steel and other metal surfaces under coat with ready mixed paint brushing to give an even shade including cleaning the surface of dirt, dust and other foreign matter, sand papering and stopping:				
	With ready mixed paint other than white	6.78	Sqm	18.25	124

22	Providing and fixing anodized aluminium sliding door bolt anodized to colour and shade with bolts and nuts screws etc. 250x16 mm	1	each	102.60	103
23	Providing and fixing aluminium handles anodized transparent or dyed to required colour of shade with necessary screws etc. complete. Door 125 mm Window 100 mm	2 6	each each	17.45 15.15	35 91
24	Providing and fixing aluminium tower bolt (barrel type) anodized transparent or dyed to required shade and colour with screws etc. complete. 250x10 mm Door 200x10 mm Window	4 12	each each	29.70 25.10	119 301
25	Providing & Fixing M.S. fan clamp type-I of 16 mm dia M.S. bar bent to shape with hooked ends in R.C.C. slab during laying including painting the exposed portion of loop, all as per standard design complete.	1	each	128.35	128
26	Providing & fixing M.S grill of required pattern in wooden frame of windows etc. with M.S flats, square or round bars with round headed bolts & nuts or by screws. Plain grill. Windows	35.77	Kg.	63.15	2,259
				Total	129,532

ANNEXURE- K

ABSTRACT OF COST

PUMPING MACHINERY					
S. N.	Particulars	Qty.	Rate	Unit	Amount
1	Providing and installing pump set	30.00	7500.00	BHP	225,000

ABSTRACT OF COST

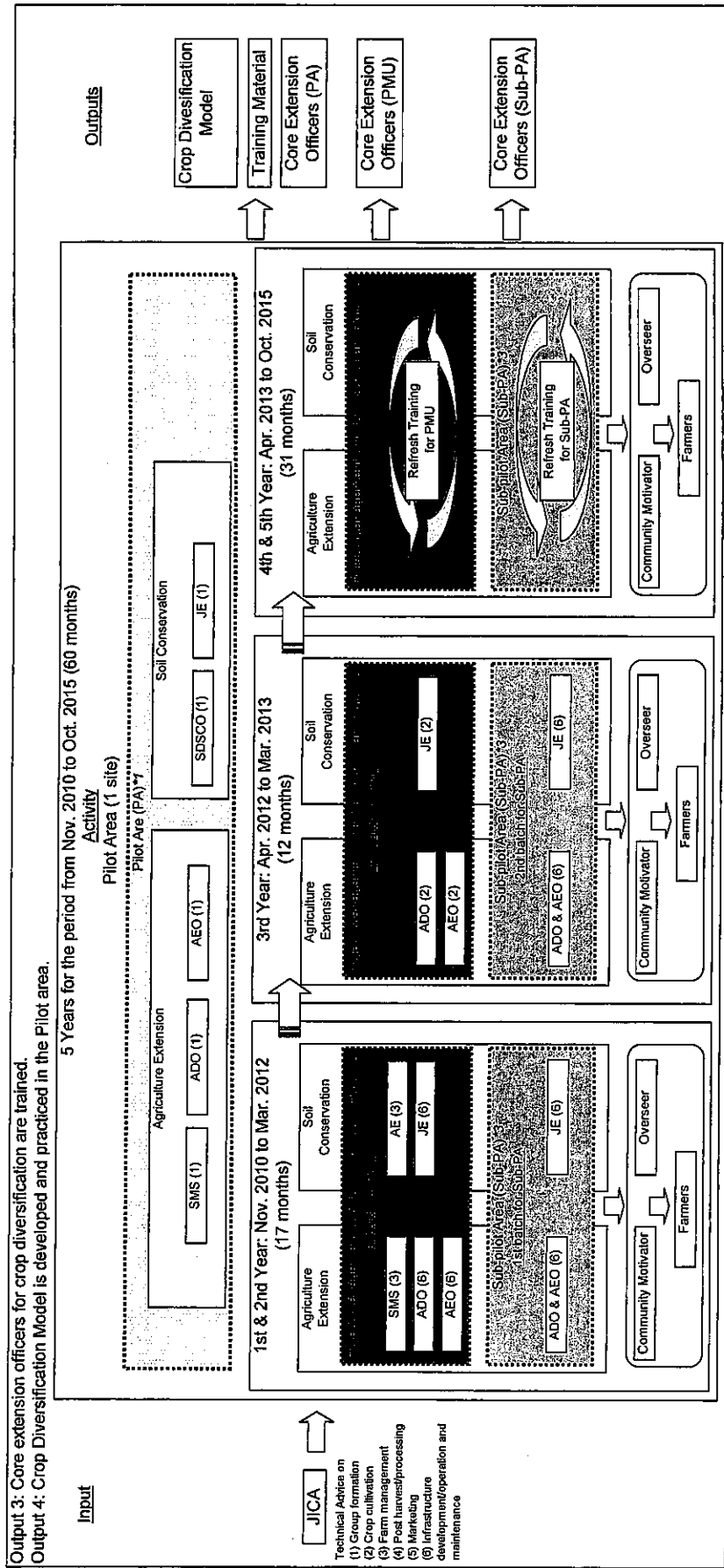
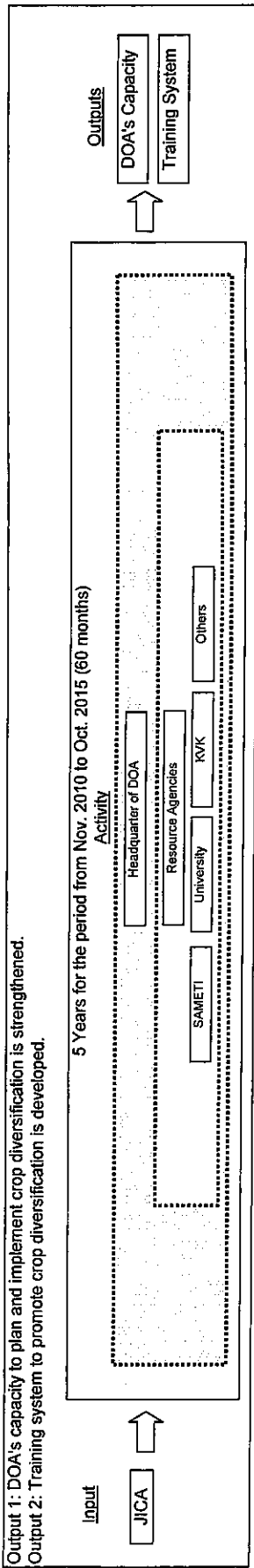
COLLECTOR DRAIN FOR RAIN WATER					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	10.23	Cum.	225.54	2,308
2	Providing and laying cement concrete 1.4.8 (1 cement 4 sand : 8 graded stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in: (a) Foundation and plinth.	0.77	Cum.	3158.9	2,426
3	Providing & Laying cement concrete 1 : 2 : 4 (1 cement: 2 Sand : 4 aggregates 20 mm nominal siges) and curing complete including cost of form work in foundation and plinth. In RCC Work	3.18	Cum.	4063.10	12,937
4	Form work of steel plates including centring and propping up so as to give a fair finish.	24.00	SQM	144.30	3,463
Total					21,134
10 NOS COLLECTOR DRAIN FOR RAIN WATER					211,341

ABSTRACT OF COST

MS JOINTS NEAR REGULATION TANKS							
Sr. No.	Description	Dia	No.	Length	Rate		Amount
1	Providing & fixing MS pipe of different dia for welding into T- joint near the regulation tank	300 mm	1	10		2250	22,500
2	Providing & fixing CI sluice valves for the pipe joint fixed with appropriate table of flanges	300 mm	1			24000	24,000
3	Providing & laying cement concrete 1:1.5:3 less (-) for pipe	2 0.785	0.6 0.3	0.6 0.3	0.9 0.9	0.648 0.064 0.584	4474.70 2,615
	Total						49,115
	TOTAL NO. OF JOINTS		4				196,460

ABSTRACT OF COST

SOIL CONSERVATION STRUCTURE					
Sr. No.	Description	Qty.	Unit	Rate	Amount
1	Excavation in foundations, trenches etc.in earth work lift upto 1.50 metres stacking the excavated soil more than 3 metres clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required ,into plinths , side of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavation earth as directed within a lead of 20 metres with Pick work and jumper works 50% each	8.10	Cum.	225.54	1,827
2	RR masonry in dry stone hand packed for raising structures	14.18	Cum.	1395.0	19,774
3	Construction of embankment in earthwork including bringing the soil in 15 cm layers, ramming & watering the same in bed & slopes (banking of earthwork)	6.75	Cum.	110.53	746
	Total:-				22,347
	2 NO OF STRUCTURE				44,694



Abbreviations:
 DOA: Department of Agriculture, SAMETI: State Agricultural Management Extension Training Institute, KVK: Farmers Technical Center, SMS: Subject Matter Specialist, ADO: Agricultural Development Officer, AEO: Agricultural Extension Officer, SDSCO: Sub-divisional Soil Conservation Officer, AE: Assistant Engineer, JE: Junior Engineer

Note:
 *1: The DOA officers in charge of the pilot area are trained through development process of the pilot area jointly conducted with JICA Experts for 5 years.

*2: The DOA officers to be assigned to PMU officers repeat the short-term training in the pilot area.
 - 1st batch for PMU: The DOA officers to be assigned to 3 District PMU offices and 6 Block PMU offices of ODA Loan
 - 2nd batch for PMU: The DOA officers to be assigned to 3 Block PMU offices of ODA Loan
 - The DOA officers trained in the pilot area are trained the refresh training in 4th and 5th year of TCP.

*3: The DOA officers in charge of the sub-pilot area repeat the short-term training in the pilot area.
 - 1st batch for Sub-PA: The DOA officers in charge of 6 sub-pilot areas
 - 2nd batch for Sub-PA: The DOA officers in charge of 6 sub-pilot areas
 - The DOA officers trained in the pilot area are trained the refresh training in 4th and 5th year of TCP.

研修	研修内容	種類	講師	対象者 (人数)	場所	回数
事業管理能力	(1) 企画・研修(PDCA)に関するアウェアネス (2) 既存作付多様化のレビューと年間計画の作成 (3) 事業モニタリング能力向上研修 (4) 事業評価能力向上研修 (5) 研修カリキュラム・教材のレビューと作成、改訂	講義	JICA 専門家 外部講師(KVK, NGO 等)	DOA 本局+DDA+DAO (5) (PA) SMS, SDSCO, ADO, JE, AEO, Draftsman/Surveyor (6) (PMU) SMS, AE, ADO (12+3) (OA) ADO (6+6)	DOA SAMETI	テーマ毎に1回 合計5回
水管理組織設立・能力向上 支援	(1) 水管理組織設立・組織化 (2) 灌漑施設運営・水管理 (3) 灌漑施設維持管理 (4) 先進地区への視察	講義	JICA 専門家 SDSCO, PA 外部講師	DOA 本局+DDA+DAO (5) (PA) JE, Draftsman/Surveyor (2) (PMU) AE, JE (9+6) (OA) JE (6+6)	DOA SAMETI	テーマ毎に1回 合計5回
農業技術普及	(1) ニーズアセスメント (2) 農家経営 (3) 作付け計画策定 (4) 収穫後処理・加工・マーケティング (5) 技術普及体制構築	講義 実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO, CM (3) (PMU) SMS, ADO, AEO (15) (OA) ADO, AEO (12)	パイロット地区 KVK	テーマ毎に1回 合計5回
住民組織化 (対 Farmers Group)	(1) 組織運営管理能力向上研修(コミュニケーションスキル・フ アシリテーションスキル、コミュニティへの情報開示) (2) 会計管理・簿記管理能力向上研修(含む Social Audit) (3) 契約管理・建設管理能力向上研修 (4) Irrigation Development Fund 運用管理能力向上研修 (5) 関連法規に関するアウェアネス	実地 講義	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) SDSCO, ADO, AEO, Draftsman/Surveyor (4) (PMU) SMS, AE, ADO, AEO, JE (24) (OA) ADO, AEO, JE (18) Farmers/SHG	パイロット地区 KVK	テーマ毎に1回 合計5回 (必要に応じてフオ ローアアップ研修の 実施)
住民組織化 (対 SHG)	(1) 組織運営管理能力向上研修(コミュニケーションスキル向 上・フアシリテーション能力向上、周辺コミュニティへの情 報開示を含む) (2) 会計管理・簿記能力向上研修(Social Audit を含む) (3) グループ内貯蓄の運用管理能力向上研修	実地 講義	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) SDSCO, ADO, AEO, Draftsman/Surveyor (4) (PMU) SMS, AE, ADO, AEO, JE (24) (OA) ADO, AEO, JE (18) Farmers/SHG	パイロット地区 KVK	テーマ毎に1回 合計3回 (必要に応じてフオ ローアアップ研修の 実施)
灌漑施設運営・水管理	(1) 灌漑ブロック・土地利用図策定研修 (2) 水利用計画策定研修 (3) 水管理計画策定能力向上研修 (4) 水管理実践研修 (5) 水利用状況・ポンプ利用状況モニタリング能力向上研修 (6) 水利用費算定・徴収システム構築研修	実地	JICA 専門家 SDSCO-PA 外部講師(KVK, NGO 等)	(PA) ADO, JE, Draftsman/Surveyor (3) (PMU) AE, ADO, JE (15) (OA) ADO, AEO, JE (18) Farmers/SHG	パイロット地区 KVK	テーマ毎に1回 合計6回 (必要に応じてフオ ローアアップ研修の 実施)
灌漑施設維持管理	(1) 施設維持管理計画策定研修	実地	JICA 専門家	(PA) ADO, JE,	パイロット地区	テーマ毎に

備考: DDA (Deputy Director of Agriculture), DAO (District Agriculture Officer), SMS (Subject Matter Specialist), SMS of PA (SMS of Pilot Area), SMS of PMU (SMS of Project Management Unit: PMU), SMS of OA (SMS of Other Areas), AEO of PA (Agriculture Extension Officer of Pilot Area), ADO of PA (Agricultural Development Officer of Pilot Area), CM (Community Motivator), SHG (Self Help Group)

研修	研修内容	種類	講師	対象者 (人数)	場所	回数
	(2) 土木工事基礎・工事品質管理能力向上研修 (3) 改修工事計画策定能力向上研修		SDSCO-PA 外部講師(NGO等)	Draftsman/Surveyor (3) (PMU) AE, ADO, JE (15) (OA) ADO, AEO, JE (18) Farmers/SHG	KVK	合計3回 (必要に応じてフオ ローアップ研修の 実施)
灌漑施設 計画設計施工監理	(1) DPRレビュー能力向上研修 (2) 詳細設計(DD)実施能力向上研修 (3) PQおよび入札業務実施能力向上研修 (4) 施工監理能力向上研修	実地	JICA 専門家 SDSCO-PA 外部講師(NGO等)	(PA) ADO, JE, Draftsman/Surveyor (3) (PMU) AE, ADO, JE (15) (OA) ADO, AEO, JE (18) Farmers/SHG	DDA 事務所 パイロット地区 KVK	テーマ毎に 合計4回 (必要に応じてフオ ローアップ研修の 実施)
栽培管理	(1) 現行栽培技術診断 (2) 栽培計画作成実施研修 (3) 有機肥料生産研修 (4) 水利用・肥培管理研修 (5) トマト・ピーナス・パプリカおよび果菜類栽培技術研修 (6) カリフラワー・ジャガイモおよび根菜類栽培技術研修 (7) 食用穀物(トウモロコシ・小麦・水稲)栽培技術研修	実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO (2) (PMU) SMS, ADO, AEO (15+6) (OA) ADO, AEO (12) Farmers/SHG	DDA 事務所 パイロット地区 KVK	必要に応じて 随時実施
農家経営	(1) 作物別収支記帳および管理能力向上研修 (2) 生産費・販売額のモニタリング能力向上研修 (3) 生産費と販売額のモニタリング結果の評価	講義 実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO (2) (PMU) SMS, ADO, AEO (15+6) (OA) ADO, AEO (12) Farmers/SHG	DDA 事務所 パイロット地区 KVK	テーマ毎に 合計3回 (必要に応じてフオ ローアップ研修の 実施)
収穫後処理	(1) 集荷・選別・グレーディングに係る基準検討適用研修 (2) 上記実施能力向上研修 (3) パッキングおよび共同出荷能力向上研修	講義 実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO (2) (PMU) SMS, ADO, AEO (15+6) (OA) ADO, AEO (12) Farmers/SHG	DDA 事務所 パイロット地区 KVK	必要に応じて 随時実施
加工	(1) ピクルス製造研修 (2) 乾燥野菜製造研修 (3) ジャム製造研修 (4) 品質管理基準策定研修に関するアウェアネス (5) 加工品安全基準に関するアウェアネス	講義 実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO (2) (PMU) SMS, ADO, AEO (15+6) (OA) ADO, AEO (12) Farmers/SHG	DDA 事務所 パイロット地区 KVK	必要に応じて 随時実施

備考: DDA (Deputy Director of Agriculture), DAO (District Agriculture Officer), SMS (Subject Matter Specialist), SMS of PA (SMS of Pilot Area), SMS of PMU (SMS of Project Management Unit: PMU), SMS of OA (SMS of Other Areas), AEO of PA (Agriculture Extension Officer of Pilot Area), ADO of PA (Agricultural Development Officer of Pilot Area), CM (Community Motivator), SHG (Self Help Group)

研修	研修内容	種類	講師	対象者 (人数)	場所	回数
マーケティング	(1) 市場情報および市場動向収集能力向上研修 (2) 流通システムに関するアウェアネス (3) 売買契約に関するアウェアネス	講義 実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO (2) (PMU) SMS, ADO, AEO (15+6) (OA) ADO, AEO (12) Farmers/SHG	DDA 事務所 パイロット地区 KVK	必要に応じて 随時実施
ジェンダー	(1) コミュニティ内のジェンダーに関するアウェアネス (2) グループ内のジェンダーに関するアウェアネス (3) 施設維持管理・水管理の活動におけるジェンダーに関するアウェアネス (4) 栽培、営農、収穫後処理、加工、流通の活動にジェンダーに関するアウェアネス このようなジェンダーに焦点をあてた研修の他に、事業管理能力からマーケティングにリストアップされている研修の中で、女性の参加を促進して機会を増やすなど対応が必要である。	講義 実地	JICA 専門家 SMS-PA 外部講師(KVK, NGO 等)	(PA) ADO, AEO (2) (PMU) SMS, ADO, AEO (15+6) (OA) ADO, AEO (12) Farmers/SHG	DDA 事務所 パイロット地区 KVK	テーマ毎に1回 合計4回 (必要に応じてフォ ローアアップ研修の 実施)

備考: DDA (Deputy Director of Agriculture), DAO (District Agriculture Officer), SMS (Subject Matter Specialist), SMS of PA (SMS of Pilot Area), SMS of PMU (SMS of Project Management Unit: PMU), SMS of OA (SMS of Other Areas), AEO of PA (Agriculture Extension Officer of Pilot Area), ADO of PA (Agricultural Development Officer of Pilot Area), CM (Community Motivator), SHG (Self Help Group)