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Principal Chief Conservator of Forest (HoFF),
M. S. Nagpur Letter No. Desk-17/CA/Nodal Cell
/CR-40/1127/2019-20, Date 04/10/2019

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- 413.69 per day

Ca Area= 34.00 hector

Range Indapur

Round Indapur

Beat Kati

village sarafwadi g.no.27,96,97,98,99

Abstract for Model No.5

S. N.	Year of operation	Total
1	Pre Monsoon works	9558893.724
2	First Year Operations	5138625.469
3	Second Year Operations	3818894.035
4	Third Year Operations	2136722.547
5	Fourth Year Operations	610436.2091
6	Fifth Year Operations	610436.2091
7	Sixth Year Operations	610436.2091
8	Seventh Year Operations	610436.2091
9	Eighth Year Operations	610436.2091
10	Ninth Year Operations	610436.2091
11	Tenth Year Operations	610436.2091
Total		24926189.24

Cost per plant Rs. 659.8768793



(Rahul Patil, IFS)

Deputy Conservator of Forests,
Pune Forest Division, Pune

Model Rate Structure for Compensatory Afforestation

Model No. 5.

Fencing and Irrigated Plantations

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Model rate structure for plantation of mixed tree species having rainfall less than 800 mm and moderate quality, moderate demand and

Spacing

3m x 3m

Size of Pit
No. of Seedlings

0.45 x 0.45 x 0.45m
1111 pits/ha

wage rate

Wage Rate
Rs 415.00 per day

Foreign

Indigen

Round

Indigen

Best

Km

village

unavailable

Rs. 27,56,97,98.95

Sr. No.	Particulars of works	Man days	Wages	Material supply	(Amount in Rs.)		Section Letter Dt. / Model No. / Item No.	village sarafwadi g.no. 27,36,37,38,39			
					Total (Rs.)	(Rs. Per Ha.)		For 34 ha.			
A. Per Minimum Marks PPO/PYO								Man days	Wages	Material supply	Total (Rs. Per Ha.)
1	(a) Survey and demarcation	1	413.60	0	413.3		Letter Dt. 07/05/2018 Irrigated & Fencing Plantation Model no. 1 Item No. 1a	34	14065.44	8394	17159.48
	(b) Preparation of treatment map (300 m x 50 m grid)	1	413.60	0	413.3		Item No. 1b	34	14065.44	8394	17159.48
	(c) Digging trial pits of size 0.30x0.30x0.60 m in corner of Grid	0.4	165.476	0	165.8		Item No. 1c	13.6	5626.284	0	5626.184
	(d) Fixing 40cm x 40cm x 12mm corner pillars upto 15cm deep in corner of Grid, painting with Grid No. etc complete (2 pillars, Rs 75/- for each pillar)	0	0	225	225		Item No. 1d	0	0	7650	7650
	(e) Chaining of bushes and preparation of site (As per requirement)	10	4136.0	0	4136		Item No. 1e	340	140654.4	3004	141746.6
2	Soil and moisture conservation works including collection of rubble from areas upto 10 m etc.	11	12824.19	0	12829.5		Item No. 2	1854	436029.26	0	846029.26
3	Providing and fixing chain link fencing, 102 Rm per ha (With one gate + two wickets gates for one side) (Rs 5946/- per Rm of fence) + 20% for transportation of material + 20% for miscellaneous work (by vendor process) (Rs 5946+149+149=1792/- per Rm (1.60 Rm height with G.I. Chain link size 50mmx50m, 8 gauge thick and fixed 15mm above ground level complete as per SSR item No 1744 for 2017-18)	0	0	18285.6	18285.6		As per SSR item No 1744	0	0	621946.4	621946.4
4	Alignment of pits at 3m x 3m spacing (1111 pits per Ha) 25 per 100 pits and M&S @Rs.	2.78	1150.0582	49.77	1174.28		Item No. 4	94.52	39161.9788	1681.18	40794.1588
5	Digging of pits of size 0.45 x 0.45 x 0.45 m (1111 pits per ha) 6.00 M.D per 100 pits. Note :- As per local conditions provision for mechanized digging can be made.	71.13	16331.8877	0	2960.99		Item No. 5	2493.22	1031430.182	0	1031430.182
6	Construction of 1.06 Rm wide Impression Path (105.00 per 100 Rm)	1	413.60	0	414.3		Item No. 6	34	14065.44	0	14065.44
7	Enumeration of all valuable plant species at plantation site and grid wire counting and providing color band and recording the same in Register (0.75 M.D.) per 100 plants	0.75	310.2675	25	328.27		Item No. 7	25.5	10540.095	856	11490.095
8	Providing and fixing (4 Rm x 3 feet) information board each per site	0	0	5000	5000		Item No. 8	0	0	170000	170000
9	Part Nursery cost of raising 1111 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	19321.4599	4825.48	23719.65		Item No. 9 20% Casualty replacement in place of 10%	1588.14	65987.8584	18485.64	82160.3168
Total		167.97	69487.569	19326.83	261207.69			5730.98	236175.130	873070.22	801545.130
Contingency 3%			0		7816.21			0	0		26086.881
Labour Welfare 4%			0		10448.3			0	0		35741.8256
Grand Total		167.97	69487.569	19326.83	278492.22			5730.98	236175.130	873070.22	863373.134
B. For 100% Casualty											
1	Part Nursery cost for maintenance of 1111 seedling per ha (Rs. 2.77 per seedling (Wages Rs 2.00, M & S Rs 0.81))	14.8	6122.612	1090.73	7090.33		Letter Dt. 07/05/2018 Irrigated & Fencing Plantation Model no. 1 Item No. 1 casualty replacement 20%	501.2	20898.808	35710.82	244878.628
2	Refilling of pits by good quality soil including application of single super phosphate (1.06 MD per 100 pits)	18.44	7628.4436	1944.18	9496.71		Item No. 2	626.56	259167.0816	66108.5	266385.7492
3	Transportation of 1111 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	771.6903	2420	3192.41		Item No. 3 10% Extra Plants to be transported	65.58	27187.6152	82484	108186.6124
4	Planting of 1111 seedlings (1.8 M.D. per 100 seedlings)	11.11	4596.9959	0	4491.99		Item No. 4	377.18	154187.2656	0	156379.2656
5	3 seedlings (1 Rm circular) and 2 soil workings (4.00 M.D. per 100 seedlings) finished application Rs 0.82 per seedling	44.44	18384.1836	931.82	18887		Item No. 5	1530.96	625060.0424	80974.68	656611.7224
6	Watering 1111 seedlings November and December 1 time each, January to March 2 times each per seedlings 5 liter water, purchase of 1111 plastic cans of 5 liter / each (Rs 21/- each and 100 liter capacity 11 drums @Rs 400/- each for supplying water and water supply @ Rs 0.09 per liter and wages for watering 1 M.D. for 150 seedlings	58.25	24511.1325	54355	78361.62		Item No. 6	2014.5	833178.505	1845430	2662808.505
7	Casualty replacement (20% 222 Seedlings per ha) (2 M.D. per 100 seedlings)	4.44	1836.7836	0	1795.08		Item No. 7 20% instead of 10%	230.96	92450.6424	0	92684.6424
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	3214.3713	883.64	3996.0		Item No. 8 20% instead of 10%	264.18	109286.6242	27314.76	138812.9842
9	Watch and ward (10 months - 1 watchman per 10 ha)	27.18	11256.8322	0	11075.21		Item No. 9	918.92	381112.2948	0	385112.2948
10	Soil working for naturally grown plants and weeding (1.15 M.D. per 100 plants)	1.15	475.7435	10	475.17		Item No. 10	39.1	16175.275	340	36515.170
11	For weeding	2	809	0	809		Item No. 11	68	28168	0	28168

-	Total	192.45	79678.9985	61569.64	136486.54		6550.1	3799685.949	2093267.76	3487552.209
	Contingency 3%			0	4184.0					579968.111
	Labour Welfare 4%			0	5579.86					791086.386
	Grand Total	192.45	79678.9985	61569.64	148261.2		6550.1	3799685.949	2093267.76	5138615.465
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	1017.6774	404	1799.07	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1 causality replacement 20%	83.94	34801.0330	13736	48337.0110
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	128.2439	404.94	525.43	Item No. 2 20% instead of 10%	10.54	4368.3826	13736	18096.2038
3	Planting for causality replacement 222 seedlings (2.90 M.D. per 100 seedlings)	4.44	1836.3816	0	1785.98	Item No. 3 20% instead of 10%	158.96	64410.6424	0	64410.6424
4	2 seedlings and 1 soil working, with fertilizer application 2.5 M.D. per 100 seedlings at M.S. Rs. 4.82 per seedling.	23.73	9148.1713	910.03	12143.88	Item No. 4	944.38	380997.8262	30974.88	421572.3042
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 / mulch @Rs.25/- each replacing 111 cane / mulch, supplying water @Rs.8.90/- per liter and watering 150 seedlings per M.D.	88.88	36798.7672	36107	72256.96	Item No. 5	9023.82	1254136.585	21275.55	2477788.085
6	Watch and ward 12 months -1 watcher per 10.00 ha	36.5	15099.685	0	14764.25	Item No. 6	1241	513389.28	0	513389.28
7	Fire tracing	2	827.38	0	809	Item No. 7	68	28130.92	0	28130.92
	Total	162.36	67148.3284	37614.06	163498.67		9478.74	2283443.536	156816.68	2569958.840
	Contingency 3%			0	3194.96					327071.7854
	Labour Welfare 4%			0	4179.54					142782.3538
	Grand Total	162.36	67148.3284	37614.06	170793.17		9478.74	2283443.536	156816.68	2849732.978
D. Third Year Operations										
1	1 seedling and 1 soil working (1.30 M.D. per 100 seedlings) applying fertilizer @ Rs.9.82 per plot	16.67	6763.06	801.02	7654.02	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	966.78	379262.24	30874.68	360217.00
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.8.90/- litre and watering 150 seedlings per M.D.	44.48	17992.16	36883	34072.16	Item No. 2	1512.32	611733.48	567120	1178852.64
3	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	14764.25	0	14764.25	Item No. 3	1241	502884.3	0	502884.3
4	Counting of survival percentage Grid wire and Species wire and to Note the same on Register in May and October	2	827.38	25	834	Item No. 4	68	27536	850	28350
5	Fire tracing	2	827.38	0	809	Item No. 5	68	27536	0	27536
	Total	101.65	41117.42	17636.02	58723.44		3408.1	1357992.28	308944.68	1299796.96
	Contingency 3%			0	1762					53088.1888
	Labour Welfare 4%			0	2344.33					79677.6788
	Grand Total	101.65	41117.42	17636.02	62844.77		3408.1	1357992.28	308944.68	1379452.547
E. Fourth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.685	0	14764.25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	1241	513389.28	0	513389.28
2	Counting of survival percentage Grid wire and Species wire and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	68	28130.92	850	28980.92
3	Fire tracing	2	827.38	0	809	Item No. 3	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	569651.12	850	579511.12
	Contingency 3%			0	492.21					17125.0339
	Labour Welfare 4%			0	656.29					22820.0452
	Grand Total	40.5	16754.445	25	17555.75		1377	569651.12	850	624536.2091
F. Fifth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.685	0	14764.25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	1241	513389.28	0	513389.28
2	Counting of survival percentage Grid wire and Species wire and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	68	28130.92	850	28980.92
3	Fire tracing	2	827.38	0	809	Item No. 3	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	569651.12	850	579511.12
	Contingency 3%			0	492.21					17125.0339
	Labour Welfare 4%			0	656.29					22820.0452
	Grand Total	40.5	16754.445	25	17555.75		1377	569651.12	850	624536.2091
G. Sixth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.685	0	14764.25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	1241	513389.28	0	513389.28
2	Counting of survival percentage Grid wire and Species wire and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	68	28130.92	850	28980.92
3	Fire tracing	2	827.38	0	809	Item No. 3	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	569651.12	850	579511.12
	Contingency 3%			0	492.21					17125.0339
	Labour Welfare 4%			0	656.29					22820.0452
	Grand Total	40.5	16754.445	25	17555.75		1377	569651.12	850	624536.2091
H. Seventh Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.685	0	14764.25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	1241	513389.28	0	513389.28
2	Counting of survival percentage Grid wire and Species wire and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	68	28130.92	850	28980.92

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1	Site tracing	2	827.38	0	808	Item No. 1	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	50905.13	850	57950.33
	Contingency 3%		0		492.21					57125.0399
	Labour Welfare 4%		0		656.29					23838.9452
	Grand Total	40.5	16754.445	25	17555.75		1377	50905.13	850	61044.2091
J. Eighth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.683	0	14764.23	Letter Dt. 07/03/2018 Irrigated & Seeding Plantation Model no. 1 Item No. 1	1341	511389.28	0	511389.28
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	88	28130.92	850	28880.92
3	Site tracing	2	827.38	0	808	Item No. 3	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	50905.13	850	57950.33
	Contingency 3%		0		492.21					57125.0399
	Labour Welfare 4%		0		656.29					23838.9452
	Grand Total	40.5	16754.445	25	17555.75		1377	50905.13	850	61044.2091
K. Ninth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.683	0	14764.23	Letter Dt. 07/03/2018 Irrigated & Seeding Plantation Model no. 1 Item No. 1	1341	511389.28	0	511389.28
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	88	28130.92	850	28880.92
3	Site tracing	2	827.38	0	808	Item No. 3	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	50905.13	850	57950.33
	Contingency 3%		0		492.21					57125.0399
	Labour Welfare 4%		0		656.29					23838.9452
	Grand Total	40.5	16754.445	25	17555.75		1377	50905.13	850	61044.2091
L. Tenth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	15099.683	0	14764.23	Letter Dt. 07/03/2018 Irrigated & Seeding Plantation Model no. 1 Item No. 1	1341	511389.28	0	511389.28
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	827.38	25	834	Item No. 2	88	28130.92	850	28880.92
3	Site tracing	2	827.38	0	808	Item No. 3	68	28130.92	0	28130.92
	Total	40.5	16754.445	25	16407.25		1377	50905.13	850	57950.33
	Contingency 3%		0		492.21					57125.0399
	Labour Welfare 4%		0		656.29					23838.9452
	Grand Total	40.5	16754.445	25	17555.75		1377	50905.13	850	61044.2091

1. Rates of chain linked fencing derived from SSR-2017-18 with addition for area difference and transportation cost.

2. Plantation M.D. and N.S. component derived from rate structure as approved by PCF (HdP) M.S. Mr. S. Nagare Letter No. Dink-ITCA/Nodal Cell/CR-48/1127/2019-20, Date 04/10/2019


 [Rahul Patil, JFS]
 Deputy Conservator of Forests,
 Pune Forest Division, Pune