



Annexure-I

COST NORMS

Per Hectare Cost Model for Enrichment Planting (Pooh Sub-Division)						
Sl. No.	Particulars	Quantity	Unit	Rate	Unit	Tribal
1	Survey and demarcation of plantation area I/C marking of path & preparation of map.	1	Ha.	88.70	Ha.	88.70
2	Cutting and preparation of wooden posts 1.8 Mt. and 8 to 10 cm dia I/C debarking and fashioning the top 15 cm in conical shape	60	Nos.	1122.60	Per %	673.56
3	Carriage of fence posts up to 2 Mt. long and 8 to 10 cm dia over distance 0.5 Km	60	Nos.	590.85	Per % per Km	177.25
4	Preparation and digging of holes 20-30 cm dia & 45 cm deep	60	Nos.	786.00	Per %	471.60
5	Fixing of wooden posts I/C strutting	60	Nos.	603.25	Per %	361.95
6	Carriage of barbed wire bundles up hill over an overage distance of 1 Km	0.9	Qtls	132.65	Per Qtl/ Km.	119.35
7	Stretching and fixing of barbed wire with U-staple in each strand	540	Rmt.	4.10	Per Rmt.	2214.00
8	Layout of pits/ patches	1	Ha.	147.60	Ha.	147.60
9	Digging of pits (45x45x45) cm	800	No	827.15	Per %	6537.20
10	Filling of pits (45x45x45) cm	800	No	236.95	Per %	1895.60
11	Carriage of Plants in P/bags from Nursery site over an average distance of 1 Km.	800	No	157.45	Per %/ Km	1259.60
12	Planting of entire Plants I/C ramming, raised in P/ bags	800	No.	189.15	Per %	1513.20
13	Mulching of Plants	800	No.	51.85	Per %	414.80
				Sub- Total		15874.41
14	Add Increase 25% for tribal areas					3968.60



15	Nursery Cost of P/ bags raised Plants	800	Tribal	4.71	Per plant	3768.00
16	Cost of B wire and other material					5400.00
				G. Total		29011.00
				Or Say		29000.00
Maintenance						
1	I year Maintenance (30% Mortality)	Detail of costing in accordance with provisions in Rampur Circle inclusive of watering for five years				24456.00
2	II year Maintenance (20% Mortality)					15924.00
3	III year Maintenance (15% Mortality)					8358.00
4	IV year Maintenance (10% Mortality)					4000.00
5	V year Maintenance (10% Mortality)					4000.00
				Sub-Total Maintenance		56738.00
				Grand Total		85738.00

Pooh Sub-Division falls in Arid Zone of Kinnaur District



Per Ha. Cost Model for Enrichment Planting (Kalpa/ Nichar Sub-Division)						
Sl. No.	Particulars	Qty	Unit	Rate	unit	Tribal
1	Survey and demarcation of plantation area I/C marking of path & preparation of map.	1	Ha.	88.70	Ha.	88.70
2	Cutting and preparation of wooden posts 1.8 Mt. and 8 to 10 cm dia I/C debarking and fashioning the top 15 cm in conical shape	60	Nos	1122.60	Per %	673.56
3	Carriage of fence posts up to 2 Mt. long and 8 to 10 cm dia over distance 0.5 Km.	60	Nos	590.85	Per % per KM	177.25
4	Preparation and digging of holes 20-30 cm dia & 45 cm deep	60	Nos	786.00	Per %	471.60
5	Fixing of wooden posts I/C strutting	60	Nos	603.25	Per %	361.95
6	Carriage of barbed wire bundles uphill over an average distance of 1 km	0.9	Qtls	132.65	Per Qtl/ Km.	119.35
7	Stretching and fixing of barbed wire with U-staple in each strand	540	Rmt.	4.10	Per Rmt.	2214.00
8	Layout of pits/ patches	1	Ha.	147.60	Ha.	147.60
9	Digging of pits (45x45x45) cm	800	No	827.15	Per %	6537.20
10	Filling of pits (45x45x45) cm	800	No	236.95	Per %	1895.60
11	Carriage of Plants in P/bags from Nursery site over an average distance of 1 Km.	800	No	157.45	Per %/ Km	1259.60
12	Planting of entire Plants I/C ramming, raised in P/ bags	800	No	189.15	Per %	1513.20
13	Mulching of Plants	800	No	51.85	Per %	414.80
				Sub Total		15874.41
14	Add Increase 25% for tribal areas					3968.60



15	Nursery Cost of P/bags raised Plants	800	Tribal	4.71	Per plant	3768.00
16	Cost of B wire and other material					5400.00
				G. Total		29011.00
				Or Say		29000.00
Maintenance						
1	I year Maintenance (30% Mortality)	Detail of costing in accordance with provisions in Rampur Circle with No watering for five years				3996.00
2	II year Maintenance (20% Mortality)					2424.00
3	III year Maintenance (15% Mortality)					1218.00
4	IV year Maintenance (10% Mortality)					700.00
5	V year Maintenance (10% Mortality)					700.00
			Sub Total Maintenance			9038.00
					G Total	38038.00

Nichar/ Kalpa Sub-Division fall in WET / DRY ZONES of Kinnaur District.



Per Ha. Cost Model for Normal Planting (Pooh Sub-Division)						
Sl. No.	Particulars	Quantity	Unit	Rate	unit	Tribal
1	Survey and demarcation of plantation area I/C marking of path & preparation of map.	1	Ha.	88.70	Ha.	88.70
2	Cutting and preparation of wooden posts 1.8 Mt. and 8 to 10 cm dia I/C debarking and fashioning the top 15 cm in conical shape	60	Nos.	1122.60	Per %	673.56
3	Carriage of fence posts upto 2 Mt. long and 8 to 10 cm dia over distance 0.5 Km	60	Nos.	590.85	Per % per Km	177.25
4	Preparation and digging of holes 20-30 cm dia & 45 cm deep	60	Nos.	786.00	Per %	471.60
5	Fixing of wooden posts I/C strutting	60	Nos.	603.25	Per %	361.95
6	Carriage of barbed wire bundles up hill over an overage distance of 1 Km	0.9	Qtls	132.65	Per Qtl/ Km.	119.35
7	Stretching and fixing of barbed wire with U-staple in each strand	540	Rmt.	4.10	Per Rmt.	2214.00
8	Layout of pits/patches	1	Ha.	147.60	Ha.	147.60
9	Digging of pits (30x30x30) cm	500	No	413.65	Per %	2068.25
10	Digging of pits (45x45x45) cm	600	No	827.15	Per%	4962.90
11	Filling of pits (30x30x30) cm	500	No	165.40	Per %	827.00
12	Filling of pits (45x45x45) cm	600	No	236.95	Per %	1421.70
13	Carriage of Plants in P/bags from Nursery site over an average distance of 1 Km.	1100	No	157.45	Per %/ Km	1259.60
14	Planting of entire Plants I/C ramming, raised in P/ bags	1100	No	189.15	Per %	2080.65
15	Mulching of Plants	1100	No	51.85	Per %	414.80
				Sub Total		17288.91



16	Add Increase 25% for tribal areas					4322.20
17	Nursery Cost of P/bags raised Plants	1100	Tribal	4.71	Per plant	5181.00
18	Cost of B wire and other material					6700.00
				G. Total		33492.11
				Or Say		33500.00
Maintenance						
1	I year Maintenance (30% Mortality)	Detail of costing in accordance with provisions in Rampur Circle inclusive of watering for five years				25500.00
2	II year Maintenance (20% Mortality)					16620.00
3	III year Maintenance (15% Mortality)					8880.00
4	IV year Maintenance (10% Mortality)					5000.00
5	V year Maintenance (10% Mortality)					5000.00
			Sub Total maintenance			61000.00
			G Total			94500.00

Pooh Sub-Division falls in Arid Zone of Kinnaur District



Per Ha. Cost Model for Normal Planting (Kalpa/ Nichar Sub-Division)						
Sl. No.	Particulars	Quantity	Unit	Rate	unit	Tribal
1	Survey and demarcation of plantation area I/C marking of path & preparation of map.	1	Ha.	88.70	Ha.	88.70
2	Cutting and preparation of wooden posts 1.8 Mt. and 8 to 10 cm dia I/C debarking and fashioning the top 15 cm in conical shape	60	Nos.	1122.60	Per %	673.56
3	Carriage of fence posts upto 2 Mt. long and 8 to 10 cm dia over distance 0.5 Km	60	Nos.	590.85	Per % per Km	177.25
4	Preparation and digging of holes 20-30 cm dia & 45 cm deep	60	Nos.	786.00	Per %	471.60
5	Fixing of wooden posts I/C strutting	60	Nos.	603.25	Per %	361.95
6	Carriage of barbed wire bundles up hill over an overage distance of 1 Km	0.9	Qtls	132.65	Per Qtl/ Km.	119.35
7	Stretching and fixing of barbed wire with U-staple in each strand	540	Rmt.	4.10	Per Rmt.	2214.00
8	Layout of pits/patches	1	Ha.	147.60	Ha.	147.60
9	Digging of pits (30x30x30) cm	500	No	413.65	Per %	2068.25
10	Digging of pits (45x45x45) cm	600	No	827.15	Per%	4962.90
11	Filling of pits (30x30x30) cm	500	No	165.40	Per %	827.00
12	Filling of pits (45x45x45) cm	600	No	236.95	Per %	1421.70
13	Carriage of Plants in P/bags from Nursery site over an average distance of 1 Km.	1100	No	157.45	Per %/ Km	1259.60
14	Planting of entire Plants I/C ramming, raised in P/ bags	1100	No	189.15	Per %	2080.65
15	Mulching of Plants	1100	No	51.85	Per %	414.80
				Sub Total		17288.91



16	Add Increase 25% for tribal areas					4322.20
17	Nursery Cost of P/bags raised Plants	1100	Tribal	4.71	Per plant	5181.00
18	Cost of B wire and other material					6700.00
				G. Total		33492.11
				Or Say		33500.00
Maintenance						
1	I year Maintenance (30% Mortality)	Detail of costing in accordance with provisions in Rampur Circle with No watering for five years				5040.00
2	II year Maintenance (20% Mortality)					3120.00
3	III year Maintenance (15% Mortality)					1740.00
4	IV year Maintenance (10% Mortality)					1000.00
5	V year Maintenance (10% Mortality)					1000.00
			Sub Total maintenance			11900.00
			G Total			45400.00

Nichar/ Kalpa Sub-Division fall in WET/ DRY ZONES of Kinnaur District

Annexure-II																														
Year-wise Consolidated Physical and Financial Outlay of the Shongtong-Karchham Hydroelectric Project (Rs. in Lakh)																														
Sl. No.	Name of Components	Name of Area	Sub Ctmt. No.	Name of Range		Unit	Zero Year		1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th Year		Total	
				Range	Beat		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	Afforestation Measures																													
a.	Nursery Development	Reckong-Peο Nursery	11	Kalpa	Reckong-peο	No.	1	4.00	1	1.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.50
		Kalpa Nursery	11	Kalpa	Kalpa	No.	1	5.00	1	1.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.00
		Pangi Nursery	13	Kalpa	Pangi	No.	1	3.50	1	1.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.50
		Lippa Nursery	16	Moorang	Jungi	No.	1	4.00	1	1.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	5.00
		Kanam/ Surpu Nursery	17	Pοοh	Kanam	No.	1	3.00	1	1.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.00
		Dubling Nursery	18	Pοοh	Dubling	No.	1	2.50	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.50
		Moorang Nursery	18	Pοοh	Moorang	No.	1	2.00	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	2.00
		Ribba/ Skibba Nursery	23	Moorang	Ribba	No.	1	3.00	1	1.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	4.00
		Shongtong Nursery	24	Kalpa	Shongtong (Barang)	No.	1	4.50	1	1.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	6.00
		Purbani Nursery	24	Kalpa	Purbani	No.	1	3.00	1	0.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	3.50
		Sub-Total					10	34.50		8.50		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		43.00
b.	Normal Plantation (New & Maintenance)																													
		C-235 (Non- Irrigated)	13	Kalpa	Pangi	Ha.	6	0	0	0	6	2.01	6	0.30	6	0.19	6	0.10	6	0.06	6	0.06	0	0	0	0	0	0	0	2.72
		C-188 Kurfu-Kanda	23	Moorang	Ribba	Ha.	5	0	0	0	5	1.68	5	1.28	5	0.83	5	0.44	5	0.25	5	0.25	0	0	0	0	0	0	0	4.73
		UF Chenglen	15	Moorang	Rarang	Ha.	5	0	0	0	5	1.68	5	1.28	5	0.83	5	0.44	5	0.25	5	0.25	0	0	0	0	0	0	0	4.73
		UF Tam	18	Pοοh	Giabong	Ha.	5	0	0	0	5	1.68	5	1.28	5	0.83	5	0.44	5	0.25	5	0.25	0	0	0	0	0	0	0	4.73
		Total					21	0.00	0	0.00	21	7.04	21	4.13	21	2.68	21	1.44	21	0.81	21	0.81	0	0.00	0	0.00	0	0.00	0	16.90
		C-240	13	Kalpa	Pangi	Ha.	6	0.00	0	0.00	0	0.00	6	2.01	6	1.53	6	1.00	6	0.53	6	0.30	6	0.30	0	0.00	0	0.00	0	5.67
		UF Nesang (Somthane)	21	Moorang	Moorang	Ha.	5	0.00	0	0.00	0	0.00	5	1.68	5	1.28	5	0.83	5	0.44	5	0.25	5	0.25	0	0.00	0	0.00	0	4.73
		UF Sunali (Barati Kanda)	18	Pοοh	Sunam	Ha.	8	0.00	0	0.00	0	0.00	8	2.68	8	2.04	8	1.33	8	0.71	8	0.40	8	0.40	0	0.00	0	0.00	0	7.56
		Total					19	0	0	0	0	0	19	6.37	19	4.85	19	3.16	19	1.69	19	0.95	19	0.95	0	0	0	0	17.96	
		Grand Total (Normal)					40	0	0	0	21	7.04	40	10.49	40	7.53	40	4.59	40	2.50	40	1.76	19	0.95	0	0	0	0	34.85	
c.	Enrichment Plantation (New & Maintenance)																													
		C-242	11	Kalpa	Reckong-Peο	Ha.	6	0.00	0	0.00	6	1.74	6	0.24	6	0.15	6	0.07	6	0.04	6	0.04	0	0.00	0	0.00	0	0.00	0	2.28
		C-239	11	Kalpa	Kalpa	Ha.	8	0.00	0	0.00	8	2.32	8	0.32	8	0.19	8	0.10	8	0.06	8	0.06	0	0.00	0	0.00	0	0.00	0	3.04
		C-240 (b)	11	Kalpa	Pangi	Ha.	8	0.00	0	0.00	8	2.32	8	0.32	8	0.19	8	0.10	8	0.06	8	0.06	0	0.00	0	0.00	0	0.00	0	3.04
		C-184	24	Kalpa	Purbani	Ha.	5	0.00	0	0.00	5	1.45	5	0.20	5	0.12	5	0.06	5	0.04	5	0.04	0	0.00	0	0.00	0	0.00	0	1.90
		C-179	24	Kalpa	Tangling	Ha.	6	0.00	0	0.00	6	1.74	6	0.24	6	0.15	6	0.07	6	0.04	6	0.04	0	0.00	0	0.00	0	0.00	0	2.28
		Total					33	0	0	0	33	9.57	33	1.32	33	0.80	33	0.40	33	0.23	33	0.23	0	0.00	0	0.00	0	0.00	12.55	
		Dunang (Irrigated)	15	Moorang	Rarang	Ha.	5	0.00	0	0.00	0	0.00	5	1.45	5	1.22	5	0.80	5	0.42	5	0.20	5	0.20	0	0.00	0	0.00	0	4.29
		C-191 Holdo (Irrigated)	23	Moorang	Rispa	Ha.	2	0.00	0	0.00	0	0.00	2	0.58	2	0.49	2	0.32	2	0.17	2	0.08	2	0.08	0	0.00	0	0.00	0	1.71
		C-212 (Kawa) (Irrigated)	17	Pοοh	Kanam	Ha.	5	0.00	0	0.00	0	0.00	5	1.45	5	1.22	5	0.80	5	0.42	5	0.20	5	0.20	0	0.00	0	0.00	0	4.29
		C-218 (Irrigated)	16	Moorang	Lippa	Ha.	3	0.00	0	0.00	0	0.00	3	0.87	3	0.73	3	0.48	3	0.25	3	0.12	3	0.12	0	0.00	0	0.00	0	2.57
		Total					15	0	0	0	0	0	15	4.35	15	3.67	15	2.39	15	1.25	15	0.60	15	0.60	0	0.00	0	0.00	12.86	
		C-243	11	Kalpa	Kalpa	Ha.	6	0.00	0	0.00	0	0.00	0	0.00	6	1.74	6	0.24	6	0.15	6	0.07	6	0.04	6	0.04	0	0.00	0	2.28
		C- 237	11	Kalpa	Pangi	Ha.	10	0.00	0	0.00	0	0.00	0	0.00	10	2.90	10	0.40	10	0.24	10	0.12	10	0.07	10	0.07	0	0.00	0	3.80
		C- 241	11	Kalpa	Kalpa	Ha.	8	0.00	0	0.00	0	0.00	0	0.00	8	2.32	8	0.32	8	0.19	8	0.10	8	0.06	8	0.06	0	0.00	0	3.04
		UF Kibbar	24	Kalpa	Purbani	Ha.	5	0.00	0	0.00	0	0.00	0	0.00	5	1.45	5	0.20	5	0.12	5	0.06	5	0.04	5	0.04	0	0.00	0	1.90
		UF Purbani	24	Kalpa	Purbani	Ha.	5	0.00	0	0.00	0	0.00	0	0.00	5	1.45	5	0.20	5	0.12	5	0.06	5	0.04	5	0.04	0	0.00	0	1.90
		C-180	24	Kalpa	Tangling	Ha.	4	0.00	0	0.00	0	0.00	0	0.00	4	1.16	4	0.16	4	0.10	4	0.05	4	0.03	4	0.03	0	0.00	0	1.52
		Total					38	0	0	0	0	0	0	0	38	11.02	38	1.52	38	0.92	38	0.46	38	0.27	38	0.27	0	0	14.45	
		Total Enrichment					86	0	0	0	33	9.57	48	5.67	86	15.49	86	4.31	86	2.41	86	1.29	53	0.87	38	0.27	0	0.00	86	

Year-wise Consolidated Physical and Financial Outlay of the Shongtong-Karchham Hydroelectric Project (Rs. in Lakh)																														
Sl. No.	Name of Components	Name of Area	Sub Ctmt. No.	Name of Range		Unit	Zero Year		1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th Year		Total	
				Range	Beat		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		Hurling Nalla	17	Pooh	Kanam	Site						4.00		5.50																9.50
		Gujunga Nalla	18	Pooh	Pooh	Site						3.50		3.50																7.00
		Pooh Nalla-III	18	Pooh	Pooh	Site						2.50		4.00																6.50
		Namgia Futang Nalla	20	Pooh	Pooh	Site						6.50		7.00		6.50		5.00												25.00
		Namgia Nalla	20	Pooh	Pooh	Site						5.50		7.00		6.50		6.00				5.00								30.00
		Tashingang Nalla-I	20	Pooh	Namgia	Site										5.00		4.00												9.00
		Tashingang Nalla-II (near Dogri)	20	Pooh	Namgia	Site										4.00		4.50												8.50
		Mangrang Nalla-II	20	Pooh	Dubling	Site						3.00		3.50																6.50
		Yukyr Nalla Dubling-I	20	Pooh	Dubling	Site						2.00		3.50																5.50
		Yukyur Nalla Dubling-II	20	Pooh	Dubling	Site											5.50													5.50
		Puwak Nalla Dubling	20	Pooh	Dubling	Site											5.50		2.00											7.50
		Shmulung Nalla	20	Pooh	Dubling	Site												4.50		6.00										10.50
		Pirang Santhang Nalla	24	Kalpa	Tangling	Site								4.00		6.00														10.00
		Kanaki-I Nalla	24	Kalpa	Tangling	Site						3.00		3.00																6.00
		Kanaki-II Nalla	24	Kalpa	Tangling	Site						5.00																		5.00
		Chamarka Nalla	16	Moorang	Lippa	Site						4.00		6.5		4.50														15.00
		Phyala Nalla	24	Kalpa	Tangling	Site						2.00		3																5.00
		Fotenden Nalla	16	Moorang	Lippa	Site						3.50		4.5																8.00
		Onchalang Nala	16	Moorang	Lippa	Site						4.00		1.00																5.00
		Mazrang Nalla	22	Moorang	Moorang	Site						4.50		5.50		5.00														15.00
		Garang Bal	22	Moorang	Moorang	Site								5.00		5.50		4.50												15.00
		Nungkriyeng	22	Moorang	Moorang	Site						5.00		6.00		5.00		2.00												18.00
		Tugrum	22	Moorang	Moorang	Site								3.00		5.50		1.50												10.00
		Total for Nalla Treatment										0.00		133.50		181.00		167.50		120.00		0.00		12.50		0.00		0.00	0.00	614.50
		c. River Bank Stabilization																												
		River bank near GREF Camp below Spillow village.	17	Pooh	Kanam	Site						5.00		6.50		7.00		7.50				4.00								30.00
		Left Bank of Satluj below Korispa village	23	Moorang	Rispa	Site						2.50		5.00		6.00		6.50												20.00
		Total for River Bank Stabilization										7.50	0.00	11.50	0.00	13.00	0.00	14.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	
		d. Avalanche control																												
		Kharba Nalla (Charang)	23	Moorang	Moorang	Site								6.00		8.00		4.00												18.00
		Permiti Nalla	23	Moorang	Ribba	Site								5.00		6.00														11.00
		Charang Nalla	23	Moorang	Moorang	Site								4.00		5.50														9.50
		Garangba Nalla	23	Moorang	Moorang	Site										5.00		5.00												10.00
		Ganungti Nalla (Pibbar)	23	Moorang	Moorang	Site										5.00		5.00												10.00
		Gujugo Nalla (Thangi)	23	Moorang	Moorang	Site						3.00		5.00																8.00
		Tulling Nalla (Lumber)	23	Moorang	Moorang	Site								6.50																6.50
		Tinku Nalla	18	Pooh	Pooh	Site						6.50		8.00		8.50		9.00				10.00		3.00						45.00
		Prutikanda -1 st	17	Pooh	Kanam	Site						4.00		6.00																10.00
		Prutikanda- 2 nd	17	Pooh	Kanam	Site								6.00		4.00														10.00
		Prutikanda- 3 rd	17	Pooh	Kanam	Site										3.50		6.50												10.00
		Tapangkanda	17	Pooh	Kanam	Site						4.00		5.00		6.00														15.00
		Talling Dherdher	18	Pooh	Sunam	Site						6.00		6.50		6.50		6.00												25.00
		Chhapan-Shalma	16	Moorang	Jangi	Site								6.50		7.00		7.00				4.50								25.00
		Khatung Nala	23	Moorang	Rispa	Site								6.00		5.00		4.00												15.00
		Total Avalanche Control										23.50		70.50		70.00		46.50		0.00		14.50		3.00		0.00		0.00	228.00	

Year-wise Consolidated Physical and Financial Outlay of the Shongtong-Karchham Hydroelectric Project (Rs. in Lakh)																															
Sl. No.	Name of Components	Name of Area	Sub Ctmt. No.	Name of Range		Unit	Zero Year		1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th Year		Total		
				Range	Beat		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
6	Wildlife Measures																														
	a) In Protected Areas	Lippa-Asrang sanctuary (in Wild Life Range)	16	Sangla	Asrang	No.		7.00		7.00		7.00		7.00		7.00			3.00		3.00		3.00		3.00		2.00		1.00		50.00
	b) Out side Protected Areas																														
	1. Planning											1.00																		1.00	
	2. Implementation																														
	2.1.1 Management and Improvement of Wild Life			Kalpa / Moorang/ Pooh				1.00		1.50		1.50		2.00		2.00		2.00		1.00		1.00		1.00		1.00		1.00		15.00	
	2.1.2 Implementation of Developmental and Income Generation Activities							0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.25		0.25		5.00	
	2.1.3 Vaccination Domestic Cattle							0.25		1.00				1.00				1.00				1.00				0.50		0.25		5.00	
	2.1.4 Anti- Poaching Measures							0.25		0.50		0.75		0.75		0.50		0.50		0.50		0.50		0.25		0.25		0.25		5.00	
	2.1.5 Reward/ Incentives to informers							0.25		0.50		0.50		0.50		0.25		0.25		0.25										2.50	
	2.1.6 Extension Activities for Wildlife Awareness							0.50		1.00		1.00		1.50		1.50		1.50		1.00		1.00		1.00		1.00		0.00		10.00	
	2.1.7 Sign & Slogan Boards							0.00		0.25		0.25		0.50		0.50		0.25		0.25		0.00		0.00		0.00		0.00		2.00	
	2.1.8 Wildlife Census							1.50		0.00		0.00		1.50		0.00		0.00		1.50		0.00		0.00		1.50		0.00		6.00	
	2.1.9 Support to Ex-situ Pheasant Conservation and Breeding							10.00		10.00		5.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		25.00	
	Total of Implementation							14.25		15.25		9.50		8.25		5.25		6.00		5.00		4.00		2.75		3.50		1.75		75.50	
	2.2 Help to resolve to man-animal conflict																														
	2.2.1 Compensation against Damage by Wild Life							1.50		2.00		2.50		2.50		3.00		3.00		3.00		3.00		2.50		1.00		1.00		25.00	
	2.2.2 Support to Monkey Sterilization Prog.							2.00		3.00		4.00		4.00		4.00		3.00		3.00		3.00		2.00		1.00		1.00		30.00	
	2.2.3 Purchase of equipments and medicine for management of wildlife							1.00		2.00		4.00		4.00		4.00		4.00		4.00		4.00		4.00		3.00		1.00		35.00	
	Total 2.2							4.50		7.00		10.50		10.50		11.00		10.00		10.00		10.00		8.50		5.00		3.00		90.00	
	2.3 Wildlife Habitat Management																														
	2.3.1 Protection of unique wildlife habitat							0.00		0.00		0.00		5.00		5.50		4.50												15.00	
	3. Training							0.50		1.00		1.50		2.00		3.00		2.00												10.00	
	4. Research & Monitoring							0.50		0.50		0.50		3.00		1.00		1.00		1.00		0.50		0.50		0.50		1.00		10.00	
	5. Contingencies							0.50		0.50		1.00		1.00		1.00		2.00		1.00		1.00		1.00		1.00		0.00		10.00	
	Total Out side Protected Areas							20.25		25.25		23.00		29.75		26.75		25.50		17.00		15.50		12.75		10.00		5.75		211.50	
	Sub Total of Wildlife Measures							27.25		32.25		30.00		36.75		33.75		28.50		20.00		18.50		15.75		12.00		6.75		261.50	
7	Monitoring & Evaluation							0.00		4.00		5.00		12.00		5.00		5.00		15.00		5.00		5.00		15.00		5.00		76.00	
8	Site Specific Work Plan (Micro Planning)							5.00		8.00		12.00		14.50		15.00		12.00		7.50		3.50		2.00		3.00		2.50		85.00	
	TOTAL OF ALL COMPONENTS							207.75		331.60		631.51		820.61		776.46		418.40		152.90		170.50		101.52		66.72		47.25		3725.22	
9	Contingencies							2.00		10.00		15.00		15.00		25.00		10.00		10.00		25.00		18.00		25.00		20.00		175.00	
	G. Total of CAT PLAN Activities							209.75		341.60		646.51		835.61		801.46		428.40		162.90		195.50		119.52		91.72		67.25		3900.22	
	Total CAT Plan Activities rounded up																													3900.00	
	The balance amount of Rs. 21.40 Crore against which no works have been proposed, may be used for funding Eco-Task Force in Satluj basin as also for the comprehensive CAT Plan of Satluj River basin.																														
	Total Cost of CAT PLAN (2.5% of Project Cost)																														
																														6040	

<p>General Manager Himachal Pradesh Power Corporation Limited Reckong-Peo</p>	<p>Divisional Forest Officer Sarhan Forest Division (wild Life) Sarhan, Distt. Shimla</p>	<p>Divisional Forest Officer Kinnaur Forest Division Reckong-Peo</p>
 General Manager, Shongtong-Karchham HEP, HPPCL, Reckong Peo, Distt. Kinnaur (HP) 172103	 Divisional Forest Officer, Sarhan Wild Life Division, Distt. Shimla (H.P.)	 Divisional Forest Officer, Kinnaur Forest Division, At Reckong Peo. (H.P.)

Annexure - III						
Component wise Physical and Financial Outlays and %age allocation						
S. No.	Particulars / Components	Unit	Physical	Rate	Financial (in Lacs)	% age
1	Afforestation Measures					
	a. Nurseries Development	No.	10	L/s	43.00	
	b. i. Normal Plantation (Irrigated)	ha	34	95500	32.13	
	b. ii. Normal Plantation (Non-Irrigated)	ha	6	45140	2.72	
	c. i. Enrichment (Irrigated)	ha	15	88738	12.86	
	c. ii. Enrichment (Non-Irrigated)		71	37838	27.01	
	d. Conservation and Development of Chilgoza Pine				1000.00	
	Sub Total of Afforestation Measures				1117.72	28.66
2	Soil & Water Conservation Endeavors					
	a. Landslides / Slip	No.	20	L/s	259.50	
	b. Nalla Treatment	No.	57	L/s	614.50	
	c. River bank Stabilization	No.	2	L/s	50.00	
	d. Avalanche control	No.	15	L/s	228.00	
	e. Van Sarovar	No.	3	L/s	25.00	
	Sub Total Soil & Water				1177.00	30.18
3	Payment for Environmental Services				200.00	5.13
4	Research, Training & Capacity build up, Publicity & Awareness, Documentation				100.00	2.56
5	Infrastructure built up & Forest Protection					
	a. Building repair	No.	23	L/s	121.75	
	b. Path	No.	7	L/s	48.75	
	c. Vehicle and Operational support	No.			457.00	
	d. Silt monitoring	No.			55.00	
	e. Forest protection					
	i. BP				16.50	
	ii. Fuel Saving				5.00	
	iii. Sign & Board				2.00	
	iv. Reward				2.00	
	Sub Total Infrastructure built up & Forest Protection				708.00	18.15
6	Wild Life Measures					
	Protected Areas				50.00	
	Outside Protected Areas					
	1. Planning				1.00	
	2.1 Implementation				75.50	
	2.2 Help to resolve to man-animal conflict				90.00	
	2.3 Wildlife Habitat Management				15.00	
	3. Training				10.00	
	4. Research & Monitoring				10.00	
	5. Contingencies				10.00	
	Sub Total Wild Life Measures				261.50	6.70
7	Monitoring & Evaluation				76.00	1.95
8	Site Specific Work Plan (Micro Planning)				85.00	2.18
9	Contingencies				175.00	4.49
	G. Total of CAT PLAN Activities				3900.22	100.00
	Total Rounded up for Activity Plan			Or say	3900.00	
	The balance amount of Rs. 21.40 Crore against which no works have been proposed, may be used for funding Eco-Task Force in Satluj basin as also for the comprehensive CAT Plan of Satluj River basin.				2140.00	
	G. Total				6040.00	
Note:-						
	Since the HPPCL has already deposited the entire amount of Rs. 6044 Lakh on 1-10-2012 in compliance to condition imposed by MoEF. Hence No Annual Increase/ Price Escalation will be applicable to the user agency (HPPCL).					



Annexure-IV

BIOENGINEERING MEASURES

Concept, Approach and Practicable Techniques of Bioengineering

1. Concept of Bioengineering

Wood and living plants were the only materials for hill and slope stabilization works for hundreds of years. These days some of the old techniques have been modified and applied, which mainly use live material such as willow branches, willow cuttings, and rooted deciduous trees. The duration for implementing vegetation for slope stabilization works depend on the technique of soil bioengineering measure and the type of the plant that has been used. The techniques used in soil bioengineering are traditional and have been used since very long time ago.

Bioengineering is a sustainable approach where the combination of live and dead plants and plant parts are used as building materials for erosion reduction and upland slope prevention. This is based on engineering concept. The combination of vegetative engineering systems and civil engineering systems normally offers the most complete natural and cost effective solution to the variety of instability problems affecting a site

The overall objective is to provide better living conditions to the population by the provision of environment sound and improved sustainable mountain system so as to make a rapid economic growth in tune with economic growth of the country. Specifically bioengineering is adapted with a view to:

- i) Examine soil bioengineering needs of project,
- ii) Monitor existing slope stabilization works.
- iii) Study plant species compositions and plant species which can be used for future soil bioengineering purpose.
- iv) Survey a plan of soil bioengineering activities.
- v) Test plant species in combination with different soil-bioengineering techniques for its suitability in winter plantations.
- vi) Stabilize the unstable slopes through a suitable application of vegetation in different soil-bioengineering methods, either alone or in combination with civil engineering structures.
- vii) Use indigenous materials, low capital costs compared to civil engineering structures.



Slope bioengineering is totally labour based approach providing benefits to the local people. It focuses on minimizing the damage to the natural environment as well as reducing the future maintenance costs. Major portion of the cost of the hill stabilization goes toward the payment of wages to the local labour. Hydro Project construction approach incorporates social, environmental and technical issues. The people's participation is most essential for the success of slope conservation works. The use of local materials motivates local people's participation. Soil bioengineering is an important and an integral part of construction, which is environment sound and cost effective. The use of plants for land stabilization is applied either alone, or in conjunction with civil engineering structures and non-living plant materials to reduce shallow-seated instability and erosion on slopes.

2. Bioengineering Approach

Experiences have proven that without adequate planning hills are not sustainable. Evidences have also shown that in the past some hill slopes of the Himalayan region needed rehabilitation because of no maintenance or very poor maintenance. The conventional method of hydro power project construction are generally being followed and are increasingly being questioned due to the use of large scale engineering structures with high investments.

3. Practicable Ways for Technique Adoption and Construction of Nurseries

Bioengineering methods can be used to protect almost all type of slopes against erosion and reduces the instance of shallow failures. However, the establishment process may take some time. Vegetation is more dynamic than inert and takes some time to reach their maximum strength. They tend to become stronger over time. The application of soil bioengineering in combination with civil engineering structures would be most appropriate.

Dry stone walls or gabion retaining structures are built in the valley side of the road to protect the fill volume to reduce mass wasting and erosion process. Erosion control plantings are carried out on bare fill surface. Every attempt is made to maintain mass balance of hill slopes (cut and fill). The incorporation of soil bioengineering is a vital and integral part of road construction.



Cuttings and rooted plants are used during the dormant season. Various methods are available for hill side slope stabilization.

Jute and Wire Matting

The methods for seeding are dry-seeding and hydro-seeding. The seed will be protected with straw in combination with bitumen or meshes of jute and wire on exposed areas. The stabilization can be increased through transplanting stump sprout deciduous trees after re-vegetation with seeding. Jute matting is a tested method in many areas where soil is loose and difficult to hold as such. A few photographs has been depicted to the authenticity in Kol Dam area. This matting will be spread in between the check walls and Bioengineering works will be carried out by planting suitable local spp such as Agave, Yucca, Vitex etc. The matting will be affixed with wooden pegs and after some time this will biodegrade with the time.







Loose rock slopes can be stabilized with different types of brush layering. The applications with rooted plants are known as hedge layer. The uprooted plant installations are brush layer. A combination of both is a hedge brush layer.

Dewatering and stabilization of wet slopes can be done through the use of drain and slope fascines. The fascines consist of live branches of willows that are tied together with wire.

There are numerous different hill side slope stabilization methods, which utilize plants in combination with construction of wood, stone and wire such as planted pole walls, live slope grids, live bamboo crib walls, vegetated stone walls and vegetated gabions. Choosing the right method depends on various factors such as the position of slope, ground and available material. The sections given below presents the techniques adopted in brush layer, drainage fascines, pallisade, single tree planting and grass planting. The advantages and disadvantages of each of these techniques are also given under the respective techniques.

3.1 Brush Layer Techniques

Brush Layer consists of placing live branch cuttings laid in small benches excavated into slopes. The benches can range from 2 to 3 ft wide. Live materials should be 1/2 to 2 inches in diameter. It is long enough to reach the back of the bench. The side branches should remain intact for installation.



Brush layer construction placing live branch cuttings in slopes



The cuttings are placed into slopes and oriented perpendicular to slopes. This is a more effective for earth reinforcement and mass stability of slope. It is also recommended on slopes up to 2:1 in steepness. It serves as tensile inclusions or reinforcing units. It assists in retarding runoff and reducing surface erosion.

The construction breaks up the slope length into series of shorter slopes separated by rows of brush layer. It also reinforces the soil with un rooted branch stems and reinforces the soil as roots develop, adding significant resistance to sliding or shear resistance.

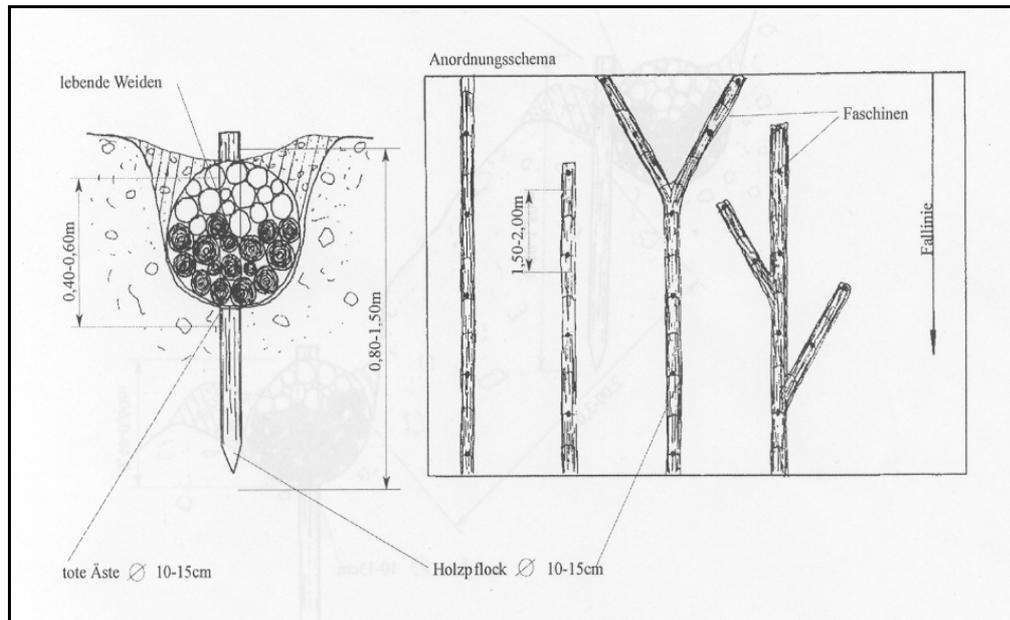
Whereas on dryer sites it helps infiltration on dry sites and drying excessively wet sites. It also adjusts the sites micro-climate, thus aiding seed germination and natural regeneration. The technique also acts as horizontal drains by redirecting and mitigating adverse slope seepage.

The construction is started at the toe of slope. Benches are excavated horizontally, on the contour, or slightly down the slope, if needed to aid the drainage. The surface of the bench slope should be constructed in such a manner that the outside edge is higher than the inside part. The live branch cuttings placed on the bench.

Branch growing tips (shoot bud) should be aligned towards the outside of the bench. The backfill is placed on top of the branches and compacted to eliminate air spaces. The brush tips should extend slightly beyond the fill to filter sediment. Each lower bench is backfilled with soil obtained from excavating the bench above.

3.2 Drainage fascines

Fascines are used for a variety of slope stabilization purposes. Fascines slow runoff, catch debris and reinforce the slope due to rooting. Drainage fascines in particular stabilize and drain slopes and are built into rills or small gullies. Immediately after establishment they have a draining effect because the water is channeled through the straight branches. With shoot and root development they form a strong line of vegetation. Additionally they achieve water-removal due to transpiration of plants.



Drainage fascines

Draining fascines are long bundles of live branches or stems approximately 20 to 40 cm in diameter. The branches are placed with the butt ends pointing at the same direction into existing rills or dug trenches following the contour or desired angle precisely.

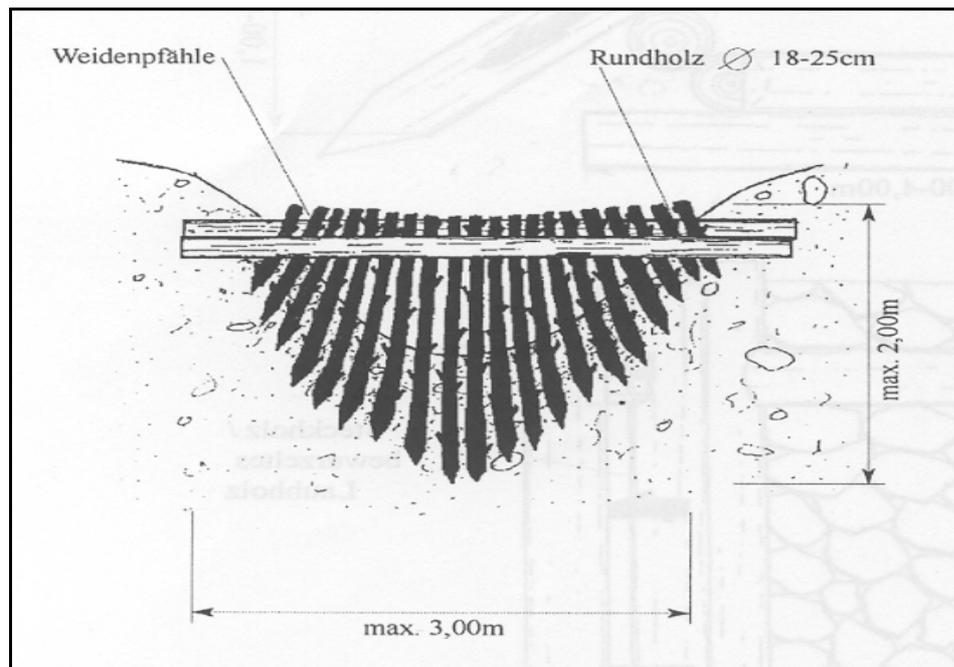
The bundles are tied together with 1.5 to 2.0 mm wire every 1 m and fixed into the ground every meter by wooden pegs or live stacks with a minimum length of about 80-100 cm. For the lower third of the fascine green branches of non-sprouting plants or gravel can be used. After placement the fascines are covered with a thin soil layer of about 3 to 4 cm. All branches should be in contact with soil to enable rooting and shoot development.

3.3 Palisades

Vegetated palisade constructions are ancient techniques, which were already used by the first people in Central Europe. At the beginning of the 20th century vegetated palisade constructions were still common in Bohemia, Moravia and Slovakia.



Palisades are used for protection of small but deeper, narrow gullies and shallow V-shaped rills. Immediately after construction they provide mechanical protection by catching debris, armouring and reinforcing gully floors. These effects are increasing after shoot development of cuttings. As a result of plant transpiration, they achieve water-removal from soil.



Palisades

Huge live poles are driven or dug half of their length, vertically into the ground. 5 to 20 live poles per running meter with at least 5 cm in diameter should be used. On their top they are fixed by wire on one or two cross beams, which have been anchored into the sides of the gully. The distance between the palisades depends on the steepness of the gully slope and profile of the gully floor. On slopes with less than 30° inclination 2 m are convenient, on slopes with an inclination between 30° and 60° a distance of 1 m is recommended.

3.4 Single Tree Planting

Growing shrubs and trees form a dense network of roots in the soil. Reinforcing and in the longer term anchoring, are the main engineering functions. Shrub and tree planting can be applied on almost every slope. It is often used in combination with other soil-bioengineering measures.



Rooted plants from the nursery (usually raised as polypot seedlings) are planted in off-set rows or in other specific pattern on the slope. One plant per m^2 should be enough. Main considerations are the costs of establishment and the period in which a dense plantation is required. The plants are put into a pit large enough for the rooting system. After filling soil carefully around the cylinder of roots and soil from the polypot, the soil is firmed gently around the plant. Stump-sprouting species should be preferred. Mulching, with for instance compost or chopped grass helps the young plants to grow faster by regulating the moisture and suppressing competing vegetation.

3.5 Grass Planting

For grass planting, grass slips, cuttings, or clumps grown from seed are planted in lines or at random on the slope. Grass plantations protect the slope, due to rooting and by providing a surface cover. They reduce the speed of runoff, catch debris and armour the slope.

By using a planting bar holes just big enough for the roots are made. The grass slips or cuttings are placed into it, the soil filled around it and firmed gently. Grass planting is started from the top of the slope working downwards.

Different patterns of grass lines can be used as given below:

- Contour/ horizontal lines: They reduce speed of runoff and catch debris thereby armouring the slope.
- Down-slope/ vertical lines: Armour, reinforce and drain the slope. Used for damp sites and poorly drained materials where an intensified infiltration can lead to liquefaction of the soil.
- Diagonal lines: Main functions are armouring and reinforcing. Secondary they catch debris and drain the slope. Best compromise of horizontal and vertical planting.
- Random planting: it is often used in combination with jute netting on very steep harsh slopes where complete surface protection is needed.

The locally available grass species can be used for erosion control purpose and are useful for thatch, fodder, pasture and medicines.



Annexure: V

List of Participants during interaction with Field staff of Kinnaur Forest Division for preparation of CAT Plan for Shongtong – Karchham HEP with HFRI Team during July 2012

Sl. No.	Date	Name of Participant	Designation	Name of Range	Place
1	18.7.2012	Shri Jalmi Ram	B. O. Kalpa	Kalpa	Shongtong & Reckong-Peo
2	& 21.7.2012	Shri Kalam Singh	B. O. Shongtong		
3		Shri Dinesh Kumar	FG Pangi Beat		
4		Shri Mohan Singh	FG Reckong-Peo		
5		Shri Neema Chhering	FG Kalpa		
6		Shri Rakesh Chander	FG Shongtong		
7		Shri Janna Geer	FG Purbani		
8	19.7.2012	Shri Pawan Kumar	B. O. Jangi	Moorang	Akpa
9	& 20.7.2012	Shri Hira Singh Thakur	B. O. Ribba		
10		Shri Vidya Chand	FG Rarang		
11		Shri Vikas	FG Rispa		
12		Shri Kewal Ram	FG Rarang (U/T)		
13		Shri Jai Prakash	FG Moorang		
14		Shri Raj Kapoor	FG Jangi		
15		Shri Devender Kumar	FG Lippa		
16	20.7.2012	Shri Krishan Bhag	R. O. Pooh	Pooh	Pooh
17	Shri Partap Singh	B. O. Pooh			
18	Shri Raj Bahadur	B. O. Kanam			
19	Shri Virender Kumar	FG Dubling			
20	Shri Yograj	FG Pooh			
21	Shri Gambhir Singh	FG Sunum			

The HFRI Team consisted of:

- Shri G. S. Thakur, DCF, HFRI
- Shri C. M. Sharma, the Cat Plan Consultant and
- Shri Dushyant Kumar, R. A. II, HFRI



HIMACHAL PRADESH STATE ELECTRICITY BOARD

OFFICE ORDER

HPSEB is pleased to accord Techno Economic Clearance (TEC) to SHONGTONG KARCHAM HEP (402 MW) in Satluj basin in Distt Kinnaur of Himachal Pradesh at an estimated cost (at bus bar) of **Rs.2415.53 crore** (Rupees Two thousand four hundred fifteen crore & fifty three lac only at **December, 2005 price level** including Escalation, IDC and LADA charges @ 1.5 % with the stipulation that:

- 1 i) The complete cost of the scheme shall not exceed the above cost except on account of the following:
 - a) Interest During Construction (IDC) shall be as per actuals not exceeding the amount as indicated at Annex-I unless revised by HPSEB while according concurrence under section 31 of Electricity (supply) Act, 1948 repealed by Electricity Act, 2003 after review of financial package.
 - b) Change in rates of Indian taxes/ duties such as excise duty, sales tax/ VAT, custom duty and levy of any other taxes/duties subsequent to issue of Techno-Economic Clearance (TEC).
 - c) Change in Indian law resulting in change in cost.
 - ii) The abstract of the estimated cost approved by HPSEB is furnished at **Annex-I**, Summary of Financial package as considered by HPSEB is at **Annex-II** and the Salient Features of Scheme are at **Annex-III**.
- 2) The Techno-Economic Clearance (TEC) is subject to the fulfillment of the following conditions:-
- i) Completed cost/techno economic clearance shall not be re-opened due to the following:
 - a) Non-acquisition of land.
 - b) Non-finalisation of Power Purchase Agreement (PPA).
 - c) Delay in financial closure.
 - ii) The final financial arrangement shall not be inferior to the financing arrangement projected in the Detailed Project Report (DPR) for TEC.
 - iii) Tariff shall be decided by the Central/State Electricity Regulatory Commission.
 - iv) The public issue expenses, if any, shall be reconsidered at the time of approval of completion cost based on documentary proof and in accordance with Security Exchange Board of India (SEBI) guidelines regarding regulation of public issue expenses.



Annexure- VI

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- v) Fulfillment of conditions stipulated in Central Electricity Authority (CEA)/ Central Water commission (CWC) guidelines in respect of civil works at the stage of detailed design/execution.
 - vi) The Techno-Economic Clearance (TEC) is subject to clearances of project by MOE & F from environmental and forest angle. The statutory clearances as per **Annexure-IV** shall be obtained before execution/implementation of the project.
 - vii) Implementing agency/ Project Authority shall enter into an agreement with beneficiary status for absorbing power generated from the project.
 - viii) Implementing Agency/Project authority shall obtain the forest clearance for the Power evacuation line before commencement of the construction work.
 - ix) Implementing Agency/Project authority shall construct the Power evacuation line matching with the commissioning of the generation units.
 - x) No additional cost shall be allowed due to Resettlement & Rehabilitation (R&R) Plan.
 - xi) Normal operation life of the hydro power plant shall be as provisions of the sixth schedule of the Electricity (Supply) Act 1948 repealed by Electricity Act 2003.
 - xii) The TEC is based on the reports and data furnished in the DPR and it is presumed that information furnished is accurate. The scrutiny does not cover the examination of the detailed design and working drawings of work components in regard to the structural, hydraulic and mechanical performance and safety which shall be ensured by the implementing Agency/Project Authority.
 - xiii) Final Financial package shall be approved by the HPSEB..
- 3) The Project shall be completed with in 72 (seventy two) months from the date of start of the Project.
 - 4.a) Monthly Progress Report of the Project shall be submitted to Monitoring Cell of HPSEB. Three (3) copies of the semi-annual physical progress report of the scheme and expenditure actually incurred, duly certified by statutory auditors shall be submitted to the HPSEB till the Commercial Operation of the plant.
 - b) Final financial package and issue related to that shall be submitted to HPSEB.
 - 5) Monthly status of the Project from the period of TEC to financial closure /investment decision shall be furnished to HPSEB.
 - 6) The completion cost of the scheme shall be submitted to HPSEB for approval as soon as possible after the commercial operation date (COD) of the plant. but not than three (3) months from the COD of the plant.



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- 7 The concurrence of the HPSEB to the scheme under Section-31 of the Electricity (Supply) Act, 1948 repealed by Electricity Act, 2003 shall be considered by the Board on submission of final Financial Package and tie-up of balance inputs/clearances by the implementing Agency/Project Authority within a period of six months from the date of issue of TEC.
- 8 In case the time gap between the Techno-Economic-Clearance of the scheme and actual start of work on the Project is three years or more, a fresh Techno-Economic-Clearance shall be obtained from HPSEB before start of actual work.
- 9 The HPSEB reserves the right to revoke the Techno-Economic-Clearance, if the conditions stipulated in the TEC are not complied with to the satisfaction of the HPSEB.
- 10 The implementing Agency/Project Authority shall have to obtain clearance from CERC/HPERC as per provision in the Electricity Act, 2003.

[Signature]
Chief Engineer (P&M),
HPSEB, SHIMLA-4

N.D. HPSEB (Sectt) /401-Shongtong Karchham TEC/06-3/258-7) Dated-22-6-06

Copy of above is forwarded to the following for information and necessary action please:

- 1 The Additional Secretary (Power) to the Govt. of HP, Shimla-2.
- 2 The Secretary, HPSEB, Shimla 4 alongwith copy of Memorandum approved by the WTMs of the Board by circulation.
- 3 The Addl Secretary cum PS/ Spl.Sr. PS/Sr. PS to the Chairman and Members of HPSEB for kind information of the Worthy Chairman/Members please
- 4 The CAO, HPSEB, Vidyut Bhawan, Shimla-4.
- 5 The Chief Engineer (P&M), HPSEB, Shimla-4.
- 6 The Chief Engineer (S), HPSEB, Shimla-4.
- 7 The Chief Engineer (Projects), HPSEB, Shimla-2 w.r.to his UO note no. HPSEB/CE (P)/CC- Shongtong-Karchham/06-574 dt. 16.3.06.
- 8 The Deputy Chief Engineer (Contract), HPSEB, Vidyut Bhawan, Shimla-4.
- 9 The A.O. (CFC), F&A Wing, HPSEB w.r to his UO note no. HPSB/F&A-CFC-19 (10)/06-0-11 dt. 2.5.06.

[Signature]

[Signature]
Chief Engineer (P&M),
HPSEB, SHIMLA-4

[Signature]
Addl. Superintending Engineer
Investigation Division,
HPSEB Reckong Peo,
DIST. KINNAUR (H. P.)

My doc. TEC thought: Karchham



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Annexure-I

HIMACHAL PRADESH STATE ELECTRICITY BOARD

SHONGTONG-KARCHAM HEP(420MW)

ABSTRACT OF COST ESTIMATE

a) (Rs.Crore)

1.	Civil Works	1165.00	Price level year Dec.,2005
2.	Electro-mechanical works	504.20	

Sub Total (a)

1669.20 crore

b)

1.	Escalation	380.74
2.	IDC	329.89

Sub Total (b)

710.63

Total (a+b)

2379.83

c) LADA @ 1.5%

35.70

TOTAL (a+b+c)

2415.53

(Rupees Two thousand four hundred fifteen crore and fifty three lac) only.

Atcharya d.

Atcharya d.
Addl. Superintending Engineer
Investigation Division,
H P S E & Reckong Peo
DISTT. KINNAUR (H. P.)

CONSERVATION AND DEVELOPMENT OF CHILGOZA PINE (PINUS GERARDIANA)

INTRODUCTION

Chilgoza Pine is very important tree species of semi-arid temperate region of the State mainly falling in Kinnaur & Chamba District. It is an inhabitant of the temperate rocky dry landscape and forms the major tree element of the area which holds on to the thin layer of soil available in these areas, serving a very important ecological function. Also, it is very important from the socio-economic perspective as it bears Chilgoza seeds of commerce (also known as 'neoza' in trade) that fetch to the local people cash income to the tune of an estimated Rs. 18 crore per year.

GENERAL CHARACTER OF VEGETATION

Chilgoza Pine is capable of growing on shallow soil or rocky crevices and on hill side etc at altitude 1500-3300 m in dry zone region i.e. outside the scope of monsoons. The forests are depleted and bear little or no natural regeneration due to lack of seed as the cones are collected by right holders. Also unregulated and unrestricted grazing, eating of seeds by birds, rats mice etc. edaphic and climate forests etc make regeneration a difficult task in the area.

STRATEGY AND ACTION PLAN

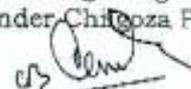
Strategy and Action Plan^{for} 5 years (2013-14 to 2017-18) has been prepared to regenerate degraded and poorly stocked Chilgoza Pine forests.

THE PROJECT HIGHLIGHTS ARE AS UNDER

- Rehabilitation of 400 hectare of Chilgoza forests (Kinnaure -320 ha, Chamba = 80 ha).
- Raising of 7.50 lakh tall plant of Chilgoza for forest plantations and for distribution.
- Conservation of genetic variability of chilgoza through (a) establishment of 4 nos. Chilgoza Field Gene Banks (CFGBs), and (b) establishment of one Chilgoza Germplasm Bankk (CGB).
- Promotion of non-destructive harvesting practices and local value addition methods.
- Promote chilgoza as "Theme Tree" for Kinnaur and organize annual 'chilgoza festivals'.
- Promote planting of chilgoza on private and institutional lands @ 15000 saplings per year.

PROJECT FUNDING

The project area falls in the catchment of major river basins where extensive hydro-electric projects are under implementation/planned. As such the State CAMPA funds could be a potential source of project funding. Amount to the tune of Rs. 10.00 crores have been proposed under Project proposal. Time frame of the project is 5 years (2013-14 to 2017-18). The required funds (Rs. 10 crores) will be provided from Shongthong Karchhum CAT Plan. Detail of expenditure shall be worked out under Chilgoza Project.


Chief Conservator of Forests (T),
Rampur Bushahr, HP

**Compliance Of Final Ec Conditions (Stage II) Monitoring Report in R/o
Shongtong-Karchham HEP**

I	Name of Project	Shongtong Karchham HEP
II	Name of Monitoring/Reporting Agency and address	Himachal Pradesh Power Corporation Limited
III	Report for the period	31 st March 2023

1. **Forest Clearance:** Forest Clearance for the project was granted by MoEF vide F.no. 8-78/2010-FC, dated 14th Nov. 2012 (submitted with previous compliance report).

Sr. No.	Description	Compliance Status
1.	Legal Status of the diverted forest land shall remain unchanged.	HPPCL will not seek any changes in status of diverted forest land.
2	The Compensatory Afforestation (CA) will be raised and maintained over double the area proposed for diversion in a degraded forest land (i.e. 128 ha) at the cost of User Agency.	Condition is complied with by paying the requisite amount to CAMPA through DFO Kinnaur. The HPPCL has deposited the requisite cost towards CA with Department of Forest, Govt. of HP amounting to Rs. 1, 74, 65,952/- (One crore seventy-four lakhs sixty-five thousand nine hundred and fifty two) only vide DD No. 630072 dated 02.04.2011 (worth Rs. 7, 44, 26,798/- including amount for NPV) drawn on Reckong Peo branch of State Bank of India vide their letter No. HPPCL/GM-STKHHEP/Forest/ 2010-24-27, dated 02.04.2011 as per the bill issued by DFO Kinnaur vide letter No 9216 dated 30.03.2011. Progress report up to Sept 2022 under CA is attached as Annexure- .
3	The user Agency shall pay the additional NPV, if so determined, as per the final decision of Hon'ble Supreme Court of India.	Condition has been complied with by paying the requisite amount to CAMPA /DFO Kinnaur. HP Forest Department through DFO Kinnaur raised a bill for Rs. 5, 69, 60,846/- (Five crore sixty-nine


 Dy. General Manager (R&R)
 Shongtong Karchham HEP,
 HPPCL, Reckong Peo
 Dist. Kinnaur (HP)


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		<p>lakh sixty thousand eight hundred and forty-six) only against NPV vide letter No. 9216 on dated 30.03.2011 and same has been deposited vide DD No. 630072 dated 02.04.11 with the DFO Kinnaur HP (submitted in previous compliance report). An undertaking to pay the additional NPV, if so determined as per the final decision of Hon'ble Supreme Court of India has already been given. Progress of the NPA is not being submitted by the Concerned Forest Department</p>
4	All the funds received from the user Agency under the project shall be transferred to Ad-hoc CAMPA pertaining to the state.	Project proponent has deposited all the funds to the DFO, Kinnaur H.P forest department and further deposited to Ad-hoc CAMPA by DFO, Kinnaur.
5	The State Government shall ensure that minimum flow of 15% is maintained at all time.	<p>The project proponent is committed to maintain 20% Environmental flow as per Environment Clearance condition. The environmental flow assessment study has been conducted by NIH Roorkee. The EAC in its meeting held on 10th and 11th December, 2013 desired to have presentation on Environment flow study. The presentation was given by project proponent before the EAC on 16 October, 2014. The EAC observe that Environment flow study was carried out in accordance with the Flow duration curve method. While this is generally in order but for further clarity the same should be carried out through Hydraulic rating and Habitat Simulation method. The technique shall factor the need of aquatic faunal population. Also the adequacy of environmental flow in terms of depth, velocity and top width needs to be checked and proposed a fresh. Accordingly the environment flow study has been revised as desired by EAC and submitted to MoEF&CC for approval.</p> <p>The preference shall be given to</p>


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 Shongtong Karchham HEP,
 HPPCL, Rackong Peo
 Distt. Kinnaur (HP)

		Himachalies for the employment in the project.
6	The user agency shall set up Ecological Monitoring Unit to monitor the impact of the project on flora and fauna of the area.	As per the stipulations imposed by Forest Advisory Committee, MoEF&CC an Ecological Monitoring Unit (EMU) to monitor the impact of project on flora and fauna of the area was to be constituted Since, the Stage-I Forest Clearances to Shongtong Karchham HEP & Integrated Kashang HEP were granted within the same time period and with similar condition of setting up of an EMU. Thus, Divisional Forest officer Kinnaur at Reckong Peo through his office order issued vide No. 3KNR/2011-12 dated 5.04.2011” framed committee for the Ecological Monitoring to monitor the impact of aforesaid Projects on flora & Fauna within the jurisdiction of command area of the Shongtong Karchham HEP , as well as, Integrated Kashang HEP. Project proponent had agreed to comply the directions of above nominated committee. On dated 19/06/2015 this office received a letter from the O/o General Manager, IKHEP that a payment of Rs. 6,00,000/- has been made to DFO (Kinnaur) on account of APO for Ecological Monitoring Unit to monitor the impact of project on flora and fauna of the area in r/o IKHEP & STKHEP, HPPCL. The amount is chargeable to both the projects on pro rata basis .The same was verified by this office and Rs. 4,18,605/- from the total of Rs. 6,00,000/- were charged towards STKHEP, HPPCL.
7	The user agency shall keep the effect of camping labourers on the flora and fauna during the construction phase of 48 months at minimum by providing alternate fuel for cooking and heating.	Provision has been made in EMP to provide alternative fuel (i.e. LPG /kerosene/ electricity) for community kitchen. If fuel wood is to be procured, it has to be through authorized sources only. From April 2022 to June 2022, 139 Nos. & from July 2022 to Sept 2022, 114 LPG cylinders have been provided by the contractor i.e. M/s Patel Eng. Ltd to the labour and staff besides


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 Distt. Kinnaur (HP)

		running community kitchens/mess at all the locations being the main contractor of STKHEP.
8	The entire reservoir created due to submergence shall be declared Reserve Forest under Indian Forest Act, 1927 within six months. However, regulated fishing shall be allowed. Nodal officer shall submit compliance report in this regard.	Since the Project is a Run-of-the-River type (RoR) hydropower project with diversion done through a barrage with head race tunnel (HRT). Thus, the submergence area is very small (27 hectares), which shall be got declared as Reserve Forest under Indian Forest Act, 1927 through HP State Forests Department with regulated fishing being allowed.
9	Catchment Area Treatment Plan should be implemented at the project cost under the supervision of the State Government.	As per HP Govt. notification no. FFE-B-F-(2)-72/2004-PT-II dated 30/09/2009, 2.5% of total project cost has been kept for Catchment Area Treatment Plan which comes out to be Rs. 701.95 millions. Out of which Rs. 604.4 million has been deposited in Ad-hoc CAMPA account, New Delhi pertaining to the state vide UTRN: UCBAH12275077542, dated 01/10/2012, submitted to the office of D.F.O, Kinnaur. During the reporting period HP forest department HP has reported the Physical and financial progress of CAT plan for the FY 2022-23 up to 31.03.2023 Copy of the same is attached as Annex-A
10	Green belt of adequate width shall be raised by the user agency around the reservoir at the cost of the project.	A plan for Green belt development around reservoir and around surface components and along project roads at the cost of the project has been included in the EMP for which provision of 40 lacs has been made in EMP (Chapter-9). The same will be taken in consultation with forest deptt. after completion of civil work.
11	The user agency shall facilitate a basin level study on the impact of HEP's on the flora & fauna of the as per the TOR submitted to MoEF.	Project proponent is committed to comply the outcomes of the basin level study of Satluj basin on the recommendations of MoEF, Govt. of India. Himachal Pradesh is getting study conducted for cumulative or ecological


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 MPFCL, Reckong Peo
 Kinnaur (HP)

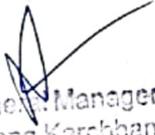
impact of all the Hydro power Projects in operation and under execution or are planned to implementation in near future in Satluj Basin of Himachal. Job of this study has been awarded to Indian council of Forestry research and Education Dehradun in Feb 2012 and accordingly Govt. of Himachal Pradesh has constituted Two member panel of Environment and social Expert PESE) Sh.D.C.Khanduri (Rtd.IFS) Dehradun and Dr. Rashmi Nayar - Associate Professor and Management of Land Acquisition Resettlement and rehabilitation Administrative Staff college of India.)Towards states compliance for Environment and social Development policies in regard to the Development of Hydro Power Projects in the Satluj Basin of Himachal Pradesh. Recently in this regard the experts Panel along with the two senior officers of Directorate of Energy, GoHP, visited the various Hydro Power Projects and on 7th Dec, 2013 and DOE has organized a meeting with the Panel of Environment and social Experts(PESE)for Satluj basin from 12th August to 18 August at various location i.e. on 12.08.2014 at Jakhari and on 13th August 2014 at Reckong Peo and Lippa on 14th August 2014 at Pooh and Nako on 16th August at Tabo. Consequent upon this meeting on the demands of the stakeholders and villagers of various Villages DOE has been requested to hold a another meeting in the presence of panel of experts involved in the preparation of these reports and DOE has arranged another meeting with Stakeholder at Reckong Peo on 8th Dec 2014 and 9th Dec 2014 at Pooh . consequent upon the above facts the committee has submitted the draft report on CEIA of Satluj basin to DoE and DoE has placed the same in its official web site of DoE and ICFRI has submitted the


 Dy. General Manager (R&R)
 Shongtong Karchham HEP,
 HPPCL, Reckong Peo
 Dist. Kinnaur (HP)

		final report to MoEF&CC for approval. MoEF&CC has listed the case on 29 th EAC on 05th December, 2019 & 41 th EAC on dated 15.02.2023 for consideration and discussion in this matter .
12	The user agency shall carry out the muck disposal at pre-designated sites in such a manner so as to avoid its rolling down.	Project proponent will abide this condition and committed to comply. All the necessary steps to prevent rolling down of muck are being taken by constructing/raising retaining walls, Gabions & other structures through its main contractor i.e. M/s Patel Eng Ltd. The detail muck statement is being submitted to HPSPCB regularly.
13	The dumping area for muck disposal shall be stabilized and reclaimed by planting suitable species by the user agency at the cost of project under the supervision of State Forest Department. Retaining walls and terracing shall be carried out to hold the dumping material in place. Stabilization and reclamation of such dumping sites shall be completed before handing over the same to the State Forest Department. In a time bound manner as per Plan.	A detailed Muck Management Plan (MMP) has been prepared as part of EMP (Chapter-6) which prescribes for engineering and biological measures for stabilization of dumped muck. The MMP is being implemented diligently. As already submitted, its implementation is also being monitored strictly by the State Pollution Control Board. Concrete Cladding on Total nos.306 no of wire crate were being carried out during April 2022 to Sept, 2022. And of 1307 no of crates were erected during the reporting period with an expenditure amounting to Rs 1,17,68,105/- were incurred
14	The user agency to consult other organization having experience in construction of roads in hilly areas such as BRO to avoid frequent road blocked due to landslides etc. and shall provide breast walls and retaining walls wherever necessary.	The user agency i.e. HPPCL is sister concern of Himachal Pradesh State Electricity Board Ltd.(HPSEBL) which have sufficient experience in construction of roads and related civil works. However, the agency like BRO, GREF and HPPWD etc. are also being consulted for proper construction of roads as and when required.
15	The Forest Department shall regenerate	Total of Rs. 1,36,73,737/- have been


 Dy. General Manager (R&R)
 Shongton, Karchham HEP,
 HPPCL, Reckong Peo
 Distt. Kinnaur (HP)

	equivalent amount of degraded forest area, in addition to the condition no. 2. As the user agency does not have qualified manpower and control on the forest area to execute the same, they have paid for the same to the CF, Rampur. The Forest Department shall implement the same and submit a compliance report.	deposited with D.F.O, Kinnaur for regenerating equivalent amount of degraded forest area, in addition to the condition no. 2 (Copy of the progress report submitted by the DFO Kinnaur has already conveyed to MoEFCC with previous compliance as Annexure-VII) during the FY 2016-17 & 2017-18 total progress of Rs 1,36,74,200/- has been received from forest Deptt.
16	The User Agency shall submit annual self monitoring report indicating status of compliance to the conditions stipulated in the approval, to the state government and the concerned Regional Office of the Ministry.	HPPCL is committed to abide by and comply with the condition. Last compliance report has been submitted to MoEF, Regional Office Dehradun & Pr.C.C.F, and Shimla on 07.06.2022 (submitted with previous compliance reports).
17	All other conditions including standard conditions applicable to the proposals under Forest Conservation Act, 1980 and under different rules regulations and guidelines including Environmental Clearance and rehabilitation shall be complied with before transfer of forest land.	All other conditions including standard conditions applicable to the proposals under various Acts and rules and clearances are acceptable to project proponent and will abide these condition and committed to comply.


 Dy. General Manager (R&R)
 Shongtong Karchham HEP,
 HPPCL, Reckong Peo
 Dist. Kinnaur (HP)



Conditions stipulated under Final Environmental Clearance of STKHEP						
Part A	Compliance Status					
(i) The following Catchment Area Treatment Plan , as proposed in the EIA/EMP Report shall be completed in 5 years-	As per HP Govt. notification no. FFE-B-F-(2)-72/2004-PT-II dated 30/09/2009, 2.5% of total project cost has been kept for Catchment Area Treatment Plan which comes out to be Rs. 701.95 millions. Out of which Rs. 604.4 million has been deposited in Ad-hoc CAMPA account, New Delhi pertaining to the state vide UTRN: UCBAH12275077542, dated 01/10/2012, submitted to the office of D.F.O, Kinnaur. During the reporting period HP forest department HP has reported the Physical and financial progress of CAT plan for the FY 2022-23 up to 31.03.2023 Copy of the same is attached as Annex-A					
Treatment Measures	I	II	III	IV	V	Total
	Year	Year	Year	Year	Year	
A) Biological Measures						
Afforestation /Gap	81	80	80	80	80	401
Plantation (ha.)						
Pasture Development (ha.)	476	475	470	470	470	2361
Nursery Development (nos.)	5	5	-	-	-	10
B) Engineering Measures						
Step Drain (Rmt.)	57	57	57	57	57	285
Check Dams (nos.)	5	5	5	5	5	25
(ii) The details of the land holding of project affected persons whose land is being acquired shall be submitted to this Ministry. The benefits for the land losing households will be as per the National Rehabilitation and Resettlement Policy, 2007 (NRRP, 2007) or as per the State Rehabilitation and Resettlement Policy, whichever is higher. Adequate publicity for the compensation package shall be given in the affected villagers. All R&R Issues shall be completed before commissioning of the Project.	The benefits to the land losers have been given as per Rehabilitation and Resettlement of HPPCL duly approved and notified by Govt. of Himachal Pradesh. The details of benefits have been submitted to your office vide this office letter no. HPPCL/SM(R&R)/EC-Vol-I/2012-5543, dated 18/03/2013. Physical and finical Progress as on 31.03.2023 is attached as Annex-II					


 Dy. General Manager (R&R)
 Shonglong Karchham HEP,
 HPPCL, Reckong Peo
 Dist. Kinnaur (HP)



(iii) All commitments made during the public hearing shall be fulfilled completely.	Project proponent is abiding with the commitments made during the public hearing and status of the compliance to public hearing is being reported separately in the report
(iv) A scientific study from a reputed institute for deciding the minimum environmental flow to be released during the lean season should be undertaken. Till the study is completed, 20 % of the average flow of four consecutive leanest months of 90% dependable year shall be maintained as environmental flow. After the study is completed, whichever is higher figure shall be adopted.	The project proponent has complied with this condition. The environmental flow assessment study has been conducted by NIH Roorkee. The EAC in its meeting held on 10 th and 11 th December, 2013 desired to have presentation on Environment flow study. The presentation was given by project proponent before the EAC on 16 October, 2014. The EAC observe that Environment flow study was carried out in accordance with the Flow duration curve method. While this is generally in order but for further clarity the same should be carried out through Hydraulic rating and Habitat Simulation method. The technique shall factor the need of aquatic faunal population. Also the adequacy of environmental flow in terms of depth, velocity and top width needs to be checked and proposed a fresh. Accordingly the environment flow study has been revised as desired by EAC and submitted to MoEF&CC for approval.
(v) The equipment likely to generate high noise level during the construction period or otherwise shall meet the ambient noise standards as notified under the Noise Pollution (Regulation and Control) Rules, 2000, as amended in 2010 under Environment Protection Act. (EPA), 1986.	The equipment likely to generate high noise level during the construction period in the project area meet the ambient noise standards as notified under the Noise Pollution (Regulation and Control) Rules, 2000, as amended in 2010. In compliance to this condition acoustic enclosures on all DG sets have been provided by the main contractor i.e. M/s Patel Eng. Ltd.


 Dy. General Manager (R&R)
 Shonglong Karchham HEP,
 HPPOL, Reckong Peo
 Distt. Kinnaur (HP)

<p>(vi) Consolidation and compilation of the muck shall be carried-out only in the designated muck dumping sites, approved by the State Pollution Control Board. As per the proposed muck disposal plan given in your EIA/EMP, about 3.57Mm³ Will be generated out of which 0.47 Mm³ will be reutilized for back filling and 1.05 Mm³ as construction material/protection works and remaining 2.04 Mm³ shall be disposed off at 8 designated disposal areas. This shall be strictly implemented. The dumping sites shall be at least 30m horizontally away from the high flood level of the river.</p>	<p>The project proponent is committed to comply this condition. However, the reduction in the capacity of dumping sites has occurred due to geographic changes occurred in the course of river by the passage of time, muck dumping of excavated material during widening of NH -5 & PWD roads by BRO and PWD respectively and removal of landslides material occurred in the vicinity and dumping in the designated dumping sites from time to time due to which the capacity of dumping site has decreased. to address the issues a committee comprising of HPPCL Officers and M/s PEL Executives as enlisted below was constituted by the GM-STKHEP vide loose note dated 29 Oct., 2016 to re-assess the capacity of all the designated dumping sites handed over to M/s PEL and to explore the possibility for their optimum utilization. To mitigate the muck dumping problem, efforts are being made to identify additional areas for dumping within the project area as well as beyond the project area. in this process, some prospective land belonging to the Army Authorities was identified for muck dumping within project area. in addition to this private land is being identifying in Ribba/Skibba village upstream of the project area. After finalization of the land and getting necessary approvals the revised muck management plan is being prepared and draft copy of the same was submitted and presented before the 32nd EAC on 31.11.2022 & same was submitted to MoEF&CC which is under consideration.</p>
<p>(vii) The proposed Compensatory Afforestation Programme on 128 ha. Of land with identified plant species @ 1500 plants per hectare shall be taken-up immediately. The allocated funds for this purpose shall not be diverted to any other purposed.</p>	<p>The HPPCL has deposited the requisite cost towards CA with Department of Forest, Govt. of HP amounting to Rs. 1, 74, 65,952/- (One crore seventy-four lakhs sixty-five thousand nine hundred and fifty two) only vide DD No. 630072 dated 02.04.2011 (worth Rs. 7, 44, 26,798/- including amount for NPV) drawn on Reckong Peo branch of State Bank of India vide their letter No. HPPCL/GM-STKHEP/Forest/ 2010-24-27, dated 02.04.2011 as per the bill issued by DFO Kinnaur vide letter No 9216 dated</p>


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	30.03.2011. Physical and progress of revised APO for Compensatory Aforestation received from DFO Kinnaur as on Sept 2022 has already been conveyed.
(viii) Greenbelt development in 40 ha of land along the approach roads, residential areas, office complex, barrage site and other working areas with various native plant species shall be undertaken immediately. The allocated budget of Rs. 40 lakhs for this purpose shall not be diverted to any other purpose.	The Greenbelt development will be taken up in consultation with HP Forest Department shortly after the completion of civil work.
(ix) The revised Fisheries Management Plan submitted vide letter NO. HPPCL/ESMU-2/Shongtong/09-1658-61 dated 9 th February, 2010 shall be undertaken in consultation with the Fisheries Department, Government of Himachal Pradesh. Breeding and hatching of indigenous fish i.e. Snow Trout will be carried out separately. The same shall also be followed in the proposed hatchery at Sangla with separate bays.	The 1st Installment of Rs. 35.00 Lakh was released on dated 29/03/2013. Director-cum-warden of fisheries has submitted the Utilization Certificate (UC) of amount Rs. 3.75 lakh on dated 19/08/2016 used for providing solar LED lights at Trout fish farm at Sangla and replacement of sluice valves at Trout fish farm at Sangla. The balance amount Rs. 31.25 lakh is unutilized. 2 nd Installment will be released after Utilization Certificate of balance amount is received from Fisheries Deptt. This is still awaited from Director of Fisheries Govt. of HP.
(x) The proposed Wildlife Management & Development and Conservation of Biodiversity Plans at a cost of Rs. 764.50 lakhs shall be taken-up strictly as outlined in the EIA/EMP Report and implemented in consultation with the State Forest Department without any diversion of funds. A report of implementation shall be included in the sixth monthly compliance report to be submitted to the Ministry.	The condition has been compiled by the project proponent. Biodiversity conservation plan includes Compensatory Afforestation (CA), NPV and cost of trees for which HPPCL has already deposited the requisite amount with H.P forest Department/CAMPA. The cost on account of wildlife Management (Chapter-7) has been included under revised CAT Plan of STKHEP and approved by the H.P forest Department. Rs.60.44 crore toward cost of implementation of CAT plan has already been released to H.P forest Department/CAMPA. During this period the no physical and financial progress of same has been received by this office from DFO wildlife.
(xi) About 1.5% of the total project cost shall be spent for the Local Area Development.	The condition is being compiled by the project proponent. Till date Rs. 25.56 Crore has been deposited as LADF as on 31.03.2023, out of which 21.06 lakh were


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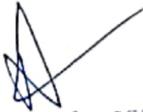
	spent on various heads of development activities in project affected Panchayat's and being regularly monitored at local area Development Committee During its various meeting .
(xii) Any other clearance from any other organization/department, if required shall be obtained.	Renewal of Consent to Establish is required to obtain from H.P State Pollution control Board. However, as per latest notification of No. B-29012/ESS/CPA/2016-17/2570 dated 02/02/2017 issued by Member Secretary, Central Pollution Control Board, MoEF&CC, Govt. of India, addressed to the Member Secretary of all State Pollution Control Boards vide which under para (iv) of the aforementioned letter it is stated that "Further, all the projects requiring Environmental Clearance either from State Level EIA Authority or MoEFCC may be exempted from obtaining the consent to establish. Such projects may be directly granted CTO subjected to EC and installation of pollution control devices." Renewal of the same is being regularly applied by the project proponent by depositing the requisite renewal fee of the same every year. For the FY 2022-23 is in progress with the HPSPCB, copy of online status is attached as Annex-III
Part-B General Conditions	
(i) Adequate arrangement for providing free fuel like kerosene/wood /LPG shall be made for the labourers engaged in the construction work so that indiscriminate felling of trees is prevented.	The condition is being complied with. From April 2022 To Sept 2022, 253 nos. LPG cylinders have been provided during The reporting period.
(ii) Medical facilities as well as recreational facilities shall also be provided to the labours.	Two nos. First Aid post has been made functional at Site office Ralli and Barrage location. Contractor has provided Medicine of Rs. (1,07,820/- and spent Rs. 8,72,465/- on salary of medical attendant and Rs. 9,53,153- spent on Ambulance. Rs. 9,60,000/-has been spent on salary of

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	<p>ambulance driver. Total No. Medical attendant provided = 04 Total No. of ambulance = 04</p>
(iii) Labourers to be engaged for construction work shall be thoroughly examined by health personnel and adequately treated before issuing them work permit.	Prior to enrollment in the execution activities all the labourers are thoroughly checked up. After ensuring the complete fitness, the labourers are being engaged.
(iv) No fugitive dust emissions should be observed at the construction sites. Water sprinkling arrangements shall be made to suppress the fugitive emissions.	The condition is being complied by the contractor. The DG sets have been provided with acoustic enclosures and proper stack height regular maintenance of DG sets are being carried out. On account of this an expenditure of Rs.500000 and 40000 0/- were occurred during this period. The water tanker has been deployed in the project area to sprinkle the water in the project area to suppress the dust emission due to movement of vehicles
(v) Potable drinking water and proper sanitary facilities shall be provided for the labour force and the local area people.	Potable drinking water and proper sanitary facilities has been provided near each Adit portal for the labourers in addition to this the same has also been provided at the labour camps at Ralli and Tangling. for which an expenditure of Rs 10,40,502/-were occurred towards the salary of drivers and helper for water supply in supply of drinking water in Main contractors residential accommodations for drinking purpose.
(vi) Restoration of construction area including dumping sites shall be ensured by leveling, filling up of burrow pits, landscaping etc. The area shall be properly treated with suitable plantation.	The project proponent is committed to restoration of construction area including dumping sites by leveling, filling up of burrow pits, landscaping etc. The plantation work will be taken up after finishing of construction phase. In the mean time gabion walls have been provided at each dumping site and are being strengthened by providing Cement Concrete Cladding.
(vii) Separate financial provision shall be made in the total budget of the project for implementation of the above suggested safeguard measures. The same shall be informed to the Ministry.	The condition has been complied with; separate provisions in EMP under various chapters/heads have been made for implementation of suggested measures.

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(viii) Environmental parameters shall be monitored and six monthly monitoring reports shall be submitted to the Regional Office of the Ministry and State Pollution Control Board for their review.	Monitoring reports are being submitted regularly. Last Six monthly report was submitted to the MoEF&CC, Regional Office Dehradun on dated 07.06.2022
(ix) A Multi-Disciplinary Committee (MDC) to monitor environmental safeguards during the construction shall be construction by the Ministry on the suggestions of the Proponent, Six monthly monitoring report of this Committee shall be displayed on the web-site of the Proponent.	The condition is being compiled by the project proponent as an Ecological Monitoring Unit has been set-up under the Chairmanship of DFO, Kinnaur to monitor the impact of the project on flora and fauna of the area as submitted to your office vide this office letter no. HPPCL/SM(R&R)/EC-Vol-I/2012-5543, dated 18/03/2013.
(x) Videography of the project area shall be carried out to ascertain that no damage occurs, the PP shall pay compensation for the damages.	The Videography of the entire Project Affected Area has been done along with water resources inventory. The project proponent will ensure that no damage to houses of the local people occurs. To monitor the ground vibration arise due to blasting in tunnels six Nos. seismographs has been installed in each Project affected Panchayat's and monitoring report is being submitted to concerned Panchayat's, Member secretary, LADC and President, Zila Parishad regularly
The Project Proponent shall provide full cooperation and all required documents / data to the Officials of relevant Regional Office of MOEF who would be monitoring the implementation of environmental safeguards.	Project proponent commits to provide full cooperation and all required documents / data to the Officials of relevant Regional Office of MOEF&CC, who would be monitoring the implementation of environmental safeguards.
Besides the above stated conditions, the Project Proponent and Government of Himachal Pradesh shall also implement all other environmental safeguards, as proposed in the EIA/EMP report and other reports from time to time.	The project proponent is abiding by the condition. For effective implementation of the environment safeguard, as proposed in EIA/EMP and other policies HPPCL has establish an Environment cell at each project level with experienced and qualified environment and R&R staff.-


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The environmental management plan shall be strictly adhered to and a sum of Rs. 84.891 Crores, the budgetary provisions for implementation of EMP shall not be diverted for any other purpose.	The condition will be complied with; the cost of EMP has increased due to HP Govt. notification regarding CAT Plan and Environment Monitoring Plan.
Any change in the scope of the project shall be intimated to the Ministry and fresh approval if required, shall be taken from the Ministry.	The presentation before the Environment Appraisal Committee was held on 10/12/2013, 16/09/2014 & 16/10/2014 at MoEF&CC, New Delhi for revalidation of Environmental Clearance due to enhancement of installed capacity. The matter has been taken up with WAPCOS for updating of EIA/EMP and the revised plan has presented before the 37 th EAC of MOEF&CC on 30.11.2022 which is under progress with the MoEF&CC.
The Ministry reserves the right to add additional Safeguard measures subsequently, if found necessary and to take action including revoking of the clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.	Environment safeguard measures as forced by ministry are being implemented. Additional safeguard measures, if any proposed by ministry will also implemented. So far no additional measure suggested.
This clearance letter is valid for a period of 10 years from the date of issue of this letter for commencement of construction work.	Status remains the same as per the stand status already conveyed vide previous compliance period ending June 2022. As per As per the MoEF&CC Notification S.O. 1886 (E) dated 20.04.2022, the EC validity of River valley and Hydro-electric project is 13 years which can be extended for 2 years. Also, the MoEF&CC O.M. No. IA3-22/10/2022-IA.III [E-177258] dated 11.04.2022 .
A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local body and the local NGO, if any, from whom any suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Status remains the same as per the stand status already conveyed vide previous compliance period ending June 2022. No Change. This issue stand closed


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<p>The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.enyfor.nic.in.</p>	<p>The project proponent has advertise in two local newspapers i.e. 'Divya Himachal' and 'The Indian Express' on 1st June 2011 informing that the project has been accorded environmental clearance by MoEF and copies of clearance letters are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.enyfor.nic.in. Refer this office letter no. HPPCL/SM(R&R)-SKHEP/Env-IV/2011-1718-20, dated 22/07/201. This issue stand closed</p>
<p>After 5 years of the commissioning of the Project, a study shall be undertaken regarding impact of the project on the environment and downstream ecology. The study shall be undertaken by an independent agency, decided in consultation with the Ministry.</p>	<p>The project proponent will conduct the study undertaken by an independent agency, decided in consultation with the Ministry after 5 years of the commissioning of the Project, regarding impact of the project on the environment and downstream ecology.</p>
<p>The Project Proponent shall submit six monthly compliance reports of the stipulated EC conditions and the monitoring data (both in hard copies as well by e.mail) to the respective Regional office of MoEF and the State Pollution Control Board. Both monitoring and compliance reports shall be up-loaded on the Web-site of the Proponent.</p>	<p>The condition is being complied with. Last Six monthly reports was submitted to the MoEF, Regional Office Dehradun on dated 07.06.2022</p>


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