

**(F) Brief Description and Abstract of the Monitoring Work done by the Monitoring and Evaluation Wing of the State Forest Department: -**

Evaluation of Forestry works is carried out at 3 (three) stages in the Department:

1. Internal Evaluation
2. External Evaluation &
3. Third party evaluation other than department

**1. Internal Evaluation** is carried out at the level of division where Range Forest Officer evaluates last three years plantations in the month of April and keep their record at the level of Division/ In this regard PCCF, Rajasthan has issued circular vide its letter no. 10401 dated 31.03.2004. This circular directs site-in-charge/ forester to perform evaluation of plantations of first, second and third year maintenance years in the month of April. Range officer of the concerned works will also check & evaluate works as per norms. Range officer will submit its report to DCF with his comments about survival percentage of plants with respect to locality factors like natural, biotic, biomass improvement etc. and also gives suggestions regarding improvement of the plantation by casualty replacement / sowing / pruning and other protection measures. Records of Internal evaluation are kept in the division and entries in this regard are made in the plantation journal. If any plantation found with less than 40% of survival percentage then concerned DCF will report to senior officials. If survival percentage is below expectation due to some human error, then the reasons of negligence be recorded and disciplinary proceedings should be initiated by DCF against responsible official(s).

**2. External Evaluation** is carried out by the Monitoring and Evaluation units working at the level of regional CCFs. These units are headed by DCF level Officer and reporting directly to Addl. PCCF (M&E) Rajasthan, Jaipur. These units perform evaluation as per reporting directions/ circulars issued time to time by PCCF, Rajasthan. These directions/ circulars are detailed guidelines for evaluation works. Addl. PCCF (M&E), Rajasthan selects 10-20 percent of forestry works done in last three years in Divisions in randomly manner. Out of works selected for evaluation, 50% of the works are evaluated on the basis of 100% evaluation and remaining 50% works are evaluated on the basis of sampling method i.e. 10% of area of work. List of works selected for evaluation is kept in sealed cover and sent to concern DCF (P&M). The concern DCF (P&M) after reaching the division where evaluation is to be done, open the seal cover in the presence of DCF / ACF of concerned division. Evaluation work is carried out in presence of officials directly related to work. After evaluation, work sheets are signed by local officials and evaluation team. During evaluation, no work is allowed to be done at the site.

After evaluation, evaluation report is submitted to DCF(P&M) to Addl. PCCF (M&E) Rajasthan. The report is examined at the level of Head Quarter and if any shortcomings are found like shortage of works, quality of works, quantity

of works and other findings of plantations i.e. survival percentage, if below 40%, is taken seriously. Instructions issued from the Head Quarter to Regional CCFs for the improvement of plantations and for action are to be taken against the officials responsible for above-mentioned shortcomings.

Forestry works in the state are carried out under different ongoing schemes in the department. A large number of works under CAMPA is also being done in the state since 2010 onwards. These works are regularly monitored and evaluated by Monitoring and Evaluation wing of the Department as mentioned above.

In the last eleven years the following number of works have been evaluated by Monitoring and Evaluation wing of the department-

Year	No. of Sites with Survival Percentage (Category Wise)					Advance Action Sites	Others (Anicuts, Buildings, Eco- Restoration etc.)	Grand Total
	<40	40-60	60-80	>80	Total			
2013-14	1	3	27	49	80	24	0	<b>104</b>
2014-15	0	13	13	9	35	21	8	<b>64</b>
2015-16	3	14	10	0	27	3	0	<b>30</b>
2016-17	0	18	5	7	30	5	3	<b>38</b>
2017-18	4	5	7	0	16	0	0	<b>16</b>
2018-19	8	87	48	27	170	18	22	<b>210</b>
2019-20**	1	29	52	33	115	0	1	<b>116</b>
2020-21**	41	145	160	48	394	0	156	<b>550</b>
2021-22	45	148	87	19	299	0	263	<b>562</b>
2022-23	7	61	131	57	256	0	0	<b>256</b>
2023-24	0	8	4	2	14	0	0	<b>14</b>
<b>Total</b>	<b>110</b>	<b>531</b>	<b>544</b>	<b>251</b>	<b>1436</b>	<b>71</b>	<b>453</b>	<b>1960</b>

(Note:- \*\* The information from Kota and Bikaner Divisions has not been received so far.)

#### **(G)Third Party Monitoring in the State:-**

Third Party Evaluation of the Forestry works is carried out with the help of independent third party external agency by the department in compliance of the provisions of CAF Act, 2016 & CAF Rules, 2018. Brief status of Third Party Monitoring and Evaluation (M & E) of CAMPA Works in Rajasthan is as follows :-

- 2010-11 to 2013-14 : By AFRI, Jodhpur.
- 2014-15 to 2016-17 : By AFC India Limited, New Delhi (Report has been submitted in the month of February 2022).
- 2017-18 to 2019-20 : BY M/S C-DECS (Centre for Development Communication & Studies), Jaipur, report has been submitted in the month of August 2022.

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d) 2020-21 to 2021-22 : BY M/S C-DECS (Centre for Development Communication & Studies), Jaipur, report has been submitted in the month of October 2023

**a) IIIrd Party M&E of CAMPA works carried out during 2010-11 to 2013-14 :**

CAMPA works done during 2010-11 to 2013-14 were evaluated by external agency, Arid Forest Research Institute (AFRI), Jodhpur, an independent autonomous body of ICFRE, Dehradun, Ministry of Environment, Forests and Climate Change, Government of India. Various activities carried out under CAMPA of Rajasthan Forest Department were evaluated during November 2016 to June 2017, wherein 86plantation sites and 156 assets were measured and verified. Evaluation sites were randomly selected from 385 plantation sites in 28 districts and 705 assets distributed in 31 districts of Rajasthan. Each site was geo-tagged, whereas the boundaries of the evaluated plantations sites were demarcated for easy access and verification whenever required. Total 3800.70 hec. area wereplantedduring 2011-12 to 2013-14 under non-forest land(NFL), Degraded forestland (DFL) and AssistedNatural Regeneration (ANR) models and distributed in 86 plantation sites were evaluated and assessed. Among the assets,19 Anicut type II, 18 Anicut type III, 5 Arboretums, 25 sites of boundary pillars, 39 sites of boundary walls (one 12' height, twenty-five 4' height and thirteen 6' height), 29 forest Chowki,14 Range Forest Office and 7 Rescue Centers were verified. Different activities at plantation sites included plantation and seed sowing of different species of trees, shrubs and grasses, fencing of the area, entry gate, temporary hut for watch and ward and water tank etc., site signage like board, and soil and water conservation measures like contour trench, V-ditch, Gradonie ditch, Contour dykes, loose stone check dams etc., for reducing run-off losses and improving soil moisture regime for improved seedling growth and plantation establishment.

Details of works evaluated are as follows:-

Div.	Range	Total Sites	Total Infrastructure		Total Plantations		Evaluated Plantations	
			Total	Evaluated	Total Area (Ha)	Plantation (Sites)	Total Area(Ha)	Plantation Sites No.
33	173	1090	705	156	17668	385	3800	86

	below40%	40-50%	50-60%	60-70%	70-80%	80-90%	90% and above	total
Sampling 10%	1	1	5	2	1	3	1	14
100 %	23	12	11	12	9	2	1	70
total	24	13	16	14	10	5	2	84



The report of the third party evaluation carried by AFRI, Jodhpur for CAMPA works during the period 2010-11 to 2013-14 has been forwarded to the concerned letter dated 07.03-2019 to take action for plantations in which survival percentage below 40%. The action taken report from the CCFs/DCF is awaited. Most commonly used species under plantations were *Acacia tortilis* (18.90%), *Acacia catechu* (11.55 %), *Zizyphus mauritiana* (10.84%), *Acacia Leucophloea* (9.60%), *Acacia nilotica* (8.49%), *Dendrocalamus strictus* (8.24%), *Acacia senegal* (6.02%), *Azadirachta indica* (2.94%), *Albizia lebbek*, *Gmelina arborea*, *Pongamia pinnata*, *Prosopis cineraria*, *Cammiphora wightii*, *Holoptelea integrifolia*, *Bombax ceiba*, *Terminalia indica*, *Salvedora oleoides*, *Emblica officinalis*, *Butea monosperma*, *Ficus religiosa*, *Dalbergia sissoo*, *Cassia fistula* etc. Under seed sowing, 26 species of trees and shrub have been used along contour trenches, V-ditches, ditch fencing etc., wherein *Acacia senegal*, *Acacia leucophloea* and *Acacia catechu* were used at 69.8% sites, 33.7% sites and 30.2% sites, respectively.

Barbed wire (8.1% site), loose stonewall (64.0% site), ditch (62.8% site), masonry wall (1.2% site) fencing and their combinations have been used in protecting the plantation area depending upon the terrain conditions and availability of the fencing materials. Overall survival of plantation under CAMPA is 49.37% in Rajasthan. There were <10%, 10-20% and 20-30% survival at 5 sites each and 30-40% survival at 12 sites. About 46% sites are in the category of <50% survival, whereas 35.8% and 17.9% sites are in 50-70% and 70-95% survival range, respectively. ANR, NFL and DFL plantation models showed 45.47%, 60.37% and 49.2% survival. 26 species have been used under seed sowing and *Acacia senegal* was most frequently used species followed by *Acacia leucophloea*, *Acacia catechu*, *Jatropha curcas*, *Zizyphus mauritiana*, *Azadirachta indica*, *Acacia nilotica* etc. About 44.6% sites indicated above average population. *Acacia senegal* showed highest population. Average population of seed germinated plants varied between 20.2 plants per ha for 2011 and 25.8 plants per ha for 2013.

Various soil and water conservation measures included contour trench, V-ditch, Gradon ditch, earthen Check dams, Loose Stone Check dams etc. Plantations coupled with soil moisture conservation work helped improve soil water and conserve some indigenous species growing in the area as indicated by higher population of trees and shrubs species inside plantation area.

**b) Third Party M& E of CAMPA works carried out during 2014-15 to 2016-17:**

This Third party evaluation/study was carried out by AFC (Agricultural Finance corporation), New Delhi during the year 2021-22.

As per Annual Plan of Operations (APO) for the years 2014-15 to 2016-17 of Rajasthan CAMPA, the physical targets of plantations and constructions activities were achieved on a number of sites located in 225 Ranges of 51 CAMPA Project





Divisions. Out of these sites, 20% of sites were selected by the O/O Principal Chief Conservator of Forests (PCCF), Head of Forest Force (HoFF), Jaipur, Rajasthan State by using stratified random sampling for the present IIIrd party evaluation/study. The secondary data of the selected sites was obtained from the O/O concerned Divisional and Range Officers of Forest Department and analyzed.

Detailed field survey of all the selected plantation sites was conducted and photographed by the AFC evaluation team during the year 2021-22 and every selected site of construction activities (Anicut II, Anicut III, 4 Ft. Wall, 6 Ft. Wall, Forest Guard Chowki, Office-cum-Residence, ResecueCnetre, Boundary Pillars and Construction of Roads) was visited by the evaluation team during the year 2021-22. The construction activities were compared with the measurement book (MB), photographed and their GPS readings, present condition and utilization were recorded in the concerned Evaluation Format.

### **Results of Quantitative Evaluation :**

**Plantations :** During the project period of 3 years (2014-15 to 2016-17), physical target of 21216.765 ha. plantation was achieved against the allotted physical target of 21216.765 ha. plantations resulting in 100% achievement of plantation targets and an expenditure of Rs. 3837.35 lacs were incurred on plantations

against the allotted financial target of Rs. 4146.76 lacs resulting in 92.54% achievement of financial target of plantation.

### **Construction Activities :**

During the project of 3 years (2014-15 to 2016-17), 62 no. of Anicut II, 44 no. of Anicut III, 98 no. of Forest Guard Chowki, 21 no. of Office-cum-Residence, 3 no. of Rescue Centre, 207.32 Km. of 4 Ft. Wall, 41.84 Km. of 6 Ft. Wall, 4005 no. of Boundary Pillars and 1 Km. road were constructed against the same no./Km. allotted targets resulting in 100% achievement of these construction activities and an expenditure of Rs. 6875.46 lacs was incurred on construction activities against the allotted financial target of Rs. 7126.50 lacs resulting in 96.48% achievement of financial target of construction activities.

### **Results of Qualitative Evaluation :**

85 sites of plantations of 74 Ranges of 39 divisions and 93 sites of construction activities of 84 Ranges of 41 Divisions were selected by the O/O Principal Chief Conservator of Forests (PCCF), Head of Forest Force (HoFF), Jaipur, Rajasthan State by using stratified random sampling for the present IIIrd party evaluation/study. All the selected sites of plantations and construction activities were evaluated by the evaluators of AFC Delhi during the year 2021-22 and the brief results of the evaluation are as follows :

## Plantations :

- Total Area of all the selected and evaluated 85 sites (20 sites of NFL, 26 sites of DFL & 39 sites of ANR) of plantations of 74 Ranges of 39 Divisions was 3645.14 ha.
- The overall ranking of evaluated 3645.14 ha. plantations were 'Good (7) with survival percentage of 67.10%'.
- Brief details of evaluated plantations are given in the table below :

Plantation	No. of sites as per survival %				
	80% to 90% (Excellent)	70% to 80% (Very Good)	60% to 70% (Good)	50% to 60% (Average)	40% to 50% (Poor)
ANR	4	15	12	6	2
NFL	1	7	8	3	1
DFL	2	6	12	5	1
Total	7	28	32	14	4

Hence, no site is below 40% (no failure plantation).

**Construction Activities :** Out of total selected and evaluated 93 sites of construction activities of 84 Ranges of 41 Divisions, the Ranking is :

- Very Good (8) of 34 sites
- Good (7) of 41 sites
- Average (6) of 13 sites
- Poor (5) of 5 sites

The construction activity wise no. of sites having ranking between 9 and 5 are as given in the table below :

Activity	No. of Sites With Ranks between 9 and 5					Total Sites
	9	8	7	6	5	
<b>Anicut II</b>	0	1	7	1	4	<b>13</b>
<b>Anicut III</b>	0	0	2	0	0	<b>2</b>
<b>4 Ft. Wall</b>	0	10	9	2	0	<b>21</b>
<b>6 Ft. Wall</b>	0	1	2	0	0	<b>3</b>
<b>Forest Guard Chowki</b>	0	11	8	3	0	<b>22</b>
<b>Range Office-cum-Residence</b>	0	4	2	0	0	<b>6</b>
<b>Rescue Centre</b>	0	0	1	0	0	<b>1</b>
<b>Boundary Pillars</b>	0	7	10	7	1	<b>25</b>
<b>Total</b>	<b>0</b>	<b>34</b>	<b>41</b>	<b>13</b>	<b>5</b>	<b>93</b>

Total 17 species (*Acacia catechu*, *Acacia leucopholea*, *Acacia nilotica*, *Acacia senegal*, *Acacia tortilis*, *Ailanthus excelsa*, *Azadirachta indica*, *Butea monosperma*, *Dalbergiasissoo*, *Dendrocalamus strictus*, *Emblica officinalis*, *Ficus racemosa*,

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*Holoptelea integrifolia*, *Pongamia pinnata*, *Tectonagrandis*, *Wrightia tinctoria* and *Zizyphus mauritiana*) were planted in the CAMPA Project. Out of these 17 species, the survival and the growth rate was very good of 9 species (*Acacia catechu*, *Acacia leucopholea*, *Acacia senegal*, *Acacia tortilis*, *Dalbergia sissoo*, *Dendrocalamus strictus*, *Holoptelea integrifolia*, *Tectonagrandis*, *Zizyphus mauritiana*).

Plants of natural regeneration of *Butea monosperma* (Palash), *Azadirachta indica* (Neem), *Acacia leucopholea* (Ronj), *Acacia nilotica* (Desi babool), *Zizyphus mauritiana* (Ber), *Acacia senegal* (Kumtha) and *Acacia tortilis* (Totalis) were growing abundantly in areas of Aided Natural Regeneration (ANR) and Degraded Forest Land (DFL) plantations. Natural plants of these species varied from 83 to 192 per ha. Seedlings of seed sowing of *Acacia senegal* (Kumtha), *Acacia nilotica* (Desi babool), *Acacia tortilis* (Totalis), *Acacia leucopholea* (Ronj), *Azadirachta indica* (Neem) and *Zizyphus mauritiana* (Ber) were growing well on the dug up soil of trenches. Spacing of seedlings of seed sowing should be done to enhance the growth of retained seedlings. Dimensions of Contour Trenches, Check Dams, Stone Wall Fencing and Boundary Trench Fencing were measured, compared with record and found almost correct. These SMC works have played their very good role in SMC and protection of plantations. The Boundary Trenches were found in good conditions.

**Recommendations of AFC Evaluators:**

- Rajasthan State CAMPA Project should be continued as it helped in : Improving the quality of Degraded Forest Land (DFL)/Increasing the forest cover in the Non-Forest Land (NFL)/Improving the habitat of wildlife and improving the ecology of the areas.
- Selection of plant species for planting should be site-specific.
- Damaged construction activities should be repaired.
- Adequate provision should be made for watering to the plants.
- Spacing of seedlings of seed sowing should be done etc.

**c) III<sup>rd</sup> Party M & E of CAMPA works carried out during 2017-18 to 2019-20 :**

The III<sup>rd</sup> party evaluation/study of " Evaluation study of plantations and construction of water conservation structures and buildings executed under CAMPA during 2017-2018 to 2019-2020" was the carried out by The Centre For Development Communication & Studies, Jaipur (CDECS) during the year 2021-22. As per Annual Plan of Operations (APO) for the years 2017-18 to 2019-20 of Rajasthan CAMPA, the physical targets of plantations and constructions activities were achieved on a number of sites located in 283 Ranges of 55 CAMPA Project Divisions. Out of these sites, 20% of sites were selected by the O/O Principal Chief

Conservator of Forests (PCCF), Head of Forest Force (HoFF), Jaipur, Rajasthan State by using stratified random sampling for the present IIIrd party evaluation/study. The secondary data of the selected sites was obtained from the O/O concerned Divisional and Range Officers of Forest Department and analyzed.

Detailed field survey of all the selected plantation sites was conducted and photographed by the CDECS evaluation team during the year 2021-22 and every selected site of construction activities (Anicut II, Anicut III, 4 Ft. Wall, 6 Ft. Wall, Forest Guard Chowki, Office-cum-Residence, ResecueCnetre, Boundary Pillars and Construction of Roads) was visited by the evaluation team during the year 2021-22. The construction activities were compared with the measurement book (MB), photographed and their GPS readings, present condition and utilization were recorded in the concerned Evaluation Format.

### **Results of Quantitative Evaluation :**

**Plantations :** During the project period of 3 years (2017-18 to 2019-20), physical target of 24823.12 ha. plantation was achieved against the allotted physical target of 24823.12 ha. plantations resulting in 100% achievement of plantation targets.

**Construction Activities :** During the project of 3 years (2017-18 to 2019-20), 44 no. of Anicut II, 37 no. of Anicut III, 60 no. of Forest Guard Chowki, 18 no. of Office-cum-Residence, 18 no. of Rescue Centre, 14 no. of Rescue word, 203.42 Km. of 4 Ft. Wall, 212.86 Km. of 6 Ft. Wall, and 14345 no. of Boundary Pillars were constructed against the same no./Km. allotted targets resulting in 100% achievement of these construction activities.

**Results of Qualitative Evaluation :** 111 sites of plantations of 85 Ranges of 55 divisions and 218 sites of construction activities of 137 Ranges of 51 Divisions were selected by the O/O Principal Chief Conservator of Forests (PCCF), Head of Forest Force (HoFF), Jaipur, Rajasthan State by using stratified random sampling for the present III<sup>rd</sup> party evaluation/study. All the selected sites of plantations and construction activities were evaluated by the evaluators of CDECS Jaipur during the year 2021-22 and the brief results of the evaluation are as follows :

### **Plantations :**

- Total Area of all the selected and evaluated 111 sites (18 sites of NFL, 32 sites of DFL & 61 sites of ANR) of plantations of 85 Ranges of 55 Divisions was 5451.88 ha.
- The overall ranking of evaluated 5451.88 ha. plantations were 'poor (5) with survival percentage of 48.44 %'.
- Brief details of evaluated plantations are given in the table below :

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Plantation	No. of sites as per survival %				
	80% to 90% (Excellent)	70% to 80% (Very Good)	60% to 70% (Good)	50% to 60% (Average)	40% to 50% (Poor)
ANR	1	3	3	13	38
NFL	0	4	1	7	3
DFL	0	1	4	7	17
Total	1	8	8	27	58

- 09 sites are below 40% (09 failure plantation)

### Construction Activities :

Out of total selected and evaluated 218 sites of construction activities of 137

Ranges of 51 Divisions, the Ranking is :

- Excellent (9) of 06 sites
- Very Good (8) of 21 sites
- Good (7) of 63 sites
- Average (6) of 102 sites
- Poor (5) of 19 sites
- Very Poor (4) of 7 sites

The construction activity wise no. of sites having ranking between 9 and 5 are as given in the table below :

Activity	No. of Sites With Ranks between 9 and 4						Total Sites
	9	8	7	6	5	4	
<b>Anicut II</b>	1	2	2	3			<b>08</b>
<b>Anicut III</b>	1	1	1	5	1	1	<b>10</b>
<b>4 Ft. Wall</b>		5	25	35	7	1	<b>73</b>
<b>6 Ft. Wall</b>	0	1	2	0	0		<b>48</b>
<b>Forest Guard Chowki</b>	1	4	7	5			<b>17</b>
<b>Range Office-cum-Residence</b>		3	1				<b>4</b>
<b>Rescue Centre</b>			3	3	6		<b>12</b>
<b>Boundary Pillars</b>			6	18	6	2	<b>32</b>
<b>Nursery</b>			6	2		1	<b>9</b>
<b>Road Side Plantation</b>	2		2			1	<b>5</b>
<b>Total</b>	<b>0</b>	<b>34</b>	<b>41</b>	<b>13</b>	<b>5</b>		<b>218</b>

Total 17 species (*Acacia catechu*, *Acacia leucopholea*, *Acacia nilotica*, *Acacia senegal*, *Acacia tortilis*, *Ailanthus excelsa*, *Azadirachta indica*, *Butea monosperma*, *Dalbergiasisoo*, *Dendrocalamus strictus*, *Emblica officinalis*, *Ficus racemosa*, *Holoptelea integrifolia*, *Pongamia pinnata*, *Tectonagrandis*, *Wrightia tinctoria* and *Zizyphus mauritiana*) were planted in the CAMPA Project. Out of these 17 species, the survival and the growth rate was very good of 9 species (*Acacia catechu*, *Acacia leucopholea*, *Acacia senegal*, *Acacia tortilis*, *Dalbergiasisoo*, *Dendrocalamus strictus*, *Holoptelea integrifolia*, *Tectonagrandis*, *Zizyphus mauritiana*).

Plants of natural regeneration of *Butea monosperma* (Palash), *Azadirachta indica* (Neem), *Acacia leucopholea* (Ronj), *Acacia nilotica* (Desi babool), *Zizyphus mauritiana* (Ber), *Acacia senegal* (Kumtha) and *Acacia tortilis* (Totalis) were growing abundantly in areas of Aided Natural Regeneration (ANR) and

Degraded Forest Land (DFL) plantations. Natural plants of these species varied from 83 to 192 per ha. Seedlings of seed sowing of *Acacia senegal* (Kumtha), *Acacia nilotica* (Desi babool), *Acacia tortilis* (Totalis), *Acacia leucopholea* (Ronj), *Azadirachta indica* (Neem) and *Zizyphus mauritiana* (Ber) were growing well on the dug up soil of trenches. Spacing of seedlings of seed sowing should be done to enhance the growth of retained seedlings. Dimensions of Contour Trenches, Check Dams, Stone Wall Fencing and Boundary Trench Fencing were measured, compared with record and found almost correct. These SMC works have played their very good role in SMC and protection of plantations. The Boundary Trenches were found in good conditions.

**Recommendations of CDECS Evaluators:**

- Rajasthan State CAMPA Project should be continued as it helped in :  
Improving the quality of Degraded Forest Land (DFL)/Increasing the forest cover in the Non-Forest Land (NFL)/Improving the habitat of wildlife and improving the ecology of the areas.
- Selection of plant species for planting should be site-specific.
- Damaged construction activities should be repaired.
- Adequate provision should be made for watering to the plants.
- Spacing of seedlings of seed sowing should be done etc.

**d) IIIrd Party M & E of CAMPA works carried out during 2020-21 to 2021-22 :**

The Third Party Evaluation of "Evaluation study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-21 & 2021-22" is taken up by the CDECS as per the project M&E requirement. As part of project Monitoring & Evaluation, Third Party evaluation / Study is to be conducted for evaluation of survival rate of plants on randomly selected sites (20% of all the Plantation sites) as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under this third party evaluation, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation would be undertaken. The third party will evaluate the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2020-21 to 2021-22. The results and analysis derived from the assessment would enable the project to further improve the processes and strict



adherence to the laid down guidelines Afforestation and several other forestry related works have been carried out by Rajasthan CAMPA under compensatory afforestation and other schemes through the assistance of Ministry of Environment, Forest & Climate Change, and Government of India in 225 ranges of 51 Forest Divisions distributed in all 33 districts of Rajasthan.

In total, 158 plantation sites were covered in 41 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2020-21 to 2021-22. As per the TOR, the sample sites of 100 percent and 10 percent were provided by the Office of PCCF (HoFF). Also, the sample sites of boundary wall, boundary pillars, rescue wards, Forest Chowki and Range Office cum residence buildings and SMC works sites were selected randomly by the department and given signed copy in the sealed envelope to the evaluation agency. The sample sites of plantation were selected for evaluation (both for 10% area of plantation and 100 % plantations as per the official orders and TOR).

Out of 41 Forest Divisions, sample sites of ANR, DFL, SPP, PEO and NFL were evaluated based on the scientific sampling method. The sample sites of 10% covered were 88 in number and 100% sample sites were 70 in number.

Under coverage in the 41 Forest divisions the total coverage of sample area under plantations sites were 7578.6 hectares in 113 Forests ranges. The percentage of coverage of sample area under Third Party Evaluation of plantation works carried out during year 2020-21 to 2021-22 is 24.9 percent (Total Plantation area under plantation during year 2020-21 & 2021-22 is 30421 Hectares).

#### **Results of Quantitative Evaluation :**

##### **Plantations:**

- The physical target of 30421.36 Ha plantations was achieved against the allotted target of 30421.36 Ha resulting in 100% achievement of plantation targets during the CAMPA Fund project period of 02 years (2020-21 to 2021-22).
- In terms of physical area, the ranking of plantations was Excellent (9) of 150 ha plantations having survival percent between 80 and 90, Very Good (8) in 242.06 ha plantation having survival percent between 70% and 80%, Good (7) in 588.114 ha plantation having survival percent between 60% and 70%, Average (6) in 2092.359 ha plantation having survival percent between 50% and 60%, Poor (5) of 4401.383 ha plantation having survival percent between 40% and 50%, Very Poor (4) of 104.7 ha plantation having survival percent less than 40%.

- Regarding ranking of plantation sites, the survival percentage was Excellent (between 80% and 90%) with ranking of 150 ha plantation area of 3 sites, Very Good (Between 70% and 80%) with 8 ranking of 242.06 ha plantation areas of 3 sites, good (Between 60% and 70%) with 7 ranking of 588.11 ha plantation areas of 11 sites, average (Between 50% and 60%) with 6 ranking of 2092.4 ha plantation areas of 46 sites, poor (Between 40% and 50%) with 5 ranking of 4401.4 ha plantation areas of 92 sites and very poor (less than 40 %) with 4 & below ranking of 104.7 ha plantation areas of 3 sites.
- **Construction Activities :** Out of total selected & evaluated 365 sites of assets of 153 ranges of 47 divisions, the ranking was very good (8) of 03 sites followed by good (7) of 72 sites, average (6) of 288 sites & poor (5) of 02 sites.
- The construction of boundary wall was reported an instrumental initiative in protecting forest and forest land from encroachment. In total, 35 Pakki diwar 4ft. (18727 meters) had been evaluated, out of which 27 were average & 08 were good in quality of construction. Regarding rating of quality of construction 27 pakki diwar was rated 6 & 08 rated 7. Regarding rating of quality of workmanship, 27 were average & 08 were good.
- In wildlife forest area, 23 Pakki diwar 4ft. (17742 meters) had been evaluated. Out of which 14 were average & 9 were good in quality of construction. Regarding rating of quality of construction 09 rated 7, & 14 rated 6. Regarding rating of quality of workmanship, 14 pakki diwar 4ft. rated average & 9 rated good.
- Pillars were evaluated at 232 sites (Nos. 2842), out of which 218 was average, 13 were good & 01 was poor in quality of construction. Regarding rating of quality of construction, at 13 sites pillars were rated 7 followed by at 218 sites rated 6 & at 1 site rated 5. Regarding quality of workmanship, at 218 sites pillars were average followed by pillars were good at 13 sites & poor at 01 site. Further, at 13 sites pillars were rated 7 followed by at 218 sites pillars & at 1 site pillars rated poor.
- In total 46 Anicuts II & III had been evaluated, out of which 15 were average, 29 were good & 02 were very good in quality of construction. Regarding rating of quality of construction 02 rated 8 followed by, 29 were rated 7 & 15 rated 6. Regarding quality of workmanship, 21 were average, 23 were good & 02 were very good. Further, 02 rated 8 followed by 23 were rated 7 & 21 rated 6.



- In total 18 MPT had been evaluated, out of which 03 MPT was rated 7 & 15 MPT were rated 6 in quality of construction. Regarding quality of workmanship, 03 reported good & 15 were reported average. Further, 03 rated 7 & 15 rated 6 in quality of workmanship.
- 07 Forest Chowkis/ Van Rakshak Chowkis had been evaluated. Out of which 02 forest chowkis were rated 8 followed by 04 forest chowkis were rated 7 & 01 forest chowki were rated 6 in quality of construction. Regarding quality of workmanship, 01 was average & 04 were good & 02 were very good. Further, 01 rated 6 followed by 04 rated 7 & 02 rated 8 in quality of workmanship.
- The boundary wall, anicut and forest chowki at some places were found having minor settlement and cracks or need maintenance. It should be addressed as per the requirements. Otherwise, the whole investment will become unusable after some time.
- Therefore, it is recommended to have a provision of budget for operation and maintenance.
- Almost in all the 64 sites Anicut Type II, III & MPT (LXBXH) were reported same as per record & actual. In few sites, there was variation in height/depth of anicut/MPT due to silting.
- In all the 58 sites Pakki Diwar 4ft & 6 ft were reported same as per record & actual. In 12 sites, there was variation in length of Pakki Diwar 4ft & 6 ft. In 05 sites the length of pakki diwar was found less as compared to the record due to damage by local community, due to cyclone & heavy rain & etc. However, in 07 sites the length of pakki diwar was found more as compared to the record.
- Almost at all the 232 sites, Boundary Pillars were reported same as per record & actual. In 08 sites there was some variation in number of pillars as per record & actual as pillars were either reported damaged by local community or found fallen on ground due to some reason.
- In all the 11 sites Forest Chowki/Range Office/ Rescue Centre were reported same as per record & actual evaluation of sites.

**Recommendations of CDECS Evaluators:**

The plantation sites require attention in order to combat the experience of extreme hot and cold during the year in different seasons. The watering of the plantations may be allowed for initial years in order to bear the extreme

temperature crisis. In ANR, NFL and DFL plantation models, the provision of watering may be given at least 3-4 watering every year in the beginning at least for 3 years may between November – June or as required as per site condition. Provisions for watering in ANR sites may be included for first 3 years. The ANR plantation model needs to be revised based on the real time and site specific requirements.

- The system of replacement of causality may be ensured for years till the maintenance has been sanctioned may be for 5 years so that the casualty can be reduced and more care can be given. This additional input will help in improving the vegetal cover and further address the issue of promotion of forestry which certainly adds value for Climate change (Sustainable Development Goals-15 (SDGs-15). The trees species under plantation may be taken up after complete assessment of the site – its topography, existing vegetation, species of trees etc. in order to have better productivity and survival.
- The initiatives of protection and guarding (*the protection from destruction by rats, porcupine (sevli), termite and Roze*) can be planned as per demand of the plantation site in order to have proper growth and development of plantation sites plants may be planned.
- After visiting the various plantation sites in various forest divisions, it has been experienced there strong need to have round the clock guarding i.e. site guards may be placed for 24 hours on turn basis. This will help in reduction in destruction during night.
- The analysis of success and failures of plantation sites and having interaction with forest officials, PRIs, local functionaries and VFPMC members, they were of the opinion that Cattle watcher (Chowkidar) appointed at the plantation sites may extend for 8-10 years in order to have better results and maximum results of the whole investment. This may hardly require 10-15% requirement of additional budget in the next 3-4 years.
- There is greater need to stop the grazing by creating proper fencing. The fencing wall should be of proper height looking to the site condition rather than the existing State norms of fencing. In some sites, stakeholders opined for raising the height of fencing wall from 1.2 meters to 1.6 meters. It will give better result and improve site conditions.
- There is need to revise the plantation models of ANR and DFL looking to the outcome/ result of afforestations and plantations. It has been reported that

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at some sites it becomes a problem to execute the model. Similarly, the case may be for other models, too.

- There is need to revise unit size of plantation for ANR and DFL models based on site conditions. It may be a unit of 5 to 20 hectares. This certainly will improve the coverage and success of the plantation work. In addition, the plantation sites should prefer the local species in order to have better response of the plantation activities. Site specific seedlings should be planted (as per topography & soil condition) at the plantation site.
- The plantation model needs to be revised now and it should be site specific rather than one model for the whole State. The component of plantation, protection and development of SMC structures need to be site specific. Also, the plantation activities should ensure that plants planted at site should be of more than one year and should pass through all the seasons namely, summer, winter and rainy seasons. In a span of one complete year time the plants at nursery will ensure hardening, adaptivity, resistance to larger extent.
- The model of NFL required to have site specific planning and may be the required budget. It needs to have customized budget based on its site and soil conditions. It has also reported the destruction by local population as the land in some cases in the use of local people. These issues need special attention and may be the budgetary provisions.