

**Norms for undertaking compensatory Afforestation scheme for Diversion of 22 ha of forest land for 85 MW Wah umiam stage III HEP earlier known as Mawphu HEP, stage-II in East Khasi Hills District of Meghalaya. Compensatory Afforestation to be carried out at Nongumiang for and area of 22 Ha.**

Preliminary Works							
Sl.no	Item of Work			Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373	
1	2			3	4	5	
1	Survey and demarcation including fixing of boundary marks at strategic points			2.00	2.00	746.00	
2	Jungle clearance , burning land preparation including staking, pit digging, hoeing,tc.			24.00	24.00	8952.00	
3	<b>Fencing</b> with 3 strand barded wire and wooden fencing posts including cost of staples, fixing, fitting, etc complete.			64.00	64.00	23872.00	
4	Cost of collection of Seeds			5.00	5.00	1865.00	
5	Construction of camp hut and inspection paths			4.00	4.00	1492.00	
6	Purchase of tools and plants			2.00	2.00	746.00	
7	Supervisory staff to be engaged on casual basis from amongst the local people			12.00	12.00	4476.00	
8	Raising of polypot nursery for 2 beds per hectare to cover for mortality rate of plants in the plantation site			61.00	61.00	22753.00	
9	Provision for signboards, documentaion, up keep of records and other miscelloaneous woks			30.00	30.00	11190.00	
	<b>Sub Total in the Preliminary year</b>			<b>204.00</b>	204.00	76092.00	
10	<b>Soil &amp; Moisture conservation measures in the plantation area @ 15%</b>			<b>30.60</b>	30.6	11413.80	
11	<b>Monitoring &amp; Evaluatio @ 2%</b>			<b>4.08</b>	4.08	1521.84	
12	<b>Adding 15% contingency due to escalation cost and revised of wages rate etc</b>			<b>35.80</b>	35.8	13353.40	
	<b>Total in the preliminary year</b>			<b>274.48</b>	274.48	<b>102381.04</b>	

Creation and 1st year Maintenance of plantation				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
Wage rate is Rs.1.08 times the present wage rate				
1	2	3	4	5
1	Plantation of nursery seedling including carriage from nursery centres to plantation sites and proper ramming after planting etc.	20	21.60	8056.80
2	Cost of manure and bio-fertilizer	40	43.20	16113.60
3	Mulching and 3 times weeding	50	54.00	20142.00
4	Fire protection during dry and windy season i) wages of fire watchers from November of the creation year to April of the following year.	10	10.80	4028.40
	ii) Fireline clearance including controlled burning from November in the creation year to April of the following year	10	10.80	4028.40
5	2nd year maintenance of poly pot nursery	3.2	3.46	1289.09
6	Maintenance of camp hut, signboard, documentation, protection from grazing, upkeep of records and other miscellaneous works	30	32.40	12085.20
7	Supervision cost	12	12.96	4834.08
8	<b>Sub Total</b>	<b>175.2</b>	<b>189.22</b>	<b>70577.57</b>
9	Soil & Moisture conservation measures in the plantation area @15% of the total cost of 1st year creation.	<b>26.28</b>	28.38	10586.64
10	Monitoring & Evaluation @2%	<b>3.5</b>	3.78	1409.94
	<b>Adding 8.5% being contingency due to escalation cost of materials etc. after ascertaining the rate of interest due to accrue from CA money to be deposited by User Agency.</b>	<b>17.42</b>	18.81	7017.47
	<b>Total for 1st Year creation and maintenance</b>	<b>222.40</b>	<b>240.19</b>	<b>89591.62</b>

Second Year Maintenance of Plantation				
Wage rate is Rs.1.17 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	2	3	4	5
1	Vacancy filling by one year old seedlings in mortality areas	5	5.85	2182.05
2	Climber cutting and weedings 3 times	45	52.65	19638.45
3	<b>Fire Protection</b>	10	11.70	4364.10
	ii) Fire line clearance including controlled burning	10	11.70	4364.10
4	Maintenance of cramp hut, signboard, inspection paths fencing protection from grazing documentation upkeep of records and other miscellaneous works.	30	35.10	13092.30
5	Supervision cost	12	14.04	5236.92
	<b>Sub total</b>	<b>112</b>	<b>131.04</b>	<b>48877.92</b>
6	Provision for soil & moisture conservation measures in the plantation area @15%	16.8	19.66	7331.69
7	Monitoring & Evaluation @2 %	2.24	2.62	977.56
	<b>Adding 8.5% being contingency due to escalation cost ets.after ascertaining the rate of interest due to accrue from CA money to be deposit by user agency</b>	<b>11.14</b>	<b>13.03</b>	<b>4861.61</b>
	<b>Total in the 2nd year</b>	<b>142.18</b>	<b>166.35</b>	<b>62048.7738</b>

Third Year Maintenance of Plantation				
Wage rate is Rs.1.27 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate	Amount when wage rate is 373
1	2	3	4	5
1	Vacancy filling wherever necessary	4	5.08	1894.84
2	Climber cutting and weedings 3 times	45	57.15	21316.95
3	Fire protection i) Wages of Fire watchers	10	12.70	4737.10
	ii) Fire line clearance including controlled burning	10	12.70	4737.10
4	Maintenance of cramp hut, signborad, fencing inspection paths, protection from grazing, documents upkeep of records and other miscellaneous works	30	38.10	14211.30
5	Supervision cost	12	15.24	5684.52
	<b>Sub Total</b>	<b>111</b>	<b>140.97</b>	<b>52581.81</b>
6	Provision for soil & moisture conservation measures in the plantation area @ 15%	16.65	21.15	7887.27
7	Monitoring & evaluation @2%	2.22	2.82	1051.64
8	Adding 8.5% being contingency due to escalation cost etc.after ascertaining the rate of interest due to accrue from CA money to be deposited by user agency	11.04	14.02	5229.76
	<b>Total in the 3rd year</b>	<b>140.91</b>	<b>178.96</b>	<b>66750.48</b>

Fourth Year Maintenance of Plantation				
Wage rate is Rs.1.4 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	2	3	4	5
1	Vacancy filling wherever necessary	2	2.80	1044.40
2	Climber cutting and three times weeding	45	63.00	23499.00
3	i) Wages of Fire watchers	10	14.00	5222.00
	ii) Fireline clearance including controlled burning, etc	10	14.00	5222.00
4	Maintenance of cramp hut, signboard, fencing, inspection paths protection from	30	42.00	15666.00
5	Supervision cost	12	16.80	6266.40
	<b>Sub total</b>	<b>109</b>	152.60	56919.80
6	Provision for soil & moisture conservation measures measures in the plantation area @ 15%	16.35	22.89	8537.97
7	Monitoring & evaluation @2%	2.18	3.05	1138.40
	Adding 8.5% being contingency due to escalation cost etc. after ascertaining the rate of interest due to accrue from CA	10.84	15.18	5660.65
8	money to be deposited by user agency			
	<b>Total in the 4th year</b>	<b>138.37</b>	193.72	72256.814

Fifth Year Maintenance of Plantation				
Wage rate is Rs.1.56 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	Climber cutting including silvicultural works	30	46.80	17456.40
2	i) Wages of fire watchers	10	15.60	5818.80
	ii) Maintenance of Fireline including controlled burning etc	10	15.60	5818.80
3	Maintenace of cramp hut, signborad, fencing, inspection paths, protection from	30	46.80	17456.40
4	Supervision cost	12	18.72	6982.56
	<b>sub total</b>	<b>92</b>	<b>143.52</b>	<b>53532.96</b>
	Provision for soil & moisture conservation	13.8	21.53	8029.94
5	measures in the plantation area @ 15%			
6	Monitoring & Evaluation @ 2%	1.84	2.87	1070.66
	Adding 8.5% being contingency due to escalationcost etc.after ascertaining the rate of interest due to accure from CA money to be deposited by User agency	9.15	14.27	5324.20
	<b>Total in the 5th year</b>	<b>116.79</b>	<b>182.19</b>	<b>67957.77</b>

Sixth Year Maintenance of Plantation				
Wage rate is Rs.1.74 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	Climber cutting including silvicultural works	20	34.80	12980.40
2	i) wages of faire watcher	10	17.40	6490.20
	ii) maintenace of fireline including controlled burning etc.	10	17.40	6490.20
3	Maintenace of cramp hut, signborad, fencing, inspection paths, protection from grazing, documentation, upkeep of records and other miscellaneous works.	30	52.20	19470.60
4	Supervision Cost	12	20.88	7788.24
	<b>Sub Total</b>	<b>82</b>	<b>142.68</b>	<b>53219.64</b>
	Provision for soil & moisture conservation measures in the plantation area @ 15%	12.3	21.40	7982.95
	Monitoring & evaluation @ 2%	1.64	2.85	1064.39
	Adding 8.5% being contingency due to escalation cost etc.after ascertaining the rate of interest due to accrue from CA money to be deposited by the user agency.	8.15	14.18	5289.51
	<b>Total in the 6th Year</b>	<b>104.09</b>	<b>181.12</b>	<b>67556.49</b>

Seventh Year Maintenance of Plantation				
Wage rate is Rs.1.97 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	Climber cutting including silviculture works	16	31.52	11756.96
2	i) Wages of fire watcher	10	19.70	7348.10
	ii) Maintenance of fireline including controlled burning etc.	10	19.70	7348.10
3	Maintenace of cramp hut, singborad, fencing, inspection paths, protection from grazing, documentation, upkeep of records and othe miscellaneous works.	30	59.10	22044.30
4	supervision Cost	12	23.64	8817.72
	<b>Sub total</b>	<b>78</b>	153.66	57315.18
	Provision for soil & moisture conservation measures in the plantation area @ 15%	11.7	23.05	8597.28
	Monitoring & Evaluation @ 2%	1.56	3.07	1146.30
	Adding 8.5% being contingency due to escalation cost etc. after ascertaining the rate of interest due to accre from CA money to be deposited by user agency.	7.76	15.29	5702.13
	<b>Total in the 7th year</b>	<b>99.02</b>	<b>195.07</b>	<b>72760.8862</b>



Eight year maintenace of Plantation				
Wage rate is Rs.2.25 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	climber cutting including silivicultural works	16	36.00	13428.00
2	i) wage of fire watchers	10	22.50	8392.50
	ii) maintenace of Fireline including controlled burning etc	10	22.50	8392.50
3	Maintenace of cramp hut, signboard, fencing, inspection paths, protetion from grazing, documentation, upkeep of records and other miscellanous	30	67.50	25177.50
4	Supervision cost	12	27.00	10071.00
	<b>Sub total</b>	<b>78</b>	<b>175.50</b>	<b>65461.50</b>
5	Provision for soil & moisture conservation measures in the plantation area @ 15%	11.7	26.33	9819.23
6	Monitoring & Evaluation area @ 15%	1.56	3.51	1309.23
	Adding 8.5% being contingel due to escalation cost after ascertaining the rate of interest due to accrue from CA money to be deposited by the user agency	7.76	17.46	6512.58
	<b>Total in he 8th year</b>	<b>99.02</b>	<b>222.80</b>	<b>83102.535</b>

Ninth year maintenace of Plantation				
Wage rate is Rs.2.58 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	Climber cutting including siliviculture works	12	30.96	11548.08
2	i) Wages of fire watchers	10	25.80	9623.40
	ii) Maintenace of fireline including	10	25.80	9623.40
3	Maintenace of cramp hut, signboard, fencing, inspection paths, protection fromgrazing, documentation, upkeep of records and other miscellaneous	30	77.40	28870.20
4	Supervision cost	12	30.96	11548.08
	<b>Sub Total</b>	<b>74</b>	<b>190.92</b>	<b>71213.16</b>
5	Provision for soil & Moisture conservation	11.1	28.64	10681.97
6	Monitoing & evaluation @ 2%	1.48	3.82	1424.26
7	Adding 8.5% being contingency due to	7.36	18.99	7082.82
	<b>Total in the 9th year</b>	<b>93.94</b>	<b>242.37</b>	<b>90402.2196</b>

Tenth year maintenace of Plantation				
Wage rate is Rs.3 times the present wage rate				
Sl.no	Item of Work	Mandays per Hectare	Mandays per hectare considering annual increase in wage rate for first year	Amount when wage rate is 373
1	climber cuting siliviculture works	10	30.00	11190.00
2	i) wages of fire watchers	10	30.00	11190.00
	ii) maintenace of fireline including controlled burning etc.	10	30.00	11190.00
3	Maintenace of cramp hut, signboard, inspection paths, protection from grazing, documentation, upkeep of records and other miscellaneous works	30	90.00	33570.00
4	Supervision cost	12	36.00	13428.00
5	Misc.expenditure e.g salvaging of fencing materials from the plantation centre wherever fencing is no longer necessary	6	18.00	6714.00
	<b>Sub Total</b>	<b>78</b>	234.00	87282.00
6	Provision for soil & moisture conservation measures in the plantation area @15%	11.7	35.10	13092.30
7	Monitoring & evaluation @ 2%	1.56	4.68	1745.64
	Adding 8.5% being contingency due to escalation cost etc. after ascertaiing the rate of interest due to accure from cA money to be deposited by the user Agency	7.76	23.28	8683.44
	<b>Total in the year 10th Year</b>	<b>99.02</b>	<b>297.06</b>	<b>110803.38</b>

**Cost Abstract for Compensatory Afforestation Scheme**

Sl.No	Year	Mandays	Mandays per considering annual increase in wage rate	Amount when wage rate is 373
1	Preliminary year	274.48	274.48	102381.04
2	First year creation and maintenace	222.40	240.19	89591.616
3	Second year maintenace	142.18	166.35	62048.7738
4	Third Year maintenace	140.91	178.96	66750.4761
5	Fourth year maintenace	138.37	193.72	72256.814
6	Fifth Year Maintenace	116.79	182.19	67957.7652
7	Sixth Year maintenace	104.09	181.12	67556.4918
8	Seventh Year maintenace	99.02	195.07	72760.8862
9	Eight year maintenace	99.02	222.80	83102.535
10	Ninth Year maintenace	93.94	242.37	90402.2196
11	Tenth year maintenace	99.02	297.06	110803.38
	<b>Grand total per hectare</b>	<b>1255.74</b>	<b>2099.81</b>	<b>885612.0</b>

Cost for raising compensatory afforsation for 1 Ha =	Rs 8,85,612	
Compensatory Afforestation area=	22 ha	
Therfore cost of raising Compensatory Afforestation=	Rs 8,85,612 x 22 ha =	Rs 1,94,83,464/-
Cost for construction of chainlink fencing for 3871 m =	Rs 1,61,61,300/-	
Cost for construction of three nos of Watch Tower @ 5,00,000 per tower, for monitoring of plantation =	Rs 15,00,000/-	
3 nos of Soil and moisture conservation structures @3,50,000/- per structure =	Rs 10,50,000/-	
Patrolling Camp cum store room=	Rs 10,00,000/-	
Total=	Rs 3,91,94,764/-	
Rupees Three Crore Ninety One Lakhs Ninety Four Thousand Seven Hundred Sixty Four only		

  
 Divisional Forest Officer  
 East Khasi Hills & Ri Bhoi (T) Division  
 Shillong