

Model Rate Structure for Compensatory Afforestation

Model No. 5

Fencing and Irrigated Plantations

Model rate structure for plantation of mixed tree species having rainfall less than 800 mm and medium quality, medium drained soil.
 Spacing - 3m x 3m
 Size of Pits 0.45 x 0.45 x 0.45m
 No. of Seedlings - 1111 per ha

wage rate Rs 339.61 per day.

At- Goradwadi Gut no 468 Area 6.72 Ha.

Sr. No	Particulars of works	Man days	Wages	Material supply	(Amount in Rs.)		Sanction Letter Dt. / Model No. / Item No	For 6.72 ha			
					Total	(Rs. Per Ha.)		Man days	Wages	Material supply	Total (Rs. Per Ha.)
A. Pre Monsoon Works PPO/PYQ											
1	(a) Survey and demarcation	1	339.61	91	430.61	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Item No. 1b Item No. 1c Item No. 1d Item No. 1e	6.72	2282.1792	611.52	2893.6992	
	(b) Preparation of treatment map (100 m x 50 m grid)	1	339.61	91	430.61		6.72	2282.1792	611.52	2893.6992	
	(c) Digging trial pits of size 0.30x0.30x0.60 in corner of Grid.	0.4	135.84	0	135.84		2.688	912.8448	0	912.8448	
	(d) Fixing 60cm x 0.05cm x 12cm cement pillars upto 30cm deep in corner of Grid, painting with Grid No. etc complete (3 pillars, Rs 75/- for each pillar)	0	0	225	225		0	0	1512	1512	
	(e) Clearing of bushes and preparation of site (As per requirement)	10	3396.1	91	3487.1		67.2	22821.792	611.52	23433.312	
2	Soil and moisture conservation works including collection of rubbles from areas upto 30 m etc	31	10527.91	0	10527.91	Item No. 2	208.32	70747.5552	0	70747.5552	
3	Providing and fixing chain link fencing, 102 Rmt per ha (With one gate + two wickets gates for one site) (Rs 1494/- per Rmt of basic rate + 20% for transportation of ave. leadplus 20% for tribal/remote area (by tender process) (Rs 1494+149+149=1792/- per Rmt (1.60 Rmt height with G.I. Chain link size 50mmx50mm, 8 gauge thick and fixed 75mm above ground level complete as per SSR item No. 1744 for 2017-18)	0	0	182865.6	182865.6	As per SSR rates 201718 Item No. 1744	0	0	1228856.832	1228856.832	
4	Alignment of pits at 3m x 3m spacing, 1111 pits per Ha (0.25 per 100 pits and M&S @ Rs.	2.78	944.12	49.77	993.89	Item No. 4	18.6816	6344.4864	334.4544	6678.9408	
5	Digging of pits of size 0.45 x 0.45 x 0.45 m (1111 pits per ha) 6.60 M.D per 100 pits. Note :- As per local conditions provision for mechanized digging can be made.	73.33	24903.6	0	24903.6	Item No. 5	492.7776	167352.192	0	167352.192	
6	Construction of 5.00 Rmt wide Inspection Path 1M.D. per 100 Rmt	1	339.61	0	339.61	Item No. 6	6.72	2282.1792	0	2282.1792	
7	Enumeration of all valuable plant species at plantation site and grid wise counting and providing color band and recording the same in Register (0.75 M.D.) per 100 plants	0.75	254.71	25	279.71	Item No. 7	5.04	1711.6512	168	1879.6512	
8	Providing and fixing (4 feet x 3 feet) information board each per site	0	0	5000	5000	Item No. 8	0	0	33600	33600	
9	Part Nursery cost of raising 1333 seedlings per ha (including 20% casualty replacement) in polygons of size 12.50 x 25.00 cm (Wages Rs 11.90 and M & S Rs 3.62 per plant)	46.71	15863.18	4825.46	20688.84	Item No. 9 20% Casualty replacement in place of 10%	313.8912	106600.5696	32427.0912	139027.6608	
Total		167.97	57044.29	193263.83	250308.12		1128.7584	383337.6288	1298732.938	1682070.566	
Contingency 3%			0	7509.23	7509.24		0	0		50462.11699	
Labour Welfare 4%			0	10012.31	10012.32		0	0		67282.82266	
Grand Total		167.97	57044.29	193263.83	267829.69		1128.7584	383337.6288	1298732.938	1799815.506	
B. First Year Operations											
1	Part Nursery cost for maintenance of 1333 seedling per ha Rs. 3.77 per seedling (Wages Rs 2.69, M & S Rs. 0.81)	14.8	5062.23		1079.73	6105.96	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 casualty replacement 20%	99.456	34018.1856	7255.7856	41273.9712
2	Refilling of pits by good quality soil including application of single super phosphate (1.66 MD per 100 pits)	18.44	6262.41		1944.25	8206.66	Item No. 2	123.9168	42083.3952	13065.36	55148.7552
3	Transportation of 1333 seedlings from Nursery to plantation site including loading & unloading (0.14 M.D. per 100 seedlings & M.S. Rs.1.82 Per seedlings)	1.87	635.07		2426	3061.07	Item No. 3 10% Extra Plants to be transported	12.5664	4267.6704	16302.72	20570.3904
4	Planting of 1111 seedlings (1.0 M.D per 100 seedlings)	11.11	3773.07		0	3773.07	Item No. 4	74.6592	25355.0304	0	25355.0304
5	3 seedlings (1 Rmt circular) and 2 soil workings (4.00 M.D per 100 seedlings) fertilizer application Rs 0.82 per seedling	44.44	15092.27		911.02	16003.29	Item No. 5	298.6368	101420.0544	6122.0544	107542.1088
6	Watering 1111 seedlings November and December 1 time each, January to March 2 times each per seedlings 5 litre water, purchase of 1111 plastic can of 5 litre / matka @Rs.25/- each and 100 litre capacity 11 drums @Rs.400/- each for supplying water and water supply at @Rs.0.05 per litre and wages for watering 1 M.D. for 150 seedlings.	59.25	20121.89		54395	74516.89	Item No. 7	398.16	135219.1008	365534.4	500753.5008
7	Casualty replacement (20% 222 Seedlings per ha.) (2 M.D. per 100 seedlings)	4.44	1507.87		0	1507.87	Item No. 6 20% instead of 10%	29.8368	10132.8864	0	10132.8864
8	Part Nursery cost for casualty replacement in SYO (222 seedlings per ha) (wages Rs. 11.90 and material supply Rs 3.62 total Rs.12.55 per seedling.)	7.77	2638.77		801.64	3442.41	Item No. 8 20% instead of 10%	52.2144	17732.5344	5400.4608	23132.9952
9	Watch and ward (10 months - 1 watcher per 10 ha)	27.38	9298.52		0	9298.52	Item No. 9	183.9936	62486.0544	0	62486.0544
10	Soil working for naturally grower plants and singling (1.15 M.D. per 100 plants)	1.15	390.55		10	400.55	Item No. 10	7.728	2624.496	67.2	2691.696
11	Fire tracing	2	679.22		0	679.22	Item No. 12	13.44	4564.3584	0	4564.3584
Total		192.65	65425.87		61569.64	126995.51		1294.608	439903.7664	413747.9808	853651.7472
Contingency 3%			0		3809.87	3809.87					25609.55242
Labour Welfare 4%			0		5079.82	5079.82					34146.06989
Grand Total		192.65	65425.87		61569.64	135885.19		1294.608	439903.7664	413747.9808	913407.3695

C. Second Year Operations										
1	Part nursery cost for seedlings for causality replacement (222 seedlings per ha) labour rate @ Rs 3.77 and M.S. Rs 1.82 per seedlings.	2.46	835.44	404	1239.44	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 casualty replacement 20% Item No. 2 20% instead of 10%	16.5312	5614.1568	2714.88	8329.0368
2	Transportation of 222 seedlings for causality replacement from nursery to plantation site (including loading and unloading) wages 0.14 M.D Per 100 Seedling & M.S. Rs 1.82 per seedlings	0.31	105.28	404.04	509.32		2.0832	707.4816	2714.88	3422.3616
3	Planting for causality replacement 222 seedlings (2.00 M.D. per 100 seedlings)	4.44	1507.87	0	1507.87		29.8368	10112.8864	0	10112.8864
4	2 seedlings and 1 soil working, with fertilizer application 2.5 M.D. per 100 seedlings at M.S. Rs. 0.82 per seedling	27.77	9430.97	911.02	10141.99		186.6144	63376.1184	6122.0544	69498.1728
5	Watering 1111 seedlings in November, December, January and June 1 time each and in February to May 2 times each total 12 times 5 litre per seedlings, replacing 10% plastic can / matka @Rs 25/- each replacing 111 cans / matka, supplying water @Rs 0.50/- per litre and watering 150 seedlings per M.D	88.88	30184.54	36105	66289.54	Item No. 3	597.2736	202840.1088	242625.6	445465.7088
6	Watch and ward 12 months -1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Item No. 4	245.28	83299.5744	0	83299.5744
7	Fire tracing	2	679.22	0	679.22	Item No. 5	13.44	4564.3584	0	4564.3584
Total		162.36	55139.08	37824.06	92963.14	Item No. 6	1091.0592	370534.6848	254177.4144	624712.0992
Contingency 3%			0	2788.89	2788.89					18741.36298
Labour Welfare 4%			0	3718.53	3718.53					24988.48397
Grand Total		162.36	55139.08	37824.06	99470.56		1091.0592	370534.6848	254177.4144	668441.9461
D. Third Year Operations										
1	1 seedling and 1 soil working (1.50 M.D per 100 seedlings) applying fertilizer @ Rs 0.82 per plant.	16.67	5661.3	911.02	6372.32	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 Item No. 2	112.0224	38043.936	6122.0544	44165.9904
2	Watering 556 seedlings in November, December, January and June 1 time each and February to May 2 times each total 12 times per seedlings 5 litre, water supply @Rs 0.50/- litre and watering 150 seedlings per M.D	44.48	15105.85	16680	31785.85		298.9056	101511.312	112089.6	213600.912
3	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77		245.28	83299.5744	0	83299.5744
4	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	679.22	25	704.22		13.44	4564.3584	168	4732.3584
5	Fire tracing	2	679.22	0	679.22	Item No. 3	13.44	4564.3584	0	4564.3584
Total		101.65	34521.36	17616.02	52137.38	Item No. 4	683.088	231983.5392	118379.6544	350363.1936
Contingency 3%			0	1564.12	1564.12					10510.89581
Labour Welfare 4%			0	2085.5	2085.5					14014.52774
Grand Total		101.65	34521.36	17616.02	55787		683.088	231983.5392	118379.6544	374828.6172
E. Fourth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 Item No. 2	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	679.22	25	704.22		13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22		13.44	4564.3584	0	4564.3584
Total		40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
Contingency 3%			0	413.38	413.38					2777.888736
Labour Welfare 4%			0	551.17	551.17					3703.851648
Grand Total		40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158
F. Fifth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 Item No. 2	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	679.22	25	704.22		13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22		13.44	4564.3584	0	4564.3584
Total		40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
Contingency 3%			0	413.38	413.38					2777.888736
Labour Welfare 4%			0	551.17	551.17					3703.851648
Grand Total		40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158
G. Sixth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 Item No. 2	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	679.22	25	704.22		13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22		13.44	4564.3584	0	4564.3584
Total		40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
Contingency 3%			0	413.38	413.38					2777.888736
Labour Welfare 4%			0	551.17	551.17					3703.851648
Grand Total		40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158
H. Seventh Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 Item No. 2	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	679.22	25	704.22		13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22		13.44	4564.3584	0	4564.3584
Total		40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
Contingency 3%			0	413.38	413.38					2777.888736
Labour Welfare 4%			0	551.17	551.17					3703.851648
Grand Total		40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158
I. Eighth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 Item No. 2	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	679.22	25	704.22		13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22		13.44	4564.3584	0	4564.3584
Total		40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
Contingency 3%			0	413.38	413.38					2777.888736
Labour Welfare 4%			0	551.17	551.17					3703.851648
Grand Total		40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158

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2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October.	2	679.22	25	704.22	Item No. 2	13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22	Item No. 3	13.44	4564.3584	0	4564.3584
	Total	40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
	Contingency 3%		0	413.38	413.38					2777.888736
	Labour Welfare 4%		0	551.17	551.17					3703.851648
	Grand Total	40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158
J. Ninth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October.	2	679.22	25	704.22	Item No. 2	13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22	Item No. 3	13.44	4564.3584	0	4564.3584
	Total	40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
	Contingency 3%		0	413.38	413.38					2777.888736
	Labour Welfare 4%		0	551.17	551.17					3703.851648
	Grand Total	40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158
K. Tenth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	12395.77	0	12395.77	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	245.28	83299.5744	0	83299.5744
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October.	2	679.22	25	704.22	Item No. 2	13.44	4564.3584	168	4732.3584
3	Fire tracing	2	679.22	0	679.22	Item No. 3	13.44	4564.3584	0	4564.3584
	Total	40.5	13754.21	25	13779.21		272.16	92428.2912	168	92596.2912
	Contingency 3%		0	413.38	413.38					2777.888736
	Labour Welfare 4%		0	551.17	551.17					3703.851648
	Grand Total	40.5	13754.21	25	14743.75		272.16	92428.2912	168	99078.03158

Abstract for Model No.5

(Amount in Rupees)

S. N.	Year of operation	Man days	Wages	Material supply	Total	Other expenses	Total amount	Man days	Wages	Material supply	Total
For 6.72 ha.											
1	Pre Monsoon works	167.97	57044.29	193263.83	250308	17521.57	267829.69	1128.7584	383337.6288	1298732.938	1799815.506
2	First Year Operations	192.65	65425.87	61569.64	126996	8889.69	135885.19	1294.608	439903.7664	413747.9808	913407.3695
3	Second Year Operations	162.36	55139.08	37824.06	92963	6507.42	99470.56	1091.0592	370534.6848	254177.4144	668441.9461
4	Third Year Operations	101.65	34521.36	17616.02	52137	3649.62	55787	683.088	231983.5392	118379.6544	374888.6172
5	Fourth Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
6	Fifth Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
7	Sixth Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
8	Seventh Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
9	Eighth Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
10	Ninth Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
11	Tenth Year Operations	40.5	13754.21	25	13779	964.54	14743.75	272.16	92428.2912	168	99078.03158
	Total	908.13	308410.03	310448.55	618859	43320.1	662178.68	6102.6336	2072757.658	2086213.987	4450099.66

Cost per plant Rs.596.02

Note:-

1. Rates of chain linked fencing derived from SSR-2017-18 with addition for area difference and transportation lead.
2. Plantation M.D. and M.S. component derived from rate structure as approved by PCCF (HoFF) M.S. vide letter No.Desk-1/EGS/CR-10/2282/2017-18/Nagpur, Dated 07/03/2018.

Dhairyashil Patil

(Dhairyashil Patil)
Deputy Conservator of Forests,
Solapur Forest Division, Solapur