

# A Report on Third Party External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/circles of Jharkhand State

## Final Report



Submitted to:

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CAMPA Jharkhand, Office of Additional Principal Chief Conservator of  
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(11 January, 2024)



**Third Party Evaluation of works undertaken  
under Compensatory Afforestation Fund  
Management and Planning Authority (CAMPA)  
in Jharkhand for the Year 2019-20, 2020-21 and  
2021-22 in 59 Forest Divisions of Jharkhand  
State**

**FINAL REPORT**

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# Some Reality .....

“If I Have the Belief that I can do it, I shall surely acquire the capacity to do it even if I may not have in the beginning”.

.....*Mahatma Gandhi*

"Food is national security. Food is craft. Food is everything when you think."

.....*Jose Andres*

“We learn to do something by doing it. There is no other way.”

.....*John Holt*

Our Task now is not to fix the blame for the past, but to fix the course for future.

.....*John Fitzgerald Kennedy*



# ACKNOWLEDGEMENT

The State of Jharkhand is in the process of implementing CAMPA activities namely, compensatory afforestation, plantations under Net Present Value scheme, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other allied activities etc. as per the sanctioned Annual Plan of Operation (APOs) every year to carry out its operations in the forestry sector. The compensatory afforestation activities during the years 2019-20, 2020-21 & 2021-22 have been carried out in 59 Forest Divisions/circles distributed in all 24 districts of Jharkhand. It is imperative to evaluate the compensatory afforestation activities during the year 2019-20, 2020-21 & 2021-22 to know the achievements and challenges in compensatory afforestation activities carried out in 59 Forest Divisions/ circles during the year 2019-20, 2020-21 & 2021-22.

The third-party evaluation study titled “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions of Jharkhand State” has been commissioned by the Additional Principal Chief Conservator of Forest, Department of Forest, Environment and Climate Change, Van Bhawan, Doranda, Jharkhand for evaluation of survival rate on randomly selected sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement to Centre for Development Communication & Studies (CDECS). The purpose is to evaluate the CAMPA works undertaken as per the Annual Plan of Operations (APO) of 2019-20, 2020-21 & 2021-22. The study undertakes evaluation, systematic stocktaking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. The Third Party evaluation study has been carried out in across the state forest Divisions and Forest circles where the works with support from CAMPA fund has been sanctioned and spent. The whole process constitutes the evaluation of the survival rate on randomly selected sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the planned third-party evaluation, systematic stocktaking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. CDECS would like to acknowledge the support and contribution of the Additional Principal Chief Conservator of Forest, Department of Forest, Environment and Climate Change, Government of Jharkhand for providing us an opportunity to take up this study.

We take this opportunity to express our gratitude to Dr. Sanjay Srivastava sb, IFS, PCCF & HoFF, Office of the Principal Chief Conservator of Forest for award of the evaluation work and providing support and guidance in setting the tone for third party evaluation. We express our gratitude to Shri N.K Singh sb, IFS, Additional Principal Chief Conservator of Forest (Development), Office of the Principal Chief Conservator of Forest (HoFF), for his motivational and concern for the assignment.



We owe our gratitude to Shri Sanjeev Kumar sb, IFS, Additional Principal Chief Conservator of Forest (CAMPa), Office of the Principal Chief Conservator of Forest (HoFF), for his concern and appreciation for the “Third Party Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPa) in Jharkhand for the year 2019-20, 20-21 and 2021-22”. With his cooperation & support, this report is prepared & submitted as per terms of reference.

We extend our thanks to Shri Satyajit Singh sb, IFS, Additional Principal Chief Conservator of Forests Director Extension for North Chhotanagpur, Hazaribagh, Shri Praveen Jha, IFS Additional Principal Chief Conservator of Forests Director Extension for South Chhotanagpur Ranchi, Shri Y. K. Das, IFS, RCCF, Ranchi, Shri Kumar Ashutosh, IFS, RCCF, Palamau & Chief Conservator of Forests & Field Director, Palamau Tiger Reserve, Shri Ravi Ranjan, IFS, RCCF, Singhbhum, Shri Satish Chandra Rai, IFS, RCCF Dumka & Hazaribagh, Shri D. Venkateswarlu, IFS, RCCF, Bokaro, Shri S. R. Natesh, IFS, CCF, Wildlife, Ranchi, Shri P. R. Naidu, IFS, CF, Plantation Research & Evaluation division and Ms. Smitha Pankaj, IFS, Conservator of Forests, State Silviculturist division, Jharkhand Ranchi for their cooperation and thoughtful preparations for the evaluation.

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**DR. UPENDRA K. SINGH**  
*Team Leader*

**11 January, 2024**  
**Jaipur**



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## Abbreviations

ACF	Assistant Conservator of Forest
APCCF	Additional Principal Chief Conservator of Forest
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CBD	Contour Bunding
CDECS	Centre For Development Communication & Studies
CA	Compensatory Afforestation
CAT	Catchment Area Treatment
CCF	Chief Conservator of Forests
CF	Conservator of Forests
CG	Community Group
DFO	Divisional Forest Officer
DLT	Drainage Line Treatment
DFL	Degraded Forest Land
ECD	Earthen Check Dam
EPA	Entry Point Activities
GIS	Geographical Information System
GPS	Global Positioning System
HoFF	Head of Forest Forces
IEC	Information Education & Communication
IWMP	Integrated Wildlife Management Programme
LSCD	Loose Stone Check Dam
MIS	Management Information System
MoEFCC	Ministry of Environment, Forests and Climate Change
NFL	Non-Forest Land
NTFP	Non Timber Forest Produce
PCA	Penal Compensatory Afforestation
PCCF	Principal Chief Conservator of Forests
PCT	Percolation Tank
PTR	Palamu Tiger Reserve
RCCF	Regional Chief Conservator of Forests
RDF	Rehabilitation of Degraded Forests
RFO	Range Forest Officer
SC	Soil Conservation
SHGs	Self Help Groups
SMC	Soil & Moisture Conservation
SC & Plantation	Soil Conservation & Plantation
VFPMC	Village Forest Protection & Management Committee
WHS	Water Harvesting Structure

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# Executive Summary



# Chapter - 1

## Executive Summary

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### 1.1 Background

In the development trajectory of the country & state, more often, forest lands are diverted to non-forest purposes which are, of course, development activities such as irrigation, hydropower, mining, construction of industrial units, roads, railways, canals and urban expansion, etc. No doubt, these activities assume great significance in a country like India, protecting and growing forests are equally or more important. While it is somewhat difficult to draw a line between the two indicating up to which point the nation can afford to address the development activities at the cost of forest, the resilience of the forest is the bare minimum requirement that should be maintained to allow for its regeneration.

The State CAMPA creates an Annual Plan of Operation (APO) every year to carry out its operations in the forestry sector. CAMPA's activities include compensatory afforestation, plantations under the Net Present Value scheme, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other related activities. To meet the objective of the CAMPA fund, various works and activities have been carried out by Jharkhand CAMPA in 59 Forest Divisions/Circles in all 24 districts of Jharkhand. These works include Afforestation, silviculture operations, construction of buildings (Hajat, Barrack, Forest Guard Quarter), check dams, and other forestry-related works. An evaluation is being conducted to assess how CAMPA is being implemented in the state of Jharkhand, the progress made, and the difficulties faced during the years 2019-20, 2020-21, and 2021-22. The evaluation also aims to assess the success and failure of various activities undertaken with support from CAMPA Fund to add value to afforestation, NPV, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other related activities. This evaluation aims to assess the practical impact of such an effort across different states.

### 1.2 The Evaluation Study

The Third Party Evaluation study titled “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/ Circles of Jharkhand State” 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 (30% 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 has been undertaken. The third party will evaluate the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2019-20, 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.

### **1.3 The Objectives**

The third party has evaluated the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2019-20, 2020-21 and 2021-22. The evaluation has been undertaken of the plantations and the works carried out in the given financial years. The results and analysis derived from the assessment would enable the project to improve further the processes and strict adherence to the laid down guidelines.

### **1.4 Coverage under Plantation & Afforestation**

In total, 450 plantation sites were covered in 43 Forest divisions where plantation/ afforestation has been taken-up under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2019-20, 2020-21 & 2021-22. As per the TOR, total plantation sites during the year 2019-20, 2020-21 & 2021-22 was 1458. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 30% area of total plantation sites i.e. 437.4. However, total plantation sites covered during third party evaluation was 450.

In total, 450 plantation sites were covered in 43 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2019-20, 2020-21 & 2021-22. As per the TOR, total plantation sites during the year 2019-20, 2020-21 & 2021-22 was 1415. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 30% area of total plantation sites i.e. 424.5. However, total plantation sites covered during third party evaluation was 450.

In total, 382 assets/infrastructures sites were covered in 49 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2019-20, 2020-21 & 2021-22. As per the TOR, total assets/infrastructures sites during the year 2019-20, 2020-21 & 2021-22 was 2456. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 10% of total assets/infrastructures i.e. 245.6. However, total assets/infrastructures sites covered during third party evaluation were 382.

Hence, total plantation sites & assets/infrastructures covered during third party evaluation were 832(450+ 382).

### **1.5 Major Findings of the Study**

There has been a visible impact of the expenditures made under the CAMPA Fund in the forest sites. The initiative has improved the quality of degraded forest lands (RDF) and has increased the forest cover in the non-forest lands (NFL). It has also provided better facilities and improved the habitat of wildlife, resulting in the sighting of various animals. Furthermore, it has improved the overall health of the forest area where works and activities were undertaken from the CAMPA fund.

This initiative supports sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry, and robust convergence. It certainly adds value to climate change (Sustainable Development Goals-13 (SDGs-13)). These efforts will help in better protection, restoration and promotion of sustainable use of ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss with initiatives in the state under CAMPA. There has been a reported increase and improvement in vegetal cover at the sample plantation sites.

### **Afforestation & Maintenance of CA/SC&A/RDF/Linear Plantation sites**

The success and achievements of afforestation and plantation in terms of growth and survival under CA/SC&A/RDF/Linear Plantation sites has been excellent, with an average survival percentage of 83.2%. Also, the overall ranking of sample Silviculture plantation sites was very good with an average survival percentage of 79.4%.

Despite strategic efforts at the sample plantations and silviculture operation sites, there are factors affecting the growth and survival (biotic and abiotic) of seedlings at the plantation sites. Grazing by stray animals and cattle and destruction by Neelgai have been reported. Neelgai and village animals eat the branches and leaves of plants, which affects the growth and survival of plants. In addition, low rainfall was reported at the plantation site during the last 2 to 3 years, which has affected the survival and growth of planted species. Soil quality also obstructs the growth of planted seedlings. Furthermore, there has been an attack of termites at the plantation site which affects the growth of plants at the plantation sites.

### **Maintenance & Other Silvi-culture Operations**

In order to maintain the site, regular visits were made to ensure proper protection. Loose stone, ditch, and barbed wire fencing were used to effectively control any biotic pressure at the plantation sites. Hoeing and weeding were also carried out at the plantation sites. Coppicing was reported at the silviculture operation sites, while post-plantation operations such as pruning and thinning were carried out to a limited extent at the plantation site. In cases of mortality in the plantation, miscellaneous species were used to replace them in the second and third year.

### **Soil & Moisture Conservation works (SMC Works)**

It was reported that at the CA/SC&A/Linear plantation site, there were 123 Silt Detention Dams (SDD), 216 Contour Bundings, 106 Gully Plugging, and 7 other structures such as Earthen Check dam, Loose Stone Check dam, and Gabion. At the Silviculture plantation site, there were 125 Silt Detention Dams (SDD), 186 Contour Bunding, 132 Gully Plugging, and 10 other structures such as Earthen Check dam, Loose Stone Check Dam, and Gabion.

The work of SMC at the plantation sites was found to be useful and relevant. Contour trenches that measured 0.45m x 0.45m x 5m and 0.3m x 0.3m x 5m were reported at 145 plantation sites. The work was carried out systematically and properly at the majority of the sites.

### **Entry Point Activity (EPA)**

Entry Point Activity (EPA) is a crucial element of the CAMPA Jharkhand Fund implemented at the CA/SC&A/RDF site. The main objective of providing EPAs is to build trust with the

village residents by addressing their immediate needs. Out of 180 plantation sites, EPAs have been reported at 70 percent of them. Various EPA activities have been undertaken, including the construction of ponds, earthen check dams, soak pits, and distribution of lanterns, books, gym items, utensils, and furniture to VFM & PC. Additionally, solar-powered facilities such as Solar Jal Minar, solar lights, and hand pumps were installed. The activities and support provided under the EPA were found to be useful and beneficial for the villagers and the community as a whole.

### **Result of Coppicing (Silviculture operations)**

At 95 percent silviculture plantation site coppice shoots were reported of Sal species followed by Sidda (15.5 percent), Kendu (15.0 percent), Asan (5.7 percent) & Palas (4.1 percent). The average height of coppice shoots was between 300-500 cm at 48 percent silviculture plantation sites, hence, it can be said it is good.

In addition, the average DBH of coppice shoots was between 30-50 mm at 37.4 percent silviculture plantation site which is good.

### **Assets created under CAMPA (strengthening of Infrastructures for development of Forests and Wildlife protection, strengthening Forest roads etc.)**

In total, 382 assets/infrastructure sites were covered in 49 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the years 2019-20, 2020-21 & 2021-22. Regarding quality, it was reported 43.9 percent excellent, 41.4 percent Very good, 13.4 percent good, and 1.3 percent average. In terms of use of the assets/infrastructures, it was reported 37.2 percent excellent, 31.1 percent Very good, 29.8 percent good, and 1.6 percent average and 0.3 percent poor. It can be inferred that the purpose for which assets/infrastructures have been taken up in the state was useful and added value to the development and protection of forests and ecosystems.

### **Assessment of documentation & record keeping**

During the third-party evaluation, it was reported that records such as Pit Panji cum Plantation Panji and maps were available at all 193 silviculture operations and 257 CA/PCA, SC&A, RDF, Linear Plantation sites. The upload of silviculture operation sites on the e-Green watch portal was reported at 118 sites (61%), and for CA/PCA, SC&A, RDF, Linear Plantation sites, it was reported at 115 sites (45%). The upload of the assets/work created under CAMPA during the years 2019-20 to 2021-22 on the e-Green watch portal was reported at 181 sites (47.38 %).

### **Integrated Wildlife Management Programme**

The investments made under IWMP have proved to be beneficial in many ways, including improvements in habitat, socio-economic development, reduction of human-animal conflict, infrastructures, equipment, and field gear for staff. The Vulture Restoration Centers are an innovative initiative that needs to be mobilized and made functional. Additionally, the Quick Response Teams (QRT) have been working positively towards reducing human-animal conflicts.



## **Research, Evaluation, Capacity Building & Trainings**

The Research studies undertaken by the CF circles were relevant & Useful in deciding further action. The works related to Arboretum & Setum intervention were useful for the trainees in identifying the various species and understanding the plantation mechanisms. In addition, the studies on various issues namely, “Impacts of Subsidiary silviculture Operations in Sal forest of Jharkhand” –Annual report; Improvement of Elephant Habitat in Jharkhand to Minimize Human Elephant Conflict; Study on contribution of forest concerning nutrient and soil fertility in nearby agriculture land; Ecosystem services valuation and accounting of Jharkhand forest, etc. undertaken by Forest circles i.e. CF, State Silviculturist & CF, Plantation, Research & Evaluation circles were reported useful.

## **1.6 Recommendations & Suggestions**

### **How to make more meaningful Afforestation, Growth & Survival**

The system of replacement of casualty 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- 13 (SDGs-13)). The tree species under the plantation may be taken up after a complete assessment of the site – its topography, existing vegetation, species of trees, etc. to have better productivity and survival. The initiatives of protection and guarding (the protection of termites and local livestock) can be planned as per the demand of the plantation site to have proper growth and development of plantation site plants may be planned.

There has been demand amongst frontline workers/ functionaries of the department to extend the Cattle watcher (Chowkidar) appointed at the plantation sites for 8-10 years to have better results and maximum results of the whole investment. This may hardly require a 10-15% requirement of additional budget in the next 3-4 years.

With regards to the plantation model, it needs to be revised now and it should be site-specific rather than one model for the whole State. The components of plantation, protection, and development of SMC structures need to be site-specific. Also, the plantation activities should ensure that plants planted at the site should be for more than one year and should pass through all the seasons namely, summer, winter, and rainy seasons. In one complete year time, the plants at the nursery will ensure hardening, adaptivity, and resistance to a larger extent.

The need for pruning, thinning, and hoeing should be practiced at the site so that the growth of seedlings planted may be proper in post-plantation/ silviculture operation. Grazing by domestic village animals & cattle was reported at the site.

### **Strengthening formation & Functioning of Village level Institution**

The sample project Forest Divisions did an excellent job in fulfillment of their responsibility of undertaking plantation and construction activities with the help of VFM&PC at the project sites. However, the real requirement is to create a system and institutions at the village level, which should undertake its responsibilities properly. In the whole CAMPA Fund-supported project, the role of VFM&PC is pivotal. Hence, there is a stronger need to activate the VFM&PC which should come forward to take an active role in the protection and management of forest-related initiatives and plantations.

The Forest Division should perform its role as per the whole plan of action associated with the CAMPA fund and achieving the SDGs - 13 related to climate changes namely, ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and wild conservations. It is also true that stakeholders at Forest Division/ Range should also understand their importance and develop better coordination with the project team and should understand their role in the project rather than completing the project activities anyhow.

The greater role of activating VFM&PC in terms of holding meetings in a planned way should be treated as the essence of the project. The fixed date, adequate time suiting the community/ EC members, and deciding the venue of the meeting is some important elements. In addition, the meeting agenda needs to be prepared for every meeting of VFM&PC.

### **Records & Documentations of works**

Availability & updation of Pit panji cum plantation panji and other records is required especially during the third-party visit for evaluation at the site. The number of planted in the plantation sites on the various quadrates/ Block can be mentioned in the pit cum plantation Panji. Certainly, the proper system of record keeping of the various works undertaken in the jurisdiction of range offices can be traced even after the transfer/retirement of officials/ functionaries. Also, there is a greater need to upload the plantation sites (backlog of 48.2%) and the assets/works (backlog of 52.62 %) created under CAMPA during the years 2019-20 to 2021-22 on the e-Green watch portal. The forest divisions may be supported to complete the uploading of works and plantations undertaken with CAMPA funds on the e-Green watch portal.

### **Soil & Water Conservation and Improvement in Soil & Moisture Content**

It is essential to have an initial planning for water conservation structures such as Contour trench/bunding (CBD), check dams, trenches, SDD, gully plugging contour trenches, and gully plugging, along with a proper estimate, to ensure the creation of high-quality and useful structures. Additionally, timely and adequate maintenance of soil and water conservation structures, including check dams, WHS, water holes, etc., is necessary to keep them functional for an extended period.

### **Community Mobilization – Awareness camps & Meetings**

The effective mobilization of the community can have a powerful impact on individuals and members of the VFM&PC. To achieve this, it is necessary to have effective planning and management of the intervention related to community mobilization. This exercise should be thoughtfully executed, especially in forestry development work such as plantation, construction of SMC works, and forest and wildlife protection measures. It is essential to take a holistic approach so that both forest and people's development in terms of social and economic growth are ensured. Only then can the association of people and true 'People's Participation' be guaranteed. This is crucial for future activities and initiatives that will be supported by local-level stakeholders.

### **Capacity Building Training**

It is important to provide appropriate capacity-building training to develop the right skills at the right time. As part of the CAMPA project, various capacity-building trainings were

conducted for Forest Division, Range, and VFM&PC officials. However, it would be better if the capacity-building training were planned in terms of inputs, processes, outputs, and outcomes expected under CAMPA. This would help in understanding the real purpose of each activity related to the CAMPA Fund. Moreover, there is a greater need for the forest department officials who execute activities related to plantations, SMC structures, and asset creation to be familiarized with the technical aspects of the various SMC structures and their importance. During site evaluations, it was observed that forest guards were not familiar with SMC structures and their technicality. Therefore, it is necessary to understand and appreciate the usefulness of each minor component.

### **Ensuring Quality of works – Monitoring & Supervision**

The Forest Divisions and Ranges have an important responsibility in ensuring the quality of works carried out under the CAMPA fund activities. The Forest Division plays a vital role in ensuring quality works such as plantation and afforestation, construction of boundary walls, rescue wards, and office buildings. It is recommended that a monthly review meeting is organized at the Forest Division level with the whole team to discuss various inputs, processes, outputs, strengths, and challenges.

It has been reported that the monitoring, supervision, and guidance by DFOs at the field level were lagging. The pit panji cum plantation panji that officials use to note their observations in the column did not mention to what extent the directions were followed at the site. The condition of the construction sites requires regular supervision and monitoring to ensure the quality of construction.

### **Policy Issues**

At this stage, there are certain policies that need to be implemented to ensure better results and outcomes for site-specific plantations and allied activities that align with the objective of the CAMPA fund. First, a transparency board should be installed at the VFM&PC village, which will provide details of the overall CAMPA fund project and its members. Additionally, the protection provided by cattle guards should be extended for 3-5 more years to ensure better results. This will safeguard the entire investment for a longer period and lead to better outcomes. Furthermore, timely releases of funds are crucial in maintaining the quality and continuity of the work undertaken. It will also ensure that the work is completed promptly.

There is a need to have better systems and functions to protect the investment so that sustainability can be ensured. To execute the protective support it needs to have provision for watering of the plants viz. at least for the first three years & when monsoon is weak, and provision for O&M of EPA activities either at the community level or at the department level. Then only the investment can be said useful under EPA. In addition, the participation of grassroots functionaries may be required in planning and budgeting rather than simply involve in execution only.

In terms of protecting plantation sites with an area of less than 30 Ha, a watcher may be allowed on-site based on the location and situation. Otherwise, it is difficult to provide adequate protection to these sites. Also, there is a need to revise the fencing model at the plantation sites, especially in smaller sites of 2 to 10 Ha may be different from the bigger sites of 40 to 50Ha to ensure the plantation in more area rather than using the available land for trench digging for fencing of dimensions (T+B) 1.8m, 1.2m and height 1.2m.

Transparency is crucial when it comes to disclosing information about construction and plantation sites. One way to achieve this is by displaying ID numbers on transparency boards. This will allow individuals to access information about the year of activity, the project or program under which it was constructed, estimated costs and expenditures, and completion dates. Although silviculture operations have shown to be effective at sample sites, it would be even more effective if these interventions were extended for 6-7 years, similar to other model sites, to achieve better results. To strengthen key functionaries, it is necessary to provide orientation to frontline functionaries to ensure quality and standards are met. Regular monitoring and handholding support by range officers during construction and execution of site-level activities can also improve quality. Finally, it is important to fill the vacancies of frontline forest functionaries/staff. The current situation shows that RFO vacancies are above 60 percent and SBO/Forest Guard vacancies are around 50 percent.



## Chapter - 2

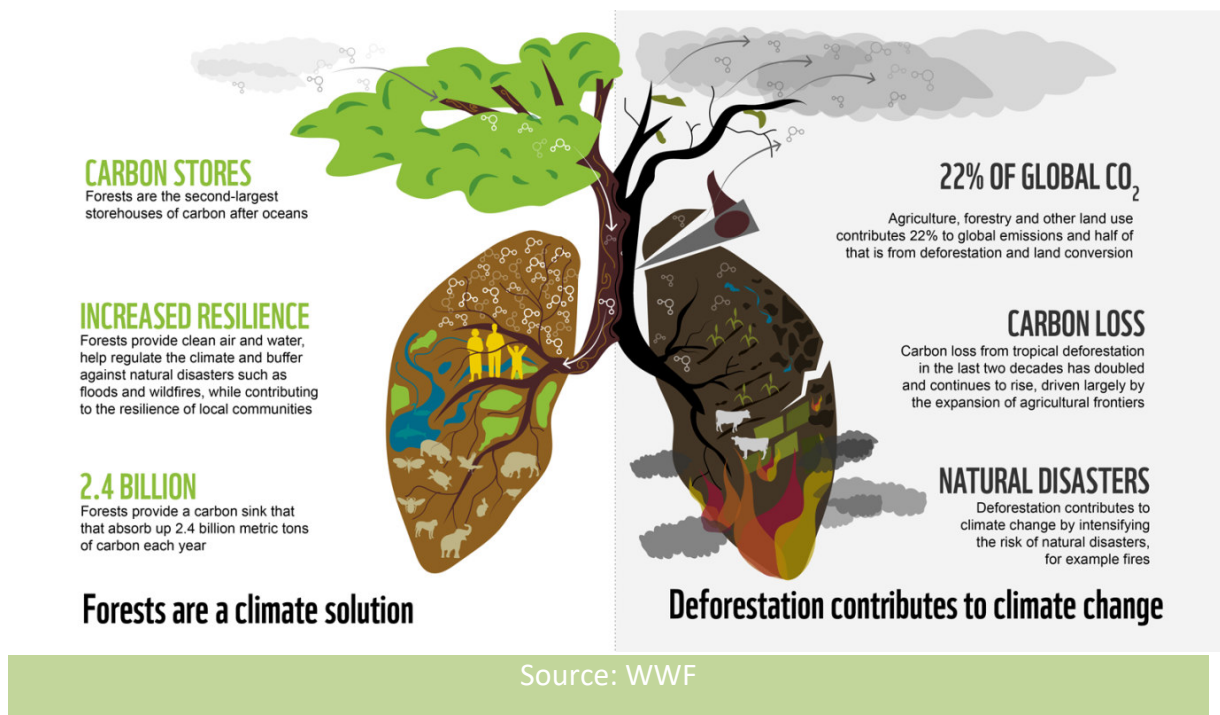
# Introduction, Background, Purpose and Scope of Evaluation

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### 2.1 Importance of Forest in Life

Forests are a complex and vital component of the planet Earth's ecosystem. Forests are essential not only to maintain earth's health but are also important resource for economic growth, employment, food security, and energy, as well as to address climate change and other environmental challenges. Forests cover around one-third of all land on Earth and breathe life into our world, but it's not just the planet that suffers when they are destroyed. Forests are important for people's lives, homes and livelihoods and have a crucial role to play in tackling the biodiversity and climate crises.

Over 1.6 billion people depend on forests for food or fuel, and some 70 million people worldwide - including many Indigenous communities - call forests home. Forests provide us with oxygen, shelter, jobs, water, nourishment and fuel. With so many people dependent on forests, the fate of our forests may determine our own fate as well.



Forests help to prevent erosion and enrich and conserve soil, helping to protect communities from landslides and floods and producing the rich topsoil needed to grow plants and crops. Forests also play an important role in the global water cycle, moving water across the earth by releasing water vapor and capturing rainfall. They also filter out pollution and chemicals, improving the quality of water available for human use. The destruction of forests has a knock-on effect on agriculture and can affect the production of the food we eat.

## Importance of Forests for the climate

Forests are the largest storehouses of carbon after the oceans, as they absorb this greenhouse gas from the air and lock it away above and below ground. So, it is no surprise that when we cut down or damage our forests, we release huge amounts of carbon emissions that contribute to the climate crisis.

But forests are also important as they can help protect people and nature from the consequences of a warming world. As the impacts of climate change, including floods and storms from rising sea levels and increased precipitation become more frequent and severe, forests can provide a crucial buffer for our communities.

Extreme events caused by climate change, such as more frequent wildfires, limit the ability of our forests to regenerate. At the same time, deforestation contributes to climate change by increasing the risk of fires. Stopping deforestation and restoring forests is a crucial part of climate action.

Human health is inextricably linked to forest health. Deforestation has serious consequences on the health of people directly dependent on forests, as well as those living in cities and towns, as it increases the risk of diseases crossing over from animals to humans. Meanwhile, time spent in forests has been shown to have a positive benefit on conditions including cardiovascular disease, respiratory concerns, diabetes and mental health.

## 2.2 Introduction & Background

Jharkhand ("The land of forest") is a state in eastern India, created on 15 November 2000, from what was previously the southern half of Bihar. The state shares its border with the states of Bihar to the north, Uttar Pradesh to the northwest, Chhattisgarh to the west, Odisha to the south and West Bengal to the east. The state with a geographical area of 79,714 km<sup>2</sup> constitutes 2.42% of the country's area. The total recorded forest area of the state is 23,605 km<sup>2</sup> which is 29.61% of the geographical area. It is the 15<sup>th</sup> largest state by area, and the 14<sup>th</sup> largest by population. Hindi is the official language of the state. The city of Ranchi is its capital and Dumka is sub-capital.

The state of Jharkhand has a unique relation with forests since ancient times. The word 'Jharkhand' connotes area of land covered with forests. Therefore, literally as well as symbolically, Jharkhand is associated with forests. The ideas of forest and biodiversity conservation are ingrained in the ethos of the state.

In terms of natural resources and forests, it is in abundance in the state of Jharkhand. We can call that 'Nature wears her best clothes in this state'. The state is endowed with abundant mineral wealth, flora and fauna. Rivers like Damodar, Brahmani, Kharkai, Subarnarekha and so many other rivers are flowing gently adding to the natural charm of Jharkhand.

In addition, Jharkhand state is proudly emerged culturally as an important multi ethnic state. Over thirty two indigenous communities exist harmoniously in Jharkhand such as Santhal, Munda, Oraon, Ho, Paharia, Chero, Birjea, Asura etc. These communities have several colourful nature friendly festivals like Sarhul, Karma etc. in which tribals worships and protect trees.



Source: ISFR -2021 Jharkhand

### Forest coverage in the State (ISFR, Year 2021 by FSI)

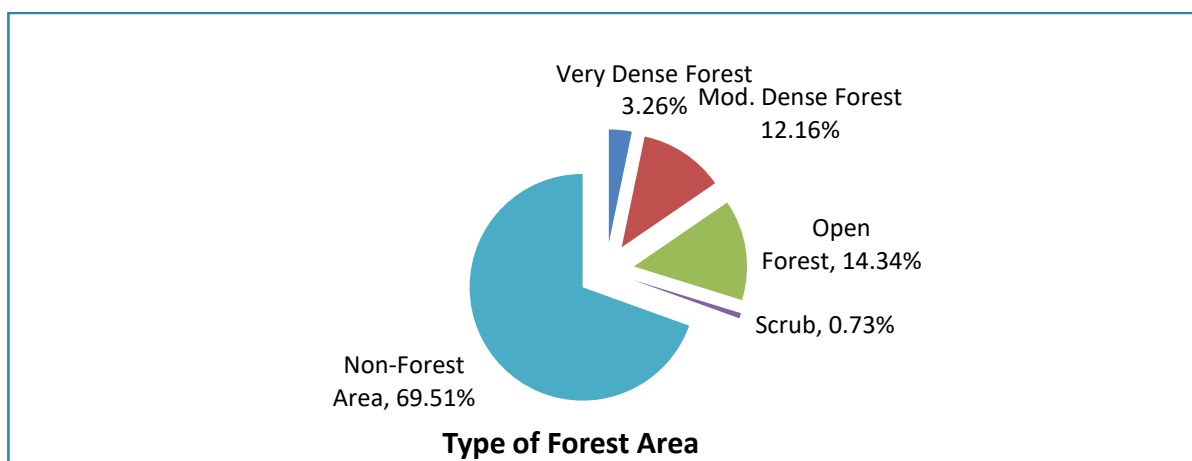
According to India's State of Forests Report, 2021, the total Forest Cover of the state is 23,721 km<sup>2</sup> which is nearly 29.76% of the geographical area of the state.

**Table 2.1: Forest Cover of Jharkhand**

Class	Area (km <sup>2</sup> )	% of GA
<b>Very Dense Forest</b>	2,601.05	3.26
<b>Mod. Dense Forest</b>	9,688.91	12.16
<b>Open Forest</b>	11,431.18	14.34
<b>Total</b>	<b>23,721.14</b>	<b>29.76</b>
<b>Scrub</b>	584.20	0.73

Source: ISFR - 2021 by FSI

However, of the total recorded forest area, Reserved Forest constitutes 18.58%, Protected Forests 81.28% and unclassed Forests 0.14 %. It can said a boon to the state.



**Table 2.2: General Information**

1	Geographical Area	79,716 km <sup>2</sup> .
2	Forest Area	23721 km <sup>2</sup> .
3	Percentage forest cover of the state	29.76%
4	Per capita Forest Area	0.071 Ha.
5	Average density of population	414 Persons per km <sup>2</sup> .
6	No. of Districts	24

Source: ISFR - 2021 by FSI

**Table 2.3: Forest Area**

Reserve Forest	4447.21 km <sup>2</sup> .
Protected Forest	17812.28 km <sup>2</sup> .
Un-demarcated Forest	708.67 km <sup>2</sup> .
Other Forest	486.09 km <sup>2</sup> .
Total	23454.25 km <sup>2</sup> .

Source : ISFR - 2021 by FSI

## Addressing Sustainable Development Goals (SDGs) in the State

In the more recent times, a clear obligation has also been felt to integrate the vision of sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of urban forestry and robust convergence with Sustainable Development Goals (SDGs).

In order to achieve the above-mentioned target with sustainable forest management, people's participation is indispensable. In addition, it also focus to protect, conserve, restore and manage existing natural forests, wildlife and bio-diversity to enhance their productive capacity for ecological security and flow of ecosystem services as well as to contribute towards economic and social well being. Moreover, the effort has been planned to increase the extent of forest cover/ tree cover in the state by encouraging reforestation, restoration and rehabilitation measures in the existing forest areas and by encouraging and expanding vegetal cover in urban and rural areas outside the forest areas. The policy also to encourage community participation and improve livelihood opportunities for people through sustainable use of forest and grassland based resources and ecosystem services, etc.



### 2.2.1 Physiography

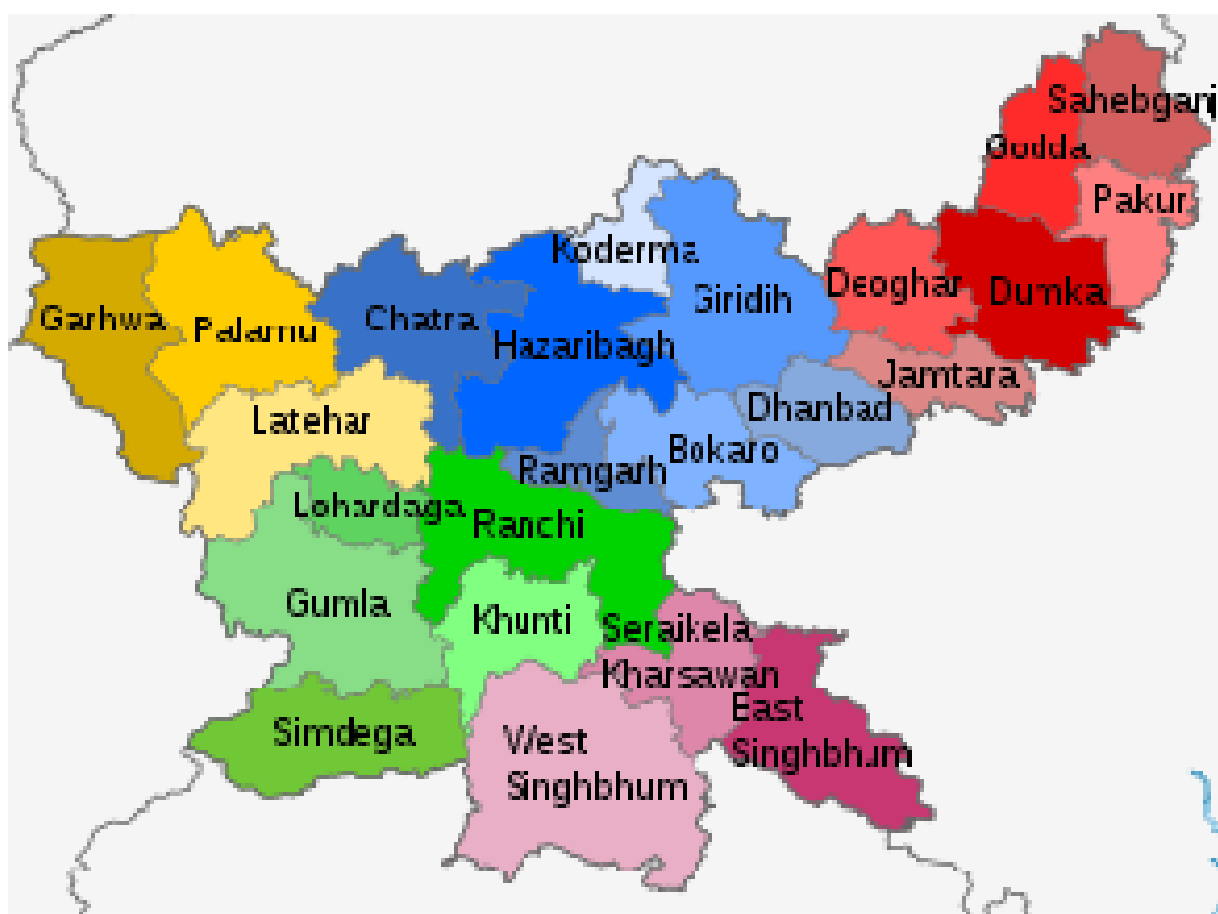
The physiography of Jharkhand is the product of long years of erosion and depositional processes. The present landforms and drainage systems have been greatly influenced and determined by the geological formations and structures.

### 2.2.2 Administrative Divisions and Districts

Administratively, Jharkhand State is divided into 05 Divisions. Each Division is divided into Districts resulting in 24 Districts in Jharkhand State (Table-2.4). These Districts are further divided into Sub-Divisions consisting of Revenue circles, Halka and Villages.

**Table 2.4: Administrative Divisions and Districts in Jharkhand State**

S.No.	Division	Districts
1.	Palamu	Palamu, Garhwa, Latehar
2.	North Chotanagpur	Chatra, Hazaribagh, Koderma, Giridih, Ramgarh, Bokaro, Dhanbad
3.	South Chotanagpur	Lohardaga, Gumla, Simdega, Ranchi, Khunti
4.	Kolhan	West Singhbhum, Saraikela Kharsawan, East Singhbhum
5.	Santhal Pargana	Jamtara, Deoghar, Dumka, Pakur, Godda, Sahebganj



### 2.2.3 Topography

Jharkhand is a prosperous state with rich natural resources and extensive variability in terrain characteristics and associated ecosystems. The state extends over a geographical area of 79,714 sq.km, and currently supporting the human population of the state. The state frequently faces natural calamities such as drought, floods besides the locale-specific hazards of industrial emissions and pollutants, epidemics, fires, accidents etc.

The state of Jharkhand is rich in forests and mineral wealth. As per the Champion & Seth classification of the Forest Type (1968), the forest in Jharkhand belongs to two Forest Types Groups [A] TROPICAL DRY DECIDUOUS FORESTS (5) [B] TROPICAL MOIST DECIDUOUS FORESTS (3) which are further divided into eight Forest Types.

1. Northern tropical dry deciduous forests
2. Dry peninsular Sal Forest.
3. Northern dry mixed deciduous Forest.
4. Aegle Forest
5. Dry Bamboo Breaks.
6. Moist Peninsular sal Forest
7. Moist mixed deciduous Forest
8. North Indian Moist Deciduous Forests

### 2.2.4 Climatic conditions

Jharkhand, located in eastern India, boasts a diverse and dynamic climate shaped by four distinct seasons. Each season imparts its unique characteristics to the state's overall weather patterns. During the scorching summer months, temperatures soar and water scarcity becomes a concern. The monsoon brings rejuvenating rainfall, vital for agriculture and water resources. The brief autumn season offers pleasant interludes before the onset of the mild and chilly winter. Understanding these four seasons is essential for comprehending Jharkhand's climate and its impact on various sectors.

Climate of Jharkhand varies from Humid subtropical in the north to tropical wet and dry in the south-east. The main seasons are summer, rainy, autumn, winter and spring. The summer lasts from mid-April to mid-June. May, the hottest month, characterised by daily high temperatures around 37 °C (99 °F) and low temperatures around 25 °C (77 °F). The southwest monsoon, from mid-June to October, brings nearly all the state's annual rainfall, which ranges from about 1,000 mm (40 in) in the west-central part of the state to more than 1,500 mm (60 in) in the southwest. Nearly half of the annual precipitation falls in July and August. The winter season lasts from November to February. The temperatures in Ranchi in December usually vary from 10–24 °C (50–75 °F). Spring season lasts from mid-February to mid-April.

### 2.2.5 Soil Variance

The state has the soil types found in Jharkhand can be broadly classified into four categories: red soil, laterite soil, alluvial soil, and black soil.

- **Red soil:** Red soil is the **most common type of soil found in Jharkhand**. It is formed due to the weathering of ancient crystalline rocks and is rich in iron and aluminium. Red

soil is found in areas such as Ranchi, Hazaribagh, and Dhanbad districts, and is known for its fertility and ability to support a variety of crops.

- **Laterite soil:** Laterite soil is found in the eastern part of Jharkhand, including parts of the Singhbhum district. It is formed due to the weathering of basaltic rocks and is rich in iron oxide and aluminium oxide. **Laterite soil is acidic in nature** and requires proper management practices to improve its fertility.
- **Alluvial soil:** Alluvial soil is found in the river valleys and plains of Jharkhand, such as in the districts of Godda, Sahebganj, and Pakur. It is formed due to the deposition of sediment by rivers and is rich in organic matter, making it highly fertile and suitable for cultivation.
- **Black soil:** Black soil is found in parts of the southern districts of Jharkhand, such as Ranchi and Khunti. It is rich in clay minerals and organic matter, making it highly fertile and suitable for growing crops such as paddy, wheat, and pulses.

### 2.2.6 Status of Forests and Wildlife

The state of Jharkhand is blessed with immense diversity of flora and fauna, coexisting with the human communities. The protected area network of the state includes one national park, eleven wildlife sanctuaries, one tiger reserve and one elephant reserve. Jharkhand has a rich variety of flora and fauna. The national parks and the zoological gardens in the state of Jharkhand present a panorama of this variety.

Part of the reason for the variety and diversity of flora and fauna found in Jharkhand state may be accredited to the Palamau Tiger Reserves under the Project Tiger. This reserve is abode to hundreds of species of flora and fauna, as indicated within brackets: mammals (39), snakes (8), lizards (4), fish (6), insects (21), birds (170), seed bearing plants and trees (97), shrubs and herbs (46), climbers, parasites and semi-parasites (25), and grasses and bamboos (17).

The State of Jharkhand is rich in forests and mineral wealth. As per the Champion & Seth classification of the Forest Types (1968), the forests in Jharkhand belong to two Forest Type Groups which are further divided into eight Forest Types. The State is known for its waterfalls, hills and forest landscapes. Various ethnic groups such as Munda, Oraon, Ho, Santhal, Paharia, Chero, Birjea, Asura and others live in the State and follow varying practices of agro-pastoralism. Traditionally, these indigenous people have symbiotic relationship with forests. Local festivals like Sarhul and Karma are customarily related with worshipping of trees. Jharkhand has a rich variety of flora and fauna. Recorded Forest Area (RFA) in the State is 23,605 sq km of which 4,387 sq km is Reserved Forests, 19,185 sq km is Protected Forest and 33 sq km is Unclassed Forests. In Jharkhand, during the period 1<sup>st</sup> January 2015 to 5<sup>th</sup> Feb 2019, a total of 690.87 hectares of forest land was diverted for various non-forestry purposes under the Forest Conservation Act, 1980 (MoEF & CC, 2019). One National Park and 11 Wildlife Sanctuaries constitute the Protected Area network of the State covering 2.74% of its geographical area. (*ref.:ISFR,2019*)

### Flora of Jharkhand

Flora of Jharkhand mainly consists of a dry and deciduous variety of flowers, plants, and trees. Jharkhand has a semi-arid landscape which is the reason for the shortage of water during the

hot summer months, which causes fauna species to grow with the least amount of water, and thus, new and unique biodiversity naturally comes into existence.

Among the various dry varieties of the trees and plants, the fruit which grows is filled with massive nutrients and antioxidants. Some of the most critical trees in the flora of Jharkhand are Sal, Gambhar, Acacia, Arjun, Karanj, Sajwan, Kat Sagwan, Guava, Sariffa, Jackfruit, Jamun, Kendu, Shisham, Katha, Pesar, Lac, Mahua, Mango, Baheda, Aasan, and Bamboo.

## **2.3 About CAMPA**

Government of Jharkhand vide its Notification No. 3/Vanbhumi 21/2009-3363 dated 23<sup>rd</sup> October, 2009 constituted Jharkhand CAMPA in pursuance to the directive of Govt. of India, Ministry of Environment & Forests vide its D.O. No. 5-1/2009-FC, dated 21<sup>st</sup> July, 2009. Further, the Government of Jharkhand vide its Notification No. 1879 dated 29<sup>th</sup> April, 2013 created a full-fledged CAMPA wing under the charge of Additional Principal Chief Conservator of Forests (APCCF), CAMPA for effective implementation and monitoring of CAMPA Scheme in the State. CAMPA in the state has been constituted with an objective of conservation, protection, regeneration and management of existing natural forests, wildlife and their habitat and raising site-specific compensatory afforestation, penal compensatory afforestation etc.

The State CAMPA formulates an Annual Plan of Operation (APOs) every year to carry out its operations in the forestry sector. The activities of CAMPA include compensatory afforestation, plantations under the Net Present Value scheme, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other allied activities etc.

Afforestation and several other forestry-related works have been carried out by Jharkhand CAMPA under compensatory afforestation and other schemes through the assistance of the Ministry of Environment, Forest & Climate Change, and the Government of India in 59 Forest Divisions/ Circles distributed in all 24 districts of Jharkhand.

Under CAMPA, several activities have been taken up for compensatory afforestation, preservation & development of natural forests, afforestation of degraded forest areas, forest protection, management of wildlife, capacity building, research & development, infrastructure development and other allied activities.

## **Objectives of CAMPA**

The objectives of the CAMPA Law are stated below:

- (a) conservation, protection, regeneration and management of existing natural forests;
- (b) conservation, protection and management of wildlife and its habitat within and outside protected areas including the consolidation of the protected areas;
- (c) compensatory afforestation;
- (d) environmental services, which includes:

- (i) **provision of goods** such as wood, non-timber forest products, fuel, fodder and water, and provision of services such as grazing, tourism, wildlife protection and life support;
  - (ii) **regulating services** such as climate regulation, disease control, flood moderation, detoxification, carbon sequestration and health of soils, air and water regimes;
  - (iii) **non-material benefits** obtained from ecosystems, spiritual recreational, aesthetic, inspirational, educational and symbolic; and
  - (iv) **supporting such other services** necessary for the production of ecosystem services, biodiversity, nutrient cycling and primary production.
- (e) Research, training and capacity building

## State CAMPA

The authority or the instrumenting body that is responsible for accelerating activities for the preservation of natural forests, effective management and monitoring of wildlife, infrastructure development in the sector and other allied works in the State is known as the State CAMPA.

## CAMPA Fund

In simple terms, it can be called as the compensation in monetary values that has to be deposited along with the net value of the land under the CAMPA law by the authorities who are diverting the forest lands for non-forest purposes so as to raise the forest. This is done along with compensating the use of forest-land with the equivalent non-forest land that has to be taken up for afforestation. Authorities that divert the land have to bear the cost of Compensatory Afforestation.

## A Few facts about the CAMPA fund

- The Supreme Court of India in 2002 (TN Godavarman vs Union of India case) had ordered the creation of CAMPA fund.
- CAMPA was established in 2004 to manage the Compensatory Afforestation Fund (CAF) and it acts as the custodian of the CAMPA fund.
- After the CAG report of 2013 where it was mentioned that CAMPA funds are going unutilized, CAF Act, 2016 came into force on 30th September 2018.
- National Compensatory Afforestation Fund under the Public Account of India and State Compensatory Afforestation Fund under the Public Account of each state was created.
- The State Funds will receive 90% of the payments while the National Fund will receive the remaining 10%.
- All states except Nagaland have set up state CAMPAs following this notification, as of November 2019.

### Compensatory Afforestation Fund

- The CAF Act was passed by the center in 2016 and the related rules were notified in 2018.
- The CAF Act was enacted to manage the funds collected for compensatory afforestation which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
- Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
- As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
- The funds can be used for the treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices, and allied activities.

### 2.3.1 CAMPA Initiatives - Backdrop

More often than not, forest lands are diverted to non-forest purposes which are, of course, development activities such as irrigation, hydropower, mining, construction of industrial units, roads, railways, canal and urban expansion etc. No doubt, these activities assume great significance in a country like India, protecting and growing forest are equally or more important. While it is somewhat difficult to draw a line between the two indicating up to which point the nation can afford to address the development activities at the cost of forest, resilience of the forest is the bare minimum requirement that should be maintained to allow for its regeneration. However, several instances suggest especially in the Indian context that in many cases nothing of this sort is obeyed which is why plans/trees stop regenerating. This is what one call ‘de-development’. Besides, salinization of ground water and loss of soil nutrient are ecological risk in the state.

It is distressing to note that a total of 11,467.83 Hectares (114.68 sq.km) of forest lands was diverted in 22 states between 01 January 2019 and 06 November, 2019 in order to implement 932 development projects. It is against the backdrop of destruction of vast areas of forest land the constitution of India under its realm has made a provision of “Compensatory Afforestation”. It is institutionalized as a part of the compensatory Afforestation Fund Act, 2016. The Ministry of Environment and Forest, New Delhi notified on 23<sup>rd</sup> April, 2004 describing the institution, management and function of the CAMPA (Compensatory Afforestation Fund Management Act) committee. The Act was passed by Rajya Sabha on 28<sup>th</sup> July, 2016. The compensatory afforestation forest fund (CAF) is created by the money paid by those developers who have razed forest land for their development projects. The objective is that such destroyed land must be made good by means of regenerating forest elsewhere on non-forest lands.



The land for the afforestation should be in the non-forest land equivalent to the forest land which is destroyed. The land should be identified in proximity to a reserved forest or a protected forest. In case it is not available in the same district, compensatory afforestation must be undertaken anywhere else in the same state/Union territory. Even if it is not available within the state/ UTs, CA has to be carried out elsewhere outside the state, but the extent of plantation site should be twice the extent of the land diverted for non-forest use. However, one has to bear in mind that new plantations may fulfill the objective of tree cover but they cannot compensate for the actual loss of the ecosystem services provided by a full grown forest.

Despite all tall talks, several evidences suggest that the afforestation programme under CAMPA is far away from meeting its objectives although the central government spent around Rs 59,000 crore between 2009 and 2020. True, there may be some instances that may speak of its better implementation that has yielded positive results. But then in the overall context one may be inclined to examine its impact against the backdrop of India's commitment to international environmental laws, like the United Nations conventions on climate change and land degradation. It may be worthwhile to remind us that India has pledged to absorb between 2.5 and 3 billion tones of CO<sub>2</sub> by 2030 by planting trees. The country has also committed to foresting more than 26 million hectares of degraded land.

It is against this backdrop, the present exercise is undertaken to evaluate how CAMPA is implemented in the state of Jharkhand, progress being made and difficulties being faced during the years 2019-20, 2020-21 and 2021-22.

### 2.3.2 CAMPA has the following major components:

S.No.	Major Component	Brief Description
1	Afforestation	The following afforestation works are being undertaken in forest divisions: (a) Compensatory Afforestation works, artificial regeneration, assisted natural regeneration (b) Artificial regeneration (c) Rehabilitation of Degraded Forests (RDF) (d) Assisted Natural Regeneration (ANR) (e) Road Side Plantation/ Gabian (f) Linear Plantation (g) Silvi-culture Operations
2	Construction of Buildings	(a) Forest guard quarters (b) Hazat/Barrack (c) Office cum Residence (d) Rescue Centres
3	Soil & Moisture Conservation Structures (SMC)	(a) Water Harvesting Structures (b) Checkdams (c) Water Holes
4	Biodiversity Conservation	(a) Biodiversity and wildlife management, man-animal conflict reduction; (b) construction of water holes, strengthening of infrastructure for wildlife protection
5	IWMP & CAT	(a) Work Under IWMP (integrated Wild Life Management Plan)

		(b) Work under CAT Plan (Catchment Area Treatment Plan) (c) Anti-depreciation activities
6.	Infrastrucutre development	(a) Strengthening of forest road (includes construction and repair of causeway/culverts on forest road) (b) Causeway/Culverts (c) Solar pump and solar lights

## 2.4 The Evaluation Study

The Third Party Evaluation of The third-party evaluation study titled “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/ Circles of Jharkhand State” 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 (30% 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 has been undertaken. The third party will evaluate the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2019-20, 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.

## 2.5 The Objectives

The third party has evaluated the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2019-20, 2020-21 and 2021-22. The evaluation has been undertaken of the works carried out in the given financial years. The results and analysis derived from the assessment would enable the project to improve further the processes and strict adherence to the laid down guidelines.

They Key objectives of the third party “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/circles of Jharkhand State” CAMPA has the following major components:

- To assess the Compensatory Afforestation works, artificial regeneration, assisted natural regeneration carried out during the year 2019-20, 2020-21 and 2021-22.
- To assess the Silvicultural Operations of forests undertaken in the state.
- To assess the Maintenance of permanent nurseries.
- To assess the Soil and Moisture Conservation Measures.
- To assess the Forest Protection activities.
- To assess the Biodiversity and wildlife management, man-animal conflict reduction; construction of water holes, strengthening of infrastructure for wildlife protection.
- To assess the Work under IWMP (integrated Wild Life Management Plan).

- To assess the Work under CAT Plan (Catchment Area Treatment Plan).
- To assess the Infrastructure development for facilitating forest protections and development.
- To assess the Strengthening of forest road (includes construction and repair of causeway/culverts on forest road);
- To assess the any other works undertaken under CAMPA fund in these years but not specified above.
- To identify and suggest areas for improvement and actions to be taken.

### **The Scope of Work under Evaluation Study**

- Field verification and validation of plantations and quality of work done.
- Field verification and validation of Water Conservation Structures and eco-restoration closures.
- Field verification of various Infrastructures development works - buildings/walls/assets/ forest roads/ causeway/culverts constructed under the Project.
- Verification and comparison of related documents such as Pit panji cum plantation journal, design and estimate for soil & water conservation structures and construction of wall/ buildings, and other necessary supporting documents in relation to the field situation and periodical progress reports submitted.
- Assessment of the procedures/norms of procurement, construction, plantation, payment and any other proceedings for asset creation in relation to the guidelines and procedures laid down under the project or defined by the government.
- Suggested Improvements.
- Compliance of official circulars/orders by the implementing authorities.

## **2.6 Overview of Physical & Financial Progress under CAMPA Activities during the Year 2019-20, 2020-21 to 2021-22**

### **2.6.1 Physical Targets**

2.6.1.1 Plantations, Silvi-culture operation, Infrastructure development, CAT and Integrated Wildlife Management Programme, Water Harvesting structures, & Checkdam, etc.

The Division-wise/ circle-wise and year-wise allotment and achievement of physical targets of afforestation/ plantations (in ha), Silvi-culture operation, Infrastructure development, CAT and Integrated Wildlife Management Programme, Water Harvesting structures, & Checkdam, etc. during the years 2019-20, 2020-21 & 2021-22, under State CAMPA Funded Project is presented in the Table 2.5.

Abstract of year-wise allotted and achievement of physical targets of plantations (in ha), Silvi-culture operation, Infrastructure development, CAT and Integrated Wildlife Management Programme, Water Harvesting structures, & Checkdam, etc. during the years 2019-20, 2020-21 & 2021-22, under State CAMPA Project in Jharkhand State.

**Table 2.5: Consolidated information of Plantations carried out (in ha.) during three years -. 2019-20 to 2021-22**

Sl. No.	Name of Scheme	Item of Work	Unit	FY 2019-20 (Physical)	FY 2020-21 (Physical)	FY 2021-22 (Physical)
1	2	3	4	5	6	7
<b>1</b>	<b>02-Compensatory Afforestation</b>					
<b>1.1</b>	Block Plantation	Advance	ha	2,734.49	3,324.82	3,206.62
		Completion	ha	3,687.25	2,734.49	3,324.86
		Maintenance	ha	14,094.38	14,776.76	15,905.68
<b>1.2</b>	Linear Plantation (km)	Advance	km	53.233	88.572	72.048
		Completion	km	44.827	53.233	88.572
		Maintenance	km	229.957	274.784	322.017
<b>1.3</b>	Linear Plantation (gabion)	Advance	gab	30,400	720	18,080
		Completion	gab	---	30,400	720
		Maintenance	gab	2,14,474	2,08,474	38,054
<b>1.4</b>	Soil Conservation (Cond.Compl.)	Advance	ha	300	5,071.00	877
<b>1.5</b>	Silvicultural operation (Cond. Compl.)	Advance	ha	70	2,160.00	410
<b>1.6</b>	Silvicultural operation (Cond. Compl.)	Completion	ha	---	70	2,160.00
<b>1.7</b>	Silvicultural operation (Cond. Compl.)	Maintenance	ha	---	---	70
<b>1.8</b>	Const. of Checkdam (Cond. compliance)		no	25	25	58
<b>1.9</b>	Renovation of Pond		no	---	---	4
<b>1.1</b>	Entry Point works		no	---	---	48
<b>2</b>	<b>03-Catchment Area Treatment Plan</b>					
<b>2.1</b>	Catchment Area Treatment Plan	No. of Division	no	---	---	Three Division
<b>3</b>	<b>04-Integrated Wildlife Management Plan</b>					

<b>3.1</b>	Integrated Wildlife Management Plan	No. of Division	no	Five Division	Eigth Division	Thirteen Division
<b>4</b>	<b>05-Net Present Value of Forest Land</b>					
<b>4.1</b>	<b>NPV Plantation (Completion &amp; Maintenance)</b>					
<b>4.1.1</b>	Block Plantation	Advance	ha	---	---	2,575.00
<b>4.1.2</b>	Block Plantation	Maintenance	ha	3,491.50	3,671.50	3,491.50
<b>4.1.3</b>	Natural Regeneration, Silviculture operation & SMC works	Advance	ha	7,259.53	6,022.00	9,040.00
		Completion	ha	10,401.00	7,259.53	6,022.00
		Maintenance	ha	2,810.00	12,361.00	17,570.53
<b>4.1.4</b>	Maintenance of Permanent Nurseries		ha	80	76	76
<b>4.1.5</b>	Maintenance of Hi-tech Nurseries		ha	32	32	40
<b>4.1.6</b>	Const. of Checkdam		no	281	355	313
<b>4.1.7</b>	Repair Check Naka		no	56	---	---
<b>4.1.8</b>	Forest Guard New Quarter const.		no	33	5	---
<b>4.1.9</b>	Const. Barrack		no	37	---	---
<b>4.1.10</b>	Const. Hazat		no	38	---	---
<b>4.1.11</b>	Forest Road Repair		km	2,174.70	2,192.85	---
<b>4.1.12</b>	Const. of Causeway/ Culvert		no	55	11	57
<b>4.1.13</b>	Distribution of Solar Lamp		no	---	2,500	---
<b>4.1.14</b>	Distribution of Unnat Chulha		no	---	2,500	---
<b>4.1.15</b>	Preparation of Micro Plan		no	2,295	---	---
<b>4.1.16</b>	Capacity building for making Micro Plan		no	2,295	---	---
<b>4.2</b>	<b>Wildlife Habitat improvement</b>					
<b>4.2.1</b>	Silvicultural Operation	Advance	ha	650	900	1,300.00
		Completion	ha	---	650	900
		Maintenance	ha	---	---	650

4.2.2	Weed Eradication (First Year)	Advance	ha	1,950.00	3,200.00	---
4.2.3	New Grassland Development	Advance	ha	220	6	304
		Completion	ha	---	220	6
		Maintenance	ha	---	---	220
4.2.4	Soil & moisture Conservation work	Advance	ha	1,600.00	1,200.00	150
4.2.5	Bamboo Plantation	Advance	ha	165	---	960
		Completion	ha	---	165	165
4.3	<b>Bio-diversity conservation activities</b>					
4.3.1	Creation of Rescue Centre		no	1(Part)	1(Part)	---
4.3.2	Const. of Causeway / Culvert		no	28	1	10
4.3.3	Const. of Check Dam		no	85	23	30
4.3.4	Old of Check Dam Desiltation		no	90	99	155
4.3.5	Const. of Earthen Check dam		no	---	---	18
4.3.6	Const. of Water Hole		no	65	20	94
4.3.7	Desiltation of Water Hole			---	---	200
4.3.8	Special Repair of Forest Road		km	139.9	208	---
4.3.9	Construction of Guard wall		no	1	3	---
4.3.10	Est. of Solar Water Pumps		no	13	7	---
4.3.11	Desiltation/ Strengthening of Old water holes		no	316	---	---
4.3.12	Water Tanker Tractors		no	---	3	---

*Source: State data (RFP of the Evaluation study)*



## Chapter - 3

### The Methodology, Sampling & Approach

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#### 3.1 The Methodology

The Methodologies and approaches are an important aspect under the Third Party Evaluation study titled “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/ Circles of Jharkhand State”. As it has been said **‘well begun is half done’**, this proverb reminds us about the wonderful beginning of the assignment which certainly will lead us to achieve better in terms of quality and quantity. But as far as Evaluation study is concerned, it is a stage which will help the project to drive in more planned and controlled way to reach the destination with all zeal and enthusiasm of what has been planned in the beginning. Thus, the Third Party Evaluation study at this stage i.e. after 2-5 years of project implementation is a stage where lot more care is required to assess the success, achievements, procedures, problems & sustainability etc. This may be related to procedural, human, policy and may be execution, which will certainly need to be assessed if the planned rate, numbers and quantity are affected in the project.

The whole purpose is to assess the intervention of the State Forest Department, Jharkhand relating to implementation of various activities of Afforestation, Forest protection, management and development by the funds received from CAMPA Fund. The various forestry works have been undertaken in 59 Forest Divisions/ circles including protected areas in all the 24 districts of Jharkhand.

In accordance with the project proposal and logical framework, the Third Party Evaluation study of various activities under the project has been taken-up to assess what the project has achieved against agreed outputs and to guide further the project in terms of its focus, direction and staffing within the current policy and socio-economic environment. It should be emphasized that this follows the CAMPA Project activities.

The Third Party Evaluation of CAMPA assisted Project activities was largely focused on the assessment of achievements, strengths, weaknesses and largely the speed, direction and quality of interventions under the project.

This evaluation is an independent process that concentrates primarily on identifying problems encountered by the project, both in its design and its implementation to date and especially on the development of recommendations for improvements and modifications that could make the project more effective in attaining its stated objectives and outcomes.

In the evaluation, we have applied the evaluation criteria of relevance, effectiveness, efficiency, quality and level of satisfaction, usage and usefulness in the given situation. Under the assignment of Third party evaluation, the project design has been analyzed in the light of current situation against the project inputs, output & outcome vis-à-vis the objectives. In addition, under the planned 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

results and analysis derived from the assessment would enable the project to improve further the processes and strict adherence to the laid down objectives and guidelines.

The basic design logic that has been used in the Third party evaluation can be summarized hereunder,

- Plantation & Afforestation – Compensatory Afforestation works, artificial regeneration, assisted natural regeneration
- Silvicultural Operations of forests and maintenance of permanent nurseries
- Soil and Moisture Conservation Measures
- Forest Protection activities
- Infrastructure development
- Biodiversity and wildlife management, man-animal conflict reduction; construction of water holes,
- Strengthening of infrastructure for wildlife protection
- Strengthening of forest road (includes construction and repair of pullias/culverts on forest road); facilities for forest protection staff
- Capacity Building & Research Activities
- Role of JFPMC/VFM&PC/EDC
- Assessment of the overall impact of the various packages of the project in terms of Identification of Strengths, Weaknesses, Opportunities and Threats.
- Analysis of cause of success and low performance.
- Identification of constraints or barriers to effective execution of the project in order to suggest areas for improvements and actions need to be taken.
- Suggesting Solutions in order to overcome barriers and also to address root causes & threats.

### **Five Criteria for Evaluation Study**

The Evaluation Study focused on the five evaluation criteria:

- Relevance,
- Effectiveness,
- Efficiency,
- Sustainability and,
- Impact

Each criterion is associated with a number of key evaluation questions that are to be addressed and explored.

### **3.2 The Methodology of Third Party Evaluation Study**

This 3<sup>rd</sup> Party Evaluation study has been conducted for evaluation of survival rate on randomly selected plantation and silvi-culture operation sites as well as for qualitative and

quantitative assessment of various activities of the project and identification of areas for improvement. Under the Third Party evaluation study, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. 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 for the “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/ Circles of Jharkhand State”.

The quantitative and qualitative tools have been used for the Third Party Evaluation study “External Evaluation of works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Year 2019-20, 2020-21 and 2021-22 in 59 Forest Divisions/ Circles of Jharkhand State” spread over 05 Administrative divisions viz., Palamu, North Chotanagpur, South Chotanagpur, Kolhan and Santhal Pargana.

**Table 3.1: Showing details of Forest Regions/ Circles where Fund has been released under CAMPA during the Years 2019-20, 2020-21 & 2021-22**

S.No	Forest Region/ Circles	DFO Division	Works undertaken under CAMPA		
			2019-20	2020-21	2021-22
1	Bokaro (1)	Bokaro	1	1	1
2		Dhanbad.	1	1	1
3		Giridih East	1	1	1
4		Giridih West	1	1	1
5		Ramgarh.	1	1	1
6	Dumka (2)	Deoghar	1	1	1
7		Social Forestry Division, Deoghar	1	1	1
8		Godda	1	1	1
9		Jamtara.	1	1	1
10		Dumka SF	1	1	1
11		WFP Dumka	2	2	2
12		Dumka	1	1	1
13		Pakur.	1	1	1
14		Sahebganj.	1	1	1
15	Hazaribagh (3)	Chatra North	1	1	1
16		Chatra South	1	1	1
17		Hazaribagh East	1	1	1
18		Hazaribagh West	1	1	1
19		Koderma	1	1	1
20		Hazaribagh Wild Life	1	1	1
21		Social Forestry Koderma	1	1	1
22		Social Forestry Hazaribagh	1	1	1
23	Singhbhum (4)	Chaibasa	1	1	1
24		Jamshedpur	1	1	1
25		Saraikela	1	1	1
26		Kolhan	1	1	1
27		Porahat	1	1	1
28		Saranda	1	1	1

29		Elephant Project, Jamshedpur	1	1	1
30		Social Forestry, Chaibasa	1	1	1
31		Adityapur Social Forestry	1	1	1
32	Ranchi (5)	Lohardaga	1	1	1
33		Gumla	1	1	1
34		Simdega.	1	1	1
35		Ranchi	1	1	1
36		Khunti	1	1	1
37		Wildlife Division, Ranchi.	1	1	1
38		Social Forestry Division, Ranchi.	1	1	1
39		Social Forestry Division, Simdega	1	1	1
40	Palamu (6)	Garhwa North	1	1	1
41		Garhwa South	1	1	1
42		Latehar	1	1	1
43		Medininagar	1	1	1
44		Garhwa SF	1	1	1
45		Latehar SF	1	1	1
46	Director, PTR (7)	Deputy Director -cum- Divisional Forest Officer, Palamau Tiger Project, North	1	1	1
47		Deputy Director -cum- Divisional Forest Officer, Palamau Tiger Project, South	1	1	1
48	Additional PCCF, Working Plan (8)	Conservator of Forests, Working Plan Circle, Bokaro.	2	2	2
49		Conservator of Forests, Working Plan Circle, Deoghar	2	2	2
50		Conservator of Forests, Working Plan Circle, Hazaribagh	2	2	2
51		Conservator of Forests, Working Plan Circle, Jamshedpur	2	2	2
52		Conservator of Forests, Working Plan Circle, Medininagar	2	2	2
53		Conservator of Forests, Working Plan Circle, Ranchi.	2	2	2
54	PCCF Research & Training (9)	Conservator of Forests, Plantation, Research & Evaluation Circle, Ranchi.	1	2	2
55		Conservator of Forests, State Silviculturist, Jharkhand, Ranchi	1	2	2
56		Divisional Forest Officer, Training School, Hazaribagh	1	2	2
57		Divisional Forest Officer, Training School, Ranchi.	1	2	2
58	PCCF, Development (10)	Divisional Forest Officer, Publicity & Extension Div., Ranchi	2	2	2
59	CCF, Vigilance (11)	Divisional Forest Officer, Social Forestry, Planning, Monitoring & Evaluation Division, Ranchi.	2	2	2
Note - 1=Fund received , 2= Fund not received					

Out of a total of 59 Forest divisions/ circles, the budget under the CAMPA Fund during the years 2019-20, 2020-21 & 2021-22 has been released for works in 50 Forest circles

/divisions. The table cell showing marked 1 during the years in front of divisions/ circles means they received budget under CAMPA fund, whereas, the table cell showing marked 2 during the years in front of divisions/ circles means they have not received budget under CAMPA fund. Therefore, this study has been undertaken in the 50 Forest divisions/ circles where the CAMPA fund has been carried out.

**Table 3.2: Matrix showing the Sample details of Forest circles/ divisions (as per RFP)**

S.No.	Forest circles/ divisions	Nos. of Forest circles / divisions in the State of Jharkhand	CAMPA Fund released during Years 2019-20 to 2021-22	Remarks
1.	DFOs of territorial divisions	31	31	
2.	CF, Wildlife, Ranchi	3	3	
3.	Field Director, Palamau Tiger reserve	2	2	
4.	APCCF, Extension Forestry, Dumka	2	2	
5.	APCCF, Extension Forestry, Hazaribagh	4	4	
6.	APCCF, Extension Forestry, Ranchi	4	4	
7.	APCCF, Working Plan	6	0	
8.	PCCF, Research & Training	4	4	
9.	PCCF Development, Jharkhand	1	0	DFO, Publicity & Extension, Ranchi
10.	CCF, Vigilance	1	0	DFO, Social Forestry, Planning, Monitoring & Evaluation Division, Ranchi.
11.	CCF, World Food Programme	1	0	World Food Programme, Dumka
		59	50	

## Methods, tools and techniques

The methods, tools and techniques used in the Third Party Evaluation study of CAMPA assisted Project activities are stated hereunder:

### Methods

**Quantitative:** Empirical, Assessing the individual construction work, plantation and afforestation works, Compensatory Afforestation works, artificial regeneration, assisted natural regeneration, Silvicultural Operations of forests, Soil & Moisture conservation structures, capacity building and trainings, formation of JFMC/ VFP&MC, Entry Point activities, Forest Protection activities, Biodiversity and wildlife management, man-animal conflict reduction; construction of water holes, strengthening of infrastructure for wildlife protection, Work Under IWMP (integrated Wild Life Management Plan), Work under CAT Plan (Catchment Area Treatment Plan), Infrastructure development, Strengthening of forest road (includes construction and repair of causeway/culverts on forest road); Nursery works,

### Statistical

**Qualitative:** Following standard procedures in execution, construction, trainings, GPS based monitoring, Use of monitoring tools, estimate in construction, way of initiating construction works for soil & water conservations, etc.

### Techniques for collecting information

- Examining records, literature related to afforestation, nursery works, trainings & civil construction designs and their application at site
- Observing/inspecting the sites of afforestation and construction activities –Checkdam, Water holes.
- Quality, Standards and specifications
- Interaction with the State officials, Division & Range officials,
- Using secondary data & information
- Listening to or interrogating informants:
  - Open interviews.
- Visual Aids
- Examining records of Forest Divisions

### Tools

- Questionnaire for assessing the survival rates of plantations & quality of works as per standards and norms.
- Checklist for discussion with key stakeholders



Techniques for analysis	■ Questionnaires, interview schedule, check lists,
	■ (In total 08 different tools has been developed/ provided by the department)
	■ Computer based data processing
	■ Statistical methods
	■ Transforming qualitative information into quantitative data.
	■ Photo & picture analysis

### 3.3 Evaluation Design & Approach

Qualitative Approach	Quantitative Approach
Key Purpose: <b>To provide qualitative information to the study and develop achievement &amp; correction plan by substantiating quantitative information</b>	<b>Key Purpose:</b> To substantiate the Evaluation by putting quantify values to the project indicators.
<p>1. In depth interviews with Divisions &amp; Range level officials</p> <p><b>Collect the data required from concerned Forest Range Office, Divisional Forest Officer, Regional Chief Conservator of Forest, or any other office of forest department as per requirement.</b></p> <p><b>In-depth interviews with various management units namely, Divisions and Ranges.</b></p>	<p><b>2. Secondary data collection on indicators</b></p> <p>Some indicators of the CAMPA assisted Project activities /works pertain to understanding of Project Memorandum and M&amp;E framework under the project.</p> <p>The baseline data, reports namely, monthly reports, quarterly reports and related documents will be consulted and analyzed.</p>
<p>3. Field visits for quality assessments of survival rate of Plantations, in-situ soil &amp; moisture (SMC) works, Catchment treatment and other assets created</p> <p><b>To assess the quality of works undertaken namely, Water conservation structures created namely, Check dams/ water harvesting structures etc.</b></p> <ul style="list-style-type: none"> <li>▪ <b>In situ soil and water conservation works like CBD, Check dams, LB with gabions), gullies</b></li> <li>▪ <b>Plants distribution</b></li> <li>▪ <b>Afforestation, artificial</b></li> </ul>	<p><b>4. Field visits to ensure the type and number of assets created</b></p> <p>Field verification and validation of plantations and nurseries and quality of work done.</p> <p>Field verification and validation of Water Conservation Structures, Plantations.</p> <p>To assess the number of Water conservation structures created namely, Check dams, contour bunds, Percolation tanks, water harvesting structures etc.</p> <p>Forest Protection activities</p> <p>Biodiversity and wildlife management, man-animal conflict reduction; construction of water holes, strengthening of infrastructure for wildlife</p>

<p><b>regeneration, assisted natural regeneration &amp; Plantation works/ survival</b></p>	<p>protection</p> <p>Infrastructure development (Buildings –Barrack, Hazat, Roads, Causeway, Culvert, Check dams, Guard wall)</p> <p>Strengthening of forest road (includes construction and repair of causeway/ culverts on forest road); facilities for forest protection staff</p> <p>GPS coordinates of the sites and assets verified during Third Party Evaluation.</p>
<p>5. Field level monitoring, reporting and documentations</p> <p><b>To an extent the field level Quality monitoring, reporting and documentations taken up – survey map, Pit panji cum plantation journal, transparency board, VFM&amp;PC records.</b></p> <p><b>Compliance of official circulars/order by the implementing agencies.</b></p>	<p><b>6. Field level monitoring, reporting and documentations</b></p> <p>To an extent the quantity of field level monitoring, reporting and documentations taken up – survey map, Pit panji cum plantation journal, transparency board, VFM&amp;PC records.</p> <p>To an extent the compliance of official circulars/order by the forest divisions under the project to ensure proper execution at sufficient level.</p> <p>Verification and comparison of related documents such as pit panji cum plantation journal, design and estimate for SMC and structure construction, and other necessary supporting documents in relation to the field situation and periodical progress reports submitted.</p> <p>Research and Capacity building activities.</p> <p>Assist Field functionaries and State CAMPA for development of database of State CAMPA.</p>

### 3.3.1 Approach of Field level evaluation of plantation sites

- a) Finding the plantation site as per record and reaching along with forest functionaries and in charge of site
- b) Meeting with Stake Holders
- c) Checking of records
- d) Move around the boundaries as per records and interaction with site in charge
- e) Making number of quadrates of 100m x 100m (1ha) equal to 10% of the total area
- f) Measurement of planted area (Preparation of KML file).
- g) Counting of species-wise planted live/dead plants.
- h) Measurement of height and girth of planted live plants.
- i) Assessment of SMC works.

- j) Re-survey of plantation site after completion of counting.
- k) Recording of field observations in assessment formats.
- l) Getting signature on formats to have consensus on the evaluation findings.

### 3.4 Sampling & Sample size

The Third Party Evaluation study has been undertaken in all the 59 Forest Circles/ Divisions covering all the 24 districts of CAMPA assisted Project activities and works of Jharkhand. The scope of work for the Evaluating Agency involved the following:

For the purpose of Third Party evaluation of Study of works carried out under CAMPA, study area in the Territorial / Wildlife / Social Forestry Divisions. The Forest Division has been considered as a study unit. Based on the nature of works/ activities as required, a Forest Circle has been taken up as per the nature of scheme.

- In the first stage, 10% of the total plantation area in each Forest Division was selected out of the plantation works/ Afforestation, Compensatory Afforestation works, artificial regeneration, assisted natural regeneration and Silvicultural Operations of forests carried out during the Financial Year 2019-20, 2020-21 and 2021-22.
- The number of sites selected is 30% of the total sites of plantation works/ Afforestation, Compensatory Afforestation works, artificial regeneration, Assisted Natural regeneration (ANR) and Silvicultural Operations of forests in the Forest Division.
- In the second stage, the evaluation was done on a representative plot of 100 meters x 100 in place of 33 meters x 33 meters as per consent in the inception meeting held on 09 February, 2023 in the chairmanship of Mr. Sanjeev Kumar, APCCF, and consent of RCCFs of the Forest regions.
- The total number of such samples of 01 ha size is equal to 10% of the hectare of the plantation area of that particular individual Forest Division and are evenly distributed among all the selected 30% sites of the Division.
- The GPS coordinates of all such quadrature plots (100 m x 100 m) plots has been undertaken.
- For linear plantation 10% of the total length of the plantation in each forest division has been evaluated.
- For evaluation of Silvi-cultural operations, 10% sampling has been done in each Division. Sample plot size taken will be of 01 ha.
- One permanent nursery in each Division has been evaluated based on functional status and availability and fund spent during the year 2019-20 to 2021-22.
- 10% of the total infrastructure work in each category has been taken up for evaluation namely, Infrastructure development works related to buildings, roads, Causeway, Culvert, check dams & Guard wall etc.,

### 3.5 The Approach

The Evaluation Study has also followed the SWOT Analysis in order to assess the Strengths, Weaknesses, Opportunities and Threats and come out with the suggestions and recommendations to set the whole tune for successful completion of the project in-terms of achieving its set goals and objectives in the light of the present situations and circumstances.

This Third Party Evaluation study has been conducted for evaluation of survival rate on randomly selected plantation sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the Third Party evaluation study, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. The results and analysis derived from the assessment have enabled the project to further improve the processes and have strict adherence to the laid down guidelines for the Third Party Evaluation / study of CAMPA Project works/activities undertaken during the year 2019-20, 2020-21 and 2021-22.

#### *Strengths, Weaknesses, Opportunities and Threats*

<p><b><u>STRENGTHS</u></b></p> <ul style="list-style-type: none"> <li>▪ In terms of teams and management structure</li> <li>▪ Process, procedures and management</li> <li>▪ Inputs</li> <li>▪ Afforestation/ Plantations, Forest protection,</li> <li>▪ Management &amp; development</li> <li>▪ Outcomes &amp; Achievements</li> <li>▪ Community mobilization</li> <li>▪ Water conservation Structures and their benefits – immediate and long terms</li> <li>▪ Documentation, Records and reporting</li> </ul>	<p><b><u>WEAKNESSES</u></b></p> <ul style="list-style-type: none"> <li>▪ System and processes</li> <li>▪ Management</li> <li>▪ Poor Execution &amp; Achievements</li> <li>▪ Trainings &amp; Capacity building</li> <li>▪ Designs and interventions</li> <li>▪ Quality of execution, water conservation structures, afforestation (CA/PCA/ RDF/ANR), construction of buildings – Van Rakshi Awaas, Range office cum Residence, Rescue centres, SMC structures (Checdam/ WHS),</li> <li>▪ Records, documents and reports</li> </ul>
<p><b><u>OPPORTUNITIES</u></b></p> <ul style="list-style-type: none"> <li>▪ Existing system – how beneficial and what is beneficial</li> <li>▪ Consolidate and use the system strengthening measures</li> <li>▪ Community involvement</li> <li>▪ Monitoring system</li> <li>▪ Team for execution</li> <li>▪ Support system</li> </ul>	<p><b><u>THREATS</u></b></p> <ul style="list-style-type: none"> <li>▪ Areas, processes, system and activities need to be strengthened</li> <li>▪ Factors and processes affecting the project and its quality execution</li> <li>▪ Procedures and actions, norms and standards</li> <li>▪ Physical structures for soil and water conservations &amp; regular maintenance</li> <li>▪ Community behaviour &amp; practices</li> <li>▪ Participation &amp; ownership</li> </ul>

## OBJECTIVES vs. AREAS OF ASSESSMENT/ STUDY

The Key Objectives of External evaluation/ Study are:

S.No.	Objectives	Areas of Assessment/ study
1.	To evaluate the survival rate including growth of plants and their impact on vegetal cover/crown density.	<ul style="list-style-type: none"> <li>Spot/ Field verification and validation of Afforestation/ plantations and nurseries and quality of work done along with GPS locations.</li> <li>Survival rate of plantations under various models including growth and impact of plantation and,</li> <li>Improvement in vegetal cover/ crown density.</li> </ul>
2.	To assess adherence to the procedures, construction, plantation and any other proceedings for asset creation in conformity with the guidelines and procedures laid down under the project or defined by the government.	<ul style="list-style-type: none"> <li>Assessment of the procedures/norms of procurement, construction, plantation, payment and any other proceedings for asset creation in relation to the guidelines and procedures laid down under the project or defined by the government.</li> <li>In situ soil and water conservation works like Contour trench, SGT (Staggered Contour Trench, Ditch fencing, Check dams, LS gully plugging/ gabions)</li> <li>SMC Structures – Checkdam, Water Holes, WHS</li> <li>Creation of new /development of existing Nurseries</li> <li>Development of existing nurseries</li> <li>Construction of Forest Guard Quarters, Barrack, Hazat, Range Office cum Residence and Rescue Centres</li> <li>Construction of Guard wall, Causeway/ Culverts</li> </ul>
3.	To take the stock of various assets created under the project in terms of quantity and quality.	<ul style="list-style-type: none"> <li>Field verification and validation along with GPS locations of Water Conservation Structures, buildings, closures, and assets created under CAMPA Project fund.</li> <li>Verifications of the various assets created under project namely, construction activities/ structures, Water conservation structures etc.</li> </ul>
4.	To check the process and assets created in the Forest Divisions.	<ul style="list-style-type: none"> <li>Field verification of Quality, quantity and usefulness of buildings and Guard walls constructed.</li> </ul>

		<ul style="list-style-type: none"> <li>• Verification of related documents such as Pit panji cum plantation journal, Estimates, design and estimate for SMC and building construction, and other necessary supporting documents in relation to the field situation and periodical progress reports submitted.</li> </ul> <p>The records / documentation were checked at plantation/ afforestation/ works site, ranges and Divisions were,</p> <ul style="list-style-type: none"> <li>• Survey map / treatment map.</li> <li>• Pit Panji cum Plantation journal</li> <li>• Site estimate</li> <li>• Transparency board</li> <li>• VFPMC / EDC's records</li> <li>• Various Trainings &amp; capacity building's as mentioned TOR.</li> </ul>
5.	To assess the overall impact of the various packages of the project.	<ul style="list-style-type: none"> <li>• Impact of afforestation and plantations made under various models namely, Silvi-culture operations, Roadside Plantation, Gabian plantation, RDF, ANR, Artificial regeneration.</li> <li>• Review the benefits and outcome of the various activities undertaken - Plantations, creation of new nurseries &amp; development of existing nurseries), Soil and moistures conservation (SMC structures - contour trench, SGT, Check dams, Gully plugging, WHS, records of VFPMC.</li> </ul>
6.	To identify and suggest areas for improvement and actions to be taken.	<ul style="list-style-type: none"> <li>• To identify the areas of the project which need improvement?</li> <li>• Recommendations for improvements.</li> </ul>



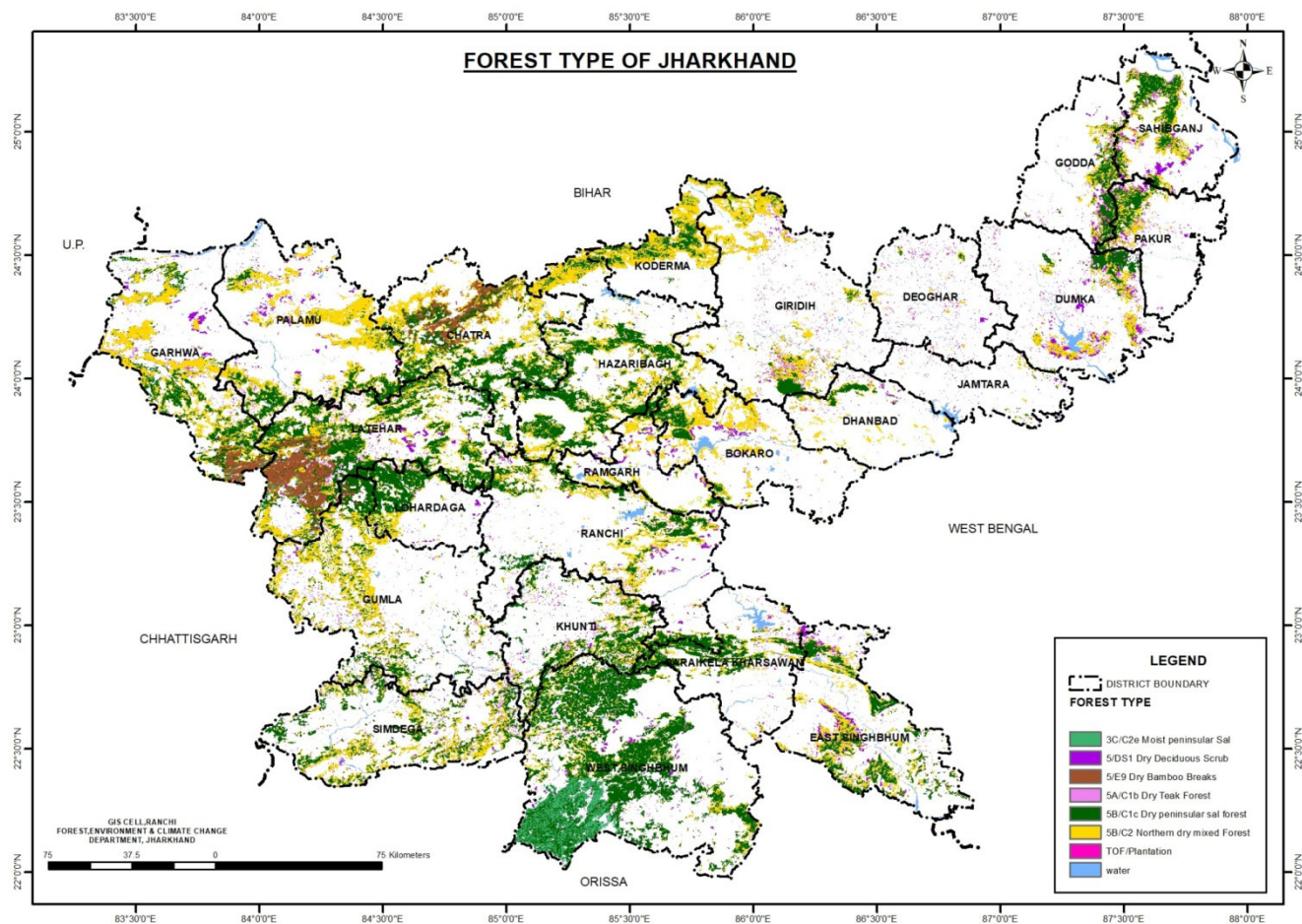
## The Methodology of the Study

The third party evaluation has been taken up as per various circulars and guidelines of the Forest Department. Based on prevailing circulars and guidelines the Organization has developed detailed methodology to evaluate Status of plantations, afforestation, survival, soil & water conservation structures, construction of buildings (Forest Guard quarter, Rescue centres, Barrack, Hazat etc.), SMC works and Guard walls etc. as per the implementation plan.

A combination of quantitative and qualitative research techniques (plurality of tools and techniques) has been used for the Third Party External Evaluation of CAMPA Fund activities executed in the State i.e. activities and works of the year 2019-20 to 2021-22 to draw the holistic picture of the issues and the problems and finally to ensure the successful completion of the project as per set aims and objectives.

The Methodological devices make a study organized, systematic and scientific - rational. The selection of methods also expresses the research aptitude of the researcher and his/ her objectivity towards the whole exercise of study. By using this objectivity, i.e. inter - subjective agreement, social researcher establishes the relationship between (1) ideas and ideas, (2) ideas and experiences, and (3) experiences and experiences. This 'triple synthesis' is necessary for making evaluative and assessment studies particular. In the study, we have constructed the triple syntheses in case of both the qualitative and the quantitative assessment. Since our purpose is to undertake third Party External Evaluation of CAMPA Fund Project activities, our evaluation-team has discussed in detail the nature of tools of data collection. The works/ activities sites have been visited by the team members and related data collected with the help of observation and questionnaires/ schedules. The secondary data related to process of activities undertaken, constructions and overall management procedures have been collected from those documents which have been prepared by relevant authorities. Since the main effort of evaluation team is 'to make data rational', the conversations with the project officials/ functionaries VFP&MC/ EDC, along with villagers in 'informal' space have also been given importance. The efforts of the team have also been associated with providing status of methods through the elements of flexibility, consistence and coherence so that evaluations would not lack direction. The quantitative and qualitative tools have been used for the Third Party External Evaluation study of CAMPA fund works/ activities in all the sample Forest Divisions/ circles where the CAMPA fund has been spent during the years 2019-20 to 2021-22 i.e. 50 Forest Divisions /circles, out of the total 59 Forest divisions /Forest circles in the state.

The coverage/ spread of sample Forest Divisions/ sites in the State is given in the State map below,



**Table 3.3: Samples covered for Assessment of Plantations survival**

S.No	Forest Region/circle	DFO Division/ circle	Total Plantation during 2019-20 to 2021-22	30% of the Total Plantation sites to be covered	Total Plantation covered in the evaluation
1.	Bokaro	Bokaro	90	27	27
2.		Dhanbad	61	18.3	20
3.		Giridih East	98	29.4	29
4.		Giridih West	40	12.0	10
5.		Ramgarh	29	8.7	12
6.	Dumka	Deoghar	78	23.4	23
7.		Deoghar SF	2	0.6	1
8.		Godda	52	15.6	15
9.		Jamtara	28	8.4	9
10.		Dumka SF	0	0	0
11.		WFP Dumka	0	0	0
12.		Dumka	54	16.2	14
13.		Pakur	20	6	7
14.		Sahebganj	24	7.2	7
15.	Hazaribagh	Chatra North	19	5.7	7
16.		Chatra South	33	9.9	12
17.		Hazaribagh East	28	8.4	12
18.		Hazaribagh West	85	25.5	28
19.		Koderma	22	6.6	9
20.		Hazaribagh Wild Life	13	3.9	5
21.		Social Forestry Koderma	0	0	0
22.		Social Forestry Hazaribagh	6	1.8	1
23.	Jamshedpur	Chaibasa	6	1.8	2
24.		Jamshedpur	74	22.2	22
25.		Saraikela	54	16.2	17
26.		Kolhan	15	4.5	5
27.		Porahat	32	9.6	10
28.		Saranda	15	4.5	5
29.		Elephant Project, Jamshedpur	9	2.7	3
30.		Social Forestry, Chaibasa	5	1.5	2
31.		Adityapur SF	0	0	0
32.	Ranchi	Lohardaga	26	7.8	9
33.		Gumla	53	15.9	17
34.		Simdega	61	18.3	18

S.No	Forest Region/circle	DFO Division/ circle	Total Plantation during 2019-20 to 2021-22	30% of the Total Plantation sites to be covered	Total Plantation covered in the evaluation
35.		Ranchi	57	17.1	18
36.		Khunti	24	7.2	8
37.		Wildlife Division, Ranchi	1	0.3	1
38.		Ranchi SF	2	0.6	1
39.		Simdega SF	5	1.5	2
40.	Palamu	Garhwa North	36	10.8	11
41.		Garhwa South	35	10.5	11
42.		Latehar	43	12.9	13
43.		Medininagar	15	4.5	5
44.		Garhwa SF	0	0	
45.		Latehar SF	0	0	0
46.	Director, PTR	Deputy Director - cum- Divisional Forest Officer, Palamau Tiger Project, North	41	12	13
47.		Deputy Director - cum- Divisional Forest Officer, Palamau Tiger Project, South	20	6	5
48.	Additional PCCF, Working Plan	Conservator of Forests, Working Plan Circle, Bokaro	0	0	
49.		Conservator of Forests, Working Plan Circle, Deoghar	0	0	
50.		Conservator of Forests, Working Plan Circle, Hazaribagh	0	0	
51.		Conservator of Forests, Working Plan Circle, Jamshedpur	0	0	
52.		Conservator of Forests, Working Plan Circle, Medininagar	0	0	
53.		Conservator of Forests, Working Plan Circle, Ranchi	0	0	

S.No	Forest Region/circle	DFO Division/ circle	Total Plantation during 2019-20 to 2021-22	30% of the Total Plantation sites to be covered	Total Plantation covered in the evaluation
54.	PCCF Research & Training	Conservator of Forests, Plantation, Research & Evaluation Circle, Ranchi.	0	0	
55.		Conservator of Forests, State Silviculturist, Jharkhand, Ranchi	0	0	
56.		Divisional Forest Officer, Training School, Hazaribagh	2	0.6	2
57.		State Forest Training Institute (Divisional Forest Officer, Training School, Ranchi)	2	0.6	2
58.	PCCF, Development	Divisional Forest Officer, Publicity & Extension Div., Ranchi	0	0	
59.	CCF, Vigilance	Divisional Forest Officer, Social Forestry, Planning, Monitoring & Evaluation Division, Ranchi.	0	0	
		<b>Total</b>	<b>1415</b>	<b>424.5</b>	<b>450</b>

Note: SF – Social Forestry Division

In total, 450 plantation sites were covered in 43 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2019-20, 2020-21 & 2021-22. As per the TOR, total plantation sites during the year 2019-20, 2020-21 & 2021-22 was 1415. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 30% area of total plantation sites i.e. 424.5. However, total plantation sites covered during third party evaluation was 450.

In total, 382 assets/infrastructures sites were covered in 49 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2019-20, 2020-21 & 2021-22. As per the TOR, total assets/infrastructures sites during the year 2019-20, 2020-21 & 2021-22 was 2456. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 10% of total assets/infrastructures i.e. 245.6. However, total assets/infrastructures sites covered during third party evaluation were 382.

Hence, total plantation sites & assets/infrastructures covered during third party evaluation were 832(450+ 382).

**Table 3.4: Samples Covered for Assessment of Assets**

			<b>Total Works during 2019-20 to 2021-22</b>	<b>10% Total Works to be covered</b>	<b>Actual Total works covered</b>	<b>Grand Total of total sites covered (Plantations + Assets/works)</b>
S.No	Forest Region/circle	DFO Division/ circle				
1.	Bokaro	Bokaro	52	5.2	12	39
2.		Dhanbad.	35	3.5	10	30
3.		Giridih East	42	4.2	9	38
4.		Giridih West	33	3.3	4	14
5.		Ramgarh.	35	3.5	6	18
6.	Dumka	Deoghar	46	4.6	5	28
7.		Deoghar SF	24	2.4	3	4
8.		Godda	48	4.8	7	22
9.		Jamtara.	28	2.8	3	12
10.		Dumka SF	3	0.3	2	2
11.		WFP Dumka	0	0	0	0
12.		Dumka	108	10.8	11	25
13.		Pakur.	30	3	3	10
14.		Sahebganj.	24	2.4	3	10
15.	Hazaribagh	Chatra North	66	6.6	11	18
16.		Chatra South	49	4.9	6	18
17.		Hazaribagh East	31	3.1	8	20
18.		Hazaribagh West	106	10.6	15	43



			<b>Total Works during 2019-20 to 2021-22</b>	<b>10% Total Works to be covered</b>	<b>Actual Total works covered</b>	<b>Grand Total of total sites covered (Plantations + Assets/works)</b>
S.No	Forest Region/circle	DFO Division/ circle				
19.		Koderma	120	12	21	30
20.		Hazaribagh Wild Life	129	12.9	33	38
21.		Social Forestry Koderma	13	1.3	4	4
22.		Social Forestry Hazaribagh	7	0.7	3	4
23.	Jamshedpur	Chaibasa	27	2.7	5	7
24.		Jamshedpur	63	6.3	12	34
25.		Saraikela	36	3.6	11	28
26.		Kolhan	51	5.1	6	11
27.		Porahat	61	6.1	8	18
28.		Saranda	65	6.5	7	12
29.		Elephant Project, Jamshedpur	131	13.1	17	20
30.		Social Forestry, Chaibasa	19	1.9	3	5
31.		Adityapur SF	19	1.9	3	3
32.	Ranchi	Lohardaga	37	3.7	8	17
33.		Gumla	128	12.8	12	29
34.		Simdega	49	4.9	5	23
35.		Ranchi	34	3.4	3	21
36.		Khunti	37	3.7	5	13
37.		Wildlife Division, Ranchi	49	4.9	7	8
38.		Ranchi SF	22	2.2	3	4
39.		Simdega SF	22	2.2	3	5
40.	Palamu	Garhwa North	35	3.5	7	18
41.		Garhwa South	34	3.4	7	18
42.		Latehar	21	2.1	3	16
43.		Medininagar	59	5.9	6	11
44.		Garhwa SF	19	1.9	6	6
45.		Latehar SF	20	2.0	4	4
46.	Director, PTR	Deputy Director - cum- Divisional Forest Officer,	188	19	23	36

			<b>Total Works during 2019-20 to 2021-22</b>	<b>10% Total Works to be covered</b>	<b>Actual Total works covered</b>	<b>Grand Total of total sites covered (Plantations + Assets/works)</b>
S.No	<b>Forest Region/circle</b>	<b>DFO Division/ circle</b>				
		Palamau Tiger Project, North				
47.		Deputy Director - cum- Divisional Forest Officer, Palamau Tiger Project, South	179	17.9	23	28
48.	Additional PCCF, Working Plan	Conservator of Forests, Working Plan Circle, Bokaro.	0	0	0	0
49.		Conservator of Forests, Working Plan Circle, Deoghar	0	0	0	0
50.		Conservator of Forests, Working Plan Circle, Hazaribagh	0	0	0	0
51.		Conservator of Forests, Working Plan Circle, Jamshedpur	0	0	0	0
52.		Conservator of Forests, Working Plan Circle, Medininagar	0	0	0	0
53.		Conservator of Forests, Working Plan Circle, Ranchi	0	0	0	0
54.	PCCF Research & Training	Conservator of Forests, Plantation, Research & Evaluation Circle, Ranchi.	7	0.7	1	1
55.		Conservator of Forests, State Silviculturist, Jharkhand, Ranchi	4	0.4	0	0

			<b>Total Works during 2019-20 to 2021-22</b>	<b>10% Total Works to be covered</b>	<b>Actual Total works covered</b>	<b>Grand Total of total sites covered (Plantations + Assets/works)</b>
S.No	<b>Forest Region/circle</b>	<b>DFO Division/ circle</b>				
56.		Divisional Forest Officer, Training School, Hazaribagh	6	0.6	2	4
57.		State Forest Training Institute (Divisional Forest Officer, Training School, Ranchi)	5	0.5	3	5
58.	PCCF, Development	Divisional Forest Officer, Publicity & Extension Div., Ranchi	0	0	0	0
59.	CCF, Vigilance	Divisional Forest Officer, Social Forestry, Planning, Monitoring & Evaluation Division, Ranchi.	0	0	0	0
		<b>Total</b>	<b>2456</b>	<b>245.6</b>	<b>382</b>	<b>832</b>

### **Data Collection & Field Level evaluation**

The collected data is tabulated in quantitative terms by giving standardized weightage to the responses generated from the field. The weightage includes availability counting one mark and non-availability counting 0 mark. This was necessary to eliminate any biases in data collection and compilation considering the large number of researchers involved in the study. It is pertinent to mention that in some cases data were given qualitative value assignments based on the evaluator's assessment from his/her experience particularly, where information availability was poor or it was hard to quantify. In such cases, assessments have been based on the judgment of the experts and triangulated to eliminate individual biases in value assignment. The processes of data collection, compilation, and quantification were made as objective as possible using objectively verifiable criteria and indicators.

### **The Report**

According to the terms of reference, the final report has been prepared for 50 Forest Divisions/ Forest circles where CAMPA fund supported works have been executed. These include Bokaro, Dhanbad, Giridih East, Giridih West, Ramgarh, Deoghar, Social Forestry Division Deoghar, Godda, Jamtara, Dumka SF, Dumka, Pakur, Sahebganj, Chatra North, Chatra South, Hazaribagh East, Hazaribagh West, Koderma, Hazaribagh Wildlife, Koderma SF, Hazaribagh SF, Chaibasa, Jamshedpur, Saraikela, Kolhan, Porahat, Saranda, Adityapur SF, Elephant

Project Jamshedpur (Dalma), Chaibasa SF, Lohardaga, Gumla, Khunti, Ranchi, Ranchi WL, Ranchi SF, Simdega SF, Simdega, Garhwa North, Garhwa South, Latehar, Garhwa SF, Medninagar, Latehar SF, PTR North, PTR South, Conservator Forests Plantation, Research & Evaluation, Conservator Forests Silviculturist, DFO Training School Hazaribagh, & State Forest Training Institute (SFTI), Ranchi (Mahilong). The Final Report includes the comments and suggestions given by the Office of the PCCF (HoFF) / APCCF during the presentation of the findings of the draft report on 10.01.2024 with State officials and RCCFs, which have been incorporated into the report.

## Chapter - 4

### Assessment of Plantations, Afforestation & Soil Moisture Conservation

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The third-party evaluation study titled “External Evaluation of Works undertaken under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in Jharkhand for the Years 2019-20, 2020-21, and 2021-22 has been undertaken in 50 Forest Divisions/circles (where CAMPA fund supported works have been executed out of 59 Forest Divisions/circles) of Jharkhand across 24 districts of the State. Afforestation and several other forestry related works have been carried out by Jharkhand CAMPA under compensatory afforestation and other schemes through the assistance of the Ministry of Environment, Forest & Climate Change, and the Government of India in the 50 Forest Divisions/ circles.

This third-party evaluation study has been commissioned for this purpose to evaluate the CAMPA works undertaken as per the Annual Plan of Operations (APO) of 2019-20, 2020-21, and 2021-22. The project was in operation covering key components namely, Afforestation, construction of buildings, soil & moisture conservation structures (SMC), construction of check dams, barracks, Hazat, Nursery, Research and Training, etc.

Largely, the overall execution of CAMPA Fund works/ activities was executed in a planned manner as per the project design for afforestation of forest, forest protection, management and development. The results and analysis derived from the assessment would enable the project to further improve the processes and strict adherence to the laid down objectives and guidelines.



The data for the 3rd Party Evaluation study was collected based on the terms of reference (TOR) provided by the Forest Department, Government of Jharkhand. The Evaluation study analyzed the data and presented its findings on various components, including afforestation,



silviculture operations, SMC structures, construction of buildings, construction of checkdams, nursery, Research, and Training.

#### **4.1 Assessment of Afforestation works, Artificial regeneration, assisted natural regeneration in terms of Survival including growth of plants**

The data have been collected at afforestation and plantation sample sites which were selected for Third Party Evaluation of CAMPA Fund works and activities. The aim has been to assess the **Strengths, Weaknesses, Opportunities, and Threats** and accordingly, efforts have been made to come up with suggestions and recommendations to set the whole tune for the successful completion of the project. It has also been tried to assess the project's success in achieving its set goals and objectives in light of the present situations and circumstances.

The major focus of the analysis is to analyze the data gathered during the study in terms of the survival of the afforestation, plantations, SMC works, Building construction and construction of checkdams, Barrack, Hazat, Nursery, Research, and Training, etc. done in three years (2019-20 to 2021-22), in terms of executing the CAMPA fund activities.

For the Third Party Evaluation of the CAMPA fund, the data have been collected based on the terms of reference (TOR) provided by the Additional Principal Chief Conservator of Forest, CAMPA, Office of the Principal Chief Conservator of Forest (HoFF), Government of Jharkhand. In response to the TOR, the data have been collected on 08 various tools approved by the department/given in the TOR. The data analysis and findings of the evaluation have been presented in the following sections.

##### **4.1.1 Survival Rate & Growth**

One of the important components of the CAMPA fund is to enhance the forest cover by adopting various plantation models as per the suitability of plantation sites looking to the vegetal coverage of the Forest division/ Range and site. Under different plantation models, plantation activities were taken up in the forest divisions with active participation of Village Forest Management & Protection Committee (VFM&PC) and the local communities. It is clear





that the visible results of the afforestation work can be achieved in considerable time period of 5-7 years period. The benefits of afforestation work to the community are somehow or other quite significant. However, targets for enhancing forest cover and restoration of degraded forest areas have been achieved satisfactorily under various models of afforestation outlined in the CAMPA.

It has been reported that the plantation sites in the project districts were selected on the basis of project criteria for increasing the forest/ vegetal coverage under the project. Also, the species selection and plantation activities namely, nursery raising, advance action, fencing etc. were undertaken as per the guidelines and directions under CAMPA.

#### **A. Assessment of survival of plantations and afforestations including growth at CA/ PCA/ SC&A/RDF/Linear Plantation Sites**

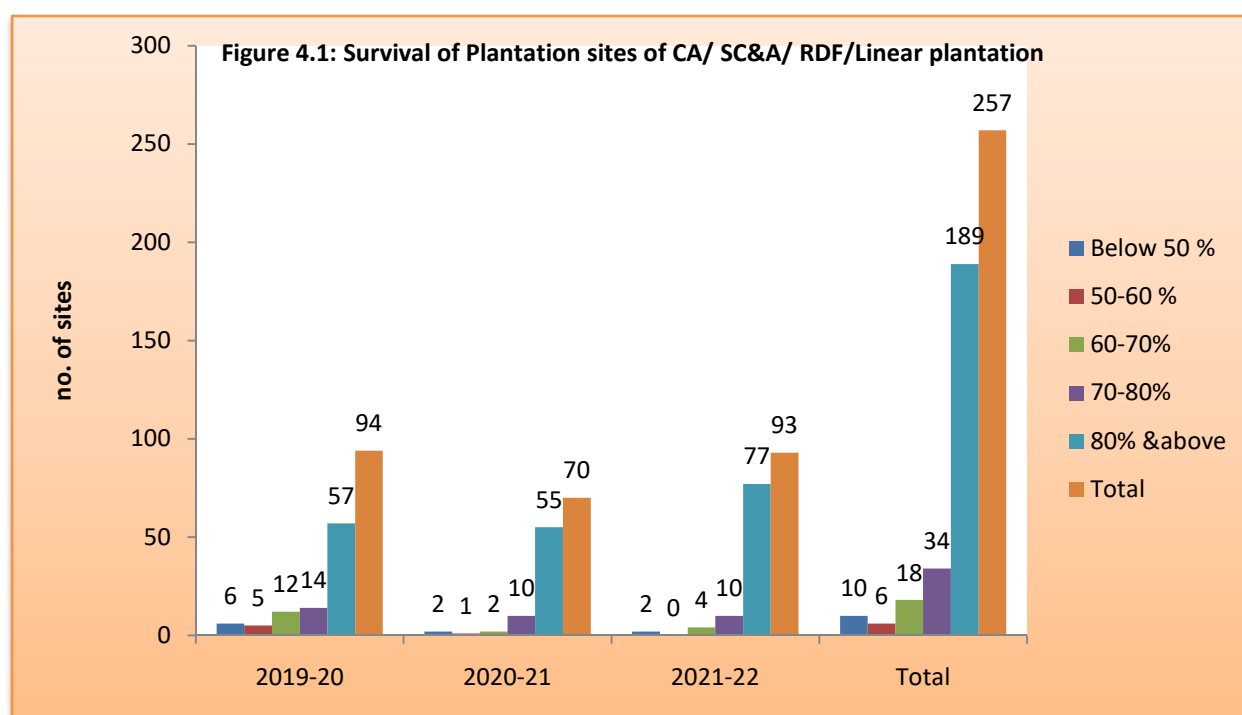
In the State, various species of trees have been planted in afforestation/plantation sites namely, *Tectona grandis* (Sagwan), *Acacia auriculiformis* (Acacia), *Cassia nodosa* (Chakundi), *Azadirachta indica* (Neem), *Pongamia pinata* (Karanj), *Acacia catechu* (Khair), *Astoria scholaris* (Chatwan), *Emblia officinalis* (Anwla), *Ziziphus jujuba* (Ber), *Dalbergia sissoo* (Shisham), *Moringa oleifera* (Sahjan), *Artocarpus heterophyllus* (Jackfruit), *Schleichera oleosa* (Kusum), *Anacardium occidentale* (Cashew), *Gmelina arborea* (Gamhar), *Terminalia arjuna* (Arjun), *Melia azederach* (Bakain), *Syzygium cumini* (Jamun), *Bambusa* spp. (Bamboo), *Swietenia macrophylla* (Mahogani), *Tamarindus indica* (Imli), *Mangifera indica* (Mango), *Albizia lebbeck* (Shirish), *Annona squamosa* (Custard apple), *Madhuca longifolia* (Mahuwa), *Terminalia bellirica* (Baheda), *Peltophorum pterocarpum* (Platophoram), *Delonix regia* (Gulmohar), *Ficus benghalensis* (Bargad), *Holoptelea integrifolia* (Chilbil), *Albizia lebbeck* (Siras), *Heterophragma adenophyllu* (Kat Sagwan), *Lagerstroemia parviflora* (Sidha), *Aegle marmelos* (Bel), *Shorea robusta* (Sal), *Diospyros melonoxylon* (Kendu), *Terminalia elliptica* (Asan) & *Bombax ceiba* (Semal).

The third party external evaluation is one of the important objectives of assessment of the survival of plantations and afforestations including growth at various models of plantations and afforestation namely, Compensatory Afforestations (CA)/ Penal Compensatory Afforestations (CA), Soil Conservation & Afforestation, RDF, and linear plantations at various samples. Overall, survival of plantations for the expenditures made on the plantation sites may be on advance work, completions and maintenance has been detailed out in the subsequent section.

**Table 4.1: Survival Rate of CA/ SC&A/RDF/Linear Plantation Sites (Year wise)**

Year(s)	Below 50 %	50-60 %	60-70%	70-80%	80% & above	Total
2019-20	6	5	12	14	57	94
2020-21	2	1	2	10	55	70
2021-22	2	0	4	10	77	93
<b>Total</b>	10	6	18	34	189	257

Table 4.1 & figure 4.1 show the survival percentage of sample CA/ SC&A/RDF/Linear Plantation sites (year-wise). In the year 2019-20, the survival percentage of the plants was



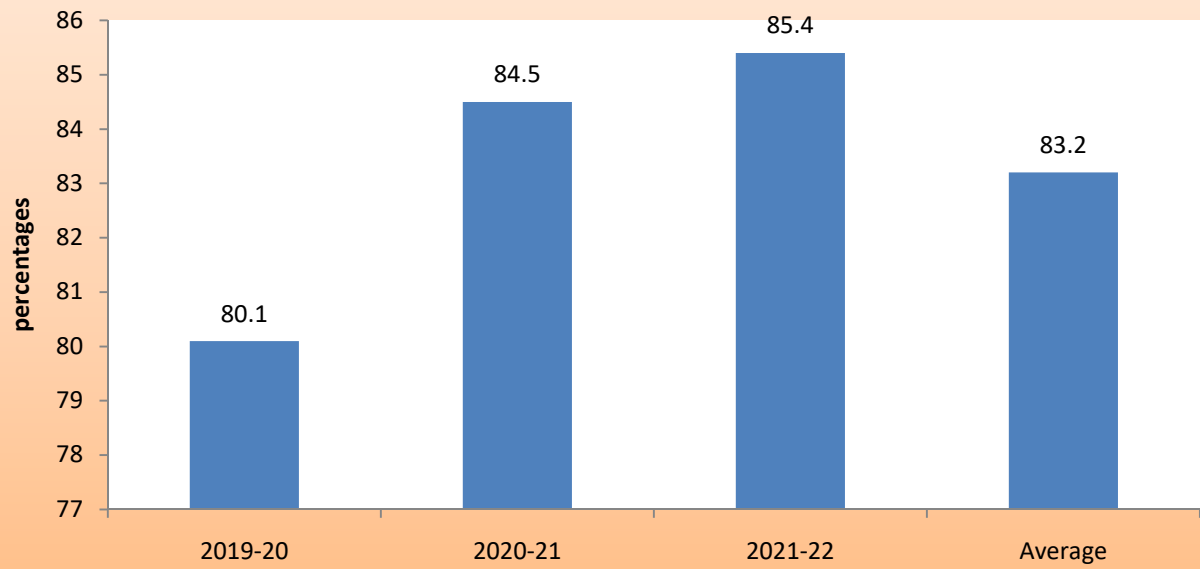
below 50% at 06 sites, between 50%-60% at 05 sites, between 60%-70% at 12 sites, between 70%-80% at 14 sites & 80% & above at 57 sites. In the year 2020-21, the survival percentage of the plants was below 50% at 02 sites, between 50%-60% at 01 site, between 60%-70% at 02 sites, between 70%-80% at 10 sites & 80% & above at 55 sites. In the year 2021-22, the survival percentage of the plants was below 50% at 02 sites, between 60%-70% at 04 sites, between 70%-80% at 10 sites & 80% & above at 77 sites. In total, the survival percentage of the plants was below 50% at 10 sites, between 50%-60% at 06 sites, between 60%-70% at 18 sites, between 70%-80% at 34 sites & 80% & above at 189 sites.

The overall ranking of sample CA/ SC&A/RDF/Linear Plantation sites was excellent with average survival percentage of 83.2 %.( Table 4.2 & figure 4.2).

**Table 4.2: Year-wise survival % of plantations (CA/ SC&A/RDF/Linear Plantation Sites)**

Year-wise	Survival %	Rank
2019-20	80.1	9
2020-21	84.5	9
2021-22	85.4	9
Average	83.2	9

**Figure 4.2: Year-wise survival percentage(CA/SC&A/Linear & RDF)**



**Table 4.3: Status of Survival % at CA/SC&A/RDF & Linear Plantation sites (Site-wise, range-wise & division-wise)**

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
1	Bokaro	Chas	2021-22	Kumardaga	54.0	CA	90166	6.0	10018.44	8704	86.9	9
2	Bokaro	Chas	2021-22	Mayurdubbi	17.81	CA	29690	2.0	3334	3021	90.6	9
3	Bokaro	Chas	2021-22	Bhawanipur	6.0	CA	9996	1.0	1666	1490	89.4	9
4	Bokaro	Chas	2021-22	Boriadih	17.9	CA	32000	2.0	3583	3027	84.5	9
5	Bokaro	Bermo	2020-21	Govindpur	28.0	CA	46648	3.0	4998	4257	85.2	9
6	Bokaro	Bermo	2020-21	Mungo Rangamati A	26.0	CA	43346	3.0	5001	3498	69.9	7
7	Bokaro	Bermo	2020-21	Mungo Rangamati B	28.0	CA	46726	3.0	5006	3761	75.1	8
8	Bokaro	Bermo	2019-20	Penk	50.0	CA	83300	5.0	8330	3957	47.5	5
9	Bokaro	Bermo	2019-20	Penk	60.0	CA	60000	6.0	6000	2784	46.4	5
10	Bokaro	Bermo	2020-21	Pokhariya	210.0	RDF	210000	21.0	21000	15246	72.6	8
11	Bokaro	Bermo	2019-20	Pokhariya	67.88	RDF	67880	7.0	7000	4774	68.2	7
12	Bokaro	Bermo	2019-20	Tengnachuan	40.0	CA	40000	4.0	4000	2819	70.5	8
13	Bokaro	Peterwar	2021-22	Ulgadda	17.0	CA	28322	2.0	3332	2982	89.5	9
14	Bokaro	Peterwar	2019-20	Putkadih	30.0	CA	30000	2.0	2000	1703	85.2	9
15	Bokaro	Peterwar	2019-20	Nawadih	50.0	CA	83300	5.0	8330	7343	88.2	9
16	Bokaro	Peterwar	2019-20	Tengikudar	15.0	CA	15000	2.0	2000	1748	87.4	9
17	Bokaro	Peterwar	2019-20	Beldih	35.0	CA	58315	4.0	6665	5676	85.2	9
18	Bokaro	Peterwar	2021-22	Banga	12.2	CA	20332	2.0	3333	2786	83.6	9
19	Bokaro	Peterwar	2021-22	Chanpi	24.0	CA	39984	3.0	4998	4528	90.6	9
20	Bokaro	Bokaro	2019-20	Galudih	20.0	CA	33320	2.0	3332	2916	87.5	9
21	Bokaro	Bokaro	2019-20	Nasia	80.0	Dwarf Species Plantation	200000	8.0	20000	18048	90.2	9
22	Bokaro	Bokaro	2019-20	Taratanr, Kharpitto, Junodih	23.67	Dwarf Species Plantation	59175	3.0	7500	6779	90.4	9
23	Bokaro	Bokaro	2019-20	Potso	50.0	CA	83300	5.0	8330	4291	51.5	6

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
24	Chaibasa	Noamundi	2021-22	Barajamda	25.0	CA (SCA)	41650	3.0	5000	4797	95.9	9
25	SF Chaibasa	Chakradharpur SF	2019-20	Kumram Gendemundi	50.0	CA (SCA)	50000	5.0	5000	3231	64.6	7
26	SF Chaibasa	Jagannatpur	2019-20	Patajaint	30.0	CA (SCA)	30000	3.0	3000	1817	60.6	7
27	Chatra North	Pratappur	2021-22	Lipda	40.0	RDF	40000	4.0	4000	3027	75.7	8
28	Chatra North	Rajpur	2019-20	Banda to Bengnatari	17 kms	Linear	170000		17000	15216	89.5	9
29	Chatra South	Chatra	2021-22	Manjhawan 1	71.0	SC	118311	8.0	13330	12429	93.2	9
30	Chatra South	Chatra	2021-22	Manjhawan 2	70.0	SC	130165	7.0	13016	12220	93.9	9
31	Chatra South	Chatra	2021-22	Manjhawan 3	40.0	SC	66680	4.0	6668	5990	89.8	9
32	Chatra South	Chatra	2021-22	Bae	50.0	SC	83300	5.0	8330	7427	89.2	9
33	Chatra South	Chatra	2020-21	Dumbi/Barwadih	120.0	SC	199933	12.0	19993	18146	90.8	9
34	Chatra South	Chatra	2021-22	Seheda	40.0	SC	66640	4.0	6664	6305	94.6	9
35	Chatra South	Chatra	2021-22	Sikid	40.0	SC	66640	4.0	6664	4883	73.3	8
36	Chatra South	Lawalong	2021-22	Kundri	49.25	SC	82234	5.0	8349	7482	89.6	9
37	Chatra South	Simariya	2020-21	Shivrajpur	50.0	SC	83302	5.0	8330	7382	88.6	9
38	Deoghar	SC Range Madhupur	2020-21	Trilokitanr	35.0	CA (SCA)	58310	4.0	6664	5197	78.0	8
39	Deoghar	T Range Deoghar	2021-22	Ajabraidih	10.0	CA (SCA)	16660	1.0	1666	1468	88.1	9
40	Deoghar	SC Range Madhupur	2020-21	Bhikhnadih	45.0	CA (SCA)	74970	5.0	8330	7672	92.1	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
41	Deoghar	SC Range Madhupur	2020-21	Paharpur	15.0	PCA	24990	2.0	3332	2931	88.0	9
42	Deoghar	SC Range Madhupur	2020-21	Manjhladih	24.0	CA (SCA)	39984	3.0	5000	4451	89.0	9
43	Deoghar	Deoghar	2021-22	Gamhariatanr	20.0	CA (SCA)	33320	2.0	3332	3049	91.5	9
44	Deoghar	SC Range Madhupur	2021-22	Chandpur	0.373	Linear	3300	0.0	330	290	87.9	9
45	Deoghar	SC Range Madhupur	2021-22	Chatnadangal	0.081	Linear	6700	0.0	670	618	92.2	9
46	Deoghar	T Range Deoghar	2021-22	Bochbandh	2.88	RDF	2088	1.0	725	638	88.0	9
47	Deoghar	T Range Deoghar	2020-21	Bishanpur	38.9	CA (SMC)	64874	4.0	6664	2966	44.5	5
48	Deoghar	SC Range Madhupur	2020-21	Dubrajpur	9.0	CA (SMC)	14994	1.0	1666	1416	85.0	9
49	Deoghar	SC Range Deoghar	2021-22	Rajpura, Kaswadih	12.0	CA (SMC)	19992	2.0	3332	2964	89.0	9
50	Deoghar	SC Range Madhupur	2021-22	Loharjor	30.0	CA (SMC)	49980	3.0	5000	4402	88.0	9
51	Deoghar	SC Range Madhupur	2020-21	Harla	7.0	CA (SMC)	11662	1.0	1666	1449	87.0	9
52	Deoghar	SC Range Madhupur	2020-21	Lamba	12.0	CA (SMC)	19992	2.0	3332	2898	87.0	9
53	Deoghar	T Range Deoghar	2021-22	Tehunia	10.0	CA (SMC)	16660	1.0	1666	1417	85.1	9
54	Deoghar	T Range Deoghar	2021-22	Samlapur	2.428	CA (SMC)	2428	1.0	1000	890	89.0	9
55	Deoghar	SC Range Madhupur	2020-21	Alumpur	25.0	CA (SCA)	41650	3.0	5000	3813	76.3	8
56	SF Deoghar	Deoghar	2019-20	Baratanr	12.0	CA (SCA)	19992	2.0	3332	2137	64.1	7
57	Dhanbad	Tundi	2019-20	Nawatand	35.0	SC	58310	4.0	6664	5755	86.4	9
58	Dhanbad	Tundi	2021-22	Lakrakhundi	50.0	IWMP	50000	5.0	5000	4542	90.8	9
59	Dhanbad	Tundi	2019-20	Karitand,	40.0	SC	66640	4.0	6664	5939	89.1	9



S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
				Arwatand, Kenduatand								
60	Dhanbad	Tundi	2021-22	Rishibita	50	IWMP	50000	5.0	5000	4387	87.7	9
61	Dhanbad	Tundi	2021-22	Barbad Bolardih	12.86	SC	21500	2.0	3344	2830	84.6	9
62	Dhanbad	Tundi	2021-22	Kansjor, Birajdi h	50.0	RDF	50000	5.0	5000	4505	90.1	9
63	Dhanbad	Topchanchi	2019-20	Sadhobad Chutiyaro	25.0	SC	41851	3.0	5022	4479	89.2	9
64	Dhanbad	Topchanchi	2019-20	Kuramu	50.0	RDF	50000	5.0	5000	4166	83.3	9
65	Dhanbad	Topchanchi	2019-20	Gendwadih Chalmundri	25.0	SC	41650	3.0	4998.0	4249	85.0	9
66	Dhanbad	Topchanchi	2019-20	Parwatpur	26.0	RDF	26000	3.0	3000	2674	89.1	9
67	Dhanbad	Topchanchi	2020-21	Gopalpur	50.0	RDF	50000	5.0	5000	4505	90.1	9
68	Dhanbad	Dhanbad Urban Forestry	2019-20	Lagata	25.0	RDF	25000	3.0	3000	2582	86.1	9
69	Dhanbad	Dhanbad Urban Forestry	2019-20	Dulasol	40.0	SC	66699	4.0	6670	6075	91.1	9
70	Dhanbad	Dhanbad Urban Forestry	2019-20	Dhangi	40.0	RDF	40224	4.0	4022	3551	88.3	9
71	Dhanbad	Dhanbad Urban Forestry	2019-20	Madandih	30.0	SC	50660	3.0	5066	4415	87.1	9
72	Dumka	Dumka Damin Kathikund	2019-20	Astajora	16.3	CA (SCA)	26656	2.0	3270	2877	88.0	9
73	Dumka	Dumka Damin Kathikund	2020-21	Aamgachi to Saldaha 1	5 Km	Linear	720	#VALUE!	72	63	87.5	9
74	Dumka	Hizla East	2021-22	Dudhajol	40.0	RDF	40000	4.0	4000	3502	87.6	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
75	Dumka	Hizla East	2020-21	Sugribhasha	35.0	Bamboo	35000	4.0	4000	3555	88.9	9
76	Dumka	Hizla East	2020-21	Barmasiya	40.0	CA (SCA)	72493	4.0	7249	6788	93.6	9
77	Dumka	Hizla West	2020-21	Ramkhari	20.0	RDF	20000	2.0	2000	1562	78.1	8
78	Dumka	Hizla West	2020-21	Karmatanr	20.0	CA (SCA)	33320	2.0	3332	2882	86.5	9
79	Dumka	Hizla West	2020-21	Suggapahari	40.0	RDF	40000	4.0	4000	3751	93.8	9
80	Dumka	Hizla West	2020-21	Latabani	10.0	CA (SCA)	16660	1.0	1666	1405	84.3	9
81	Garhwa North	Nagar	2019-20	Mirchaiya	36.0	CA (SCA)	59976	4.0	6664	6003	90.1	9
82	Garhwa North	Garhwa	2021-22	Khundra	35.0	RDF	35000	4.0	4000	3553	88.8	9
83	Garhwa North	Bhawnathpur	2019-20	Ghordag	47.5	CA (SCA)	79716	5.0	8388	7483	89.2	9
84	Garhwa South	Bhandariya	2021-22	Ramar	50.0	CA (SCA)	83300	5.0	8330	7523	90.3	9
85	Garhwa South	Ranka Wast	2021-22	Beta	50.0	RDF	50000	5.0	5000	4513	90.3	9
86	Giridih east	Dumri	2020-21	Chalmo	30.0	SC	50000	3.0	5000	4510	90.2	9
87	Giridih east	Gawan	2020-21	Duarpahari	30.0	SC	51000	3.0	5100	4856	95.2	9
88	Giridih east	Parasnath	2021-22	Dhanyadih	4.66	SC	7764	1.0	1666	1411	84.7	9
89	Giridih east	Giridih	2020-21	Kornatand	28.454	SC	47431	3.0	5000	4222	84.4	9
90	Giridih east	Giridih	2020-21	Tatokiyari	48	SC	81074	5.0	8445	7625	90.3	9
91	Giridih east	Giridih	2021-22	Maheshpur	44.83	SC	74686	5.0	8330	7504	90.1	9
92	Giridih east	Giridih	2021-22	Phulchi	5.02	SC	8330	1.0	1666	1471	88.3	9
93	Giridih east	Giridih	2020-21	Lohpiti	15km	Linear	30000		3000	2813	93.8	9
94	Giridih east	Khurchutta	2020-21	Chandiyo Pipratol	200 unit	Linear	19940		1994	1838	92.2	9
95	Giridih east	Khurchutta	2020-21	Asgandho	81.578	SC	136408	9.0	15049	14233	94.6	9
96	Giridih east	Khurchutta	2020-21	Badkitand	55.305	SC	92138	6.0	9996	9329	93.3	9
97	Giridih east	Khurchutta	2021-22	Mankadiha	69.09	SC	115103	7.0	11662	11119.55	95.3	9
98	Giridih east	Dumri	2021-22	Nagabad	1.62	SC	4000	2.0	4938	4593	93.0	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
99	Giridih east	Gawan	2020-21	Malukchal	62.621	SC	83300	7.0	9312	7980	85.7	9
100	Giridih east	Dumri	2021-22	Naro	15.75	SC	26739	2.0	3395	3218	94.8	9
101	Giridih east	Dumri	2021-22	Agalagri	4.5	SC	7500	1.0	1666	1542	92.6	9
102	Giridih east	Khurchutta	2021-22	Bedodih	5.54	SC	9230	1.0	1666	1537	92.3	9
103	Giridih east	Khurchutta	2021-22	Ratiyabahar	50.0	RDF	50000	5.0	5000	4769	95.4	9
104	Giridih east	Khurchutta	2021-22	Lakhanpur	21.57	RDF	35920	3.0	4996	4453	89.1	9
105	Giridih east	Giridih	2020-21	Gangapur	3km	Linear	1600		160	153	95.6	9
106	Giridih west	Jamua	2021-22	Chitradih	50	RDF	50000	5.0	5000	4680	93.6	9
107	Giridih west	Jamua	2020-21	Bhupatidih	25.0	IWMP	41650	3.0	4998	4768	95.4	9
108	Giridih west	Jamua	2019-20	Khurobindo	30.0	IWMP	49980	3.0	4998	4726	94.6	9
109	Godda	Sunderpahari	2021-22	Sunderpahari	5.08	SC & PI	8464	1.0	1666	1432	86.0	9
110	Godda	Sunderpahari	2020-21	Chandna	50.0	RDF	50000	5.0	5000	4448	89.0	9
111	Godda	Sunderpahari	2020-21	Sunderpahari	36.0	SC & PI	59976	4.0	6664	5863	88.0	9
112	Godda	Sunderpahari	2020-21	Salodih	20.0	SC & PI	33320	2.0	3332	2903	87.1	9
113	Godda	Godda	2020-21	Mahuatanr	40.0	SC & PI	66640	4.0	6664	5734	86.0	9
114	Godda	Godda	2020-21	Sabalpur	20.0	RDF	20689	2.0	2069	1883	91.0	9
115	Godda	Godda	2020-21	Nipanjya	15.0	SC & PI	25000	2.0	3332	2898	87.0	9
116	Godda	Godda	2020-21	Bhaluka	15.0	SC & PI	15000	2.0	2000	1702	85.1	9
117	Godda	Boarijor	2019-20	Chota Shaharpur Sheet 2	144.5	SC & PI	24068 7	15.0	24990	17321	69.3	7
118	Godda	Boarijor	2020-21	Balajhar	15.0	SC & PI	24990	2.0	3332	2713	81.4	9
119	Godda	Godda	2021-22	Kamradol	40.0	RDF	40000	4.0	4000	3367	84.2	9
120	Godda	Godda	2020-21	Thakurnahan	40.0	SC & PI	66640	4.0	6664	5251	78.8	8
121	Godda	Godda	2020-21	Charghara	25.0	SC & PI	41650	3.0	4998	4256	85.2	9
122	Gumla	Bishunpur	2019-20	Salgi	18.34	CA	30555	2.0	3332	2715	81.5	9
123	Gumla	Gumla	2019-20	Charkatangar	12.00	CA	20000	2.0	3332	2997	89.9	9
124	Gumla	Gumla	2019-20	Gindra	38.38	CA	42218	4.0	4400	3634	82.6	9
125	Gumla	Vishunpun	2021-22	Jehangutuwa	61.00	CA	10162 6	7.0	11662	10603	90.9	9
126	Gumla	Gumla	2019-20	Banai	19.71	CA	11795	2.0	1200	780	65.0	7
127	Gumla	Bishunpur	2021-22	Rehe	50.00	RDF	50000	5.0	5000	4700	94.0	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
128	Gumla	Bishunpur	2021-22	Chatmdag	50.00	RDF	50000	5.0	5000	4300	86.0	9
129	Gumla	Kurumgarh	2019-20	Tati	18.60	CA	20460	2.0	2200	1741	79.1	8
130	Gumla	Kurumgarh	2019-20	Nawadih Kataitoli	18.44	CA	20284	2.0	2200	1760	80.0	8
131	Hazaribagh East	Daru	2021-22	Kesura	17.186	CA	17186	2.0	2000	1603	80.2	9
132	Hazaribagh East	Daru	2021-22	Chiruwar/Irga	20.4	CA	21380	2.0	2098	1953	93.1	9
133	Hazaribagh East	Bagodar	2020-21	Pandra-Sadaro	22.0	CA	22000	3.0	3000	2686	89.5	9
134	Hazaribagh East	Bagodar	2021-22	Sonturpi	50.0	RDF	50000	5.0	5000	4732	94.6	9
135	Hazaribagh East	Bagodar	2021-22	Ambadih	30.0	RDF	30000	3.0	3000	2853	95.1	9
136	Hazaribagh west	Barhi	2019-20	Maskedih	100.0	RDF	100013	10.0	10000	8019	80.2	9
137	Hazaribagh west	Barhi	2019-20	Barion	31.0	RDF	31967	4.0	4125	3525	85.5	9
138	Hazaribagh west	Barhi	2020-21	Digwar	50.0	SC	83300	5.0	8330	5863	70.4	8
139	Hazaribagh west	Barhi	2019-20	Koderma Bokaro transmission line	33.79	DSP	83475	4.0	9882	8467	85.7	9
140	Hazaribagh west	Barhi	2020-21	Sewatand	92.5	RDF	83527	10.0	9030	7701	85.3	9
141	Hazaribagh west	Barhi	2019-20	Sewatand	50.0	RDF	45593	5.0	4559	4328	94.9	9
142	Hazaribagh west	Barhi	2021-22	Kedarut	53.0	SC	88298	6.0	9996	8019.962	80.2	9
143	Hazaribagh west	Barhi	2021-22	Ghiyahi to Kedarut	2km	Linear	4115		412	289	70.1	8
144	Hazaribagh	Barhi	2021-22	Nagarbarsot II	101.0	SC	16826	10.0	16660	13409	80.5	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
	west						6					
145	Hazaribagh west	Chouparan	2020-21	Sohra	87.7	RDF	87703	9.0	9000	7254	80.6	9
146	Hazaribagh west	Chouparan	2020-21	Madhogopali	36.69	RDF	36690	4.0	4000	3209	80.2	9
147	Hazaribagh west	Chouparan	2019-20	Gangahar	30.0	RDF	30000	3.0	3000	2702	90.1	9
148	Hazaribagh west	Hazaribagh Afforestation	2021-22	Karma Kewal	50.0	RDF	50000	5.0	5000	3516	70.3	8
149	Hazaribagh west	Barkagaon	2020-21	Ghutu	50.0	SC	83300	5.0	8330	6959	83.5	9
150	Hazaribagh west	Barkagaon	2019-20	Gosaibaliya	12.48	RDF	12800	2.0	2051	1865	90.9	9
151	Hazaribagh west	Barkagaon	2019-20	Talaswar	28.3	RDF	29057	3.0	3080	2511	81.5	9
152	Hazaribagh west	Hazaribagh	2019-20	Pabra	34.0	RDF	34000	4.0	4000	3615	90.4	9
153	Hazaribagh west	Hazaribagh	2019-20	Perheriya	15.0	RDF	15000	2.0	2000	1803	90.1	9
154	Hazaribagh west	Hazaribagh	2020-21	Haram	200 plants	IWMP	200		200	181	90.5	9
155	Hazaribagh west	Hazaribagh	2020-21	Bes	200 plants	IWMP	200		200	196	98.0	9
156	Hazaribagh west	Hazaribagh	2020-21	Marhand	200 plants	IWMP	200		200	197	98.5	9
157	Hazaribagh west	Hazaribagh	2021-22	Khapriyawa to Khapriyawa	1km	Linear	2000		200	190	95.0	9
158	Hazaribagh west	Hazaribagh	2020-21	Bind to Kathautiya	2km	Linear	12000		1200	1082	90.2	9
159	Hazaribagh west	Hazaribagh	2020-21	Marigada	72.0	RDF	72014	8.0	8002	6445	80.5	9
160	RFO Forestor-	Kani Mundawar	2019-20	Kani Mundawar	2.0	Arboratum	3200	1	1600	817	51.05	6

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
	cum-Forest Guard Training School, Hazaribag											
161	RFO Forestor-cum-Forest Guard Training School, Hazaribag	Kani Mundawar	2019-20	Kani Mundawar	2.0	Bambo Setum	3200	1	1600	756	47.25	5
162	SF Hazaribagh,	Sadar	2021-22	Kanchanpur	40.0	NPV	33739	4.0	3374	2945	87.3	9
163	Jamshedpur	Chaukulia	2021-22	Manikabera, Choira, Ghosda	50.0	Bamboo	50000	5.0	5000	4200	84.0	9
164	Jamshedpur	Chaukulia	2021-22	Dhukundi, Karaiya, Nayawasan	117.7	Plantation	19602 2	12.0	19992	16838	84.2	9
165	Jamshedpur	Chaukulia	2021-22	Kadamdiha	18.0	Plantation	18000	2.0	2000	1837	91.9	9
166	Jamshedpur	Chaukulia	2021-22	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	1.7636 Km	Linear	1800	1 km	200	189	94.5	9
167	Jamshedpur	Chaukulia	2021-22	Bihinda, Mahulishol	1 km	Linear	1000	1 km	100	91	91.0	9
168	Jamshedpur	Rakhamines	2021-22	Durku		Linear	15000	0.0	1500	1303	86.9	9
169	Jamshedpur	Chaukulia	2021-22	Kalapathar, Lodhasholi, Kulwadiya (Part A)	20.0	Plantation	33320	2.0	3400	2527	74.3	8
170	Jamshedpur	Chaukulia	2021-22	Kalapathar, Lodhasholi,	45.0	Plantation	74970	5.0	8330	5667	68.0	7

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
				Kulwadiya (Part B)								
171	Jamshedpur	Musabani	2019-20	Paharpur, Churiapahar, Mudakati	60.0	Bamboo	100000	6.0	10000	9500	95.0	9
172	Jamshedpur	Musabani	2021-22	Gudabanda	50.0	Bamboo	50000	5.0	5000	4500	90.0	9
173	Jamshedpur	Musabani	2021-22	Gudabanda		Linear	17450	0.0	1745	1573	90.1	9
174	Jamshedpur	Ghatsila	2021-22	Anidi	9.0	Plantation		1.0	1666	1416	85.0	9
175	Jamshedpur	Ghatsila	2021-22	Borajuri, Sorodohan	50.0	Plantation	83300	5.0	8450	6583	77.9	8
176	Jamshedpur	Ghatsila	2021-22	Kalapathar (Part A)	14.0	Plantation	23324	2.0	3332	2740	82.2	9
177	Jamshedpur	Ghatsila	2021-22	Narsinghpur	7.5	Plantation	12495	2.0	3332	2322	69.7	7
178	Jamtara	Narayanpur	2021-22	Yaududih	5.8	CA (SCA)	9580	1.0	1666	1351	81.1	9
179	Jamtara	Jamtara	2019-20	Sunsundabra	13.2	CA (SCA)	22025	2.0	3332	3127	93.8	9
180	Jamtara	Jamtara	2020-21	Lakhanpur	1.732	Linear	18605	0.2	2000	1665	83.3	9
181	Jamtara	Jamtara	2020-21	Murgabani	1.732	Linear	18605	0.2	2000	1723	86.2	9
182	Khunti	Khunti	2019-20	Oskeya	18.96	CA	31636	2.0	3332	2938	88.2	9
183	Khunti	Bundu	2021-22	Taimara	50.00	CA	50000	5.0	5000	4002	80.0	8
184	Khunti	Tamar AFF Range, Bundu	2019-20	Nuridih	31.26	CA	52100	4.0	6664	5269	79.1	8
185	Khunti	Tamar	2019-20	Barendra	28.00	CA	46648	3.0	4998	4508	90.2	9
186	Koderma	Koderma	2020-21	Nawadih to Koderma	5 km	CA	10000		1000	934	93.4	9
187	Koderma	Domchanch	2019-20	Kari Pahari to Sijuha	1 Km	CA	2000		200	181	90.5	9
188	Koderma	Domchanch	2020-21	Sijuwa to Purnadeeh	5 km	CA	10000		1000	904	90.4	9
189	Latehar	Balumath	2020-21	Soparam	50.0	CA (SCA)	50000	5.0	5000	3821	76.4	8
190	Latehar	Chandwa	2020-21	Rud	10.0	CA (SCA)	10000	1.0	1000	637	63.7	7
191	Latehar	Chandwa	2019-20	Hesala	47.95	CA (SCA)	49000	5.0	5000	3413	68.3	7
192	Latehar	Balumath	2019-20	Mailam	50.0	CA (SCA)	50000	5.0	5000	3119	62.4	7



S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
193	Latehar	Latehar	2019-20	Sohdag	50.0	CA (SCA)	50000	5.0	5000	4406	88.1	9
194	Latehar	Latehar	2021-22	Jaram	50.0	CA (SCA)	50000	5.0	5000	4699	94.0	9
195	Latehar	Manika	2021-22	Doki	100.0	CA (SCA)	100000	10.0	10000	7118	71.2	8
196	Latehar	Manika	2019-20	Bakoriya (M)	60.0	CA (SCA)	66000	6.0	6600	4164	63.1	7
197	Lohardaga	Lohardaga	2019-20	Nini	13.45	CA	33626	2.0	5085	3639	71.6	8
198	Lohardaga	Lohardaga	2019-20	Hisri	50	RDF	55000	5.0	5500	4243	77.1	8
199	Lohardaga	Lohardaga	2021-22	Ugra	50	RDF	50000	5.0	5000	4300	86.0	9
200	Lohardaga	Banari	2019-20	Ghaghra	50	RDF	55000	5.0	5500	5217	94.9	9
201	Medininagar	Chatarpur East	2020-21	Kuhkuh Khurd	13.76	CA	21000	1.4	3052	2748	90.0	9
202	Medininagar	Kundari	2020-21	Bhawardah	9.55	CA	15910	1.0	1666	1502	90.2	9
203	Medininagar	Kundari	2020-21	Navagarh	50.00	CA	83300	5.0	8330	7086	85.1	9
204	Pakur	Hiranpur	2020-21	Dhangarha	22.0	CA	22000	3.0	3000	1231	41.0	5
205	Porahat	Kera	2020-21	Chandpur, Bondih, Barkani	42.0	CA (SCA)	69972	5.0	8330	7031	84.4	9
206	Porahat	Kera	2020-21	Unchibita	30.0	RDF	30000	3.0	3000	2316	77.2	8
207	Porahat	Kera	2019-20	Bangrasai (Parsa Bahal)	25.0	CA (SCA)	41650	3.0	4998	3898	78.0	8
208	Ramgarh	Gola	2021-22	Kujukalan	50.0	SC	83300	5.0	8330	6757	81.1	9
209	Ramgarh	Patratu	2021-22	Ghutuwa se Manmohna	3 km	Linear	1450		145	137	94.5	9
210	Ramgarh	Patratu	2019-20	Deoria	10.0	SC	16660	1.0	1666	1389	83.4	9
211	Ramgarh	Kuju	2019-20	Ratwe	15.09	SC	25142	2.0	3332	2979	89.4	9
212	Ramgarh	Kuju	2019-20	Orla	7.57	SC	12611	1.0	1666	1496	89.8	9
213	Ramgarh	Ramgarh	2021-22	Tewardag	40.0	SC	68943	4.0	6894	6235	90.4	9
214	Ramgarh	Mandu	2019-20	Govindpur	39.25	SC	65390	4.0	6664	6382	95.8	9
215	Ramgarh	Mandu	2020-21	Padrangi	80.0	SC	133280	8.0	13328	11903	89.3	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
216	Ranchi	Kanke	2020-21	Hehal Hill	7.4	Plantation	4000	1.0	600	319	53.2	6
217	Ranchi	Kanke	2021-22	Uruguttu	31.0	CA	51646	4.0	6664	4191	62.9	7
218	Ranchi	Kanke	2019-20	Bariyatu Hill	5.65	Plantation	75521	1.0	1505	793	52.7	6
219	Ranchi	Mander	2019-20	Bariyatu Booty Water Tank Hill	13.0	Plantation	4000	2.0	600	291	48.5	5
220	Ranchi	Mander	2021-22	Tumang	28.0	CA	46648	3.0	4998	4291	85.9	9
221	Ranchi	Bero	2021-22	Lawagai	50.0	RDF	51044	5.0	5104	4338	85.0	9
222	Ranchi	Ranchi	2021-22	Danekara	35.0	RDF	35000	4.0	4000	3440	86.0	9
223	Ranchi	Ranchi	2019-20	Bargai Firing Range Hill	19.0	Plantation	4000	2.0	421	345	81.9	9
224	Ranchi	Mahilong	2019-20	Paharsingh	102.0	CA	169932	11.0	18326	15336	83.7	9
225	Ranchi	Mahilong	2019-20	Nawagarh	58.0	CA	58000	6.0	6000	4936	82.3	9
226	SF Ranchi	Lohardaga	2019-20	Jhaljhamira	40.0	CA	40000	4.0	4000	2612	65.3	7
227	SFTI, Ranchi		2019-20	Village-Kawali	6.0	Agro-forestry model development	2400	1.0	400	308	81.5	8
228	SFTI, Ranchi		2019-20	Village-Mahilong	2.0	Arboretum Development	2000	1.0	1000	823	91.3	9
229	Sahebganj	Barharwa	2021-22	Bada Togra	31.0	RDF	31000	4.0	4000	1863	46.6	5
230	Sahebganj	Barharwa	2021-22	Demchak Pahar	25.0	RDF	25000	3.0	3000	2068	68.9	7
231	Sahebganj	Barharwa	2021-22	Chota Tegra	20.0	RDF	20000	2.0	2000	1443	72.2	8
232	Saraikella	Saraikella	2021-22	Bada Hariharpur	25.2	Plantation	41917	3.0	4998	4313	86.3	9
233	Saraikella	Chandil	2019-20	Shaharbera	10.0	Plantation	16660	1.0	1666	1416	85.0	9
234	Saraikella	Chandil	2019-20	Chunidihi	25.0	Bamboo	25000	3.0	3000	2575	85.8	9
235	Saraikella	Chandil	2019-20	Puriyara	22.98	Plantation	57450	3.0	7500	6543	87.2	9
236	Saraikella	Saraikella	2019-20	Sahebganj	3.7	Plantation	6170	1.0	1666	1456	87.4	9
237	Saraikella	Kharsawan	2019-20	Tilopada	4.8	Plantation	8030	1.0	1666	1395	83.7	9
238	Saraikella	Kharsawan	2021-22	Silpingda	50.0	Plantation	50000	5.0	5000	4615	92.3	9

S.No.	Division	Name of Range	Year	Name of Site	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
239	Saraikella	Kharsawan	2019-20	Silpingda	16.9	Plantation	21735	2.0	3332	1989	59.7	6
240	Saraikella	Kharsawan	2019-20	Kasidih	25.0	Plantation	41650	3.0	5000	2580	51.6	6
241	Saraikella	Kharsawan	2019-20	Haribhanja	25.0	Plantation	37069	3.0	4600	2829	61.5	7
242	Simdega	Kolebira	2019-20	Jaldega to Gangutoli	5 Km	Bamboo Gabion	2000		200	146	73.0	8
243	Simdega	Kolebira	2019-20	Dadibera to Jampani	5 Km	Bamboo Gabion	2000		200	158	79.0	8
244	Simdega	Kolebira	2019-20	Dharamshala to Jampani	5 Km	Bamboo Gabion	2000		200	147	73.5	8
245	Simdega	Kolebira	2019-20	Kamlapani to Gangutoli	5 Km	Bamboo Gabion	2000		200	141	70.5	8
246	Simdega	Bolba	2019-20	Sagalpoch to Bolba	6 Km	Bamboo Gabion	2400		200	148	74.0	8
247	Simdega	Bolba	2019-20	Kundurmunda	30.0	CA	30000	3.0	3000	2550	85.0	9
248	Simdega	Simdega	2019-20	Tamra to Kuruskela	5 Km	Gabion	2000		200	93	46.5	5
249	Simdega	Simdega	2019-20	Bindhantoli	35.0	RDF	35000	4.0	4000	3267	81.7	9
250	Simdega	Kolebira	2020-21	Parba	70.0	CA	70000	7.0	7000	5446	77.8	8
251	Simdega	Kolebira	2021-22	Saraipani	50.0	RDF	50000	5.0	5000	4569	91.4	9
252	Simdega	Simdega	2021-22	Sarlonga	15.3	CA	25540	2.0	3400	1637	48.1	5
253	Simdega	Bano	2019-20	Orga to Dumarmunda	5 Km	Gabion	2000		200	142	71.0	8
254	Simdega	Bano	2019-20	Dumarmunda to Girda	5 Km	Gabion	2000		200	126	63.0	7
255	Simdega	Bano	2019-20	Hurda to Girda	5 Km	Gabion	2000		200	143	71.5	8
256	SF Simdega,	Gumla	2021-22	Sargaon	60.0	CA	60000	6.0	6000	4638	77.3	8
257	SF Simdega,	Kolebira	2019-20	Saraipani	30.0	CA	30000	3.0	3000	1458	48.6	5

## **Confidence Level of the Sample on Overall Projection to the Population/ Universe**

The confidence level of the samples evaluated under the Third Party Evaluation Study to assess the survival percentage has been calculated to project the sample result of survival on the overall populations.

### **Statistical Methods Used**

Half width of the 95% Confidence Limit method has been used to calculate the confidence level of the sample survival percentage of plants in the plantation sites on overall populations. The Upper and Lower levels of 95% Confidence Limit have been calculated. If the half-width of the 95% Confidence Limit is 0 then it can be said that the confidence level is close to the sample result.

The point estimate, i.e., the best estimate of the proportion of the survival of plants with the survival of plants against the planted calculated for 37 forest divisions. The 95% confidence interval was computed for each forest division.

95% confidence interval = effect size  $\pm$  1.96 x standard error of the effect size

Thus, we are 95% confident that the true proportion of survival of plants is between 41% and 98.5%. There are forest divisions where the survival rate of plants against the one that survived against plantation is lower compared to other divisions.

**Table 4.4: Showing the Confidence level of sample result to overall Populations (CA/SC&A/RDF/Linear plantation site)**

Sl.no.	Division	Name of Range	Name of Site	Year	Plant ed Area (ha.)	Schem e	Plan ted Plan ts	Sam ple area (ha.)	Sam ple plan ts	Live plan ts	Survi val %	Ra nk	Sam ple mea n (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidenc e limit		Half width of 95 % CI
																	Upp er limit	Lo wer limit	
1	Bokaro	Chas	Kumardaga	2021-22	54.0	CA	90166	6.0	10018	8704	86.9	9	0.86880	0.13120	0.00001138	0.003373	87.54	86.22	0.7
2	Bokaro	Chas	Mayurdubbi	2021-22	17.81	CA	29690	2.0	3334	3021	90.6	9	0.90625	0.09375	0.00002549	0.005048	91.61	89.64	1.0
3	Bokaro	Chas	Bhawanipur	2021-22	6.0	CA	9996	1.0	1666	1490	89.4	9	0.89436	0.10564	0.00005671	0.007531	90.91	87.96	1.5
4	Bokaro	Chas	Boriadih	2021-22	17.9	CA	32000	2.0	3583	3027	84.5	9	0.84472	0.15528	0.00003660	0.00605	85.66	83.29	1.2
5	Bokaro	Bermo	Govindpur	2020-21	28.0	CA	46648	3.0	4998	4257	85.2	9	0.85174	0.14826	0.00002527	0.005027	86.16	84.19	1.0
6	Bokaro	Bermo	Mungo Rangamati A	2020-21	26.0	CA	43346	3.0	5001	3498	69.9	7	0.69940	0.30060	0.00004204	0.006484	71.21	68.67	1.3
7	Bokaro	Bermo	Mungo Rangamati B	2020-21	28.0	CA	46726	3.0	5006	3761	75.1	8	0.75124	0.24876	0.00003733	0.00611	76.32	73.93	1.2
8	Bokaro	Bermo	Penk	2019-20	50.0	CA	83300	5.0	8330	3957	47.5	5	0.47503	0.52497	0.00002994	0.005471	48.58	46.43	1.1
9	Bokaro	Bermo	Penk	2019-20	60.0	CA	60000	6.0	6000	2784	46.4	5	0.46400	0.53600	0.00004145	0.006438	47.66	45.14	1.3
10	Bokaro	Bermo	Pokhariya	2020-21	210.0	RDF	210000	21.0	21000	15246	72.6	8	0.72600	0.27400	0.00000947	0.003078	73.20	72.00	0.6
11	Bokaro	Bermo	Pokhariya	2019-20	67.88	RDF	67880	7.0	7000	4774	68.2	7	0.68200	0.31800	0.00003098	0.005566	69.29	67.11	1.1
12	Bokaro	Bermo	Tengnahan	2019-20	40.0	CA	40000	4.0	4000	2819	70.5	8	0.70475	0.29525	0.00005202	0.007212	71.89	69.06	1.4
13	Bokaro	Peterwar	Ulgadda	2021-22	17.0	CA	28322	2.0	3332	2982	89.5	9	0.89496	0.10504	0.00002821	0.005312	90.54	88.45	1.0
14	Bokaro	Peterwar	Putkadih	2019-20	30.0	CA	30000	2.0	2000	1703	85.2	9	0.85150	0.14850	0.00006322	0.007951	86.71	83.59	1.6

15	Bokaro	Peterwar	Nawadih	2019-20	50.0	CA	83300	5.0	8330	7343	88.2	9	0.88151	0.11849	0.00001254	0.003541	88.85	87.46	0.7
16	Bokaro	Peterwar	Tengikudar	2019-20	15.0	CA	15000	2.0	2000	1748	87.4	9	0.87400	0.12600	0.00005506	0.00742	88.85	85.95	1.5
17	Bokaro	Peterwar	Beldih	2019-20	35.0	CA	58315	4.0	6665	5676	85.2	9	0.85167	0.14833	0.00001896	0.004354	86.02	84.31	0.9
18	Bokaro	Peterwar	Banga	2021-22	12.2	CA	20332	2.0	3333	2786	83.6	9	0.83585	0.16415	0.00004116	0.006416	84.84	82.33	1.3
19	Bokaro	Peterwar	Chanpi	2021-22	24.0	CA	39984	3.0	4998	4528	90.6	9	0.90596	0.09404	0.00001705	0.004129	91.41	89.79	0.8
20	Bokaro	Bokaro	Galudih	2019-20	20.0	CA	33320	2.0	3332	2916	87.5	9	0.87515	0.12485	0.00003279	0.005726	88.64	86.39	1.1
21	Bokaro	Bokaro	Nasia	2019-20	80.0	Dwarf	200000	8.0	20000	18048	90.2	9	0.90240	0.09760	0.00000440	0.002099	90.65	89.83	0.4
22	Bokaro	Bokaro	Taratanr, Kharpito, Junodih	2019-20	23.67	Dwarf	59175	3.0	7500	6779	90.4	9	0.90387	0.09613	0.00001159	0.003404	91.05	89.72	0.7
23	Bokaro	Bokaro	Potso	2019-20	50.0	CA	83300	5.0	8330	4291	51.5	6	0.51513	0.48487	0.00002998	0.005476	52.59	50.44	1.1
24	Chaibasa	Noamundi	Barajamda	2021-22	25.0	CA (SCA)	41650	3.0	5000	4797	95.9	10	0.95940	0.04060	0.00000779	0.002791	96.49	95.39	0.5
25	Chaibasa Social Forestry	Chakradharpur Social Forestry	Kumram Gendemundi	2019-20	50.0	CA (SCA)	50000	5.0	5000	3231	64.6	7	0.64620	0.35380	0.00004573	0.006762	65.95	63.29	1.3
26	Chaibasa Social Forestry	Jagannapur	Patajaint	2019-20	30.0	CA (SCA)	30000	3.0	3000	1817	60.6	7	0.60567	0.39433	0.00007961	0.008923	62.32	58.82	1.7
27	Chatra North	Pratappur	Lipda	2021-22	40.0	RDF	40000	4.0	4000	3027	75.7	8	0.75675	0.24325	0.00004602	0.006784	77.00	74.35	1.3
28	Chatra North	Rajpur	Banda to Bengnatar i	2019-20	17 kms	Linear	170000		17000	15216	89.5	9	0.89506	0.10494	0.00000553	0.002351	89.97	89.05	0.5
29	Chatra South	Chatra	Manjhgan 1	2021-22	71.0	SC	118311	8.0	13330	12429	93.2	9	0.93241	0.06759	0.00000473	0.002174	93.67	92.81	0.4
30	Chatra South	Chatra	Manjhgan 2	2021-22	70.0	SC	130165	7.0	13016	12220	93.9	9	0.93884	0.06116	0.00000441	0.0021	94.30	93.47	0.4
31	Chatra South	Chatra	Manjhgan 3	2021-22	40.0	SC	66680	4.0	6668	5990	89.8	9	0.89832	0.10168	0.00001370	0.003701	90.56	89.11	0.7
32	Chatra	Chatra	Bae	2021-	50.0	SC	8330	5.0	8330	7427	89.2	9	0.89	0.10	0.00001	0.00340	89.8	88.	0.7



	South			22			0						160	840	160	6	3	49	
33	Chatra South	Chatra	Dumbi/Barwadih	2020-21	120.0	SC	199933	12.0	19993	18146	90.8	9	0.90762	0.09238	0.00000419	0.002048	91.16	90.36	0.4
34	Chatra South	Chatra	Seheda	2021-22	40.0	SC	66640	4.0	6664	6305	94.6	9	0.94613	0.05387	0.00000765	0.002766	95.15	94.07	0.5
35	Chatra South	Chatra	Sikid	2021-22	40.0	SC	66640	4.0	6664	4883	73.3	8	0.73274	0.26726	0.00002939	0.005421	74.34	72.21	1.1
36	Chatra South	Lawalongo	Kundri	2021-22	49.25	SC	82234	5.0	8349	7482	89.6	9	0.89625	0.10375	0.00001114	0.003337	90.28	88.97	0.7
37	Chatra South	Simariya	Shivrajpur	2020-21	50.0	SC	83302	5.0	8330	7382	88.6	9	0.88619	0.11381	0.00001211	0.00348	89.30	87.94	0.7
38	Deoghar	SC Range Madhupur	Trilokitanr	2020-21	35.0	CA (SCA)	58310	4.0	6664	5197	78.0	8	0.77986	0.22014	0.00002576	0.005076	78.98	76.99	1.0
39	Deoghar	T Range Deoghar	Ajabraidi h	2021-22	10.0	CA (SCA)	16660	1.0	1666	1468	88.1	9	0.88115	0.11885	0.00006286	0.007928	89.67	86.56	1.6
40	Deoghar	SC Range Madhupur	Bhikhnad ih	2020-21	45.0	CA (SCA)	74970	5.0	8330	7672	92.1	9	0.92101	0.07899	0.00000873	0.002955	92.68	91.52	0.6
41	Deoghar	SC Range Madhupur	Paharpur	2020-21	15.0	PCA	24990	2.0	3332	2931	88.0	9	0.87965	0.12035	0.00003177	0.005637	89.07	86.86	1.1
42	Deoghar	SC Range Madhupur	Manjhladi h	2020-21	24.0	CA (SCA)	39984	3.0	5000	4451	89.0	9	0.89020	0.10980	0.00001955	0.004421	89.89	88.15	0.9
43	Deoghar	Deoghar	Gamharia tanr	2021-22	20.0	CA (SCA)	33320	2.0	3332	3049	91.5	9	0.91507	0.08493	0.00002333	0.00483	92.45	90.56	0.9
44	Deoghar	SC Range Madhupur	Chandpur	2021-22	0.373	Linear	3300	0.0	330	290	87.9	9	0.87879	0.12121	0.00032279	0.017966	91.40	84.36	3.5
45	Deoghar	SC Range Madhupur	Chatnada ngal	2021-22	0.081	Linear	6700	0.0	670	618	92.2	9	0.92239	0.07761	0.00010685	0.010337	94.26	90.21	2.0

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46	Deoghar	T Range Deoghar	Bochbandh	2021-22	2.88	RDF	2088	1.0	725	638	88.0	9	0.88000	0.12000	0.00014566	0.012069	90.37	85.63	2.4
47	Deoghar	T Range Deoghar	Bishanpur	2020-21	38.9	CA (SMC)	64874	4.0	6664	2966	44.5	5	0.44508	0.55492	0.00003706	0.006088	45.70	43.31	1.2
48	Deoghar	SC Range Madhupur	Dubrajpur	2020-21	9.0	CA (SMC)	14994	1.0	1666	1416	85.0	9	0.84994	0.15006	0.00007656	0.00875	86.71	83.28	1.7
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadih	2021-22	12.0	CA (SMC)	19992	2.0	3332	2964	89.0	9	0.88956	0.11044	0.00002949	0.00543	90.02	87.89	1.1
50	Deoghar	SC Range Madhupur	Loharjor	2021-22	30.0	CA (SMC)	49980	3.0	5000	4402	88.0	9	0.88040	0.11960	0.00002106	0.004589	88.94	87.14	0.9
51	Deoghar	SC Range Madhupur	Harla	2020-21	7.0	CA (SMC)	11662	1.0	1666	1449	87.0	9	0.86975	0.13025	0.00006800	0.008246	88.59	85.36	1.6
52	Deoghar	SC Range Madhupur	Lamba	2020-21	12.0	CA (SMC)	19992	2.0	3332	2898	87.0	9	0.86975	0.13025	0.00003400	0.005831	88.12	85.83	1.1
53	Deoghar	T Range Deoghar	Tehunia	2021-22	10.0	CA (SMC)	16660	1.0	1666	1417	85.1	9	0.85054	0.14946	0.00007630	0.008735	86.77	83.34	1.7
54	Deoghar	T Range Deoghar	Samlapur	2021-22	2.428	CA (SMC)	2428	1.0	1000	890	89.0	9	0.89000	0.11000	0.00009790	0.009894	90.94	87.06	1.9
55	Deoghar	SC Range Madhupur	Alumpur	2020-21	25.0	CA (SCA)	41650	3.0	5000	3813	76.3	8	0.76260	0.23740	0.00003621	0.006017	77.44	75.08	1.2

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56	Deoghar, Social Forestry	Deoghar	Baratanr	2019-20	12.0	CA (SCA)	19992	2.0	3332	2137	64.1	7	0.64136	0.35864	0.00006903	0.008309	65.76	62.51	1.6
57	Dhanbad	Tundi	Nawatand	2019-20	35.0	SC	58310	4.0	6664	5755	86.4	9	0.86360	0.13640	0.00001768	0.004204	87.18	85.54	0.8
58	Dhanbad	Tundi	Lakrakhundi	2021-22	50.0	IWMP	50000	5.0	5000	4542	90.8	9	0.90840	0.09160	0.00001664	0.004079	91.64	90.04	0.8
59	Dhanbad	Tundi	Karitand, Arwatand, Kenduataand	2019-20	40.0	SC	66640	4.0	6664	5939	89.1	9	0.89121	0.10879	0.00001455	0.003814	89.87	88.37	0.7
60	Dhanbad	Tundi	Rishibita	2021-22	50	IWMP	50000	5.0	5000	4387	87.7	9	0.87740	0.12260	0.00002151	0.004638	88.65	86.83	0.9
61	Dhanbad	Tundi	Barbad Bolardih	2021-22	12.86	SC	21500	2.0	3344	2830	84.6	9	0.84629	0.15371	0.00003890	0.006237	85.85	83.41	1.2
62	Dhanbad	Tundi	Kansjor, Birajdh	2021-22	50.0	RDF	50000	5.0	5000	4505	90.1	9	0.90100	0.09900	0.00001784	0.004224	90.93	89.27	0.8
63	Dhanbad	Topchanchi	Sadhobad Chutiyaro	2019-20	25.0	SC	41851	3.0	5022	4479	89.2	9	0.89188	0.10812	0.00001920	0.004382	90.05	88.33	0.9
64	Dhanbad	Topchanchi	Kuramu	2019-20	50.0	RDF	50000	5.0	5000	4166	83.3	9	0.83320	0.16680	0.00002780	0.005272	84.35	82.29	1.0
65	Dhanbad	Topchanchi	Gendwadih Chalmundri	2019-20	25.0	SC	41650	3.0	4998.0	4249	85.0	9	0.85014	0.14986	0.00002549	0.005049	86.00	84.02	1.0
66	Dhanbad	Topchanchi	Parwatpur	2019-20	26.0	RDF	26000	3.0	3000	2674	89.1	9	0.89133	0.10867	0.00003229	0.005682	90.25	88.02	1.1
67	Dhanbad	Topchanchi	Gopalpur	2020-21	50.0	RDF	50000	5.0	5000	4505	90.1	9	0.90100	0.09900	0.00001784	0.004224	90.93	89.27	0.8
68	Dhanbad	Dhanbad Urban Forestry	Lagata	2019-20	25.0	RDF	25000	3.0	3000	2582	86.1	9	0.86067	0.13933	0.00003997	0.006322	87.31	84.83	1.2
69	Dhanbad	Dhanbad Urban Forestry	Dulasol	2019-20	40.0	SC	66699	4.0	6670	6075	91.1	9	0.91079	0.08921	0.00001218	0.00349	91.76	90.40	0.7
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	2019-20	40.0	RDF	40224	4.0	4022	3551	88.3	9	0.88289	0.11711	0.00002571	0.00507	89.28	87.30	1.0

71	Dhanbad	Dhanbad Urban Forestry	Madandih	2019-20	30.0	SC	50660	3.0	5066	4415	87.1	9	0.87150	0.12850	0.00002211	0.004702	88.07	86.23	0.9
72	Dumka	Dumka Damin Kathikund	Astajora	2019-20	16.3	CA (SCA)	26656	2.0	3270	2877	88.0	9	0.87982	0.12018	0.00003234	0.005686	89.10	86.87	1.1
73	Dumka	Dumka Damin Kathikund	Aamgachito Saldaha I	2020-21	5 Km	Linear	720		72	63	87.5	9	0.87500	0.12500	0.00151910	0.038976	95.14	79.86	7.6
74	Dumka	Hizla East	Dudhajol	2021-22	40.0	RDF	40000	4.0	4000	3502	87.6	9	0.87550	0.12450	0.00002725	0.00522	88.57	86.53	1.0
75	Dumka	Hizla East	Sugribhasha	2020-21	35.0	Bambo	35000	4.0	4000	3555	88.9	9	0.88875	0.11125	0.00002472	0.004972	89.85	87.90	1.0
76	Dumka	Hizla East	Barmasiya	2020-21	40.0	CA (SCA)	72493	4.0	7249	6788	93.6	9	0.93637	0.06363	0.00000822	0.002867	94.20	93.07	0.6
77	Dumka	Hizla West	Ramkhari	2020-21	20.0	RDF	20000	2.0	2000	1562	78.1	8	0.78100	0.21900	0.00008552	0.009248	79.91	76.29	1.8
78	Dumka	Hizla West	Karmatanr	2020-21	20.0	CA (SCA)	33320	2.0	3332	2882	86.5	9	0.86495	0.13505	0.00003506	0.005921	87.66	85.33	1.2
79	Dumka	Hizla West	Suggapahari	2020-21	40.0	RDF	40000	4.0	4000	3751	93.8	9	0.93775	0.06225	0.00001459	0.00382	94.52	93.03	0.7
80	Dumka	Hizla West	Latabani	2020-21	10.0	CA (SCA)	16660	1.0	1666	1405	84.3	9	0.84334	0.15666	0.00007930	0.008905	86.08	82.59	1.7
81	Garhwa North	Nagar	Mirchaiya	2019-20	36.0	CA (SCA)	59976	4.0	6664	6003	90.1	9	0.90081	0.09919	0.00001341	0.003662	90.80	89.36	0.7
82	Garhwa North	Garhwa	Khundra	2021-22	35.0	RDF	35000	4.0	4000	3553	88.8	9	0.88825	0.11175	0.00002482	0.004982	89.80	87.85	1.0
83	Garhwa North	Bhawna thpur	Ghordag	2019-20	47.5	CA (SCA)	79716	5.0	8388	7483	89.2	9	0.89211	0.10789	0.00001147	0.003387	89.87	88.55	0.7
84	Garhwa South	Bhandariya	Ramar	2021-22	50.0	CA (SCA)	83300	5.0	8330	7523	90.3	9	0.90312	0.09688	0.00001050	0.003241	90.95	89.68	0.6
85	Garhwa South	Ranka West	Beta	2021-22	50.0	RDF	50000	5.0	5000	4513	90.3	9	0.90260	0.09740	0.00001758	0.004193	91.08	89.44	0.8
86	Giridih east	Dumri	Chalmo	2020-21	30.0	SC	50000	3.0	5000	4510	90.2	9	0.90200	0.09800	0.00001768	0.004205	91.02	89.38	0.8
87	Giridih east	Gawan	Duarpahari	2020-21	30.0	SC	51000	3.0	5100	4856	95.2	9	0.95216	0.04784	0.00000893	0.002989	95.80	94.63	0.6
88	Giridih	Parasna	Dhanyadi	2021-	4.66	SC	7764	1.0	1666	1411	84.7	9	0.84	0.15	0.00007	0.00882	86.4	82.	1.7

	east	th	h	22									694	306	781	1	2	96	
89	Giridih east	Giridih	Kornatan d	2020-21	28.454	SC	47431	3.0	5000	4222	84.4	9	0.84440	0.15560	0.00002628	0.005126	85.44	83.44	1.0
90	Giridih east	Giridih	Tatokiyar i	2020-21	48	SC	81074	5.0	8445	7625	90.3	9	0.90284	0.09716	0.00001039	0.003223	90.92	89.65	0.6
91	Giridih east	Giridih	Maheshpur	2021-22	44.83	SC	74686	5.0	8330	7504	90.1	9	0.90085	0.09915	0.00001072	0.003275	90.73	89.44	0.6
92	Giridih east	Giridih	Phulchi	2021-22	5.02	SC	8330	1.0	1666	1471	88.3	9	0.88295	0.11705	0.00006203	0.007876	89.84	86.75	1.5
93	Giridih east	Giridih	Lohpiti	2020-21	15 km	Linear	30000		3000	2813	93.8	9	0.93767	0.06233	0.00001948	0.004414	94.63	92.90	0.9
94	Giridih east	Khurchutta	Chandiyo Pipratol	2020-21	200 unit	Linear	19940		1994	1838	92.2	9	0.92177	0.07823	0.00003617	0.006014	93.36	91.00	1.2
95	Giridih east	Khurchutta	Asgandho	2020-21	81.578	SC	136408	9.0	15049	14233	94.6	9	0.94577	0.05423	0.00000341	0.001846	94.94	94.21	0.4
96	Giridih east	Khurchutta	Badkitand	2020-21	55.305	SC	92138	6.0	9996	9329	93.3	9	0.93324	0.06676	0.00000623	0.002497	93.81	92.83	0.5
97	Giridih east	Khurchutta	Mankadiha	2021-22	69.09	SC	115103	7.0	11662	11119.6	95.3	9	0.95349	0.04651	0.00000380	0.001953	95.73	94.97	0.4
98	Giridih east	Dumri	Nagabad	2021-22	1.62	SC	4000	2.0	4938	4593	93.0	9	0.93000	0.07000	0.00001318	0.003631	93.71	92.29	0.7
99	Giridih east	Gawan	Malukchal	2020-21	62.621	SC	83300	7.0	9312	7980	85.7	9	0.85695	0.14305	0.00001316	0.003628	86.41	84.98	0.7
100	Giridih east	Dumri	Naro	2021-22	15.75	SC	26739	2.0	3395	3218	94.8	9	0.94774	0.05226	0.00001459	0.003819	95.52	94.03	0.7
101	Giridih east	Dumri	Agalagri	2021-22	4.5	SC	7500	1.0	1666	1542	92.6	9	0.92557	0.07443	0.00004135	0.00643	93.82	91.30	1.3
102	Giridih east	Khurchutta	Bedodih	2021-22	5.54	SC	9230	1.0	1666	1537	92.3	9	0.92257	0.07743	0.00004288	0.006548	93.54	90.97	1.3
103	Giridih east	Khurchutta	Ratiyabahar	2021-22	50.0	RDF	50000	5.0	5000	4769	95.4	9	0.95380	0.04620	0.00000881	0.002969	95.96	94.80	0.6
104	Giridih east	Khurchutta	Lakhanpur	2021-22	21.57	RDF	35920	3.0	4996	4453	89.1	9	0.89143	0.10857	0.00001937	0.004402	90.01	88.28	0.9
105	Giridih east	Giridih	Gangapur	2020-21	3km	Linear	1600		160	153	95.6	9	0.95625	0.04375	0.00026147	0.01617	98.79	92.46	3.2
106	Giridih west	Jamua	Chitradih	2021-22	50	RDF	50000	5.0	5000	4680	93.6	9	0.93600	0.06400	0.00001198	0.003461	94.28	92.92	0.7
107	Giridih west	Jamua	Bhupatidih	2020-21	25.0	IWMP	41650	3.0	4998	4768	95.4	9	0.95398	0.04602	0.00000878	0.002964	95.98	94.82	0.6

108	Giridih west	Jamua	Khurobin do	2019-20	30.0	IWMP	49980	3.0	4998	4726	94.6	9	0.94558	0.05442	0.00001030	0.003209	95.19	93.93	0.6
109	Godda	Sunderpahari	Sunderpahari	2021-22	5.08	SC & PI	8464	1.0	1666	1432	86.0	9	0.85954	0.14046	0.00007247	0.008513	87.62	84.29	1.7
110	Godda	Sunderpahari	Chandna	2020-21	50.0	RDF	50000	5.0	5000	4448	89.0	9	0.88960	0.11040	0.00001964	0.004432	89.83	88.09	0.9
111	Godda	Sunderpahari	Sunderpahari	2020-21	36.0	SC & PI	59976	4.0	6664	5863	88.0	9	0.87980	0.12020	0.00001587	0.003984	88.76	87.20	0.8
112	Godda	Sunderpahari	Salodih	2020-21	20.0	SC & PI	33320	2.0	3332	2903	87.1	9	0.87125	0.12875	0.00003367	0.005802	88.26	85.99	1.1
113	Godda	Godda	Mahuatanr	2020-21	40.0	SC & PI	66640	4.0	6664	5734	86.0	9	0.86044	0.13956	0.00001802	0.004245	86.88	85.21	0.8
114	Godda	Godda	Sabalpur	2020-21	20.0	RDF	20689	2.0	2069	1883	91.0	9	0.91015	0.08985	0.00003953	0.006287	92.25	89.78	1.2
115	Godda	Godda	Nipanija	2020-21	15.0	SC & PI	25000	2.0	3332	2898	87.0	9	0.86975	0.13025	0.00003400	0.005831	88.12	85.83	1.1
116	Godda	Godda	Bhaluka	2020-21	15.0	SC & PI	15000	2.0	2000	1702	85.1	9	0.85100	0.14900	0.00006340	0.007962	86.66	83.54	1.6
117	Godda	Boarijor	Chota Shaharpur Sheet 2	2019-20	144.5	SC & PI	240687	15.0	24990	17321	69.3	7	0.69312	0.30688	0.00000851	0.002917	69.88	68.74	0.6
118	Godda	Boarijor	Balajhar	2020-21	15.0	SC & PI	24990	2.0	3332	2713	81.4	9	0.81423	0.18577	0.00004540	0.006738	82.74	80.10	1.3
119	Godda	Godda	Kamradol	2021-22	40.0	RDF	40000	4.0	4000	3367	84.2	9	0.84175	0.15825	0.00003330	0.005771	85.31	83.04	1.1
120	Godda	Godda	Thakurnahan	2020-21	40.0	SC & PI	66640	4.0	6664	5251	78.8	8	0.78797	0.21203	0.00002507	0.005007	79.78	77.82	1.0
121	Godda	Godda	Charghar a	2020-21	25.0	SC & PI	41650	3.0	4998	4256	85.2	9	0.85154	0.14846	0.00002529	0.005029	86.14	84.17	1.0
122	Gumla	Bishunpur	Salgi	2019-20	18.34	CA	30555	2.0	3332	2715	81.5	9	0.81483	0.18517	0.00004528	0.006729	82.80	80.16	1.3
123	Gumla	Gumla	Charkatangar	2019-20	12.00	CA	20000	2.0	3332	2997	89.9	9	0.89946	0.10054	0.00002714	0.00521	90.97	88.92	1.0
124	Gumla	Gumla	Gindra	2019-20	38.38	CA	42218	4.0	4400	3634	82.6	9	0.82591	0.17409	0.00003268	0.005716	83.71	81.47	1.1
125	Gumla	Vishunpun	Jehangutawa	2021-22	61.00	CA	101626	7.0	11662	10603	90.9	9	0.90919	0.09081	0.00000708	0.002661	91.44	90.40	0.5
126	Gumla	Gumla	Banai	2019-20	19.71	CA	11795	2.0	1200	780	65.0	7	0.65000	0.35000	0.00018958	0.013769	67.70	62.30	2.7



127	Gumla	Bishunpur	Rehe	2021-22	50.00	RDF	50000	5.0	5000	4700	94.0	9	0.94000	0.06000	0.00001128	0.003359	94.66	93.34	0.7
128	Gumla	Bishunpur	Chatmdag	2021-22	50.00	RDF	50000	5.0	5000	4300	86.0	9	0.86000	0.14000	0.00002408	0.004907	86.96	85.04	1.0
129	Gumla	Kurumgarh	Tati	2019-20	18.60	CA	20460	2.0	2200	1741	79.1	8	0.79136	0.20864	0.00007505	0.008663	80.83	77.44	1.7
130	Gumla	Kurumgarh	Nawadih Kataitoli	2019-20	18.44	CA	20284	2.0	2200	1760	80.0	8	0.80000	0.20000	0.00007273	0.008528	81.67	78.33	1.7
131	Hazaribagh East	Daru	Kesura	2021-22	17.186	CA	17186	2.0	2000	1603	80.2	9	0.80150	0.19850	0.00007955	0.008919	81.90	78.40	1.7
132	Hazaribagh East	Daru	Chiruwar/Irga	2021-22	20.4	CA	21380	2.0	2098	1953	93.1	9	0.93083	0.06917	0.00003069	0.00554	94.17	92.00	1.1
133	Hazaribagh East	Bagodara	Pandra-Sadaro	2020-21	22.0	CA	22000	3.0	3000	2686	89.5	9	0.89533	0.10467	0.00003124	0.005589	90.63	88.44	1.1
134	Hazaribagh East	Bagodara	Sonturpi	2021-22	50.0	RDF	50000	5.0	5000	4732	94.6	9	0.94640	0.05360	0.00001015	0.003185	95.26	94.02	0.6
135	Hazaribagh East	Bagodara	Ambadih	2021-22	30.0	RDF	30000	3.0	3000	2853	95.1	9	0.95100	0.04900	0.00001553	0.003941	95.87	94.33	0.8
136	Hazaribagh west	Barhi	Maskedih	2019-20	100.0	RDF	100013	10.0	10000	8019	80.2	9	0.80190	0.19810	0.00001589	0.003986	80.97	79.41	0.8
137	Hazaribagh west	Barhi	Barion	2019-20	31.0	RDF	31967	4.0	4125	3525	85.5	9	0.85455	0.14545	0.00003013	0.005489	86.53	84.38	1.1
138	Hazaribagh west	Barhi	Digwar	2020-21	50.0	SC	83300	5.0	8330	5863	70.4	8	0.70384	0.29616	0.00002502	0.005002	71.36	69.40	1.0
139	Hazaribagh west	Barhi	Koderma Bokaro transmission line	2019-20	33.79	DSP	83475	4.0	9882	8467	85.7	9	0.85682	0.14318	0.00001241	0.003523	86.37	84.99	0.7
140	Hazaribagh west	Barhi	Sewatand	2020-21	92.5	RDF	83527	10.0	9030	7701	85.3	9	0.85285	0.14715	0.00001390	0.003728	86.02	84.55	0.7
141	Hazaribagh west	Barhi	Sewatand	2019-20	50.0	RDF	45593	5.0	4559	4328	94.9	9	0.94933	0.05067	0.00001055	0.003248	95.57	94.30	0.6
142	Hazaribagh west	Barhi	Kedarut	2021-22	53.0	SC	88298	6.0	9996	8019.96	80.2	9	0.80232	0.19768	0.00001587	0.003983	81.01	79.45	0.8
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	2021-22	2km	Linear	4115		412	289	70.1	8	0.70146	0.29854	0.00050829	0.022545	74.56	65.73	4.4
144	Hazaribagh west	Barhi	Nagarbarsot II	2021-22	101.0	SC	168266	10.0	16660	13409	80.5	9	0.80486	0.19514	0.00000943	0.00307	81.09	79.88	0.6
145	Hazaribagh	Choupa	Sohra	2020-	87.7	RDF	8770	9.0	9000	7254	80.6	9	0.80	0.19	0.00001	0.00416	81.4	79.	0.8

	gh west	ran		21			3						597	403	738	8	1	78	
146	Hazaribagh west	Choupan	Madhogo	2020-21	36.69	RDF	36690	4.0	4000	3209	80.2	9	0.80223	0.19777	0.00003966	0.006298	81.46	78.99	1.2
147	Hazaribagh west	Choupan	Gangahar	2019-20	30.0	RDF	30000	3.0	3000	2702	90.1	9	0.90067	0.09933	0.00002982	0.005461	91.14	89.00	1.1
148	Hazaribagh west	Hazaribagh Afforestation	Karma Kewal	2021-22	50.0	RDF	50000	5.0	5000	3516	70.3	8	0.70320	0.29680	0.00004174	0.006461	71.59	69.05	1.3
149	Hazaribagh west	Barkagan	Ghutu	2020-21	50.0	SC	83300	5.0	8330	6959	83.5	9	0.83541	0.16459	0.00001651	0.004063	84.34	82.75	0.8
150	Hazaribagh west	Barkagan	Gosaibaliya	2019-20	12.48	RDF	12800	2.0	2051	1865	90.9	9	0.90898	0.09102	0.00004033	0.006351	92.14	89.65	1.2
151	Hazaribagh west	Barkagan	Talaswar	2019-20	28.3	RDF	29057	3.0	3080	2511	81.5	9	0.81505	0.18495	0.00004894	0.006996	82.88	80.13	1.4
152	Hazaribagh west	Hazaribagh	Pabra	2019-20	34.0	RDF	34000	4.0	4000	3615	90.4	9	0.90365	0.09635	0.00002177	0.004666	91.28	89.45	0.9
153	Hazaribagh west	Hazaribagh	Perheriya	2019-20	15.0	RDF	15000	2.0	2000	1803	90.1	9	0.90133	0.09867	0.00004447	0.006668	91.44	88.83	1.3
154	Hazaribagh west	Hazaribagh	Haram	2020-21	200 plants	IWMP	200		200	181	90.5	9	0.90500	0.09500	0.00042988	0.020733	94.56	86.44	4.1
155	Hazaribagh west	Hazaribagh	Bes	2020-21	200 plants	IWMP	200		200	196	98.0	9	0.98000	0.02000	0.00009800	0.009899	99.94	96.06	1.9
156	Hazaribagh west	Hazaribagh	Marhand	2020-21	200 plants	IWMP	200		200	197	98.5	9	0.98500	0.01500	0.00007388	0.008595	100.18	96.82	1.7
157	Hazaribagh west	Hazaribagh	Khapriya wa to Khapriya wa	2021-22	1km	Linear	2000		200	190	95.0	9	0.95000	0.05000	0.00023750	0.015411	98.02	91.98	3.0
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	2020-21	2km	Linear	12000		1200	1082	90.2	9	0.90167	0.09833	0.00007389	0.008596	91.85	88.48	1.7
159	Hazaribagh west	Hazaribagh	Marigada	2020-21	72.0	RDF	72014	8.0	8002	6445	80.5	9	0.80550	0.19450	0.00001958	0.004425	81.42	79.68	0.9
160	Hazaribagh, Forestor-cum-Forest Guard	RFO Forestor-cum-Forest Guard Trainin	Kani Mundawar	2019-20	2.0	Arboratum	3200		1600	817	51.1	6	0.51063	0.48938	0.00015618	0.012497	53.51	48.61	2.4

	Training School	g School, Hazaribag																	
161	Hazaribagh, Forester-cum-Forest Guard Training School	RFO Forester-cum-Forest Guard Training School, Hazaribag	Kani Mundawar	2019-20	2.0	Bambo Setum	3200		1600	755	47.2	5	0.47188	0.52813	0.00015576	0.01248	49.63	44.74	2.4
162	Hazaribagh, Social Forestry	Sadar	Kanchanpur	2021-22	40.0	NPV	33739	4.0	3374	2945	87.3	9	0.87288	0.12712	0.00003289	0.005735	88.41	86.16	1.1
163	Jamshedpur	Chaukulia	Manikabera, Choira, Ghosda	2021-22	50.0	Bambo	50000	5.0	5000	4200	84.0	9	0.84000	0.16000	0.00002688	0.005185	85.02	82.98	1.0
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	2021-22	117.7	Plantation	196022	12.0	19992	16838	84.2	9	0.84224	0.15776	0.00000665	0.002578	84.73	83.72	0.5
165	Jamshedpur	Chaukulia	Kadamdiha	2021-22	18.0	Plantation	18000	2.0	2000	1837	91.9	9	0.91850	0.08150	0.00003743	0.006118	93.05	90.65	1.2
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhal	2021-22	1.7636 Km	Linear	1800	1 km	200	189	94.5	9	0.94500	0.05500	0.00025988	0.016121	97.66	91.34	3.2
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	2021-22	1 km	Linear	1000	1 km	100	91	91.0	9	0.91000	0.09000	0.00081900	0.028618	96.61	85.39	5.6

168	Jamshed pur	Rakham ines	Durku	2021-22	2.66 Km	Linear	15000	#### ##	1500	1303	86.9	9	0.86867	0.13133	0.00007606	0.008721	88.58	85.16	1.7
169	Jamshed pur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	2021-22	20.0	Plantation	33320	2.0	3400	2527	74.3	8	0.74324	0.25676	0.00005613	0.007492	75.79	72.86	1.5
170	Jamshed pur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	2021-22	45.0	Plantation	74970	5.0	8330	5667	68.0	7	0.68031	0.31969	0.00002611	0.00511	69.03	67.03	1.0
171	Jamshed pur	Musabani	Paharpur, Churiapahar, Mudakati	2019-20	60.0	Bamboo	100000	6.0	10000	9500	95.0	9	0.95000	0.05000	0.00000475	0.002179	95.43	94.57	0.4
172	Jamshed pur	Musabani	Gudabanda	2021-22	50.0	Bamboo	50000	5.0	5000	4500	90.0	9	0.90000	0.10000	0.00001800	0.004243	90.83	89.17	0.8
173	Jamshed pur	Musabani	Gudabanda	2021-22	4.65 Km	Linear	17450	#### ##	1745	1573	90.1	9	0.90143	0.09857	0.00005092	0.007136	91.54	88.74	1.4
174	Jamshed pur	Ghatsila	Anidi	2021-22	9.0	Plantation		1.0	1666	1416	85.0	9	0.84994	0.15006	0.00007656	0.00875	86.71	83.28	1.7
175	Jamshed pur	Ghatsila	Borajuri, Sorodoba n	2021-22	50.0	Plantation	83300	5.0	8450	6583	77.9	8	0.77905	0.22095	0.00002037	0.004513	78.79	77.02	0.9
176	Jamshed pur	Ghatsila	Kalapathar (Part A)	2021-22	14.0	Plantation	23324	2.0	3332	2740	82.2	9	0.82233	0.17767	0.00004385	0.006622	83.53	80.94	1.3
177	Jamshed pur	Ghatsila	Narsinghpur	2021-22	7.5	Plantation	12495	2.0	3332	2322	69.7	7	0.69688	0.30312	0.00006340	0.007962	71.25	68.13	1.6
178	Jamtara	Narayanpur	Yaududih	2021-22	5.8	CA (SCA)	9580	1.0	1666	1351	81.1	9	0.81092	0.18908	0.00009203	0.009593	82.97	79.21	1.9
179	Jamtara	Jamtara	Sunsundabra	2019-20	13.2	CA (SCA)	22025	2.0	3332	3127	93.8	9	0.93848	0.06152	0.00001733	0.004163	94.66	93.03	0.8
180	Jamtara	Jamtara	Lakhanpur	2020-21	1.732 Km	Linear	18605		2000	1665	83.3	9	0.83250	0.16750	0.00006972	0.00835	84.89	81.61	1.6
181	Jamtara	Jamtara	Murgabani	2020-21	1.732 Km	Linear	18605		2000	1723	86.2	9	0.86150	0.13850	0.00005966	0.007724	87.66	84.64	1.5
182	Khunti	Khunti	Oskeya	2019-	18.96	CA	3163	2.0	3332	2938	88.2	9	0.88	0.11	0.00003	0.00559	89.2	87.	1.1

				20			6						175	825	129	4	7	08	
183	Khunti	Bundu	Taimara	2021-22	50.00	CA	50000	5.0	5000	4002	80.0	9	0.80040	0.19960	0.00003195	0.005653	81.15	78.93	1.1
184	Khunti	Tamar AFF Range, Bundu	Nuridih	2019-20	31.26	CA	52100	4.0	6664	5269	79.1	8	0.79067	0.20933	0.00002484	0.004984	80.04	78.09	1.0
185	Khunti	Tamar	Barendra	2019-20	28.00	CA	46648	3.0	4998	4508	90.2	9	0.90196	0.09804	0.00001769	0.004206	91.02	89.37	0.8
186	Koderm a	Koderm a	Nawadih to Koderma	2020-21	5 km	Linear	10000		1000	934	93.4	9	0.93400	0.06600	0.00006164	0.007851	94.94	91.86	1.5
187	Koderm a	Domch anch	Kari Pahari to Sijuha	2019-20	1 Km	Linear	2000		200	181	90.5	9	0.90500	0.09500	0.00042988	0.020733	94.56	86.44	4.1
188	Koderm a	Domch anch	Sijuwa to Purnadee h	2020-21	5 km	Linear	10000		1000	904	90.4	9	0.90400	0.09600	0.00008678	0.009316	92.23	88.57	1.8
189	Latehar	Baluma th	Soparam	2020-21	50.0	CA (SCA)	50000	5.0	5000	3821	76.4	8	0.76420	0.23580	0.00003604	0.006003	77.60	75.24	1.2
190	Latehar	Chandw a	Rud	2020-21	10.0	CA (SCA)	10000	1.0	1000	637	63.7	7	0.63700	0.36300	0.00023123	0.015206	66.68	60.72	3.0
191	Latehar	Chandw a	Hesala	2019-20	47.95	CA (SCA)	49000	5.0	5000	3413	68.3	7	0.68260	0.31740	0.00004333	0.006583	69.55	66.97	1.3
192	Latehar	Baluma th	Mailam	2019-20	50.0	CA (SCA)	50000	5.0	5000	3119	62.4	7	0.62380	0.37620	0.00004693	0.006851	63.72	61.04	1.3
193	Latehar	Latehar	Sohdag	2019-20	50.0	CA (SCA)	50000	5.0	5000	4406	88.1	9	0.88120	0.11880	0.00002094	0.004576	89.02	87.22	0.9
194	Latehar	Latehar	Jaram	2021-22	50.0	CA (SCA)	50000	5.0	5000	4699	94.0	9	0.93980	0.06020	0.00001132	0.003364	94.64	93.32	0.7
195	Latehar	Manika	Doki	2021-22	100.0	CA (SCA)	100000	10.0	10000	7118	71.2	8	0.71180	0.28820	0.00002051	0.004529	72.07	70.29	0.9
196	Latehar	Manika	Bakoriya (M)	2019-20	60.0	CA (SCA)	66000	6.0	6600	4164	63.1	7	0.63091	0.36909	0.00003528	0.005946	64.26	61.93	1.2
197	Loharda ga	Loharda ga	Nini	2019-20	13.45	CA	33626	2.0	5085	3639	71.6	8	0.71563	0.28437	0.00004002	0.006326	72.80	70.32	1.2
198	Loharda ga	Loharda ga	Hisri	2019-20	50	RDF	55000	5.0	5500	4243	77.1	8	0.77145	0.22855	0.00003206	0.005662	78.26	76.04	1.1
199	Loharda ga	Loharda ga	Ugra	2021-22	50	RDF	50000	5.0	5000	4300	86.0	9	0.86000	0.14000	0.00002408	0.004907	86.96	85.04	1.0

200	Lohardaga	Banari	Ghaghra	2019-20	50	RDF	55000	5.0	5500	5217	94.9	9	0.94855	0.05145	0.00000887	0.002979	95.44	94.27	0.6
201	Medininagar	Chatarpur East	Kuhkuh Khurd	2020-21	13.76	Kshatipurak Vanrop an	21000	1.4	3052	2748	90.0	9	0.90039	0.09961	0.00002939	0.005421	91.10	88.98	1.1
202	Medininagar	Kundari	Bhawardah	2020-21	9.55	Kshatipurak Vanrop an	15910	1.0	1666	1502	90.2	9	0.90156	0.09844	0.00005327	0.007299	91.59	88.73	1.4
203	Medininagar	Kundari	Navagarh	2020-21	50.00	Kshatipurak Vanrop an	83300	5.0	8330	7086	85.1	9	0.85066	0.14934	0.00001525	0.003905	85.83	84.30	0.8
204	Pakur	Hiranpur	Dhangarha	2020-21	22.0	CA	22000	3.0	3000	1231	41.0	5	0.41033	0.58967	0.00008065	0.008981	42.79	39.27	1.8
205	Porahat	Kera	Chandpur, Bondih, Barkani	2020-21	42.0	CA (SCA)	69972	5.0	8330	7031	84.4	9	0.84406	0.15594	0.00001580	0.003975	85.18	83.63	0.8
206	Porahat	Kera	Unchibita	2020-21	30.0	RDF	30000	3.0	3000	2316	77.2	8	0.77200	0.22800	0.00005867	0.00766	78.70	75.70	1.5
207	Porahat	Kera	Bangrasai (Parsa Bahal)	2019-20	25.0	CA (SCA)	41650	3.0	4998	3898	78.0	8	0.77991	0.22009	0.00003434	0.00586	79.14	76.84	1.1
208	Ramgarh	Gola	Kujukalan	2021-22	50.0	SC	83300	5.0	8330	6757	81.1	9	0.81116	0.18884	0.00001839	0.004288	81.96	80.28	0.8
209	Ramgarh	Patratu	Ghutuwas Manmohna	2021-22	3 km	Linear	1450		145	137	94.5	9	0.94483	0.05517	0.00035951	0.018961	98.20	90.77	3.7
210	Ramgarh	Patratu	Deoria	2019-20	10.0	SC	16660	1.0	1666	1389	83.4	9	0.83373	0.16627	0.00008321	0.009122	85.16	81.59	1.8
211	Ramgarh	Kuju	Ratwe	2019-20	15.09	SC	25142	2.0	3332	2979	89.4	9	0.89406	0.10594	0.00002843	0.005332	90.45	88.36	1.0
212	Ramgarh	Kuju	Orla	2019-20	7.57	SC	12611	1.0	1666	1496	89.8	9	0.89796	0.10204	0.00005500	0.007416	91.25	88.34	1.5
213	Ramgarh	Ramgarh	Tewardag	2021-22	40.0	SC	68943	4.0	6894	6235	90.4	9	0.90441	0.09559	0.00001254	0.003541	91.14	89.75	0.7
214	Ramgarh	Mandu	Govindpur	2019-20	39.25	SC	65390	4.0	6664	6382	95.8	9	0.95768	0.04232	0.00000608	0.002466	96.25	95.28	0.5

215	Ramgarh	Mandu	Padrangi	2020-21	80.0	SC	133280	8.0	13328	11903	89.3	9	0.89308	0.10692	0.00000716	0.002677	89.83	88.78	0.5
216	Ranchi	Kanke	Hehal Hill	2020-21	7.4	Plantation	4000	1.0	600	319	53.2	6	0.53167	0.46833	0.00041500	0.020371	57.16	49.17	4.0
217	Ranchi	Kanke	Uruguttu	2021-22	31.0	CA	51646	4.0	6664	4191	62.9	7	0.62890	0.37110	0.00003502	0.005918	64.05	61.73	1.2
218	Ranchi	Kanke	Bariyatu Hill	2019-20	5.65	Plantation	75521	1.0	1505	793	52.7	6	0.52691	0.47309	0.00016563	0.01287	55.21	50.17	2.5
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	2019-20	13.0	Plantation	4000	2.0	600	291	48.5	5	0.48500	0.51500	0.00041629	0.020403	52.50	44.50	4.0
220	Ranchi	Mander	Tumang	2021-22	28.0	CA	46648	3.0	4998	4291	85.9	9	0.85854	0.14146	0.00002430	0.004929	86.82	84.89	1.0
221	Ranchi	Bero	Lawagai	2021-22	50.0	RDF	51044	5.0	5104	4338	85.0	9	0.84986	0.15014	0.00002500	0.005	85.97	84.01	1.0
222	Ranchi	Ranchi	Danekara	2021-22	35.0	RDF	35000	4.0	4000	3440	86.0	9	0.86000	0.14000	0.00003010	0.005486	87.08	84.92	1.1
223	Ranchi	Ranchi	Bargai Firing Range Hill	2019-20	19.0	Plantation	4000	2.0	421	345	81.9	9	0.81948	0.18052	0.00035139	0.018745	85.62	78.27	3.7
224	Ranchi	Mahilong	Paharsingh	2019-20	102.0	CA	169932	11.0	18326	15336	83.7	9	0.83684	0.16316	0.00000745	0.00273	84.22	83.15	0.5
225	Ranchi	Mahilong	Nawagarh	2019-20	58.0	CA	58000	6.0	6000	4936	82.3	9	0.82267	0.17733	0.00002431	0.004931	83.23	81.30	1.0
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	2019-20	40.0	CA	40000	4.0	4000	2612	65.3	7	0.65300	0.34700	0.00005665	0.007526	66.78	63.82	1.5
227	Ranchi, Training School		Village-Kawali	2019-20	6.0	NPV	2400	1.0	400	308	77.0	8	0.77000	0.23000	0.00044275	0.021042	81.12	72.88	4.1
228	Ranchi, Training School		Village-Mahilong	2019-20	2.0	NPV	2000	1.0	1000	823	82.3	9	0.82300	0.17700	0.00014567	0.012069	84.67	79.93	2.4
229	Sahebganj	Barharwa	Bada Togra	2021-22	31.0	RDF	31000	4.0	4000	1863	46.6	5	0.46575	0.53425	0.00006221	0.007887	48.12	45.03	1.5
230	Sahebganj	Barharwa	Demchak Pahar	2021-22	25.0	RDF	25000	3.0	3000	2068	68.9	7	0.68933	0.31067	0.00007138	0.008449	70.59	67.28	1.7
231	Sahebganj	Barhar	Chota	2021-	20.0	RDF	2000	2.0	2000	1443	72.2	8	0.72	0.27	0.00010	0.01002	74.1	70.	2.0



	nj	wa	Tegra	22			0						150	850	047	3	1	19	
232	Saraikella	Saraikella	Bada Hariharpur	2021-22	25.2	Plantation	41917	3.0	4998	4313	86.3	9	0.86295	0.13705	0.00002366	0.004865	87.25	85.34	1.0
233	Saraikella	Chandil	Shaharbera	2019-20	10.0	Plantation	16660	1.0	1666	1416	85.0	9	0.84994	0.15006	0.00007656	0.00875	86.71	83.28	1.7
234	Saraikella	Chandil	Chunidih	2019-20	25.0	Bambo	25000	3.0	3000	2575	85.8	9	0.85833	0.14167	0.00004053	0.006367	87.08	84.59	1.2
235	Saraikella	Chandil	Puriyara	2019-20	22.98	Plantation	57450	3.0	7500	6543	87.2	9	0.87240	0.12760	0.00001484	0.003853	88.00	86.48	0.8
236	Saraikella	Saraikella	Sahebganj	2019-20	3.7	Plantation	6170	1.0	1666	1456	87.4	9	0.87395	0.12605	0.00006612	0.008132	88.99	85.80	1.6
237	Saraikella	Kharsawan	Tilopada	2019-20	4.8	Plantation	8030	1.0	1666	1395	83.7	9	0.83733	0.16267	0.00008176	0.009042	85.51	81.96	1.8
238	Saraikella	Kharsawan	Silpingda	2021-22	50.0	Plantation	50000	5.0	5000	4615	92.3	9	0.92300	0.07700	0.00001421	0.00377	93.04	91.56	0.7
239	Saraikella	Kharsawan	Silpingda	2019-20	16.9	Plantation	21735	2.0	3332	1989	59.7	6	0.59694	0.40306	0.00007221	0.008498	61.36	58.03	1.7
240	Saraikella	Kharsawan	Kasidih	2019-20	25.0	Plantation	41650	3.0	5000	2580	51.6	6	0.51600	0.48400	0.00004995	0.007067	52.99	50.21	1.4
241	Saraikella	Kharsawan	Haribhanja	2019-20	25.0	Plantation	37069	3.0	4600	2829	61.5	7	0.61500	0.38500	0.00005147	0.007174	62.91	60.09	1.4
242	Simdega	Kolebira	Jaldega to Gangutoli	2019-20	5 Km	Bambo Gabion	2000		200	146	73.0	8	0.73000	0.27000	0.00098550	0.031393	79.15	66.85	6.2
243	Simdega	Kolebira	Dadibera to Jampani	2019-20	5 Km	Bambo Gabion	2000		200	158	79.0	8	0.79000	0.21000	0.00082950	0.028801	84.65	73.35	5.6
244	Simdega	Kolebira	Dharamshala to Jampani	2019-20	5 Km	Bambo Gabion	2000		200	147	73.5	8	0.73500	0.26500	0.00097388	0.031207	79.62	67.38	6.1
245	Simdega	Kolebira	Kamlapani to Gangutoli	2019-20	5 Km	Bambo Gabion	2000		200	141	70.5	8	0.70500	0.29500	0.00103988	0.032247	76.82	64.18	6.3
246	Simdega	Bolba	Sagalpoch to Bolba	2019-20	6 Km	Bambo Gabion	2400		200	148	74.0	8	0.74000	0.26000	0.00096200	0.031016	80.08	67.92	6.1
247	Simdega	Bolba	Kundurunda	2019-20	30.0	CA	30000	3.0	3000	2550	85.0	9	0.85000	0.15000	0.00004250	0.006519	86.28	83.72	1.3
248	Simdega	Simdeg	Tamra to	2019-	5 Km	Gabion	2000		200	93	46.5	5	0.46	0.53	0.00124	0.03526	53.4	39.	6.9

		a	Kuruskela	20									500	500	388	9	1	59	
249	Simdega	Simdeg a	Bindhant oli	2019- 20	35.0	RDF	3500 0	4.0	4000	3267	81.7	9	0.81 675	0.18 325	0.00003 742	0.00611 7	82.8 7	80. 48	1.2
250	Simdega	Kolebir a	Parba	2020- 21	70.0	CA	7000 0	7.0	7000	5446	77.8	8	0.77 800	0.22 200	0.00002 467	0.00496 7	78.7 7	76. 83	1.0
251	Simdega	Kolebir a	Saraipani	2021- 22	50.0	RDF	5000 0	5.0	5000	4569	91.4	9	0.91 380	0.08 620	0.00001 575	0.00396 9	92.1 6	90. 60	0.8
252	Simdega	Simdeg a	Sarlonga	2021- 22	15.3	CA	2554 0	2.0	3400	1637	48.1	5	0.48 147	0.51 853	0.00007 343	0.00856 9	49.8 3	46. 47	1.7
253	Simdega	Bano	Orga to Dumarmu nda	2019- 20	5 Km	Gabion	2000		200	142	71.0	8	0.71 000	0.29 000	0.00102 950	0.03208 6	77.2 9	64. 71	6.3
254	Simdega	Bano	Dumarmu nda to Girda	2019- 20	5 Km	Gabion	2000		200	126	63.0	7	0.63 000	0.37 000	0.00116 550	0.03413 9	69.6 9	56. 31	6.7
255	Simdega	Bano	Hurda to Girda	2019- 20	5 Km	Gabion	2000		200	143	71.5	8	0.71 500	0.28 500	0.00101 888	0.03192	77.7 6	65. 24	6.3
256	Simdega , Social Forestry	Gumla	Sargaon	2021- 22	60.0	CA	6000 0	6.0	6000	4638	77.3	8	0.77 300	0.22 700	0.00002 925	0.00540 8	78.3 6	76. 24	1.1
257	Simdega , Social Forestry	Kolebir a	Saraipani	2019- 20	30.0	CA	3000 0	3.0	3000	1458	48.6	5	0.48 600	0.51 400	0.00008 327	0.00912 5	50.3 9	46. 81	1.8

### 4.1.2 Factors affecting Growth & survival (Biotic and Abiotic)

The plantation sites have been affected by the destruction of plants, which has inhibited their growth and development. This destruction has been caused by both biotic and abiotic agents. Animals and pests such as domestic cattle, Neelgai, and termites have been reported to be the cause of this destruction. At the sample sites, it has been observed that the plantations were grazed by domestic and stray animals such as cows, oxen, bulls, buffaloes, goats, and sheep.

In addition, the sample plantation sites have experienced extreme seasonal temperature variations. During summer, some sites have received extremely high temperatures. Moreover, low rainfall over the last 2-3 years, water scarcity, and poor soil quality have also affected the survival of the planted seedlings.

#### Overall Comments

- The growth of planted seedlings is affected by the growth of termites.
- Stray animals, such as Neelgai and village animals, can also cause damage by grazing and destroying plants' branches and leaves. This grazing can negatively impact the growth and survival of plants.
- Additionally, trench/ditch fencing has been damaged in many places, and locals have even created routes from the fencing to plantation sites for cattle grazing. Village and wild animals have grazed almost all of the planted species. Loose stone wall fencing has also been damaged in many places, with locals removing the stones and creating routes to the plantation sites.
- Moreover, low rainfall has been reported at the plantation site during the last 2 to 3 years, which has affected the survival and growth of planted species.
- Finally, the soil quality can also obstruct the growth of planted seedlings. At many plantation sites, the soil is rocky, which decreases the chances of survival of seedlings.



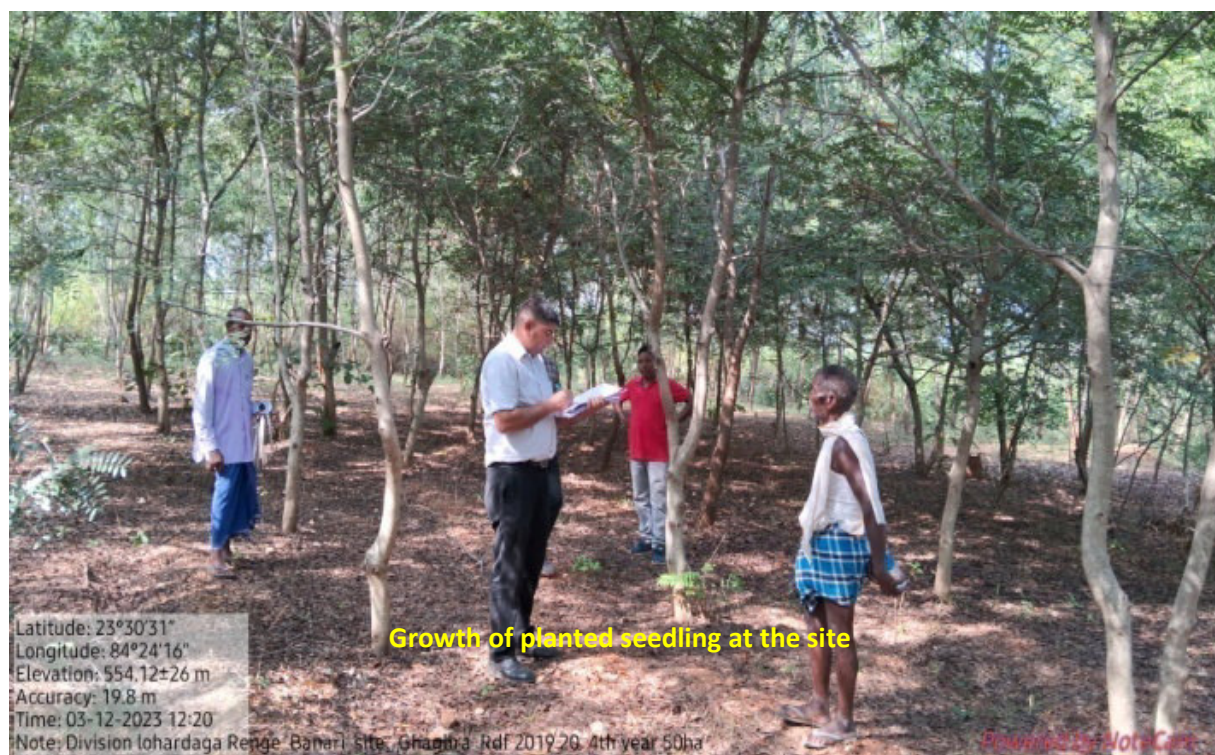


### 4.1.3 Impact on Forest cover/ Vegetal cover

In the sample forest divisions, there is a clear obligation to promote sustainable forest management through ecosystem conservation, ecological security, climate change mitigation and adaptation, urban forestry, and alignment with Sustainable Development Goals (SDGs). The main focus is on increasing vegetation cover.

To achieve this, efforts are being made to increase the extent of forest/tree cover in the state by encouraging reforestation, restoration, and rehabilitation measures in existing forest areas, as well as expanding vegetal cover in forest areas. Community participation is encouraged through sustainable use of forest and grassland-based resources and ecosystem services. Plantation and soil & moisture conservation activities have added value by increasing vegetation cover of trees (such as Palash, Neem, Mahuwa, Tendu, Baheda, Sagwan, Ket Sagwan, Khair, Shesham, Acacia, Mango, Jamun, Guawan, Bamboo, Jackfruit, Pipal, Ber, etc.), shrubs, herbs and natural grasses. Third-party evaluations have shown an increase in vegetation due to forest closure/fencing and the construction of soil and moisture conservation structures.

The visual estimation method is commonly used to measure vegetation cover. There has been a reported increase and improvement in vegetation cover at the sample plantation sites, namely CA/PCA, SC&A, RDF, Linear Plantation, and Silviculture operation sites. The highest vegetation abundance has been reported in Silviculture operations and RDF sites.



#### 4.1.4 Adherence to Norms, Operation guidelines, directions and estimates in plantation works/ activities (CA/PCA, SC&A, RDF, Linear Plantation)

The CAMPA fund projects are very rich in terms of documents, preparation of operation guidelines, directions, and estimates available at the State level made available to Forest Divisions & Range offices to be followed for execution of the project activities. Based on the available guidelines and estimates the district prepared the plan, which was sanctioned by the State as per the annual budget. The State office has also developed operational guidelines for the execution of various plantation models namely, CA/PCA, SC&A, RDF, and Linear Plantation sites. The model estimates for plantations also cover the estimates for plantations & SMC works. The guidelines for various models issued by the State fixed per day labor cost as per the Minimum Wage Act.

The State has also issued guidelines for various construction activities namely, the construction of Forest Guard quarters, Barrack, Hazat, rescue centers, Boundary walls and Causeway/culverts/Pullias, etc.

The model estimates for CA/PCA, SC&A, RDF, Linear Plantation, and Silviculture operation have been largely followed at the Forest Division level.

As far as the availability of records at the plantation sites during the third-party evaluation is concerned, the availability of Pit panji cum plantation panji and maps were reported at all the 257 CA/PCA, SC&A, RDF, Linear Plantation sites followed by upload of the plantation/ CA/PCA, SC&A, RDF, Linear Plantation sites onto the e-Green watch portal was reported of 115 sites (45%).

**Table 4.5: Adherence to Norms, Directions and Guidelines**

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e-Green watch
1	Bokaro	Chas	Kumardaga	Yes	Yes	No
2	Bokaro	Chas	Mayurdubbi	Yes	Yes	No
3	Bokaro	Chas	Bhawanipur	Yes	Yes	No
4	Bokaro	Chas	Boriadih	Yes	Yes	No
5	Bokaro	Bermo	Govindpur	Yes	Yes	No
6	Bokaro	Bermo	Mungo Rangamati A	Yes	Yes	No
7	Bokaro	Bermo	Mungo Rangamati B	Yes	Yes	No
8	Bokaro	Bermo	Penk	Yes	Yes	Yes
9	Bokaro	Bermo	Penk	Yes	Yes	Yes
10	Bokaro	Bermo	Pokhariya	Yes	Yes	Yes
11	Bokaro	Bermo	Pokhariya	Yes	Yes	Yes
12	Bokaro	Bermo	Tengnachuan	Yes	Yes	Yes
13	Bokaro	Peterwar	Ulgadda	Yes	Yes	No
14	Bokaro	Peterwar	Putkadih	Yes	Yes	Yes

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e- Green watch
15	Bokaro	Peterwar	Nawadih	Yes	Yes	Yes
16	Bokaro	Peterwar	Tengikudar	Yes	Yes	Yes
17	Bokaro	Peterwar	Beldih	Yes	Yes	Yes
18	Bokaro	Peterwar	Banga	Yes	Yes	No
19	Bokaro	Peterwar	Chanpi	Yes	Yes	Yes
20	Bokaro	Bokaro	Galudih	Yes	Yes	No
21	Bokaro	Bokaro	Nasia	Yes	Yes	Yes
22	Bokaro	Bokaro	Taratanr, Kharpitto, Junodih	Yes	Yes	Yes
23	Bokaro	Bokaro	Potso	Yes	Yes	No
24	Chaibasa	Noamundi	Barajamda	Yes	Yes	Yes
25	Chaibasa Social Forestry	Chakradharpur Social Forestry	Kumram Gendemundi	Yes	Yes	Yes
26	Chaibasa Social Forestry	Jagannatpur	Patajaint	Yes	Yes	Yes
27	Chatra North	Pratappur	Lipda	Yes	Yes	Yes
28	Chatra North	Rajpur	Banda to Bengnatari	Yes	Yes	Yes
29	Chatra South	Chatra	Manjhawan 1	Yes	Yes	No
30	Chatra South	Chatra	Manjhawan 2	Yes	Yes	No
31	Chatra South	Chatra	Manjhawan 3	Yes	Yes	No
32	Chatra South	Chatra	Bae	Yes	Yes	No
33	Chatra South	Chatra	Dumbi/ Barwadih	Yes	Yes	No
34	Chatra South	Chatra	Seheda	Yes	Yes	No
35	Chatra South	Chatra	Sikid	Yes	Yes	No
36	Chatra South	Lawalong	Kundri	Yes	Yes	No
37	Chatra South	Simariya	Shivrajpur	Yes	Yes	No
38	Deoghar	SC Range Madhupur	Trilokitanr	Yes	Yes	No
39	Deoghar	T Range Deoghar	Ajabraidih	Yes	Yes	No

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e-Green watch
40	Deoghar	SC Range Madhupur	Bhikhnadih	Yes	Yes	No
41	Deoghar	SC Range Madhupur	Paharpur	Yes	Yes	No
42	Deoghar	SC Range Madhupur	Manjhladih	Yes	Yes	No
43	Deoghar	Deoghar	Gamhariatanr	Yes	Yes	No
44	Deoghar	SC Range Madhupur	Chandpur	Yes	Yes	No
45	Deoghar	SC Range Madhupur	Chatnadangal	Yes	Yes	No
46	Deoghar	T Range Deoghar	Bochbandh	Yes	Yes	No
47	Deoghar	T Range Deoghar	Bishanpur	Yes	Yes	No
48	Deoghar	SC Range Madhupur	Dubrajpur	Yes	Yes	No
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadih	Yes	Yes	No
50	Deoghar	SC Range Madhupur	Loharjor	Yes	Yes	No
51	Deoghar	SC Range Madhupur	Harla	Yes	Yes	No
52	Deoghar	SC Range Madhupur	Lamba	Yes	Yes	No
53	Deoghar	T Range Deoghar	Tehunia	Yes	Yes	No
54	Deoghar	T Range Deoghar	Samlapur	Yes	Yes	No
55	Deoghar	SC Range Madhupur	Alumpur	Yes	Yes	No
56	Deoghar, Social Forestry	Deoghar	Baratanr	Yes	Yes	Yes
57	Dhanbad	Tundi	Nawatand	Yes	Yes	Yes
58	Dhanbad	Tundi	Lakrakhundi	Yes	Yes	No
59	Dhanbad	Tundi	Karitand, Arwatand, Kenduatand	Yes	Yes	Yes
60	Dhanbad	Tundi	Rishibita	Yes	Yes	No
61	Dhanbad	Tundi	Barbad Bolardih	Yes	Yes	No



S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e- Green watch
62	Dhanbad	Tundi	Kansjor,Birajdih	Yes	Yes	No
63	Dhanbad	Topchanchi	Sadhobad Chutiyaro	Yes	Yes	Yes
64	Dhanbad	Topchanchi	Kuramu	Yes	Yes	Yes
65	Dhanbad	Topchanchi	Gendwadih Chalmundri	Yes	Yes	No
66	Dhanbad	Topchanchi	Parwatpur	Yes	Yes	Yes
67	Dhanbad	Topchanchi	Gopalpur	Yes	Yes	No
68	Dhanbad	Dhanbad Urban Forestry	Lagata	Yes	Yes	Yes
69	Dhanbad	Dhanbad Urban Forestry	Dulasol	Yes	Yes	Yes
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	Yes	Yes	Yes
71	Dhanbad	Dhanbad Urban Forestry	Madandih	Yes	Yes	Yes
72	Dumka	Dumka Damin Kathikund	Astajora	Yes	Yes	Yes
73	Dumka	Dumka Damin Kathikund	Aamgachi to Saldaha 1	Yes	Yes	Yes
74	Dumka	Hizla East	Dudhajol	Yes	Yes	Yes
75	Dumka	Hizla East	Sugribhasha	Yes	Yes	Yes
76	Dumka	Hizla East	Barmasiya	Yes	Yes	Yes
77	Dumka	Hizla West	Ramkhari	Yes	Yes	Yes
78	Dumka	Hizla West	Karmatanr	Yes	Yes	Yes
79	Dumka	Hizla West	Suggapahari	Yes	Yes	Yes
80	Dumka	Hizla West	Latabani	Yes	Yes	Yes
81	Garhwa North	Nagar	Mirchaiya	Yes	Yes	Yes
82	Garhwa North	Garhwa	Khundra	Yes	Yes	No
83	Garhwa North	Bhawnathpur	Ghordag	Yes	Yes	No
84	Garhwa South	Bhandariya	Ramar	Yes	Yes	Yes
85	Garhwa South	Ranka Wast	Beta	Yes	Yes	Yes
86	Giridih east	Dumri	Chalmo	Yes	Yes	No
87	Giridih east	Gawan	Duarpahari	Yes	Yes	No

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e- Green watch
88	Giridih east	Parasnath	Dhanyadih	Yes	Yes	No
89	Giridih east	Giridih	Kornatand	Yes	Yes	No
90	Giridih east	Giridih	Tatokiyari	Yes	Yes	No
91	Giridih east	Giridih	Maheshpur	Yes	Yes	No
92	Giridih east	Giridih	Phulchi	Yes	Yes	No
93	Giridih east	Giridih	Lohpiti	Yes	Yes	No
94	Giridih east	Khurchutta	Chandiyo Pipratol	Yes	Yes	No
95	Giridih east	Khurchutta	Asgandho	Yes	Yes	Yes
96	Giridih east	Khurchutta	Badkitand	Yes	Yes	No
97	Giridih east	Khurchutta	Mankadiha	Yes	Yes	No
98	Giridih east	Dumri	Nagabad	Yes	Yes	No
99	Giridih east	Gawan	Malukchal	Yes	Yes	No
100	Giridih east	Dumri	Naro	Yes	Yes	No
101	Giridih east	Dumri	Agalagri	Yes	Yes	No
102	Giridih east	Khurchutta	Bedodih	Yes	Yes	No
103	Giridih east	Khurchutta	Ratiyabahar	Yes	Yes	Yes
104	Giridih east	Khurchutta	Lakhanpur	Yes	Yes	No
105	Giridih east	Giridih	Gangapur	Yes	Yes	No
106	Giridih west	Jamua	Chitradih	Yes	Yes	No
107	Giridih west	Jamua	Bhupatidih	Yes	Yes	No
108	Giridih west	Jamua	Khurobindo	Yes	Yes	Yes
109	Godda	Sunderpahari	Sunderpahari	Yes	Yes	No
110	Godda	Sunderpahari	Chandna	Yes	Yes	Yes
111	Godda	Sunderpahari	Sunderpahari	Yes	Yes	No
112	Godda	Sunderpahari	Salodih	Yes	Yes	No
113	Godda	Godda	Mahuatanr	Yes	Yes	Yes
114	Godda	Godda	Sabalpur	Yes	Yes	Yes
115	Godda	Godda	Nipanjya	Yes	Yes	Yes
116	Godda	Godda	Bhaluka	Yes	Yes	Yes
117	Godda	Boarijor	Chota Shaharpur Sheet 2	Yes	Yes	Yes
118	Godda	Boarijor	Balajhar	Yes	Yes	No
119	Godda	Godda	Kamradol	Yes	Yes	No
120	Godda	Godda	Thakurnahan	Yes	Yes	No
121	Godda	Godda	Charghara	Yes	Yes	Yes
122	Gumla	Bishunpur	Salgi	Yes	Yes	No
123	Gumla	Gumla	Charkatangar	Yes	Yes	No
124	Gumla	Gumla	Gindra	Yes	Yes	Yes
125	Gumla	Vishunpun	Jehangutuwa	Yes	Yes	No

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e-Green watch
126	Gumla	Gumla	Banai	Yes	Yes	No
127	Gumla	Bishunpur	Rehe	Yes	Yes	Yes
128	Gumla	Bishunpur	Chatmdag	Yes	Yes	Yes
129	Gumla	Kurumgarh	Tati	Yes	Yes	No
130	Gumla	Kurumgarh	Nawadih Kataitoli	Yes	Yes	No
131	Hazaribagh East	Daru	Kesura	Yes	Yes	No
132	Hazaribagh East	Daru	Chiruwar/Irga	Yes	Yes	No
133	Hazaribagh East	Bagodar	Pandra-Sadaro	Yes	Yes	No
134	Hazaribagh East	Bagodar	Sonturpi	Yes	Yes	Yes
135	Hazaribagh East	Bagodar	Ambadih	Yes	Yes	Yes
136	Hazaribagh west	Barhi	Maskedih	Yes	Yes	Yes
137	Hazaribagh west	Barhi	Barion	Yes	Yes	Yes
138	Hazaribagh west	Barhi	Digwar	Yes	Yes	Yes
139	Hazaribagh west	Barhi	Koderma Bokaro transmission line	Yes	Yes	Yes
140	Hazaribagh west	Barhi	Sewatand	Yes	Yes	No
141	Hazaribagh west	Barhi	Sewatand	Yes	Yes	No
142	Hazaribagh west	Barhi	Kedarut	Yes	Yes	No
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	Yes	Yes	No
144	Hazaribagh west	Barhi	Nagarbarsot II	Yes	Yes	Yes
145	Hazaribagh west	Chouparan	Sohra	Yes	Yes	Yes
146	Hazaribagh west	Chouparan	Madhogopali	Yes	Yes	Yes
147	Hazaribagh west	Chouparan	Gangahar	Yes	Yes	Yes

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e- Green watch
148	Hazaribagh west	Hazaribagh Afforestation	Karma Kewal	Yes	Yes	No
149	Hazaribagh west	Barkagaon	Ghutu	Yes	Yes	Yes
150	Hazaribagh west	Barkagaon	Gosaibaliya	Yes	Yes	Yes
151	Hazaribagh west	Barkagaon	Talaswar	Yes	Yes	Yes
152	Hazaribagh west	Hazaribagh	Pabra	Yes	Yes	Yes
153	Hazaribagh west	Hazaribagh	Perheriya	Yes	Yes	Yes
154	Hazaribagh west	Hazaribagh	Haram	Yes	Yes	No
155	Hazaribagh west	Hazaribagh	Bes	Yes	Yes	No
156	Hazaribagh west	Hazaribagh	Marhand	Yes	Yes	No
157	Hazaribagh west	Hazaribagh	Khapriyawa to Khapriyawa	Yes	Yes	No
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	Yes	Yes	No
159	Hazaribagh west	Hazaribagh	Marigada	Yes	Yes	No
160	RFO Forestor- cum-Forest Guard Training School, Hazaribag	Kani Mundawar	Kani Mundawar	Yes	Yes	No
161	RFO Forestor- cum-Forest Guard Training School, Hazaribag	Kani Mundawar	Kani Mundawar	Yes	Yes	No
162	Hazaribagh, Social Forestry	Sadar	Kanchanpur	Yes	Yes	Yes
163	Jamshedpur	Chaukulia	Manikabera, Choir, Ghosda	Yes	Yes	No

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e- Green watch
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	Yes	Yes	No
165	Jamshedpur	Chaukulia	Kadamdiha	Yes	Yes	No
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	Yes	Yes	No
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	Yes	Yes	No
168	Jamshedpur	Rakhamines	Durku	Yes	Yes	No
169	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	Yes	Yes	No
170	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	Yes	Yes	No
171	Jamshedpur	Musabani	Paharpur, Churiapahar, Mudakati	Yes	Yes	Yes
172	Jamshedpur	Musabani	Gudabanda	Yes	Yes	No
173	Jamshedpur	Musabani	Gudabanda	Yes	Yes	No
174	Jamshedpur	Ghatsila	Anidi	Yes	Yes	No
175	Jamshedpur	Ghatsila	Borajuri, Sorodohan	Yes	Yes	No
176	Jamshedpur	Ghatsila	Kalapathar (Part A)	Yes	Yes	No
177	Jamshedpur	Ghatsila	Narsinghpur	Yes	Yes	Yes
178	Jamtara	Narayanpur	Yaududih	Yes	Yes	Yes
179	Jamtara	Jamtara	Sunsundabra	Yes	Yes	Yes
180	Jamtara	Jamtara	Lakhanpur	Yes	Yes	No
181	Jamtara	Jamtara	Murgabani	Yes	Yes	No
182	Khunti	Khunti	Oskeya	Yes	Yes	Yes
183	Khunti	Bundu	Taimara	Yes	Yes	No
184	Khunti	Tamar AFF Range, Bundu	Nuridih	Yes	Yes	Yes
185	Khunti	Tamar	Barendra	Yes	Yes	Yes
186	Koderma	Koderma	Nawadih to Koderma	Yes	Yes	Yes
187	Koderma	Domchanch	Kari Pahari to Sijuha	Yes	Yes	Yes
188	Koderma	Domchanch	Sijuwa to Purnadeeh	Yes	Yes	Yes
189	Latehar	Balumath	Soparam	Yes	Yes	Yes
190	Latehar	Chandwa	Rud	Yes	Yes	Yes

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e-Green watch
191	Latehar	Chandwa	Hesala	Yes	Yes	Yes
192	Latehar	Balumath	Mailam	Yes	Yes	Yes
193	Latehar	Latehar	Sohdag	Yes	Yes	Yes
194	Latehar	Latehar	Jaram	Yes	Yes	No
195	Latehar	Manika	Doki	Yes	Yes	No
196	Latehar	Manika	Bakoriya (M)	Yes	Yes	Yes
197	Lohardaga	Lohardaga	Nini	Yes	Yes	No
198	Lohardaga	Lohardaga	Hisri	Yes	Yes	Yes
199	Lohardaga	Lohardaga	Ugra	Yes	Yes	No
200	Lohardaga	Banari	Ghaghra	Yes	Yes	No
201	Medininagar	Chatarpur East	Kuhkuh Khurd	Yes	Yes	Yes
202	Medininagar	Kundari	Bhawardah	Yes	Yes	No
203	Medininagar	Kundari	Navagarh	Yes	Yes	No
204	Pakur	Hiranpur	Dhangarha	Yes	Yes	No
205	Porahat	Kera	Chandpur, Bondih, Barkani	Yes	Yes	No
206	Porahat	Kera	Unchibita	Yes	Yes	No
207	Porahat	Kera	Bangrasai (Parsa Bahal)	Yes	Yes	No
208	Ramgarh	Gola	Kujukalan	Yes	Yes	Yes
209	Ramgarh	Patratu	Ghutuwa se Manmohna	Yes	Yes	No
210	Ramgarh	Patratu	Deoria	Yes	Yes	No
211	Ramgarh	Kuju	Ratwe	Yes	Yes	Yes
212	Ramgarh	Kuju	Orla	Yes	Yes	Yes
213	Ramgarh	Ramgarh	Tewardag	Yes	Yes	Yes
214	Ramgarh	Mandu	Govindpur	Yes	Yes	Yes
215	Ramgarh	Mandu	Padrangi	Yes	Yes	Yes
216	Ranchi	Kanke	Hehal Hill	Yes	Yes	Yes
217	Ranchi	Kanke	Uruguttu	Yes	Yes	No
218	Ranchi	Kanke	Bariyatu Hill	Yes	Yes	Yes
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	Yes	Yes	Yes
220	Ranchi	Mander	Tumang	Yes	Yes	No
221	Ranchi	Bero	Lawagai	Yes	Yes	No
222	Ranchi	Ranchi	Danekara	Yes	Yes	No
223	Ranchi	Ranchi	Bargai Firing Range Hill	Yes	Yes	No
224	Ranchi	Mahilong	Paharsingh	Yes	Yes	Yes
225	Ranchi	Mahilong	Nawagarh	Yes	Yes	Yes

S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e- Green watch
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	Yes	Yes	No
227	SFTI, Ranchi		Village-Kawali	Yes	Yes	No
228	SFTI, Ranchi		Village-Mahilong	Yes	Yes	No
229	Sahebganj	Barharwa	Bada Togra	Yes	Yes	Yes
230	Sahebganj	Barharwa	Demchak Pahar	Yes	Yes	Yes
231	Sahebganj	Barharwa	Chota Tegra	Yes	Yes	Yes
232	Saraikella	Saraikella	Bada Hariharpur	Yes	Yes	Yes
233	Saraikella	Chandil	Shaharbera	Yes	Yes	Yes
234	Saraikella	Chandil	Chunidihi	Yes	Yes	No
235	Saraikella	Chandil	Puriyara	Yes	Yes	Yes
236	Saraikella	Saraikella	Sahebganj	Yes	Yes	Yes
237	Saraikella	Kharsawan	Tilopada	Yes	Yes	Yes
238	Saraikella	Kharsawan	Silpingda	Yes	Yes	Yes
239	Saraikella	Kharsawan	Silpingda	Yes	Yes	Yes
240	Saraikella	Kharsawan	Kasidih	Yes	Yes	Yes
241	Saraikella	Kharsawan	Haribhanja	Yes	Yes	Yes
242	Simdega	Kolebira	Jaldega to Gangutoli	Yes	Yes	No
243	Simdega	Kolebira	Dadibera to Jampani	Yes	Yes	No
244	Simdega	Kolebira	Dharamshala to Jampani	Yes	Yes	No
245	Simdega	Kolebira	Kamlapani to Gangutoli	Yes	Yes	No
246	Simdega	Bolba	Sagalpoch to Bolba	Yes	Yes	No
247	Simdega	Bolba	Kundurmunda	Yes	Yes	Yes
248	Simdega	Simdega	Tamra to Kuruskela	Yes	Yes	No
249	Simdega	Simdega	Bindhantoli	Yes	Yes	Yes
250	Simdega	Kolebira	Parba	Yes	Yes	No
251	Simdega	Kolebira	Saraipani	Yes	Yes	Yes
252	Simdega	Simdega	Sarlonga	Yes	Yes	Yes
253	Simdega	Bano	Orga to Dumarmunda	Yes	Yes	No
254	Simdega	Bano	Dumarmunda to Girda	Yes	Yes	No
255	Simdega	Bano	Hurda to Girda	Yes	Yes	No



S.No.	Division	Range	Name of Site	Pit panji cum Plantation panji	Map	Uploaded on e-Green watch
256	Simdega, Social Forestry	Gumla	Sargaon	Yes	Yes	Yes
257	Simdega, Social Forestry	Kolebira	Saraipani	Yes	Yes	Yes

#### 4.1.5 Protection & Management

The plantation area has been reported protected properly during the execution phase by closing the boundary of the plantation sites either by trench fencing, loose, barbed wire or by loose stone walls in order to ensure proper health of forests and plantations executed under CAMPA. The protection and management measures include both scientific and traditional measures in order to maintain the health of plants & care of the area. The site specific measures have been taken at large at the sample sites.

Also, it has been taken care that the species of trees selected for plantation in the sites should survive in the existing physical conditions and climate. The tree species planted in the area were Azadirachta Indica (Neem), Pongamia Pinata (Karanj), Acacia Catechu (Khair), Astonia Scholaris (Chatwan), Emblica Officinalis (Anwla), Ziziphus jujuba (Ber), Dalbergia Sissoo (Shisham), Gmelina Arborea (Gamhar), Terminalia Arjuna (Arjun), Melia Azederach (Bakain), Syzygium Cumini (Jamun), Tectona Grandis (Sagwan), Bambusa Spp. (Bamboo), Swietenia Macrophylla (Mahogani), Tamarindus Indica (Imli), Madhuca Longifolia



(Mahuwa), Lagerstroemia Parviflora (Sidha), Acacia Auriculiformis (Acacia), Shorea robusta(Sal) & Bombax Ceiba ( Semal). The species have also been reported planted which

require water as per the soil conditions and availability of water. Also, these plants can survive in the existing climate both during summer and winter.

During visit to the project sites for third party evaluation it was reported that the plantation sites boundaries were constructed as per norms i.e. loose stone wall, Ditch fencing and barbed wire fencing etc. It was also observed at the sample sites that the fencing on the boundaries has been damaged. Also, the plantation sites have withdrawn the cattle guards that were placed during execution phase. The plantations sites where watcher has been withdrawn may be due to end of the maintenance period were reported open and the village animals were reported entering into the plantation sites for grazing.

The table given below shows various types of fencing reported at the plantation sites for protection of planted species. Trench fencing was reported at 146 sample sites. The dimensions of the trench/ ditch fencing were reported - width (T+B) of trench fencing is 1.8m & 1.2m, h-1.2m. Present condition of fencing was largely satisfactory. Silting was reported in some parts of trench fencing. The fencing is as per record & site condition. Silting of Trench fencing was reported at the plantation sites vary from 10 percent to 40 percent.

Like-wise, loose stone wall fencing was reported at 27 sample sites & barbed wire fencing was reported at 28 sample sites. Also, other types (Hedge/ Bamboo gabion etc.) of fencing were reported at 56 sample plantation sites.





**Table 4.6: Status of Fencing at the Plantation Sites (CA/SC&A/RDF/Linear)**

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Other	Fencing as per site condition	Fencing as per record	Usefulness of fencing
1	Bokaro	Chas	Kumardaga	CA		6048	Yes			Yes	Yes	Useful
2	Bokaro	Chas	Mayurdubbi	CA	Yes	2840	220			Yes	Yes	Useful
3	Bokaro	Chas	Bhawanipur	CA		720	Yes			Yes	Yes	Useful
4	Bokaro	Chas	Boriadih	CA		3120				Yes	Yes	Useful
5	Bokaro	Bermo	Govindpur	CA		3360				Yes	Yes	Useful
6	Bokaro	Bermo	Mungo Rangamati A	CA		3120				Yes	Yes	Useful
7	Bokaro	Bermo	Mungo Rangamati B	CA		3360				Yes	Yes	Useful
8	Bokaro	Bermo	Penk	CA		7600		400		Yes	Yes	Useful
9	Bokaro	Bermo	Penk	CA		8340		200		Yes	Yes	Useful
10	Bokaro	Bermo	Pokhariya	RDF		26800		1140		Yes	Yes	Useful
11	Bokaro	Bermo	Pokhariya	RDF		9940		1360		Yes	Yes	Useful
12	Bokaro	Bermo	Tengnachuan	CA		6520				Yes	Yes	Useful
13	Bokaro	Peterwar	Ulgadda	CA		2040		Yes		Yes	Yes	Useful
14	Bokaro	Peterwar	Putkadih	CA	200	3980		600		Yes	Yes	Useful
15	Bokaro	Peterwar	Nawadih	CA	180	7560		900		Yes	Yes	Useful
16	Bokaro	Peterwar	Tengikudar	CA		2360				Yes	Yes	Useful
17	Bokaro	Peterwar	Beldih	CA	40	5560		240		Yes	Yes	Useful
18	Bokaro	Peterwar	Banga	CA	Yes	Yes				Yes	Yes	Useful
19	Bokaro	Peterwar	Chanpi	CA		Yes				Yes	Yes	Useful
20	Bokaro	Bokaro	Galudih	CA		1720				Yes	Yes	Useful
21	Bokaro	Bokaro	Nasia	Dwarf		9200		1000		Yes	Yes	Useful
22	Bokaro	Bokaro	Taratanr, Kharpitto, Junodih	Dwarf		3240				Yes	Yes	Useful
23	Bokaro	Bokaro	Potso	CA		5000		540		Yes	Yes	Useful
24	Chaibasa	Noamundi	Barajamda	CA (SCA)		3000				Yes	Yes	Useful
25	Chaibasa Social Forestry	Chakradhar pur Social	Kumram Gendemundi	CA (SCA)	200	5200				Yes	Yes	Useful

		Forestry										
26	Chaibasa Social Forestry	Jagannatpur	Patajaint	CA (SCA)		2640				Yes	Yes	Useful
27	Chatra North	Pratappur	Lipda	RDF		3900	-			Yes	Yes	Useful
28	Chatra North	Rajpur	Banda to Bengnatari	Linear		-	Yes			Yes	Yes	Useful
29	Chatra South	Chatra	Manjhawan 1	SC		7600				Yes	Yes	Useful
30	Chatra South	Chatra	Manjhawan 2	SC		6100				Yes	Yes	Useful
31	Chatra South	Chatra	Manjhawan 3	SC		3900				Yes	Yes	Useful
32	Chatra South	Chatra	Bae	SC		8000				Yes	Yes	Useful
33	Chatra South	Chatra	Dumbi/ Barwadih	SC		16000				Yes	Yes	Useful
34	Chatra South	Chatra	Seheda	SC		4400				Yes	Yes	Useful
35	Chatra South	Chatra	Sikid	SC		Yes				Yes	Yes	Useful
36	Chatra South	Lawalong	Kundri	SC		Yes				Yes	Yes	Useful
37	Chatra South	Simariya	Shivrajpur	SC		4740	400			Yes	Yes	Useful
38	Deoghar	SC Range Madhupur	Trilokitanr	CA (SCA)		4200				Yes	Yes	Useful
39	Deoghar	T Range Deoghar	Ajabraidih	CA (SCA)		2340				Yes	Yes	Useful
40	Deoghar	SC Range Madhupur	Bhikhnadih	CA (SCA)		5300				Yes	Yes	Useful
41	Deoghar	SC Range Madhupur	Paharpur	PCA		4000				Yes	Yes	Useful
42	Deoghar	SC Range Madhupur	Manjhladih	CA (SCA)		5740				Yes	Yes	Useful
43	Deoghar	Deoghar	Gamhariatanr	CA (SCA)		2700				Yes	Yes	Useful
44	Deoghar	SC Range Madhupur	Chandpur	Linear				Yes		Yes	Yes	Useful
45	Deoghar	SC Range Madhupur	Chatnadangal	Linear			Yes			Yes	Yes	Useful
46	Deoghar	T Range Deoghar	Bochbandh	RDF						Yes	Yes	Useful
47	Deoghar	T Range Deoghar	Bishanpur	CA (SMC)		4680				Yes	Yes	Useful
48	Deoghar	SC Range	Dubrajpur	CA (SMC)		Yes				Yes	Yes	Useful

		Madhupur										
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadiah	CA (SMC)		Yes				Yes	Yes	Useful
50	Deoghar	SC Range Madhupur	Loharjor	CA (SMC)		6880				Yes	Yes	Useful
51	Deoghar	SC Range Madhupur	Harla	CA (SMC)		4820				Yes	Yes	Useful
52	Deoghar	SC Range Madhupur	Lamba	CA (SMC)		1080				Yes	Yes	Useful
53	Deoghar	T Range Deoghar	Tehunia	CA (SMC)		2320				Yes	Yes	Useful
54	Deoghar	T Range Deoghar	Samlapur	CA (SMC)		Yes				Yes	Yes	Useful
55	Deoghar	SC Range Madhupur	Alumpur	CA (SCA)		Yes				Yes	Yes	Useful
56	Deoghar, Social Forestry	Deoghar	Baratanr	CA (SCA)	-	Yes				Yes	Yes	Useful
57	Dhanbad	Tundi	Nawatand	SC		Yes				Yes	Yes	Useful
58	Dhanbad	Tundi	Lakrakhundi	IWMP		Yes				Yes	Yes	Useful
59	Dhanbad	Tundi	Karitand, Arwatand, Kenduatand	SC		Yes				Yes	Yes	Useful
60	Dhanbad	Tundi	Rishibita	IWMP		Yes				Yes	Yes	Useful
61	Dhanbad	Tundi	Barbad Bolardih	SC		2200				Yes	Yes	Useful
62	Dhanbad	Tundi	Kansjor, Birajdih	RDF		Yes				Yes	Yes	Useful
63	Dhanbad	Topchanchi	Sadhobad Chutiyaro	SC		Yes				Yes	Yes	Useful
64	Dhanbad	Topchanchi	Kuramu	RDF		Yes				Yes	Yes	Useful
65	Dhanbad	Topchanchi	Gendwadiah Chalmundri	SC		Yes				Yes	Yes	Useful
66	Dhanbad	Topchanchi	Parwatpur	RDF	200	3000				Yes	Yes	Useful
67	Dhanbad	Topchanchi	Gopalpur	RDF		Yes				Yes	Yes	Useful
68	Dhanbad	Dhanbad Urban Forestry	Lagata	RDF	1000	1720				Yes	Yes	Useful
69	Dhanbad	Dhanbad	Dulasol	SC		5600				Yes	Yes	Useful

		Urban Forestry										
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	RDF	1700	3100				Yes	Yes	Useful
71	Dhanbad	Dhanbad Urban Forestry	Madandih	SC		6240				Yes	Yes	Useful
72	Dumka	Dumka Damin Kathikund	Astajora	CA (SCA)		Yes				Yes	Yes	Useful
73	Dumka	Dumka Damin Kathikund	Aamgachi to Saldaha 1	Linear					Bamboo Gabion	Yes	Yes	Useful
74	Dumka	Hizla East	Dudhajol	RDF		Yes				Yes	Yes	Useful
75	Dumka	Hizla East	Sugnibhasha	Bamboo		Yes				Yes	Yes	Useful
76	Dumka	Hizla East	Barmasiya	CA (SCA)		Yes				Yes	Yes	Useful
77	Dumka	Hizla West	Ramkhari	RDF		7200		Yes		Yes	Yes	Useful
78	Dumka	Hizla West	Karmatanr	CA (SCA)		Yes				Yes	Yes	Useful
79	Dumka	Hizla West	Suggapahari	RDF		Yes				Yes	Yes	Useful
80	Dumka	Hizla West	Latabani	CA (SCA)		1200				Yes	Yes	Useful
81	Garhwa North	Nagar	Mirchaiya	CA (SCA)		900		4100		Yes	Yes	Useful
82	Garhwa North	Garhwa	Khundra	RDF		400				Yes	Yes	Useful
83	Garhwa North	Bhawnathpur	Ghordag	CA (SCA)		5220		880		Yes	Yes	Useful
84	Garhwa South	Bhandariya	Ramar	CA (SCA)		Yes		Yes		Yes	Yes	Useful
85	Garhwa South	Ranka Wast	Beta	RDF		Yes		1900		Yes	Yes	Useful
86	Giridih east	Dumri	Chalmo	SC		4840	-			Yes	Yes	Useful
87	Giridih east	Gawan	Duarpahari	SC		Yes	-			Yes	Yes	Useful
88	Giridih east	Parasnath	Dhanyadih	SC		Yes	-			Yes	Yes	Useful
89	Giridih east	Giridih	Kornatand	SC		Yes	-			Yes	Yes	Useful
90	Giridih east	Giridih	Tatokiari	SC		Yes	-			Yes	Yes	Useful
91	Giridih east	Giridih	Maheshpur	SC		5360	-			Yes	Yes	Useful
92	Giridih east	Giridih	Phulchi	SC		Yes	-			Yes	Yes	Useful
93	Giridih east	Giridih	Lohpiti	Linear			Yes			Yes	Yes	Useful

94	Giridih east	Khurchutta	Chandiyo Pipratol	Linear		Yes			Yes	Yes	Useful
95	Giridih east	Khurchutta	Asgandho	SC	Yes	-			Yes	Yes	Useful
96	Giridih east	Khurchutta	Badkitand	SC	Yes	-			Yes	Yes	Useful
97	Giridih east	Khurchutta	Mankadiha	SC	Yes	-			Yes	Yes	Useful
98	Giridih east	Dumri	Nagabad	SC	Yes	-			Yes	Yes	Useful
99	Giridih east	Gawan	Malukchal	SC	Yes	-			Yes	Yes	Useful
100	Giridih east	Dumri	Naro	SC	Yes	-			Yes	Yes	Useful
101	Giridih east	Dumri	Agalagri	SC	Yes	-			Yes	Yes	Useful
102	Giridih east	Khurchutta	Bedodih	SC	Yes	-			Yes	Yes	Useful
103	Giridih east	Khurchutta	Ratiyabahr	RDF	Yes	-			Yes	Yes	Useful
104	Giridih east	Khurchutta	Lakhanpur	RDF	Yes	-			Yes	Yes	Useful
105	Giridih east	Giridih	Gangapur	Linear		-		Poly net gabion	Yes	Yes	Useful
106	Giridih west	Jamua	Chitradih	RDF	Yes				Yes	Yes	Useful
107	Giridih west	Jamua	Bhupatidih	IWMP	3000			Bamboo fencing(1300)	Yes	Yes	Useful
108	Giridih west	Jamua	Khurobindo	IWMP	Yes				Yes	Yes	Useful
109	Godda	Sunderpahari	Sunderpahari	SC & PI	600				Yes	Yes	Useful
110	Godda	Sunderpahari	Chandna	RDF	Yes				Yes	Yes	Useful
111	Godda	Sunderpahari	Sunderpahari	SC & PI	4600				Yes	Yes	Useful
112	Godda	Sunderpahari	Salodih	SC & PI	4000				Yes	Yes	Useful
113	Godda	Godda	Mahuatanr	SC & PI	5600		100		Yes	Yes	Useful
114	Godda	Godda	Sabalpur	RDF	2500		300		Yes	Yes	Useful
115	Godda	Godda	Nipanjya	SC & PI	2300		100		Yes	Yes	Useful
116	Godda	Godda	Bhaluka	SC & PI	Yes				Yes	Yes	Useful
117	Godda	Boarijor	Chota Shaharpur Sheet 2	SC & PI	7700				Yes	Yes	Useful
118	Godda	Boarijor	Balajhar	SC & PI	1800				Yes	Yes	Useful
119	Godda	Godda	Kamradol	RDF	4400		600		Yes	Yes	Useful
120	Godda	Godda	Thakurnahan	SC & PI	3600				Yes	Yes	Useful
121	Godda	Godda	Charghara	SC & PI	4100		1000		Yes	Yes	Useful
122	Gumla	Bishunpur	Salgi	CA	Yes				Yes	Yes	Useful



123	Gumla	Gumla	Charkatangar	CA	Yes					Yes	Yes	Useful
124	Gumla	Gumla	Gindra	CA		Yes				Yes	Yes	Useful
125	Gumla	Vishunpun	Jehangutuwa	CA		Yes				Yes	Yes	Useful
126	Gumla	Gumla	Banai	CA	200	1060		1120		Yes	Yes	Useful
127	Gumla	Bishunpur	Rehe	RDF	220	5680		100		Yes	Yes	Useful
128	Gumla	Bishunpur	Chatmdag	RDF	80	5800		120		Yes	Yes	Useful
129	Gumla	Kurumgarh	Tati	CA		2220				Yes	Yes	Useful
130	Gumla	Kurumgarh	Nawadih Kataitoli	CA		2160				Yes	Yes	Useful
131	Hazaribagh East	Daru	Kesura	CA		2500		500		Yes	Yes	Useful
132	Hazaribagh East	Daru	Chiruwar/Irga	CA		Yes				Yes	Yes	Useful
133	Hazaribagh East	Bagodar	Pandra-Sadaro	CA		4400				Yes	Yes	Useful
134	Hazaribagh East	Bagodar	Sonturpi	RDF		Yes				Yes	Yes	Useful
135	Hazaribagh East	Bagodar	Ambadih	RDF		3960				Yes	Yes	Useful
136	Hazaribagh west	Barhi	Maskedih	RDF	-	13964	-	1920		Yes	Yes	Useful
137	Hazaribagh west	Barhi	Barion	RDF	-	3720	-	1000		Yes	Yes	Useful
138	Hazaribagh west	Barhi	Digwar	SC	-	6000	Yes			Yes	Yes	Useful
139	Hazaribagh west	Barhi	Koderma Bokaro transmission line	Dwarf Species plantation	-	401	-	-		Yes	Yes	Useful
140	Hazaribagh west	Barhi	Sewatand	RDF	-	11107	-	-		Yes	Yes	Useful
141	Hazaribagh west	Barhi	Sewatand	RDF		6036				Yes	Yes	Useful
142	Hazaribagh west	Barhi	Kedarut	SC		Yes	Yes			Yes	Yes	Useful
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	Linear			Yes			Yes	Yes	Useful
144	Hazaribagh west	Barhi	Nagarbarsot II	SC		Yes				Yes	Yes	Useful
145	Hazaribagh west	Chouparan	Sohra	RDF		5000		Yes		Yes	Yes	Useful
146	Hazaribagh west	Chouparan	Madhogopali	RDF	Yes	3200	-	286		Yes	Yes	Useful
147	Hazaribagh west	Chouparan	Gangahar	RDF		Yes				Yes	Yes	Yes
148	Hazaribagh west	Hazaribagh Afforestation	Karma Kewal	RDF		Yes				Yes	Yes	Yes
149	Hazaribagh west	Barkagaon	Ghutu	SC	300 rmt	4100		1600 rmt		Yes	Yes	Useful
150	Hazaribagh west	Barkagaon	Gosaibaliya	RDF	Yes	1498				Yes	Yes	Useful
151	Hazaribagh west	Barkagaon	Talaswar	RDF		3396				Yes	Yes	Useful

152	Hazaribagh west	Hazaribagh	Pabra	RDF		Yes				Yes	Yes	Useful
153	Hazaribagh west	Hazaribagh	Perheriya	RDF		Yes				Yes	Yes	Useful
154	Hazaribagh west	Hazaribagh	Haram	IWMP					Bamboo Gabion	Yes	Yes	Useful
155	Hazaribagh west	Hazaribagh	Bes	IWMP					Bamboo Gabion	Yes	Yes	Useful
156	Hazaribagh west	Hazaribagh	Marhand	IWMP					Bamboo Gabion	Yes	Yes	Useful
157	Hazaribagh west	Hazaribagh	Khapriyawa to Khapriyawa	Linear			Yes (5 lines wire on cement pillar)			Yes	Yes	Useful
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	Linear			Yes			Yes	Yes	Useful
159	Hazaribagh west	Hazaribagh	Marigada	RDF		Yes				Yes	Yes	Useful
160	Hazaribagh, Forestor- cum- Forest Guard Training School	RFO Forestor- cum- Forest Guard Training School, Hazaribagh	Kani Mundawar	Arboratum			Yes			Yes	Yes	Useful
161	Hazaribagh, Forestor- cum- Forest Guard Training School	RFO Forestor- cum- Forest Guard Training School, Hazaribagh	Kani Mundawar	Bambo Setum			Yes			Yes	Yes	Useful
162	Hazaribagh, Social Forestry	Sadar	Kanchanpur	NPV		4300		860		Yes	Yes	Useful
163	Jamshedpur	Chaukulia	Manikabera, Choira, Ghosda	Bamboo		6000				Yes	Yes	Useful
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	Plantation		14120				Yes	Yes	Useful

165	Jamshedpur	Chaukulia	Kadamdiha	Plantation		3000				Yes	Yes	Useful
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	Linear			Yes			Yes	Yes	Useful
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	Linear			Yes			Yes	Yes	Useful
168	Jamshedpur	Rakhamines	Durku	Linear			Yes			Yes	Yes	Useful
169	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	Plantation		Yes				Yes	Yes	Useful
170	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	Plantation		Yes				Yes	Yes	Useful
171	Jamshedpur	Musabani	Paharpur, Churiapahar, Mudakati	Bamboo		Yes				Yes	Yes	Useful
172	Jamshedpur	Musabani	Gudabanda	Bamboo		6000				Yes	Yes	Useful
173	Jamshedpur	Musabani	Gudabanda	Linear		-				Yes	Yes	Useful
174	Jamshedpur	Ghatsila	Anidi	Plantation		1460				Yes	Yes	Useful
175	Jamshedpur	Ghatsila	Borajuri, Sorodohan	Plantation		6800				Yes	Yes	Useful
176	Jamshedpur	Ghatsila	Kalapathar (Part A)	Plantation		2600				Yes	Yes	Useful
177	Jamshedpur	Ghatsila	Narsinghpur	Plantation		2280				Yes	Yes	Useful
178	Jamtara	Narayanpur	Yaududih	CA (SCA)		1200		Yes		Yes	Yes	Useful
179	Jamtara	Jamtara	Sunsundabra	CA (SCA)		Yes				Yes	Yes	Useful
180	Jamtara	Jamtara	Lakhanpur	Linear		3200				Yes	Yes	Useful
181	Jamtara	Jamtara	Murgabani	Linear		Yes				Yes	Yes	Useful
182	Khunti	Khunti	Oskeya	CA		2280				Yes	Yes	Useful
183	Khunti	Bundu	Taimara	CA	240	3600	180			Yes	Yes	Useful
184	Khunti	Tamar AFF Range, Bundu	Nuridih	CA		3280				Yes	Yes	Useful

185	Khunti	Tamar	Barendra	CA	4000					Yes	Yes	Useful
186	Koderma	Koderma	Nawadih to Koderma	Linear			Yes			Yes	Yes	Useful
187	Koderma	Domchanch	Kari Pahari to Sijuha	Linear			Yes			Yes	Yes	Useful
188	Koderma	Domchanch	Sijuwa to Purnadeeh	Linear			Yes			Yes	Yes	Useful
189	Latehar	Balumath	Soparam	CA (SCA)		Yes				Yes	Yes	Useful
190	Latehar	Chandwa	Rud	CA (SCA)		Yes				Yes	Yes	Useful
191	Latehar	Chandwa	Hesala	CA (SCA)		Yes				Yes	Yes	Useful
192	Latehar	Balumath	Mailam	CA (SCA)		Yes				Yes	Yes	Useful
193	Latehar	Latehar	Sohdag	CA (SCA)		Yes		Yes		Yes	Yes	Useful
194	Latehar	Latehar	Jaram	CA (SCA)		5000		800		Yes	Yes	Useful
195	Latehar	Manika	Doki	CA (SCA)	Yes	Yes				Yes	Yes	Useful
196	Latehar	Manika	Bakoriya (M)	CA (SCA)		Yes				Yes	Yes	Useful
197	Lohardaga	Lohardaga	Nini	CA		1520	40	Yes		Yes	Yes	Useful
198	Lohardaga	Lohardaga	Hisri	RDF		Yes				Yes	Yes	Useful
199	Lohardaga	Lohardaga	Ugra	RDF		5900		100		Yes	Yes	Useful
200	Lohardaga	Banari	Ghaghra	RDF		5600		400		Yes	Yes	Useful
201	Medininagar	Chatarpur East	Kuhkuh Khurd	Kshatipura k Vanropan	Yes	Yes		Yes		Yes	Yes	Useful
202	Medininagar	Kundari	Bhawardah	Kshatipura k Vanropan		1180				Yes	Yes	Useful
203	Medininagar	Kundari	Navagarh	Kshatipura k Vanropan		6000				Yes	Yes	Useful
204	Pakur	Hiranpur	Dhangarha	CA		2640				Yes	Yes	Useful
205	Porahat	Kera	Chandpur, Bondih, Barkani	CA (SCA)		Yes				Yes	Yes	Useful
206	Porahat	Kera	Unchibita	RDF		2400				Yes	Yes	Useful
207	Porahat	Kera	Bangrasai (Parsa Bahal)	CA (SCA)		3000				Yes	Yes	Useful
208	Ramgarh	Gola	Kujukalan	SC	400	5600		-	-	Yes	Yes	Useful
209	Ramgarh	Patratu	Ghutuwa se Manmohna	Linear	-	-		-	Gabion	Yes	Yes	Useful
210	Ramgarh	Patratu	Deoria	SC	-	Yes		-	-	Yes	Yes	Useful

211	Ramgarh	Kuju	Ratwe	SC	-	1800		-	-	Yes	Yes	Useful
212	Ramgarh	Kuju	Orla	SC	300	6000		1700	-	Yes	Yes	Useful
213	Ramgarh	Ramgarh	Tewardag	SC	-	Yes		-	-	Yes	Yes	Useful
214	Ramgarh	Mandu	Govindpur	SC	-	Yes		-	-	Yes	Yes	Useful
215	Ramgarh	Mandu	Padrangi	SC	Yes	Yes		Yes	-	Yes	Yes	Useful
216	Ranchi	Kanke	Hehal Hill	Plantation			1350			Yes	Yes	Useful
217	Ranchi	Kanke	Uruguttu	CA		Yes				Yes	Yes	Useful
218	Ranchi	Kanke	Bariyatu Hill	Plantation			Yes			Yes	Yes	Useful
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	Plantation			Yes			Yes	Yes	Useful
220	Ranchi	Mander	Tumang	CA		3760				Yes	Yes	Useful
221	Ranchi	Bero	Lawagai	RDF		7480				Yes	Yes	Useful
222	Ranchi	Ranchi	Danekara	RDF		3920				Yes	Yes	Useful
223	Ranchi	Ranchi	Bargai Firing Range Hill	Plantation			2860			Yes	Yes	Useful
224	Ranchi	Mahilong	Paharsingh	CA	Yes	Yes				Yes	Yes	Useful
225	Ranchi	Mahilong	Nawagarh	CA	Yes	Yes				Yes	Yes	Useful
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	CA		4800				Yes	Yes	Useful
227	Ranchi, Training School		Village-Kawali	Agro-forestry model development			Yes			Yes	Yes	Useful
228	Ranchi, Training School		Village-Mahilong	Arboretum Development			Yes			Yes	Yes	Useful
229	Sahebganj	Barharwa	Bada Togra	RDF		Yes				Yes	Yes	Useful
230	Sahebganj	Barharwa	Demchak Pahar	RDF		Yes				Yes	Yes	Useful
231	Sahebganj	Barharwa	Chota Tegra	RDF		2400				Yes	Yes	Useful
232	Saraikella	Saraikella	Bada Hariharpur	Plantation		3020		-		Yes	Yes	Useful
233	Saraikella	Chandil	Shaharbera	Plantation		1200		-		Yes	Yes	Useful
234	Saraikella	Chandil	Chunidih	Bamboo		2900		-		Yes	Yes	Useful
235	Saraikella	Chandil	Puriyara	Plantation		2760		-		Yes	Yes	Useful
236	Saraikella	Saraikella	Sahebganj	Plantation		416.4		-		Yes	Yes	Useful

237	Saraikella	Kharsawan	Tilopada	Plantation		Yes		-		Yes	Yes	Useful
238	Saraikella	Kharsawan	Silpingda	Plantation		6620		Yes		Yes	Yes	Useful
239	Saraikella	Kharsawan	Silpingda	Plantation		Yes				Yes	Yes	Useful
240	Saraikella	Kharsawan	Kasidih	Plantation		Yes				Yes	Yes	Useful
241	Saraikella	Kharsawan	Haribhanja	Plantation		Yes		-		Yes	Yes	Useful
242	Simdega	Kolebira	Jaldega to Gangutoli	Bamboo Gabion					Bamboo Gabion	Yes	Yes	Useful
243	Simdega	Kolebira	Dadibera to Jampani	Bamboo Gabion					Bamboo Gabion	Yes	Yes	Useful
244	Simdega	Kolebira	Dharamshala to Jampani	Bamboo Gabion					Bamboo Gabion	Yes	Yes	Useful
245	Simdega	Kolebira	Kamlapani to Gangutoli	Bamboo Gabion					Bamboo Gabion	Yes	Yes	Useful
246	Simdega	Bolba	Sagalpoch to Bolba	Bamboo Gabion					Bamboo Gabion	Yes	Yes	Useful
247	Simdega	Bolba	Kundurmunda	CA		3000				Yes	Yes	Useful
248	Simdega	Simdega	Tamra to Kuruskela	Gabion					Bamboo Gabion-2000	Yes	Yes	Useful
249	Simdega	Simdega	Bindhantoli	RDF		400	200			Yes	Yes	Useful
250	Simdega	Kolebira	Parba	CA		8400				Yes	Yes	Useful
251	Simdega	Kolebira	Saraipani	RDF		6035				Yes	Yes	Useful
252	Simdega	Simdega	Sarlonga	CA		1840				Yes	Yes	Useful
253	Simdega	Bano	Orga to Dumarmunda	Gabion					Bamboo Gabion	Yes	Yes	Useful
254	Simdega	Bano	Dumarmunda to Girda	Gabion					Bamboo Gabion-2000	Yes	Yes	Useful
255	Simdega	Bano	Hurda to Girda	Gabion					Bamboo Gabion-2000	Yes	Yes	Useful
256	Simdega, Social Forestry	Gumla	Sargaon	CA	1200	5000				Yes	Yes	Useful
257	Simdega, Social Forestry	Kolebira	Saraipani	CA	696	3824				Yes	Yes	Useful



**4.1.6 Soil & Moisture Conservation works (SMC Works) at Plantation sites (CA/SC&A/RDF/Linear)**

Activities related to the development of Soil & Moisture Conservation (SMC) structures are an essential component of the CAMPA Fund, which is a prerequisite for afforestation and plantation activities. Several types of SMC structures were constructed, including Water Harvesting Structures (WHS), Silt Detention Dams (SDD), Gully Plugging, Earthen Check Dams, Contour Trenches, among others. 123 sites reported having Silt Detention Dams (SDD), 216 sites used Contour Bunding, 106 sites utilized Gully Plugging, and 7 sites had Earthen Check Dams and Gabion structures.

The table below displays the current status of SMC structures at silviculture plantation sites.





**Table 4.7: Status of SMC Structures at the Plantation Sites (CA/SC&A/RDF/Linear)**

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
1	Bokaro	Chas	Kumardaga	CA	Yes				20	Useful	Improved	Good
2	Bokaro	Chas	Mayurdubbi	CA		1609			25	Useful	Improved	Good
3	Bokaro	Chas	Bhawanipur	CA	4	720			20	Useful	Improved	Good
4	Bokaro	Chas	Boriadih	CA	6	1607			15	Useful	Improved	Good
5	Bokaro	Bermo	Govindpur	CA	Yes	2520	Yes		25	Useful	Improved	Good
6	Bokaro	Bermo	Mungo Rangamati A	CA	Yes	2340	Yes		15	Useful	Improved	Good
7	Bokaro	Bermo	Mungo Rangamati B	CA	Yes	2520	Yes		20	Useful	Improved	Good
8	Bokaro	Bermo	Penk	CA	4	4500	65		15	Useful	Improved	Good
9	Bokaro	Bermo	Penk	CA	4	3100	60		25	Useful	Improved	Good
10	Bokaro	Bermo	Pokhariya	RDF		Yes			10	Useful	Improved	Good
11	Bokaro	Bermo	Pokhariya	RDF	4	452	34		15	Useful	Improved	Good
12	Bokaro	Bermo	Tengnachuan	CA	3	1525	83		25	Useful	Improved	Good
13	Bokaro	Peterwar	Ulgadda	CA	1	1530	Yes		20	Useful	Improved	Good
14	Bokaro	Peterwar	Putkadih	CA		2700	Yes		30	Useful	Improved	Good
15	Bokaro	Peterwar	Nawadih	CA	3	4500	54		15	Useful	Improved	Good
16	Bokaro	Peterwar	Tengikudar	CA		1800			20	Useful	Improved	Good
17	Bokaro	Peterwar	Beldih	CA	2	3150	40		25	Useful	Improved	Good
18	Bokaro	Peterwar	Banga	CA	Yes	1098	Yes		16	Useful	Improved	Good
19	Bokaro	Peterwar	Chanpi	CA	Yes	2061			23	Useful	Improved	Good
20	Bokaro	Bokaro	Galudih	CA		Yes		Check dam	18	Useful	Improved	Good
21	Bokaro	Bokaro	Nasia	Dwarf			251		25	Useful	Improved	Good
22	Bokaro	Bokaro	Taratanr, Kharpitto, Junodih	Dwarf	Yes	2070			27	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
23	Bokaro	Bokaro	Potso	CA		5600			18	Useful	Improved	Good
24	Chaibasa	Noamundi	Barajamda	CA (SCA)		2250	70		70-80	Useful	Improved	Good
25	Chaibasa Social Forestry	Chakradharpur Social Forestry	Kumram Gendemundi	CA (SCA)		4910			75	Useful	Improved	Good
26	Chaibasa Social Forestry	Jagannatpur	Patajaint	CA (SCA)		700	6		50	Useful	Improved	Good
27	Chatra North	Pratappur	Lipda	RDF	1	2946			30	Useful	Improved	Good
28	Chatra North	Rajpur	Banda to Bengnatari	Linear	-	-			40	Useful	Improved	Good
29	Chatra South	Chatra	Manjhawan 1	SC	4	6390	39		30	Useful	Improved	Good
30	Chatra South	Chatra	Manjhawan 2	SC	3	6300	30		30	Useful	Improved	Good
31	Chatra South	Chatra	Manjhawan 3	SC	2	3600	25		35	Useful	Improved	Good
32	Chatra South	Chatra	Bae	SC	2	4500	17		45	Useful	Improved	Good
33	Chatra South	Chatra	Dumbi/ Barwadih	SC	6	10803	36		35	Useful	Improved	Good
34	Chatra South	Chatra	Seheda	SC	2	3600	-		25	Useful	Improved	Good
35	Chatra South	Chatra	Sikid	SC	2	3600			40	Useful	Improved	Good
36	Chatra South	Lawalong	Kundri	SC	3	4433	23		40	Useful	Improved	Good
37	Chatra South	Simariya	Shivrajpur	SC	2	4500			30	Useful	Improved	Good
38	Deoghar	SC Range Madhupur	Trilokitanr	CA (SCA)		Yes			25	Useful	Improved	Good
39	Deoghar	T Range Deoghar	Ajabraidih	CA (SCA)		900			30	Useful	Improved	Good
40	Deoghar	SC Range Madhupur	Bhikhnadih	CA (SCA)	3	4050			25	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
41	Deoghar	SC Range Madhupur	Paharpur	PCA		1350			20	Useful	Improved	Good
42	Deoghar	SC Range Madhupur	Manjhladih	CA (SCA)	Yes	Yes	Yes		25	Useful	Improved	Good
43	Deoghar	Deoghar	Gamhariatanr	CA (SCA)		2400			35	Useful	Improved	Good
44	Deoghar	SC Range Madhupur	Chandpur	Linear		Not reported				Useful	Improved	Good
45	Deoghar	SC Range Madhupur	Chatnadangal	Linear	Not reported							
46	Deoghar	T Range Deoghar	Bochbandh	RDF		Yes			35	Useful	Improved	Good
47	Deoghar	T Range Deoghar	Bishanpur	CA (SMC)		3504	32		33	Useful	Improved	Good
48	Deoghar	SC Range Madhupur	Dubrajpur	CA (SMC)		810			26	Useful	Improved	Good
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadiah	CA (SMC)		1080			30	Useful	Improved	Good
50	Deoghar	SC Range Madhupur	Loharjor	CA (SMC)		2700			40	Useful	Improved	Good
51	Deoghar	SC Range Madhupur	Harla	CA (SMC)		630			35	Useful	Improved	Good
52	Deoghar	SC Range Madhupur	Lamba	CA (SMC)	4	2467	12		15	Useful	Improved	Good
53	Deoghar	T Range Deoghar	Tehunia	CA (SMC)		900			25	Useful	Improved	Good
54	Deoghar	T Range Deoghar	Samlapur	CA (SMC)		Yes			35	Useful	Improved	Good
55	Deoghar	SC Range Madhupur	Alumpur	CA (SCA)		3000			27	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
56	Deoghar, Social Forestry	Deoghar	Baratanr	CA (SCA)	3	Yes			50	Useful	Improved	Good
57	Dhanbad	Tundi	Nawatand	SC	5	3150	30		20	Useful	Improved	Good
58	Dhanbad	Tundi	Lakrakhundi	IWMP	Yes	Yes	17		35	Useful	Improved	Good
59	Dhanbad	Tundi	Karitand, Arwatand, Kenduatand	SC	4	3600	18		25	Useful	Improved	Good
60	Dhanbad	Tundi	Rishibita	IWMP	Yes	Yes	Yes		30	Useful	Improved	Good
61	Dhanbad	Tundi	Barbad Bolardih	SC	Yes	Yes			20	Useful	Improved	Good
62	Dhanbad	Tundi	Kansjor, Bira jdi	RDF	Yes	Yes	Yes		30	Useful	Improved	Good
63	Dhanbad	Topchanchi	Sadhobad Chutiyaro	SC	1	2270	11		30	Useful	Improved	Good
64	Dhanbad	Topchanchi	Kuramu	RDF	Yes	Yes	Yes		25	Useful	Improved	Good
65	Dhanbad	Topchanchi	Gendwadih Chalmundri	SC		Yes	Yes		30	Useful	Improved	Good
66	Dhanbad	Topchanchi	Parwatpur	RDF	1	1560			30	Useful	Improved	Good
67	Dhanbad	Topchanchi	Gopalpur	RDF	Yes	Yes	Yes		35	Useful	Improved	Good
68	Dhanbad	Dhanbad Urban Forestry	Lagata	RDF		1253			25	Useful	Improved	Good
69	Dhanbad	Dhanbad Urban Forestry	Dulasol	SC		Yes	Yes		40	Useful	Improved	Good
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	RDF	Yes	Yes	Yes		30	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
71	Dhanbad	Dhanbad Urban Forestry	Madandih	SC	2	2700	Yes		30	Useful	Improved	Good
72	Dumka	Dumka Damin Kathikund	Astajora	CA (SCA)		Yes			25	Useful	Improved	Good
73	Dumka	Dumka Damin Kathikund	Aamgachi to Saldaha 1	Linear	-	Not reported	-		-			
74	Dumka	Hizla East	Dudhajol	RDF		1200			30	Useful	Improved	Good
75	Dumka	Hizla East	Sugribhasha	Bamboo		1750			35	Useful	Improved	Good
76	Dumka	Hizla East	Barmasiya	CA (SCA)	2	3600			20	Useful	Improved	Good
77	Dumka	Hizla West	Ramkhari	RDF	1	1800			15	Useful	Improved	Good
78	Dumka	Hizla West	Karmatanr	CA (SCA)	1	1800			25	Useful	Improved	Good
79	Dumka	Hizla West	Suggapahari	RDF	3	3600			30	Useful	Improved	Good
80	Dumka	Hizla West	Latabani	CA (SCA)	2	1200			30	Useful	Improved	Good
81	Garhwa North	Nagar	Mirchaiya	CA (SCA)	4	3262	31		30	Useful	Improved	Good
82	Garhwa North	Garhwa	Khundra	RDF	3	Yes	-		35	Useful	Improved	Good
83	Garhwa North	Bhawnathpur	Ghordag	CA (SCA)	14	1261	23		30	Useful	Improved	Good
84	Garhwa South	Bhandariya	Ramar	CA (SCA)	5	4500	Yes	Loose Stone Check Dam-21	30	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
85	Garhwa South	Ranka West	Beta	RDF	2	2850	12		40	Useful	Improved	Good
86	Giridih east	Dumri	Chalmo	SC	11	2700	-		40	Useful	Improved	Good
87	Giridih east	Gawan	Duarpahari	SC	Yes	1500	-		20	Useful	Improved	Good
88	Giridih east	Parasnath	Dhanyadih	SC	Yes	Yes	-		25	Useful	Improved	Good
89	Giridih east	Giridih	Kornatand	SC	2	Yes	17		30	Useful	Improved	Good
90	Giridih east	Giridih	Tatokiyari	SC	20	4320	10		35	Useful	Improved	Good
91	Giridih east	Giridih	Maheshpur	SC	3	4000	Yes		30	Useful	Improved	Good
92	Giridih east	Giridih	Phulchi	SC	2	450	-		20	Useful	Improved	Good
93	Giridih east	Giridih	Lohpiti	Linear	-	-	-		-			
94	Giridih east	Khurchutta	Chandiyo Pipratol	Linear	-	-	-		-			
95	Giridih east	Khurchutta	Asgandho	SC	Yes	Yes	-		35	Useful	Improved	Good
96	Giridih east	Khurchutta	Badkitand	SC	Yes	4997	-		25	Useful	Improved	Good
97	Giridih east	Khurchutta	Mankadiha	SC	15	6218	Yes		40	Useful	Improved	Good
98	Giridih east	Dumri	Nagabad	SC	12	160	-		25	Useful	Improved	Good
99	Giridih east	Gawan	Malukchal	SC	Yes	5580	-		25	Useful	Improved	Good
100	Giridih east	Dumri	Naro	SC	1	1050	-		30	Useful	Improved	Good



Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
101	Giridih east	Dumri	Agalagri	SC	Yes	200	-		40	Useful	Improved	Good
102	Giridih east	Khurchutta	Bedodih	SC	Yes	Yes	-		25	Useful	Improved	Good
103	Giridih east	Khurchutta	Ratiyabahar	RDF	Yes	2500	Yes		30	Useful	Improved	Good
104	Giridih east	Khurchutta	Lakhanpur	RDF	Yes	1890			20	Useful	Improved	Good
105	Giridih east	Giridih	Gangapur	Linear		-	-					
106	Giridih west	Jamua	Chitradih	RDF	2	2500	25		20	Useful	Improved	Good
107	Giridih west	Jamua	Bhupatidih	IWMP	25	2250	17		35	Useful	Improved	Good
108	Giridih west	Jamua	Khurobindo	IWMP	Yes	Yes			30	Useful	Improved	Good
109	Godda	Sunderpahari	Sunderpahari	SC & PI		51	300		20	Useful	Improved	Good
110	Godda	Sunderpahari	Chandna	RDF		Yes			25	Useful	Improved	Good
111	Godda	Sunderpahari	Sunderpahari	SC & PI	3	3240			23	Useful	Improved	Good
112	Godda	Sunderpahari	Salodih	SC & PI		1800			20	Useful	Improved	Good
113	Godda	Godda	Mahuatanr	SC & PI	Yes	Yes	Yes		25	Useful	Improved	Good
114	Godda	Godda	Sabalpur	RDF		1050	30		25	Useful	Improved	Good
115	Godda	Godda	Nipanjya	SC & PI	Yes	1350			30	Useful	Improved	Good
116	Godda	Godda	Bhaluka	SC & PI		1460	60	Loose Stone Check Dam	25	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
117	Godda	Boarijor	Chota Shaharpur Sheet 2	SC & PI		17336			15	Useful	Improved	Good
118	Godda	Boarijor	Balajhar	SC & PI		1350			30	Useful	Improved	Good
119	Godda	Godda	Kamradol	RDF	2	1319	20		35	Useful	Improved	Good
120	Godda	Godda	Thakurnahan	SC & PI	4	3600	Yes		20	Useful	Improved	Good
121	Godda	Godda	Charghara	SC & PI		2250	170		25	Useful	Improved	Good
122	Gumla	Bishunpur	Salgi	CA		Yes			30	Useful	Improved	Good
123	Gumla	Gumla	Charkatangar	CA		Yes			25	Useful	Improved	Good
124	Gumla	Gumla	Gindra	CA		Yes			30	Useful	Improved	Good
125	Gumla	Vishunpun	Jehangutuwa	CA		Yes			20	Useful	Improved	Good
126	Gumla	Gumla	Banai	CA		1050			15	Useful	Improved	Good
127	Gumla	Bishunpur	Rehe	RDF		2500	20		20	Useful	Improved	Good
128	Gumla	Bishunpur	Chatmdag	RDF		2500	15-20		25	Useful	Improved	Good
129	Gumla	Kurumgarh	Tati	CA		Yes			30	Useful	Improved	Good
130	Gumla	Kurumgarh	Nawadih Kataitoli	CA		1050			30	Useful	Improved	Good
131	Hazaribagh East	Daru	Kesura	CA	2	220			20	Useful	Improved	Good
132	Hazaribagh East	Daru	Chiruwar/Irga	CA	1	1100	Yes		18	Useful	Improved	Good
133	Hazaribagh East	Bagodar	Pandra-Sadaro	CA	3	1275	16		25	Useful	Improved	Good
134	Hazaribagh East	Bagodar	Sonturpi	RDF	2	1330	34		17	Useful	Improved	Good
135	Hazaribagh East	Bagodar	Ambadih	RDF	3	1160	Yes		23	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
136	Hazaribagh west	Barhi	Maskedih	RDF	Yes	3620			45	Useful	Improved	Good
137	Hazaribagh west	Barhi	Barion	RDF	1	1111			30	Useful	Improved	Good
138	Hazaribagh west	Barhi	Digwar	SC	3	2711			25	Useful	Improved	Good
139	Hazaribagh west	Barhi	Koderma Bokaro transmission line	Dwarf Species plantation	2	1087			45	Useful	Improved	Good
140	Hazaribagh west	Barhi	Sewatand	RDF	1	3000	17		60	Useful	Improved	Good
141	Hazaribagh west	Barhi	Sewatand	RDF	4	1404	13		40	Useful	Improved	Good
142	Hazaribagh west	Barhi	Kedarut	SC	2	4770	Yes		50	Useful	Improved	Good
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	Linear	2	-	-					
144	Hazaribagh west	Barhi	Nagarbarsot II	SC	3	5589	56		35	Useful	Improved	Good
145	Hazaribagh west	Chouparan	Sohra	RDF	2	Yes			50	Useful	Improved	Good
146	Hazaribagh west	Chouparan	Madhogopali	RDF	1	Yes	Yes		40	Useful	Improved	Good
147	Hazaribagh west	Chouparan	Gangahar	RDF	-	Yes	Yes		60	Useful	Improved	Good
148	Hazaribagh west	Hazaribagh Afforestation	Karma Kewal	RDF	-	1080	Yes		50	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
149	Hazaribagh west	Barkagaon	Ghutu	SC	3	600	146		40	Useful	Improved	Good
150	Hazaribagh west	Barkagaon	Gosaibaliya	RDF		273			40	Useful	Improved	Good
151	Hazaribagh west	Barkagaon	Talaswar	RDF		617	47		30	Useful	Improved	Good
152	Hazaribagh west	Hazaribagh	Pabra	RDF		1700	39		40	Useful	Improved	Good
153	Hazaribagh west	Hazaribagh	Perheriya	RDF		Yes	Yes		40	Useful	Improved	Good
154	Hazaribagh west	Hazaribagh	Haram	IWMP		-	-					
155	Hazaribagh west	Hazaribagh	Bes	IWMP		-	-					
156	Hazaribagh west	Hazaribagh	Marhand	IWMP		-	-					
157	Hazaribagh west	Hazaribagh	Khapriyawa to Khapriyawa	Linear		-	-					
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	Linear		-	-					
159	Hazaribagh west	Hazaribagh	Marigada	RDF		2500	12			Useful	Improved	Good
160	Hazaribagh, Forestor-cum- Forest Guard Training School	RFO Forestor-cum- Forest Guard Training School, Hazaribagh	Kani Mundawar	Arboratum		Yes			45	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
161	Hazaribagh, Forestor-cum- Forest Guard Training School	RFO Forestor-cum- Forest Guard Training School, Hazaribagh	Kani Mundawar	Bambo Setum		Yes			35	Useful	Improved	Good
162	Hazaribagh, Social Forestry	Sadar	Kanchanpur	CA/SCA		Yes	Yes	Yes	20	Useful	Improved	Good
163	Jamshedpur	Chaukulia	Manikabera, Choira, Ghosda	Bamboo		Yes			25	Useful	Improved	Good
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	Plantation	24	10590			20	Useful	Improved	Good
165	Jamshedpur	Chaukulia	Kadamdiha	Plantation		1620		Earthen Checkdam-15	25	Useful	Improved	Good
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	Linear		-				Useful	Improved	Good
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	Linear						Useful	Improved	Good
168	Jamshedpur	Rakhamines	Durku	Linear		-				Useful	Improved	Good
169	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	Plantation		Yes			40	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
170	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	Plantation		2750			30	Useful	Improved	Good
171	Jamshedpur	Musabani	Paharpur, Churiapahar, Mudakati	Bamboo		Yes			20	Useful	Improved	Good
172	Jamshedpur	Musabani	Gudabanda	Bamboo		Yes			28	Useful	Improved	Good
173	Jamshedpur	Musabani	Gudabanda	Linear		Not reported						
174	Jamshedpur	Ghatsila	Anidi	Plantation		813			25	Useful	Improved	Good
175	Jamshedpur	Ghatsila	Borajuri, Sorodoban	Plantation	6	3925			20	Useful	Improved	Good
176	Jamshedpur	Ghatsila	Kalapathar (Part A)	Plantation		1272			28	Useful	Improved	Good
177	Jamshedpur	Ghatsila	Narsinghpur	Plantation	2	900			30-40	Useful	Improved	Good
178	Jamtara	Narayanpur	Yaududih	CA (SCA)	Not reported							
179	Jamtara	Jamtara	Sunsundabra	CA (SCA)		Yes			30	Useful	Improved	Good
180	Jamtara	Jamtara	Lakhanpur	Linear	7	1000	Yes		20	Useful	Improved	Good
181	Jamtara	Jamtara	Murgabani	Linear	12	2500			30	Useful	Improved	Good
182	Khunti	Khunti	Oskeya	CA	10	2280	65		30	Useful	Improved	Good
183	Khunti	Bundu	Taimara	CA	5	1849	48		15	Useful	Improved	Good
184	Khunti	Tamar AFF Range, Bundu	Nuridih	CA	1	2814			20	Useful	Improved	Good
185	Khunti	Tamar	Barendra	CA		3348			30	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
186	Koderma	Koderma	Nawadih to Koderma	Linear		Not reported						
187	Koderma	Domchanch	Kari Pahari to Sijuha	Linear		Not reported						
188	Koderma	Domchanch	Sijuwa to Purnadeeh	Linear		Not reported						
189	Latehar	Balumath	Soparam	CA (SCA)		Yes	Yes		35	Useful	Improved	Good
190	Latehar	Chandwa	Rud	CA (SCA)	1	2500	93		30	Useful	Improved	Good
191	Latehar	Chandwa	Hesala	CA (SCA)		Yes	Yes		30	Useful	Improved	Good
192	Latehar	Balumath	Mailam	CA (SCA)	1	603	Yes		40	Useful	Improved	Good
193	Latehar	Latehar	Sohdag	CA (SCA)		Yes	Yes	Earthen Checkdam	30	Useful	Improved	Good
194	Latehar	Latehar	Jaram	CA (SCA)		1086	Yes	Earthen Checkdam	35	Useful	Improved	Good
195	Latehar	Manika	Doki	CA (SCA)		Yes	Yes		30	Useful	Improved	Good
196	Latehar	Manika	Bakoriya (M)	CA (SCA)		Yes	Yes		35	Useful	Improved	Good
197	Lohardaga	Lohardaga	Nini	CA		Yes			35	Useful	Improved	Good
198	Lohardaga	Lohardaga	Hisri	RDF		4125			30	Useful	Improved	Good



Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
199	Lohardaga	Lohardaga	Ugra	RDF	1	Yes	6		25	Useful	Improved	Good
200	Lohardaga	Banari	Ghaghra	RDF		2500			15	Useful	Improved	Good
201	Medininagar	Chatarpur East	Kuhkuh Khurd	Kshatipurak Vanropan	Yes	Yes	Yes		35	Useful	Improved	Good
202	Medininagar	Kundari	Bhawardah	Kshatipurak Vanropan		1130			40	Useful	Improved	Good
203	Medininagar	Kundari	Navagarh	Kshatipurak Vanropan	2	4500	25		40	Useful	Improved	Good
204	Pakur	Hiranpur	Dhangarha	CA	2	1100			40	Useful	Improved	Good
205	Porahat	Kera	Chandpur, Bondih, Barkani	CA (SCA)	3	3780	12		30	Useful	Improved	Good
206	Porahat	Kera	Unchibita	RDF		1720	6		40	Useful	Improved	Good
207	Porahat	Kera	Bangrasai (Parsa Bahal)	CA (SCA)		2250	5	Loose Stone Check Dam-2	35	Useful	Improved	Good
208	Ramgarh	Gola	Kujukalan	SC	Yes	4500	Yes		30	Useful	Improved	Good
209	Ramgarh	Patraru	Ghutuwa se Manmohna	Linear	-	-	-		-			
210	Ramgarh	Patraru	Deoria	SC	2	1200			20	Useful	Improved	Good
211	Ramgarh	Kuju	Ratwe	SC	2	1811	9		20	Useful	Improved	Good
212	Ramgarh	Kuju	Orla	SC	1	2500	3		30	Useful	Improved	Good
213	Ramgarh	Ramgarh	Tewardag	SC	3	3716	Yes		30	Useful	Improved	Good
214	Ramgarh	Mandu	Govindpur	SC	4	3510	12		30	Useful	Improved	Good
215	Ramgarh	Mandu	Padrangi	SC	Yes	Yes			25	Useful	Improved	Good
216	Ranchi	Kanke	Hehal Hill	Plantation		NA	-		-	Useful	Improved	Good
217	Ranchi	Kanke	Uruguttu	CA	Yes	Yes			30	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
218	Ranchi	Kanke	Bariyatu Hill	Plantation		NA			-			
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	Plantation		NA			-			
220	Ranchi	Mander	Tumang	CA		2537			30	Useful	Improved	Good
221	Ranchi	Bero	Lawagai	RDF		2500			25	Useful	Improved	Good
222	Ranchi	Ranchi	Danekara	RDF		1400			35	Useful	Improved	Good
223	Ranchi	Ranchi	Bargai Firing Range Hill	Plantation		NA			-			
224	Ranchi	Mahilong	Paharsingh	CA	2	Yes	Yes		20	Useful	Improved	Good
225	Ranchi	Mahilong	Nawagarh	CA		Yes	Yes		30	Useful	Improved	Good
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	CA	8	2200	800		40	Useful	Improved	Good
227	Ranchi, Training School		Village-Kawali	Agro-forestry model development		Yes			30	Useful	Improved	Good
228	Ranchi, Training School		Village-Mahilong	Arboretum Development		NA				Useful	Improved	Good
229	Sahebganj	Barharwa	Bada Togra	RDF		220	36		25	Useful	Improved	Good
230	Sahebganj	Barharwa	Demchak Pahar	RDF	1	135			20	Useful	Improved	Good
231	Sahebganj	Barharwa	Chota Tegra	RDF		152	11		25	Useful	Improved	Good
232	Saraikella	Saraikella	Bada Hariharpur	Plantation		2500			30	Useful	Improved	Good
233	Saraikella	Chandil	Shaharbera	Plantation		900			30	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
234	Saraikella	Chandil	Chunidih	Bamboo		409			30	Useful	Improved	Good
235	Saraikella	Chandil	Puriyara	Plantation		376			25	Useful	Improved	Good
236	Saraikella	Saraikella	Sahebganj	Plantation		333			25	Useful	Improved	Good
237	Saraikella	Kharsawan	Tilopada	Plantation		Yes			15	Useful	Improved	Good
238	Saraikella	Kharsawan	Silpingda	Plantation	Yes	437	78		10-15	Useful	Improved	Good
239	Saraikella	Kharsawan	Silpingda	Plantation		Yes			50	Useful	Improved	Good
240	Saraikella	Kharsawan	Kasidih	Plantation		Yes			30-40	Useful	Improved	Good
241	Saraikella	Kharsawan	Haribhanja	Plantation	-	-	-		-			
242	Simdega	Kolebira	Jaldega to Gangutoli	Bamboo Gabion		NA	-		-			
243	Simdega	Kolebira	Dadibera to Jampani	Bamboo Gabion		NA	-		-			
244	Simdega	Kolebira	Dharamshala to Jampani	Bamboo Gabion		NA	-		-			
245	Simdega	Kolebira	Kamlapani to Gangutoli	Bamboo Gabion		NA	-		-			

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
246	Simdega	Bolba	Sagalpoch to Bolba	Bamboo Gabion		NA	-		-			
247	Simdega	Bolba	Kundurmunda	CA		3600	22		15	Useful	Improved	Good
248	Simdega	Simdega	Tamra to Kuruskela	Gabion		NA	-		-			
249	Simdega	Simdega	Bindhantoli	RDF		Yes	Yes		10	Useful	Improved	Good
250	Simdega	Kolebira	Parba	CA		1500	150		20	Useful	Improved	Good
251	Simdega	Kolebira	Saraipani	RDF	Yes	Yes	Yes		25	Useful	Improved	Good
252	Simdega	Simdega	Sarlunga	CA		Yes			25-30	Useful	Improved	Good
253	Simdega	Bano	Orga to Dumarmunda	Gabion		NA	-					
254	Simdega	Bano	Dumarmunda to Girda	Gabion		NA	-					
255	Simdega	Bano	Hurda to Girda	Gabion		NA	-		-			
256	Simdega, Social Forestry	Gumla	Sargaon	CA		Yes	100		50	Useful	Improved	Good
257	Simdega, Social Forestry	Kolebira	Saraipani	CA	8		99		45	Useful	Improved	Good

### 4.1.7 Entry Point Activity at Plantation sites (CA/PCASC&A/RDF)

The Entry Point Activity (EPA) at CA/SC&A/RDF site is a crucial element of the CAMPA Jharkhand Fund. The objective of providing EPAs is to gain the trust of the village residents towards the Project by meeting their immediate demands. Several EPAs were carried out at the CA/SC&A/RDF plantation site, which are listed below.

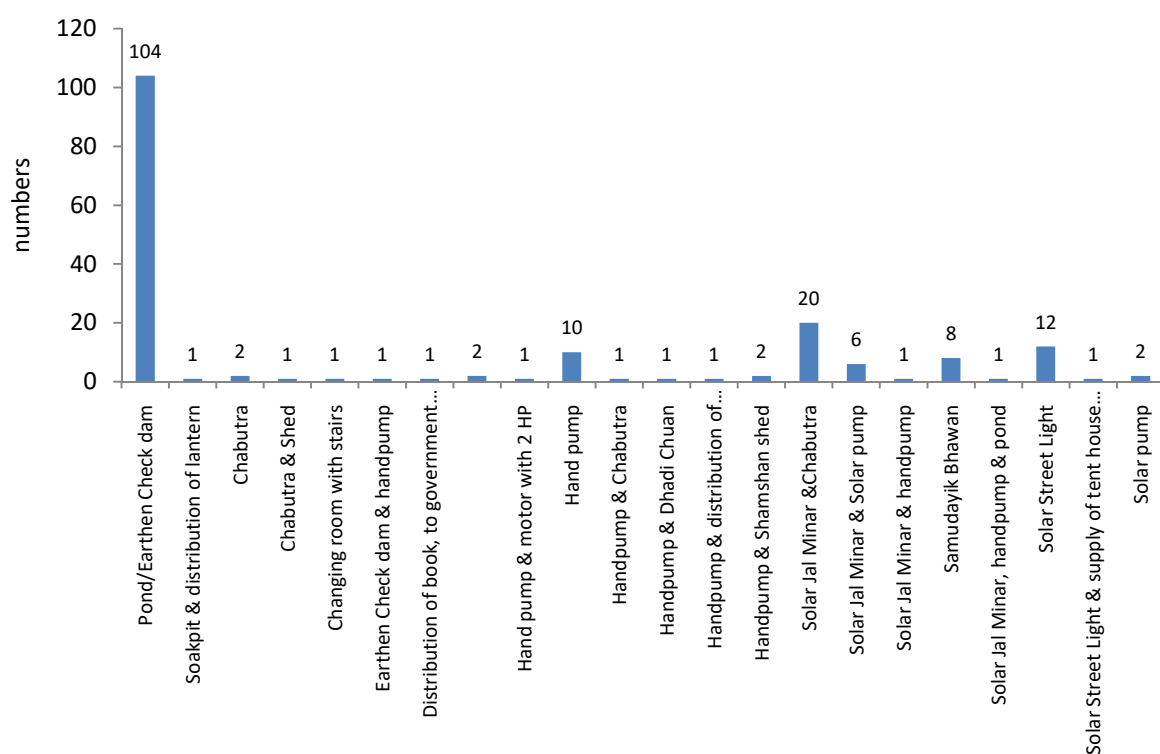
**Table: 4.8: Detail of EPA undertaken at CA/SC&A/RDF site**

Sl.no	Type of EPA	Numbers
1.	Pond/Earthen Check dam	104
2.	Soakpit & distribution of lantern	1
3.	Chabutra	2
4.	Chabutra & Shed	1
5.	Changing room with stairs	1
6.	Earthen Check dam & handpump	1
7.	Distribution of book, to government school & gym item	1
8.	Distribution of utensils,catering item, chair, table,dari etc. to VFM & PC	2
9.	Hand pump & motor with 2 HP	1
10.	Hand pump	10
11.	Handpump & Chabutra	1
12.	Handpump & Dhadi Chuan	1
13.	Handpump & distribution of utensils,catering item, chair, table,dari etc. to VFM & PC	1
14.	Handpump & Shamshan shed	2
15.	Solar Jal Minar &Chabutra	20
16.	Solar Jal Minar & Solar pump	6
17.	Solar Jal Minar & handpump	1
18.	Samudayik Bhawan	8
19.	Solar Jal Minar, handpump & pond	1
20.	Solar Street Light	12
21.	Solar Street Light & supply of tent house items to VFM & PC	1
22.	Solar pump	2
<b>Total</b>		<b>180</b>





**Figure 4.3: Entry Point Activities undertaken at CA/SC& A /RDF & Linear plantation sites**



**Table 4.9: Status of EPAs undertaken at the Plantation Sites**

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
1	Bokaro	Chas	Kumardaga	CA	Yes	Pond	23°30'1"	86°14'42"		Yes	
2	Bokaro	Chas	Mayurdubbi	CA	Yes	Solar Jal Minar	23°29'19"	86°21'20"		Yes	
3	Bokaro	Chas	Bhawanipur	CA	Yes	Distribution of Utensils & catering items to VFM & PC				Yes	
4	Bokaro	Chas	Boriadih	CA	Yes	Solar Jal Minar	23°29'23"	86°19'26"	Non-functional		
5	Bokaro	Bermo	Govindpur	CA	Yes	Pond	23°49'50"	85°51'48"			water not available
6	Bokaro	Bermo	Mungo Rangamati A	CA	Yes	Pond	23°56'7"	85°55'8"			water not available
7	Bokaro	Bermo	Mungo Rangamati B	CA	Yes	Pond	23°56'22"	85°54'15"		Yes	
8	Bokaro	Bermo	Penk	CA	Yes	Solar Jal Minar & chabutra	23°54'56"	85°53'19"		Yes	
9	Bokaro	Bermo	Penk	CA	Yes	Solar Jal Minar & Chabutra	23°55'56"	& 85°53'55"		Yes	
10	Bokaro	Bermo	Pokhariya	RDF	Yes	Solar Jal Minar & Solar pump	23°54'36"	85°56'15"		Yes	
11	Bokaro	Bermo	Pokhariya	RDF	Yes	Solar Jal Minar & Solar pump	23°55'13"	85°55'44"		Yes	
12	Bokaro	Bermo	Tengnachuan	CA	No						
13	Bokaro	Peterwar	Ulgadda	CA	Yes	Solar Jal Minar & Solar pump	23°42'46"	85°51'35"	Non-functional		



Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
14	Bokaro	Peterwar	Putkadih	CA	Yes	Chabutra & Shed	23°41'16"	85°50'36"		Yes	
15	Bokaro	Peterwar	Nawadih	CA	Yes	Solar Jal Minar & Solar pump				Yes	
16	Bokaro	Peterwar	Tengikudar	CA	Yes	Solar Jal Minar & Solar pump	28°32'4"	86°0'26"		Yes	
17	Bokaro	Peterwar	Beldih	CA	No						
18	Bokaro	Peterwar	Banga	CA	No						
19	Bokaro	Peterwar	Chanpi	CA	No						
20	Bokaro	Bokaro	Galudih	CA	Yes	Check dam	23°48'54.84348"	86°2'33.47628"		Yes	
21	Bokaro	Bokaro	Nasia	Dwarf	Yes	Check dam	23.795148"	86.099669"		Yes	
22	Bokaro	Bokaro	Taratanr, Kharpitto, Junodih	Dwarf	No						
23	Bokaro	Bokaro	Potso	CA	Yes	Check dam	23°54'37.09235"	86°1'52.97783"		Yes	
24	Chaibasa	Noamundi	Barajamda	CA (SCA)	Yes	Pond	22°10'6"	85°24'17"		Yes	
25	Chaibasa Social Forestry	Chakradhar pur Social Forestry	Kumram Gendemundi	CA (SCA)	Yes	Solar Jal Minar	22°36'23"	85°52'39"	No	No	Till July 2022, 50 HHs using water of Solar Jalminar
26	Chaibasa Social Forestry	Jagannatpur	Patajaint	CA (SCA)	No						
27	Chatra	Pratappur	Lipda	RDF	Yes	Hand pump &			Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
	North					distribution of utensils, table & chairs etc. to VFM & PC					
28	Chatra North	Rajpur	Banda to Bengnatari	Linear	NA						
29	Chatra South	Chatra	Manjhawan 1	SC	Yes	Solar Jal Minar	-	-	Yes	Yes	
30	Chatra South	Chatra	Manjhawan 2	SC	Yes	Solar Jal Minar	-	-	Yes	Yes	
31	Chatra South	Chatra	Manjhawan 3	SC	Yes	Solar Jal Minar	-	-	Yes	Yes	
32	Chatra South	Chatra	Bae	SC	Yes	Distribution of books in govt.school & Gym items	-	-	-	-	
33	Chatra South	Chatra	Dumbi/ Barwadih	SC	Yes	Solar Jal Minar	24 <sup>0</sup> 9'41"	85 <sup>0</sup> 0'24"	Yes	Yes	
34	Chatra South	Chatra	Seheda	SC	Yes	Solar Jal Minar	-	-	Yes	Yes	
35	Chatra South	Chatra	Sikid	SC	Yes	Solar Jal Minar	-	-	Yes	Yes	
36	Chatra South	Lawalong	Kundri	SC	Yes	Pond	24 <sup>0</sup> 13'25"	85 <sup>0</sup> 15'18"	Yes	Yes	
37	Chatra South	Simariya	Shivrajpur	SC	Yes	Pond	24 <sup>0</sup> 5'47"	84 <sup>0</sup> 49'36"	Yes	Yes	
38	Deoghar	SC Range Madhupur	Trilokitanr	CA (SCA)	Yes	Pond	24.35728	86.49767	Yes	Yes	
39	Deoghar	T Range Deoghar	Ajabraidih	CA (SCA)	Yes	Solar Street Light	24.40991 & 24.41036	86.73109 & 86.73028	Yes	Yes	Partly
40	Deoghar	SC Range	Bhikhnadih	CA	Yes	Pond	24.381959	86.558842	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
		Madhupur		(SCA)							
41	Deoghar	SC Range Madhupur	Paharpur	PCA	Yes	Pond	24.292382	86.54114	Yes	Yes	
42	Deoghar	SC Range Madhupur	Manjhladih	CA (SCA)	Yes	Pond	24°10'32"	86°45'55"	Yes	Yes	
43	Deoghar	Deoghar	Gamhariatanr	CA (SCA)	Yes	Pond	24°31'24"	86°32'32"	Yes	Yes	
44	Deoghar	SC Range Madhupur	Chandpur	Linear	NA						
45	Deoghar	SC Range Madhupur	Chatnadangal	Linear	NA						
46	Deoghar	T Range Deoghar	Bochbandh	RDF	Yes	Solar Street Light-2	24°17'28"	86°47'17"	Yes	Yes	Partly
47	Deoghar	T Range Deoghar	Bishanpur	CA (SMC)	No						
48	Deoghar	SC Range Madhupur	Dubrajpur	CA (SMC)	Yes	Pond	24.32777	86.556389	Yes	Yes	
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadih	CA (SMC)	Yes	Solar Light			Yes	Yes	Partly
50	Deoghar	SC Range Madhupur	Loharjor	CA (SMC)	Yes	Pond	24.29741	86.67173	Yes	Yes	
51	Deoghar	SC Range Madhupur	Harla	CA (SMC)	Yes	Pond	24°14'24"	86°33'03"	Yes	Yes	
52	Deoghar	SC Range Madhupur	Lamba	CA (SMC)	Yes	Pond	24.376467	86.503258	Yes	Yes	
53	Deoghar	T Range Deoghar	Tehunia	CA (SMC)	Yes	Solar Street Light	24.41897 & 24.41866	86.73368 & 86.73334	Yes	Yes	Partly
54	Deoghar	T Range Deoghar	Samlapur	CA (SMC)	Yes	Pond			Yes	Yes	Partly
55	Deoghar	SC Range Madhupur	Alumpur	CA (SCA)	Yes	Pond	24.10109	86.73334	Yes	Yes	Partly

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
56	Deoghar, Social Forestry	Deoghar	Baratanr	CA (SCA)	Yes	Pond			Yes	Yes	Useful for wild animals & for local community
57	Dhanbad	Tundi	Nawatand	SC	Yes	Changing room & stairs near Pond			Yes	Yes	
58	Dhanbad	Tundi	Lakrakhundi	IWMP	Yes	Samudayik Bhawan			Yes	Yes	
59	Dhanbad	Tundi	Karitand, Arwatand, Kenduatand	SC	Yes	Samudayik Bhawan			Yes	Yes	
60	Dhanbad	Tundi	Rishibita	IWMP	Yes	Samudayik Bhawan			Yes	Yes	
61	Dhanbad	Tundi	Barbad Bolardih	SC	Yes	Distribution of utensils, dari, table, chair & other essential items to VFM&PC			Yes	Yes	
62	Dhanbad	Tundi	Kansjor, Birajdi h	RDF	Yes	Samudayik Bhawan	23°57'13"	86°36'13"	Yes	Yes	
63	Dhanbad	Topchanchi	Sadhobad Chutiyaro	SC	Yes	Handpump & Chabutra	23°53'5"	86°22'14"	Yes	Yes	
64	Dhanbad	Topchanchi	Kuramu	RDF	Yes	Samudayik Bhawan	23°53'5"	86°12'21"	Yes	Yes	
65	Dhanbad	Topchanchi	Gendwadih Chalmundri	SC	Yes	Solar Jal Minar	23°52'42"	86°13'12"	Yes	Yes	
66	Dhanbad	Topchanchi	Parwatpur	RDF	Yes	Handpump & Dhadi Chuan	23°56'25"	86°27'6"	Yes	Yes	
67	Dhanbad	Topchanchi	Gopalpur	RDF	Yes	Handpump & Shamshan	23.820872	86.162457	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
						Shed					
68	Dhanbad	Dhanbad Urban Forestry	Lagata	RDF	Yes	Chabutra			Yes	Yes	
69	Dhanbad	Dhanbad Urban Forestry	Dulasol	SC	Yes	Samudayik Bhawan	23°47'46"	86°46'10"	Yes	Yes	
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	RDF	Yes	Hand pump			Yes	Yes	
71	Dhanbad	Dhanbad Urban Forestry	Madandih	SC	Yes	Handpump, Chabutra, & Shamshan Shed	23°49'38"	86°46'2"	Yes	Yes	
72	Dumka	Dumka Damin Kathikund	Astajora	CA (SCA)	Yes	Pond			Yes	Yes	
73	Dumka	Dumka Damin Kathikund	Aamgachi to Saldaha I	Linear	NA						
74	Dumka	Hizla East	Dudhajol	RDF	Yes	Pond			Yes	Yes	
75	Dumka	Hizla East	Sugribhasha	Bamboo	No						
76	Dumka	Hizla East	Barmasiya	CA (SCA)	Yes	Pond	24°10'23"	87°30'30"	Yes	Yes	
77	Dumka	Hizla West	Ramkhari	RDF	Yes	Pond	24°7'29"	87°9'7"	Yes	Yes	
78	Dumka	Hizla West	Karmatanr	CA (SCA)	Yes	Pond	24.07418	87.13708	Yes	Yes	
79	Dumka	Hizla West	Suggapahari	RDF	Yes	Pond			Yes	Yes	
80	Dumka	Hizla West	Latabani	CA (SCA)	Yes	Pond			Yes	Yes	
81	Garhwa	Nagar	Mirchaiya	CA	Yes	Solar Jal			Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
	North			(SCA)		Minar					
82	Garhwa North	Garhwa	Khundra	RDF	Yes	Hand pump	24°16'08"	84°41'12"	Yes	Yes	
83	Garhwa North	Bhawnathpur	Ghordag	CA (SCA)	Yes	Hand pump			Yes	Yes	
84	Garhwa South	Bhandariya	Ramar	CA (SCA)	Yes	Solar Jal Minar with Hand pump & Pond	23°42'08"	83°47'54"	Yes	Yes	
85	Garhwa South	Ranka Wast	Beta	RDF	Yes	Pond			Yes	Yes	
86	Giridih east	Dumri	Chalmo	SC	Yes	Pond	24°3'51"	85°1'32"	Yes	Yes	
87	Giridih east	Gawan	Duarpahari	SC	Yes	Pond			Yes	Yes	
88	Giridih east	Parasnath	Dhanyadih	SC	No						
89	Giridih east	Giridih	Kornatand	SC	Yes	Checkdam	24°8'8"	86°11'32"	Yes	Yes	
90	Giridih east	Giridih	Tatokiyari	SC	Yes	Pond			Yes	Yes	
91	Giridih east	Giridih	Maheshpur	SC	No						
92	Giridih east	Giridih	Phulchi	SC	No						
93	Giridih east	Giridih	Lohpiti	Linear	NA						
94	Giridih east	Khurchutta	Chandiyo Pipratol	Linear	NA						
95	Giridih east	Khurchutta	Asgandho	SC	Yes	Checkdam	24°20'15"	86°19'11"	Yes	Yes	
96	Giridih east	Khurchutta	Badkitand	SC	Yes	Pond	24°19'56"	86°20'36"	Yes	Yes	
97	Giridih east	Khurchutta	Mankadiha	SC	Yes	Checkdam	24°14'16"	86°11'17"	Yes	Yes	
98	Giridih east	Dumri	Nagabad	SC	No	-					
99	Giridih east	Gawan	Malukchal	SC	No						
100	Giridih east	Dumri	Naro	SC	No	-					
101	Giridih east	Dumri	Agalagri	SC	No						
102	Giridih east	Khurchutta	Bedodih	SC	No						
103	Giridih east	Khurchutta	Ratiyabahr	RDF	Yes	Pond			Yes	Yes	
104	Giridih east	Khurchutta	Lakhanpur	RDF	Yes	Pond	24°15'18.9	86°25'1.20	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
							5''	72''			
105	Giridih east	Giridih	Gangapur	Linear	NA						
106	Giridih west	Jamua	Chitradih	RDF	Yes	Pond			Yes	Yes	
107	Giridih west	Jamua	Bhupatidih	IWMP	Yes	Pond	24°19'13''	86°8'28''	Yes	Yes	
108	Giridih west	Jamua	Khurobindo	IWMP	Yes	Check dam	24°20'51''	86°15'53''	Yes	Yes	
109	Godda	Sunderpahari	Sunderpahari	SC & PI	Yes	Pond			Yes	Yes	
110	Godda	Sunderpahari	Chandna	RDF	Yes	Pond	24°42'12"	87°22'15"	Yes	Yes	
111	Godda	Sunderpahari	Sunderpahari	SC & PI	Yes	Pond	24°44'58"	87°22'6"	Yes	Yes	
112	Godda	Sunderpahari	Salodih	SC & PI	Yes	Pond			Yes	Yes	
113	Godda	Godda	Mahuatanr	SC & PI	Yes	Pond	24.835739	87.347039	Yes	Yes	
114	Godda	Godda	Sabalpur	RDF	Yes	Pond	24°52'7"	87°20'56"	Yes	Yes	
115	Godda	Godda	Nipanija	SC & PI	Yes	Pond	24.78055	87.325505	Yes	Yes	
116	Godda	Godda	Bhaluka	SC & PI	Yes	Pond			Yes	Yes	
117	Godda	Boarijor	Chota Shaharpur Sheet 2	SC & PI	Yes	Pond			Yes	Yes	
118	Godda	Boarijor	Balajhar	SC & PI	Yes	Pond			Yes	Yes	
119	Godda	Godda	Kamradol	RDF	Yes	Pond	24.67497	87.06617	Yes	Yes	
120	Godda	Godda	Thakurnahan	SC & PI	Yes	Pond	24.66446	87.05785	Yes	Yes	
121	Godda	Godda	Charghara	SC &	Yes	Pond			Yes	Yes	



Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
				PI							
122	Gumla	Bishunpur	Salgi	CA	No						
123	Gumla	Gumla	Charkatangar	CA	No						
124	Gumla	Gumla	Gindra	CA	Yes	Solar Jal Minar, Solar Pump	22°59'35"	84°38'14"	No	No	Not functional since last 3 months
125	Gumla	Vishunpun	Jehangutuwa	CA	Yes	Hand pump with motor of 2HP	23°21'19"	84°22'23"	Yes	Yes	
126	Gumla	Gumla	Banai	CA	Yes	Pond	22°57'56"	84°50'59"	Yes	Yes	
127	Gumla	Bishunpur	Rehe	RDF	Yes	Pond	23°21'34"	84°24'33"	Yes	Yes	
128	Gumla	Bishunpur	Chatmdag	RDF	Yes	Solar Light-20	23°13'26"	84°27'1"	Yes	Yes	
129	Gumla	Kurumgarh	Tati	CA	Yes	Pond	23°13'42"	84°8'31"	Yes	Yes	
130	Gumla	Kurumgarh	Nawadih Kataitoli	CA	No						
131	Hazaribagh East	Daru	Kesura	CA	Yes	Solar Street Light	24°0'1"	85°25'47"		Yes	
132	Hazaribagh East	Daru	Chiruwar/Irga	CA	Yes	Solar Street Light	24°0'15"	85°33'30"		Yes	
133	Hazaribagh East	Bagodar	Pandra-Sadaro	CA	No						
134	Hazaribagh East	Bagodar	Sonturpi	RDF	Yes	Check dam	24°5'27.8"	85°47'0.4"		Yes	
135	Hazaribagh East	Bagodar	Ambadih	RDF	Yes	Solar Street Light				Yes	
136	Hazaribagh west	Barhi	Maskedih	RDF	Yes	Pond			Yes	Yes	
137	Hazaribagh west	Barhi	Barion	RDF	Yes	Solar Street Light			Yes	Yes	
138	Hazaribagh west	Barhi	Digwar	SC	Yes	Pond	24°16'28"	85°47'55"	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
139	Hazaribagh west	Barhi	Koderma Bokaro transmission line	DSP	No						
140	Hazaribagh west	Barhi	Sewatand	RDF	Yes	Pond	24°17'14"	85°43'09"	Yes	Yes	
141	Hazaribagh west	Barhi	Sewatand	RDF	Yes	Pond	24°15'4"	85°43'34"	Yes	Yes	
142	Hazaribagh west	Barhi	Kedarut	SC	Yes	Check dam & Hand pump	24°15'7" 24°15'6"	85°22'48" 85°22'40"	Yes	Yes	
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	Linear	NA	-	-	-	-		
144	Hazaribagh west	Barhi	Nagarbarsot II	SC	Yes	Earthen Check dam	24°14'32"	85°30'20"	Yes	Yes	
145	Hazaribagh west	Chouparan	Sohra	RDF	Yes	Pond	24°21'9"	85°9'44"	Yes	Yes	
146	Hazaribagh west	Chouparan	Madhogopali	RDF	Yes	Check dam(stone pitching)	24°22'31"	85°13'36"	Yes	Yes	
147	Hazaribagh west	Chouparan	Gangahar	RDF	Yes	Pond			Yes	Yes	
148	Hazaribagh west	Hazaribagh Afforestation	Karma Kewal	RDF	Yes	Pond			Yes	Yes	
149	Hazaribagh west	Barkagaon	Ghutu	SC	Yes	Pond	23.838148	85.116468	Yes	Yes	
150	Hazaribagh west	Barkagaon	Gosaibaliya	RDF	Yes	Pond	23°48'5"	85°15'45"	Yes	Yes	
151	Hazaribagh west	Barkagaon	Talaswar	RDF	Yes	Pond			Yes	Yes	
152	Hazaribagh west	Hazaribagh	Pabra	RDF	Yes	Hand pump			Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
153	Hazaribagh west	Hazaribagh	Perheriya	RDF	No						
154	Hazaribagh west	Hazaribagh	Haram	IWMP	No						
155	Hazaribagh west	Hazaribagh	Bes	IWMP	No						
156	Hazaribagh west	Hazaribagh	Marhand	IWMP	No						
157	Hazaribagh west	Hazaribagh	Khapriyawa to Khapriyawa	Linear	NA						
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	Linear	NA						
159	Hazaribagh west	Hazaribagh	Marigada	RDF	Yes	Pond			Yes	Yes	
160	Hazaribagh , Forestor-cum-Forest Guard Training School	RFO Forestor-cum-Forest Guard Training School, Hazaribagh	Kani Mundawar	Arboretum	No						
161	Hazaribagh , Forestor-cum-Forest Guard Training School	RFO Forestor-cum-Forest Guard Training School, Hazaribagh	Kani Mundawar	Bambo o Setum	No						
162	Hazaribagh , Social Forestry	Sadar	Kanchanpur	NPV	No						
163	Jamshedpu	Chaukulia	Manikabera,	Bambo	Yes	Pond	22°28'21"	86°33'34"	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
	r		Choir, Ghosda	o							
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	Plantation	Yes	Pond	22°17'37"	86°51'30"	Yes	Yes	
165	Jamshedpur	Chaukulia	Kadamdiha	Plantation	No						
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	Linear	NA						
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	Linear	NA						
168	Jamshedpur	Rakhamines	Durku	Linear	NA						
169	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	Plantation	Yes	Pond	22°24'59"	86°46'24"	Yes	Yes	
170	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	Plantation	Yes	3 Ponds	22°24'59"	86°46'24"	Yes	Yes	
171	Jamshedpur	Musabani	Paharpur, Churiapahar, Mudakati	Bamboo	Yes	Pond	22°18'11"	86°36'23"			
172	Jamshedpur	Musabani	Gudabanda	Bamboo	Yes	Pond			Yes	Yes	
173	Jamshedpur	Musabani	Gudabanda	Linear	NA						
174	Jamshedpur	Ghatsila	Anidi	Plantation	Yes	Pond	22°35'44"	86°30'34"	Yes	Yes	
175	Jamshedpur	Ghatsila	Borajuri,	Plantati	Yes	Pond	22.60414	86.51106	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
	r		Sorodoban	on							
176	Jamshedpur	Ghatsila	Kalapathar (Part A)	Plantation	Yes	Pond	22°35'29"	86°30'31"	Yes	Yes	
177	Jamshedpur	Ghatsila	Narsinghpur	Plantation	Yes	Pond	22°44'49"	86°26'45"	Yes	Yes	
178	Jamtara	Narayanpur	Yaududih	CA (SCA)	Yes	Soak pit & distribution of lantern to the community			Yes	Yes	
179	Jamtara	Jamtara	Sunsundabra	CA (SCA)	Yes	Pond	24°5'46.49"	86°44'2.673"	Yes	Yes	
180	Jamtara	Jamtara	Lakhanpur	Linear	NA						
181	Jamtara	Jamtara	Murgabani	Linear	NA						
182	Khunti	Khunti	Oskeya	CA	Yes	Pond	22°58'10"	85°13'30"	Yes	Yes	
183	Khunti	Bundu	Taimara	CA	Yes	Solar Jal Minar	23°11'52"	85°29'38"	Yes	Yes	
184	Khunti	Tamar AFF Range, Bundu	Nuridih	CA	Yes	Pond	23.079958	85.654461	Yes	Yes	
185	Khunti	Tamar	Barendra	CA	Yes	Solar Water Pump	23.200549	85.817212	Yes	Yes	
186	Koderma	Koderma	Nawadih to Koderma	Linear	No						
187	Koderma	Domchanch	Kari Pahari to Sijuha	Linear	No						
188	Koderma	Domchanch	Sijuwa to Purnadeeh	Linear	No						
189	Latehar	Balumath	Soparam	CA (SCA)	Yes	Earthen Check dam	23°48'18"	84°46'60"	Yes	Yes	
190	Latehar	Chandwa	Rud	CA (SCA)	No						
191	Latehar	Chandwa	Hesala	CA	Yes	Solar Jal	23°41'8"	84°42'12"	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
				(SCA)		Minar					
192	Latehar	Balumath	Mailam	CA (SCA)	No						
193	Latehar	Latehar	Sohdag	CA (SCA)	Yes	Solar Jal Minar			Yes	Yes	
194	Latehar	Latehar	Jaram	CA (SCA)	Yes	Earthen Check dam			Yes	Yes	
195	Latehar	Manika	Doki	CA (SCA)	Yes	Earthen Check dam	23°56'11"	84°25'42"	Yes	Yes	
196	Latehar	Manika	Bakoriya (M)	CA (SCA)	Yes	Hand pump	23°54'6"	84°18'36"	No		
197	Lohardaga	Lohardaga	Nini	CA	No						
198	Lohardaga	Lohardaga	Hisri	RDF	No						
199	Lohardaga	Lohardaga	Ugra	RDF	Yes	Solar Water Pump	23.334893	84.673096	Yes	Yes	
200	Lohardaga	Banari	Ghaghra	RDF	No						
201	Medininagar	Chatarpur East	Kuhkuh Khurd	Kshatipurak Vanropan	Yes	Hand pump	24.358894	84.3417860	Yes	Yes	
202	Medininagar	Kundari	Bhawardah	Kshatipurak Vanropan	Yes	Hand pump			Yes	Yes	
203	Medininagar	Kundari	Navagarh	Kshatipurak Vanropan	Yes	Hand pump	24°0'13"	84°25'30"	Yes	Yes	
204	Pakur	Hiranpur	Dhangarha	CA	No						
205	Porahat	Kera	Chandpur, Bondih, Barkani	CA (SCA)	Yes	Solar Jal Minar	22°46'14"	85°38'48"	Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
206	Porahat	Kera	Unchibita	RDF	Yes	Solar Jal Minar	22°46'15"	85°37'31"	No	No	
207	Porahat	Kera	Bangrasai (Parsa Bahal)	CA (SCA)	Yes	Pond	22°41'45"	85°31'29"	Yes	Yes	Wild animals & local community
208	Ramgarh	Gola	Kujukalan	SC	Yes	Pond	23°29'19"	85°41'29"	Yes	Yes	
209	Ramgarh	Patratu	Ghutuwa se Manmohna	Linear	No	-	-	-	-	-	
210	Ramgarh	Patratu	Deoria	SC	Yes	Solar Street Light	-	-	Yes	Yes	
211	Ramgarh	Kuju	Ratwe	SC	Yes	Solar Street Light (07 nos.)	-	-	Yes	Yes	
212	Ramgarh	Kuju	Orla	SC	Yes	Hand pump	-	-	Yes	Yes	
213	Ramgarh	Ramgarh	Tewardag	SC	Yes	Pond	23°34'38"	85°41'20"	Yes	Yes	
214	Ramgarh	Mandu	Govindpur	SC	No	-	-	-	-	-	
215	Ramgarh	Mandu	Padrangi	SC	Yes	Pond			Yes	Yes	
216	Ranchi	Kanke	Hehal Hill	Plantation	NA						
217	Ranchi	Kanke	Uruguttu	CA	Yes	Pond	23°32'3"	85°13'31"	Yes	Yes	
218	Ranchi	Kanke	Bariyatu Hill	Plantation	NA						
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	Plantation	NA						
220	Ranchi	Mander	Tumang	CA	Yes	Pond	23.671968	84.974295	Yes	Yes	
221	Ranchi	Bero	Lawagai	RDF	Yes	Pond	23.268541	85.112648	Yes	Yes	
222	Ranchi	Ranchi	Danekara	RDF	Yes	Pond	23°9'48"	84°54'41"	Yes	Yes	
223	Ranchi	Ranchi	Bargai Firing Range Hill	Plantation	NA						
224	Ranchi	Mahilong	Paharsingh	CA	Yes	Solar Jalminar-2	23°21'41.2 632"	85°42'10.7 1"	Yes	Yes	



Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
225	Ranchi	Mahilong	Nawagarh	CA	Yes	Solar Jalminar & Handpump	23°21'45.6 588"	85°42'18.6 948"	Yes	Yes	Handpump-non-functional
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	CA	Yes	Solar Light-8	23.35136	84.69188	Yes	Yes	Partly functional
227	Ranchi, Training School		Village-Kawali	NPV	NA						
228	Ranchi, Training School		Village-Mahilong	NPV	NA						
229	Sahebganj	Barharwa	Bada Togra	RDF	Yes	Pond			Yes	Yes	
230	Sahebganj	Barharwa	Demchak Pahar	RDF	No						
231	Sahebganj	Barharwa	Chota Tegra	RDF	No						
232	Saraikella	Saraikella	Bada Hariharpur	Plantation	Yes	Hand pump			Yes	Yes	
233	Saraikella	Chandil	Shaharbera	Plantation	Yes	Pond	22°56'27.2 7"	86°1'46.18"	Yes	Yes	
234	Saraikella	Chandil	Chunidihi	Bamboo	Yes	Pond	23°4'1.612"	85°48'46.8 17"	Yes	Yes	
235	Saraikella	Chandil	Puriyara	Plantation	Yes	Pond	23°2'13.8"	86°7'11.6"	Yes	Yes	
236	Saraikella	Saraikella	Sahebganj	Plantation	No						
237	Saraikella	Kharsawan	Tilopada	Plantation	No						
238	Saraikella	Kharsawan	Silpingda	Plantation	Yes	Pond	22.83478	85.91291	Yes	Yes	
239	Saraikella	Kharsawan	Silpingda	Plantation	Yes	Pond	22.835062	85.913038	Yes	Yes	
240	Saraikella	Kharsawan	Kasidih	Plantation	Yes	Check dam			Yes	Yes	

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
				on							
241	Saraikella	Kharsawan	Haribhanja	Plantation	Yes	Pond	22°48'5"	85°50'16"	Yes	Yes	
242	Simdega	Kolebira	Jaldega to Gangutoli	Bambo o Gabion	NA						
243	Simdega	Kolebira	Dadibera to Jampani	Bambo o Gabion	NA						
244	Simdega	Kolebira	Dharamshala to Jampani	Bambo o Gabion	NA						
245	Simdega	Kolebira	Kamlapani to Gangutoli	Bambo o Gabion	NA						
246	Simdega	Bolba	Sagalpoch to Bolba	Bambo o Gabion	NA						
247	Simdega	Bolba	Kundurmunda	CA	Yes	Chabutara	22°23'28"	84°15'60"	Yes	Yes	Yes
248	Simdega	Simdega	Tamra to Kuruskela	Gabion	NA						
249	Simdega	Simdega	Bindhantoli	RDF	No						
250	Simdega	Kolebira	Parba	CA	Yes	Solar Jal Minar+ 5 point tap connection	22.484138	84.840505	Yes	Yes	Yes
251	Simdega	Kolebira	Saraipani	RDF	Yes	Solar Street. Light-18, Supply of utensils & other material of tent house			Yes	Yes	Yes

Sl.no	Division	Name of Range	Name of Site	Scheme	EPA activity taken up	Type of EPA	Latitude	Longitude	Functional	Useful	Remarks
						to VFM & PC					
252	Simdega	Simdega	Sarlonga	CA	No						
253	Simdega	Bano	Orga to Dumarmunda	Gabion	NA						
254	Simdega	Bano	Dumarmunda to Girda	Gabion	NA						
255	Simdega	Bano	Hurda to Girda	Gabion	NA						
256	Simdega, Social Forestry	Gumla	Sargaon	CA	Yes	Samudayik Bhawan	23.152123	84.878778	Yes	Yes	Useful for panchayat meeting, marriage etc.
257	Simdega, Social Forestry	Kolebira	Saraipani	CA	Yes	Samudayik Bhawan	22.711832	84.615497	Yes	Yes	Useful for panchayat meeting, marriage etc.

## 4.2 Silvi-cultural operations

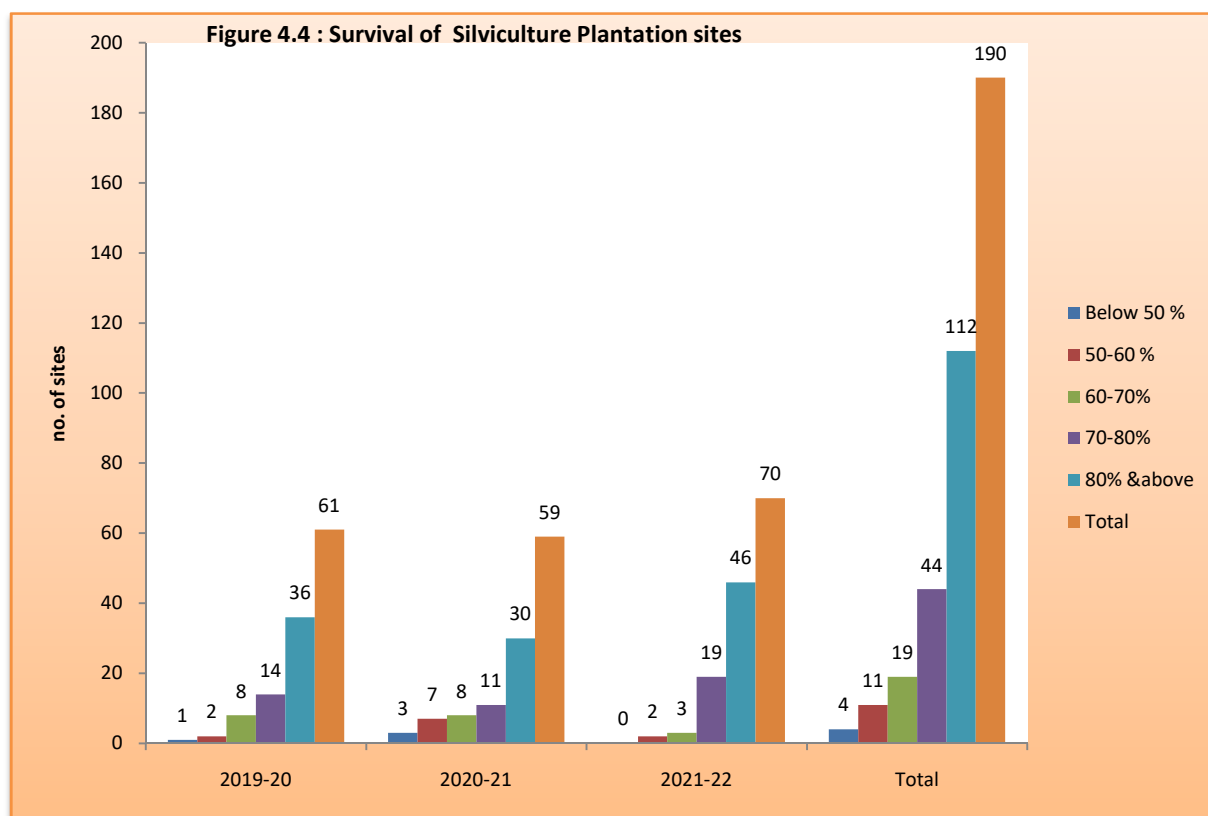
### 4.2.1 Assessment of survival rate including growth rate at Silviculture plantation sites

The table & figure show the survival percentage of sample Silviculture plantation sites (year-wise). In the year 2019-20, the survival percentage of the plants was below 50% at 01 site, between 50%-60% at 02 sites, between 60%-70% at 08 sites, between 70%-80% at 14 sites & 80% & above at 36 sites. In the year 2020-21, the survival percentage of the plants was below 50% at 03 sites, between 50%-60% at 07 sites, between 60%-70% at 08 sites, between 70%-80% at 11 sites & 80% & above at 30 sites. In the year 2021-22, the survival percentage of the plants was between 50%-60% at 02 sites, between 60%-70% at 03 sites, between 70%-80% at 19 sites & 80% & above at 46 sites. In total, the survival percentage of the plants was below 50% at 04 sites, between 50%-60% at 11 sites, between 60%-70% at 19 sites, between 70%-80% at 44 sites & 80% & above at 112 sites.

**Table 4.10: Survival Rate of Silviculture Plantation Sites (Year wise)**

Year	Below 50 %	50-60 %	60-70%	70-80%	80% & above	Total
2019-20	1	2	8	14	36	61
2020-21	3	7	8	11	30	59
2021-22	0	2	3	19	46	70
Total	4	11	19	44	112	190

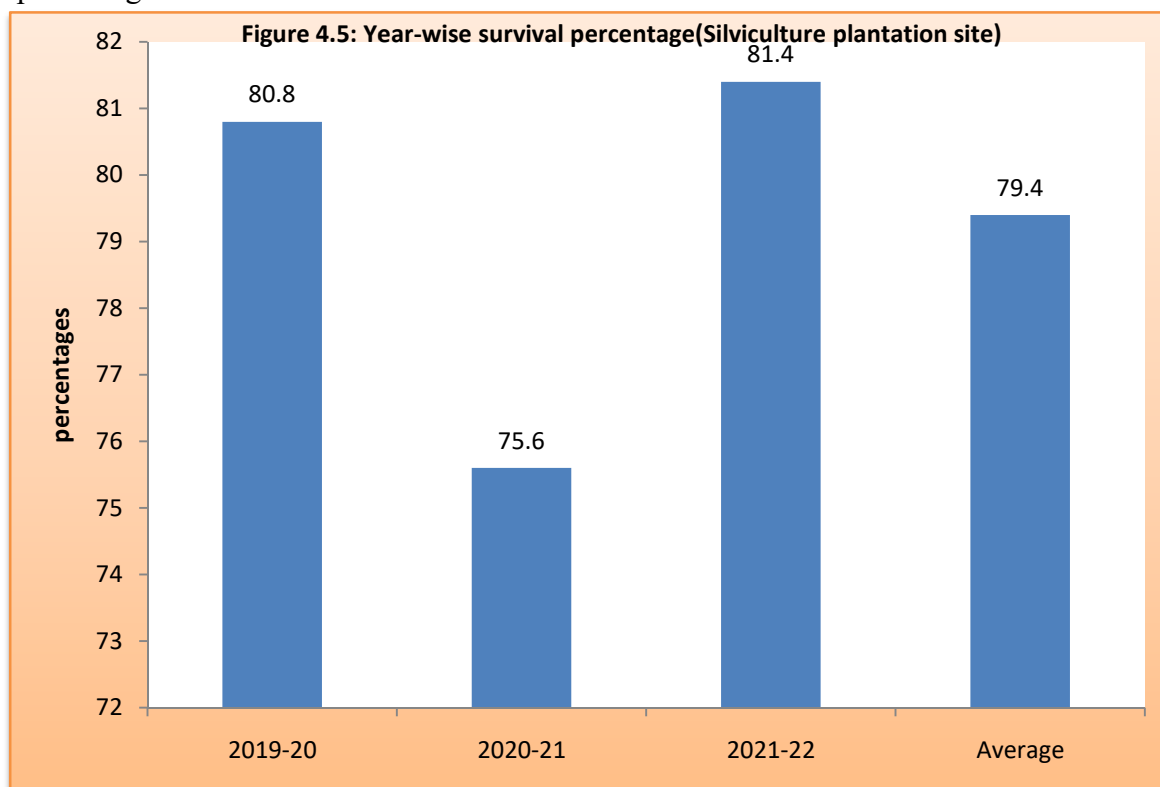
Note: at 03 Sites of silviculture operations, plantation was not done



**Table 4.11: Year-wise survival % of plantations (Silviculture Plantation Sites)**

Year-wise	Survival %	Rank
2019-20	80.8	9
2020-21	75.6	8
2021-22	81.4	9
Average	79.4	8

The overall ranking of sample silviculture plantation sites was very good with average survival percentage of 79.4%.



**Table 4.12: Status of Survival % at Silviculture Plantation sites (Site-wise, range-wise & division-wise)**

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
1	Bokaro	Bermo	Mungo Rangamati (Silvi)	2020-21	50.0	Silvi	10000	5.0	1000	913	91.3	9
2	Bokaro	Peterwar	Karma (Silviculture)	2019-20	50.0	Silvi	10000	5.0	1000	863	86.3	9
3	Bokaro	Peterwar	Chaura	2019-20	50.0	Silvi	10000	5.0	1000	826	82.6	9
4	Bokaro	Bokaro	Chapari (Silviculture)	2019-20	50.0	Silvi	10000	5.0	1000	899	89.9	9
5	Chaibasa	Noamundi	Lepang (M)	2019-20	75.0	Silvi	15000	8.0	1600	986	61.6	7
6	Chatra North	Pratappur	Hindiakala	2021-22	50.0	Silvi	10000	5.0	1000	825	82.5	9
7	Chatra North	Pratappur	Adhauria	2021-22	50.0	Silvi	10000	5.0	1000	785	78.5	8
8	Chatra North	Rajpur	Bindhani	2020-21	50.0	Silvi	10000	5.0	1000	877	87.7	9
9	Chatra North	Rajpur	Raushana	2021-22	50.0	Silvi	10000	5.0	1000	819	81.9	9
10	Chatra North	Hunterganj	Kharanti	2021-22	60.0	Silvi	12000	6.0	1200	1040	86.7	9
11	Chatra South	Chatra	Ichak	2021-22	50.0	Silvi	10000	5.0	1000	881	88.1	9
12	Chatra South	Lawalong	Kundri	2020-21	50.0	Silvi	10000	5.0	1000	876	87.6	9
13	Chatra South	Lawalong	Rajwar	2020-21	50.0	Silvi	10012	5.0	1000	878	87.8	9
14	Deoghar	SC Range Madhupur	Trilokitanr	2020-21	35.0	Silvi	7000	4.0	800	712	89	9
15	Deoghar	SC Range Madhupur	Bhikhnadih	2019-20	100.0	Silvi	20000	10.0	2000	1740	87	9
16	Deoghar	SC Range Madhupur	Damgarha	2021-22	20.0	Silvi	4000	2.0	400	369	92.3	9
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	2021-22	20.0	Silvi	4000	2.0	400	360	90	9
18	Deoghar	SC Range Madhupur	Pathania	2021-22	15.0	Silvi	3000	2.0	400	353	88.3	9
19	Dhanbad	Tundi	Sarra	2021-22	50.0	Silvi	10000	5.0	1000	877	87.7	9
20	Dhanbad	Tundi	Kolkamardih	2020-21	50.0	Silvi	10000	5.0	1000	818	81.8	9
21	Dhanbad	Topchanchi	Kankarchhuri	2020-21	40.0	Silvi	8659	4.0	866	723	83.5	9
22	Dhanbad	Topchanchi	Palma	2021-22	50	Silvi	10000	5.0	1000	865	86.5	9
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	2021-22	40.0	Silvi	8125	4.0	813	616	75.8	8
24	Dumka	Dumka Damin Kathikund	Chirudih	2019-20	50.0	Silvi	10000	5.0	1000	934	93.4	9

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
25	Dumka	Hizla East	Paharpur	2019-20	50.0	Silvi	10000	5.0	1000	865	86.5	9
26	Dumka	Hizla West	Madhuban	2020-21	50.0	Silvi	10000	5.0	1000	848	84.8	9
27	Dumka	Hizla West	Kalipathar	2020-21	30.0	Silvi	6000	3.0	600	547	91.2	9
28	Dumka	Hizla West	Gadichoto	2019-20	50.0	Silvi	10000	5.0	1000	885	88.5	9
29	Garhwa North	Nagar	Daheriya	2019-20	50.0	Silvi	10000	5.0	1000	921	92.1	9
30	Garhwa North	Nagar	Jhumri	2019-20	50.0	Silvi	10000	5.0	1000	901	90.1	9
31	Garhwa North	Nagar	Karwapahar	2021-22	50.0	Silvi	10000	5.0	1000	802	80.2	9
32	Garhwa North	Nagar	Sharda	2021-22	50.0	Silvi	10000	5.0	1000	900	90	9
33	Garhwa North	Bhawnathpur	Barwari	2019-20	70.0	Silvi	14000	7.0	1400	1207	86.2	9
34	Garhwa North	Bhawnathpur	Rohinia	2019-20	90.0	Silvi	18000	9.0	1800	1477	82.1	9
35	Garhwa North	Bhawnathpur	Makri	2019-20	40.0	Silvi	8000	4.0	800	721	90.1	9
36	Garhwa North	Bhawnathpur	Bansari	2019-20	120.0	Silvi	24000	12.0	2400	2046	85.3	9
37	Garhwa South	Ranka East	Durjan	2021-22	50.0	Silvi	10000	5.0	1000	862	86.2	9
38	Garhwa South	Ranka East	Baligar	2019-20	50.0	Silvi	10000	5.0	1000	849	84.9	9
39	Garhwa South	Ranka East	Chutiya	2020-21	50.0	Silvi	10000	5.0	2000	1796	89.8	9
40	Garhwa South	Ranka West	Tahle	2020-21	50.0	Silvi	10000	5.0	1000	895	89.5	9
41	Garhwa South	Kutku	Kurunl	2019-20	50.0	Silvi	10000	5.0	1000	922	92.2	9
42	Garhwa South	Kutku	Chapalsi	2019-20	50.0	Silvi	10000	5.0	1000	902	90.2	9
43	Garhwa South	Ranka East	Homiya	2021-22	50.0	Silvi	10000	5.0	1000	881	88.1	9
44	Garhwa South	Ranka East	Hardag	2021-22	50.0	Silvi	10000	5.0	1000	851	85.1	9
45	Garhwa South	Ranka East	Bhouri	2019-20	50.0	Silvi	10000	5.0	1000	820	82	9
46	Giridih east	Gawan	Bhogtadih	2019-20	50.0	Silvi	10000	5.0	1000	932	93.2	9
47	Giridih east	Parasnath	Tuio	2021-22	50.0	Silvi	10000	5.0	1000	743	74.3	8
48	Giridih east	Parasnath	Chirki	2019-20	50.0	Silvi	10000	5.0	1000	764	76.4	8
49	Giridih east	Gawan	Rijhani	2021-22	50.0	Silvi	10000	5.0	1000	811	81.1	9
50	Giridih east	Dumri	Khutargurho	2021-22	40	Silvi	8000	4.0	800	635	79.3	8
51	Giridih east	Dumri	Baledih	2021-22	60.0	Silvi	12681	6.0	1268	978	77.1	8
52	Giridih east	Dumri	Madhogopali	2019-20	50.0	Silvi	10000	5.0	1000	767	76.7	8
53	Giridih east	Dumri	Nagabad	2019-20	50.0	Silvi	10000	5.0	1000	746	74.6	8
54	Giridih east	Dumri	Gurha	2021-22	50.0	Silvi	10000	5.0	1000	738	73.8	8
55	Giridih west	Bengabad	Bishnisharan	2020-21	50.0	Silvi	10000	5.0	1000	918	91.8	9
56	Giridih west	Doranda	Gundri	2019-20	30.0	Silvi	7980	3.0	798	759	95.1	9



Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
57	Giridih west	Jamua	Chitra Pahadi	2021-22	50.0	Silvi	10000	5.0	1000	941	94.1	9
58	Giridih west	Jamua	Naitanr	2019-20	50.0	Silvi	10000	5.0	1000	772	77.2	8
59	Giridih west	Bengabad	Gandro	2019-20	30.0	Silvi	6000	3.0	600	455	75.8	8
60	Giridih west	Bengabad	Saathibad	2020-21	40.0	Silvi	8000	4.0	800	623	77.8	8
61	Giridih west	Doranda	Suarchach	2021-22	50.0	Silvi	10000	5.0	1000	757	75.7	8
62	Godda	Godda	Varistanr	2021-22	25.0	Silvi	5000	3.0	600	437	72.8	8
63	Godda	Godda	Kalajhar	2020-21	50.0	Silvi	10000	5.0	1000	802	80.2	9
64	Gumla	Kurumgarh	Silam	2021-22	50.00	Silvi	10000	5.0	1000	815	81.5	9
65	Gumla	Gumla	Jorag	2021-22	50.00	Silvi	10000	5.0	1000	868	86.8	9
66	Gumla	Gumla	Keluga	2021-22	50.00	Silvi	10000	5.0	1000	869	86.9	9
67	Gumla	Gumla	Koenjara (Kyonjara)	2021-22	50.00	Silvi	10000	5.0	1000	811	81.1	9
68	Gumla	Gumla	Brinda	2021-22	50.00	Silvi	10000	5.0	1000	819	81.9	9
69	Gumla	Bishunpur	Barrang	2020-21	50.00	Silvi	10000	5.0	1000	850	85	9
70	Gumla	Kurumgarh	Kerabar	2020-21	50.00	Silvi	10000	5.0	1000	750	75	8
71	Gumla	Kurumgarh	Kedeng	2021-22	50.00	Silvi	10000	5.0	1000	750	75	8
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarukhurd	2021-22	50.0	Silvi	10000	5.0	1000	948	94.8	9
73	Hazaribagh WL	Hazaribagh WL	Chordaha	2021-22	50.0	Silvi	10000	5.0	1000	903	90.3	9
74	Hazaribagh WL	Chatra WL	Tigda	2020-21	100.0	Silvi	20000	10.0	2000	1213	60.65	7
75	Hazaribagh WL	Chatra WL	Paramatu	2021-22	50.0	Silvi	10000	5.0	1000	711	71.1	8
76	Hazaribagh WL	Chatra WL	Lare	2021-22	50.0	Silvi	10000	5.0	1000	607	60.7	7
77	Hazaribagh East	Daru	Digwar	2020-21	50.0	Silvi	10000	5.0	1000	884	88.4	9
78	Hazaribagh East	Daru	Daru	2020-21	29.0	Silvi	5800	3.0	600	501	83.5	9
79	Hazaribagh East	Daru	Peto	2020-21	35.0	Silvi	7000	4.0	800	682	85.2	9
80	Hazaribagh	Daru	Pipcho Bhadwar	2021-22	50.0	Silvi	10000	5.0	1000	882	88.2	9

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
	East											
81	Hazaribagh East	Bagodar	Bagodih	2021-22	50.0	Silvi	10000	5.0	1000	929	92.9	9
82	Hazaribagh East	Bagodar	Arjari	2019-20	40.0	Silvi	8000	4.0	800	665	83.1	9
83	Hazaribagh East	Gomia	Karmo	2021-22	25.0	Silvi	5000	3.0	600	487	83.1	9
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	2020-21	50.0	Silvi	10000	5.0	1000	802	80.2	9
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	2020-21	50.0	Silvi	10000	5.0	1000	851	85.1	9
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	2021-22	50.0	Silvi	10000	5.0	1000	705	70.5	8
87	Hazaribagh west	Barkagaon	Aango	2019-20	50.0	Silvi	10000	5.0	1000	842	84.2	9
88	Jamshedpur	Chaukulia	Panjiya	2019-20	50.0	Silvi	10000	5.0	1000	820	82	9
89	Jamshedpur	Rakhamines	Godadih, Lailam	2021-22	50.0	Silvi	10000	5.0	1000	820	82	9
90	Jamshedpur	Rakhamines	Chadradih, Chatna	2021-22	50.0	Silvi	10000	5.0	1000	803	80.3	9
91	Jamshedpur	Rakhamines	Bango, Roladih	2021-22	50.0	Silvi	10000	5.0	1000	842	84.2	9
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	2021-22	40.0	Silvi	8000	4.0	800	619	77.4	8
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	2021-22	35.0	Silvi	7092	4.0	810	514	63.5	7
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	2020-21	50.0	Silvi	10000	5.0	1000	900	90	9
95	Jamshedpur, Elephant Project	Dalma WL east	Dangdung P.F	2019-20	50.0	Silvi	10000	5.0	1000	902	90.2	9
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	2019-20	50.0	Silvi	10000	5.0	1000	881	88.1	9
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	2020-21	50.0	Silvi	10000	5.0	1000	901	90.1	9
98	Jamtara	Kundhit	Patharchur	2019-20	20.0	Silvi	4000	2.0	400	231	57.8	6

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
99	Jamtara	Kundhit	Kasidih	2020-21	50.0	Silvi	10000	5.0	1000	919	91.9	9
100	Jamtara	Nala	Narithal	2019-20	40.0	Silvi	8000	4.0	800	740	92.5	9
101	Jamtara	Nala	Balichur	2019-20	40.0	Silvi	8000	4.0	800	748	93.5	9
102	Jamtara	Kundhit	Uttamdih	2019-20	25.0	Silvi	5000	3.0	600	523	87.2	9
103	Khunti	Jariya Forest Range, Karra	Dufu	2019-20	50.00	Silvi	10000	5.0	1000	637	63.7	7
104	Khunti	Jariya Forest Range, Karra	Plasa	2019-20	50.00	Silvi	10000	5.0	1000	629	62.9	7
105	Khunti	Tamar	Lungtu	2019-20	60.00	Silvi	12000	6.0	1200	1068	89.1	9
106	Khunti	Bundu	Dokad	2021-22	50.00	Silvi	10000	5.0	1000	841	84.1	9
107	Koderma	Koderma	Chilsodeeh	2020-21	60.0	Silvi	12000	6.0	1200	1021	85.1	9
108	Koderma	Koderma	Nalwa	2020-21	30.0	Silvi	6000	3.0	600	473	78.8	8
109	Koderma	Domchanch	Bangakhallar	2021-22	50.0	Silvi	10000	5.0	1000	852	85.2	9
110	Koderma	Domchanch	Laxmipur	2020-21	25.0	Silvi	5000	3.0	600	454	75.7	8
111	Koderma	Domchanch	Vanpok	2021-22	50.0	Silvi	10000	5.0	1000	735	73.5	8
112	Koderma	Domchanch	Dhab	2020-21	40.0	Silvi	8000	4.0	800	550	68.8	7
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	2021-22	10.0	Silvi	2000	1.0	200	186	93.0	9
114	Kolhan	Kolhan	Ganmmor PF (Jojogutu)	2021-22	50.0	Silvi	5000	5.0	500	461	92.2	9
115	Kolhan	Santra	Ichahatu PF	2019-20	50.0	Silvi	10000	5.0	500	455	91	9
116	Kolhan	Saitwa	Thakuragutu PF	2021-22	50.0	Silvi	10000	5.0	500	467	93.4	9
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	2021-22	50.0	Silvi	10000	5.0	250	241	96.4	9
118	Latehar	Chandwa	Tudamu	2019-20	50.0	Silvi	10000	5.0	1000	713	71.3	8
119	Latehar	Chandwa	Tudamu (M)	2019-20	50.0	Silvi	10000	5.0	1000	779	77.9	8
120	Latehar	Chandwa	Chiro	2019-20	50.0	Silvi	10000	5.0	1000	683	68.3	7
121	Latehar	Latehar	Dihi	2020-21	50.0	Silvi	10000	5.0	1000	623	62.3	7
122	Latehar	Manika	Dundu	2020-21	50.0	Silvi	10000	5.0	1000	602	60.2	7
123	Lohardaga	Lohardaga	Chot Chorgain	2019-20	70	Silvi	14000	7.0	1400	1204	86	9
124	Lohardaga	Kuru	Kundgara	2021-22	50	Silvi	10000	5.0	1000	820	82	9
125	Lohardaga	Kuru	Chalho	2019-20	50	Silvi	10000	5.0	1000	820	82	9
126	Lohardaga	Banari	Tithi	2019-20	50	Silvi	10000	5.0	1000	900	90	9
127	Lohardaga	Banari	Lapu	2021-22	50	Silvi	10000	5.0	1000	905	90.5	9

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
128	Medininagar	Kundari	Baida	2021-22	50.00	Silvi	10000	5.0	1000	751	75.1	8
129	Medininagar	Chatarpur East	Murumdag	2020-21	50.00	Silvi	10000	5.0	1000	783	78.3	8
130	Medininagar, PTR North	Betla	Saraidih	2020-21	50.0	Silvi	10000	5.0	1000	627	62.7	7
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	2020-21	100.0	Silvi	20000	10.0	2000	1281	64.1	7
132	Medininagar, PTR North	Chhipadohar East	Gaypaswa	2019-20	50.0	Silvi	10000	5.0	1000	627	62.7	7
133	Medininagar, PTR North	Chhipadohar East	Koyabathan	2020-21	50.0	Silvi	10000	5.0	1000	778	77.8	8
134	Medininagar, PTR North	Chhipadohar West	Pathar kudwa	2020-21	50.0	Silvi	10000	5.0	1000	513	51.3	6
135	Medininagar, PTR North	Chhipadohar West	Karhain	2020-21	25.0	Silvi	5000	3.0	615	308	50.1	6
136	Medininagar, PTR North	Chhipadohar West	Karam tongri	2020-21	30.0	Silvi	6000	3.0	600	321	53.5	6
137	Medininagar, PTR North	Chhipadohar West	Shidhiahiya ghati	2020-21	50.0	Silvi	10000	5.0	1000	478	47.8	5
138	Medininagar, PTR North	Chhipadohar West	Hadhitand	2020-21	50.0	Silvi	10000	5.0	1000	526	52.6	6
139	Medininagar, PTR North	Chhipadohar West	Belahi	2020-21	40.0	Silvi	8000	4.0	800	525	65.6	7
140	Medininagar, PTR North	Chhipadohar West	Khairahi	2020-21	50.0	Silvi	10000	5.0	1000	812	81.2	9
141	Medininagar, PTR North	Chhipadohar West	Tendtand	2020-21	50.0	Silvi	10000	5.0	1000	616	61.6	7
142	Medininagar, PTR North	Chhipadohar West	Khairahi khand	2020-21	30.0	Silvi	6000	3.0	600	214	35.7	5
143	Medininagar, PTR South	Garu East	Khajur Tond	2020-21	55.00	Silvi	11000	5.5	1100	825	75	8
144	Medininagar, PTR South	Garu West	Mundu PF	2019-20	50.00	Silvi	10000	5.0	1000	699	69.9	7
145	Medininagar,	Baresandh	Jata Mod	2019-20	50.00	Silvi	10000	5.0	1000	750	75	8

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
	PTR South											
146	Medininagar, PTR South	Baresandh	Ganim Tand	2021-22	50.00	Silvi	10000	5.0	1000	750	75	8
147	Medininagar, PTR South	Garu East	Kotam PF Khajur Tand	2020-21	50.00	Silvi	10000	5.0	1000	722	72.2	8
148	Pakur	Amrapara	Baghapara	2019-20	30.0	Silvi	6000	3.0	600	516	86	9
149	Pakur	Gourpara	Gourpara	2019-20	25.0	Silvi	5000	3.0	600	545	90.8	9
150	Pakur	Amrapara	Tilaiparapahar	2021-22	50.0	Silvi	10000	5.0	1000	863	86.3	9
151	Pakur	Hiranpur	Chota Chatkam	2021-22	28.0	Silvi	5600	3.0	600	343	57.2	6
152	Pakur	Pakur	Piyarsola	2020-21	5.00	Silvi	1000	1.0	200	92	46	5
153	Pakur	Hiranpur	Fulpahari	2021-22	19.0	Silvi	3800	2.0	400	347	86.8	9
154	Porahat	Anandpur	Jharbera	2019-20	50.0	Silvi	10071	5.0	1065	739	69.4	7
155	Porahat	Anandpur	Mahishgira	2019-20	50.0	Silvi	10000	5.0	1060	688	64.9	7
156	Porahat	Manoharpur	Batma	2021-22	50.0	Silvi	10000	5.0	1130	837	74.1	8
157	Porahat	Kera	Kuitaka	2019-20	50.0	Silvi	10000	5.0	1000	792	79.2	8
158	Porahat	Songra	Kandeyang DPF-12	2019-20	50.0	Silvi	Plantation not done				0	
159	Porahat	Songra	Songra-24	2019-20	50.0	Silvi	Plantation not done				0	
160	Porahat	Songra	Birda-2 (Kokorbo)	2020-21	50.0	Silvi	10000	5.0	1000	702	70.2	8
161	Ramgarh	Gola	Uladaka	2020-21	50.0	Silvi	10000	5.0	1000	883	88.3	9
162	Ramgarh	Gola	Purabdih	2020-21	50.0	Silvi	10000	5.0	1000	801	80.1	9
163	Ramgarh	Patratu	Baridih	2020-21	25.0	Silvi	5000	3.0	600	517	86.2	9
164	Ramgarh	Ramgarh	Bhuchungdih	2019-20	45.0	Silvi	9000	5.0	1000	861	86.1	9
165	Ranchi	Kanke	Bagda	2019-20	50.0	Silvi	10000	5.0	1000	713	71.3	8
166	Ranchi	Kanke	Rahra	2020-21	60.0	Silvi	12000	6.0	1200	616	51.3	6
167	Ranchi	Kanke	Jawabero	2021-22	60.0	Silvi	12000	6.0	1200	779	64.9	7
168	Ranchi	Mander	Tala	2019-20	75.0	Silvi	15000	8.0	1600	1170	73.1	8
169	Ranchi	Mander	Tangar Basli	2020-21	30.0	Silvi	6148	3.0	600	337	56.2	6
170	Ranchi	Mander	Naro	2020-21	32.0	Silvi	6755	4.0	800	436	54.5	6
171	Ranchi	Ranchi	Chanya	2020-21	70.0	Silvi	14000	7.0	1400	1148	82	9
172	Ranchi	Ranchi	Murupiri	2021-22	80.0	Silvi	16000	8.0	1600	1296	81	9
173	Ranchi, Wildlife	Palkot Wildlife Sanctuary	Baghima	2021-22	50.0	Silvi	10000	5.0	1000	837	83.7	9

Sl.no.	Division	Name of Range	Name of Site	Year of Plantation	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank
174	Sahebganj	Rajmahal	Hariyakol	2020-21	22.0	Silvi	4400	3.0	600	484	80.7	9
175	Sahebganj	Barharwa	Godafulli	2020-21	20.0	Silvi	4000	2.0	400	285	71.3	8
176	Sahebganj	Rajmahal	Chota Banapura	2020-21	18.0	Silvi	3600	2.0	400	287	71.8	8
177	Sahebganj	Rajmahal	Khairwa	2019-20	50.0	Silvi	10000	5.0	1000	719	71.9	8
178	Saranda	Kojna	Ankua 05	2021-22	50.0	Silvi	10000	5.0	1000	883	88.3	9
179	Saranda	Gua	GK-27	2021-22	25.0	Silvi	2500	2.5	250	176	70.4	8
180	Saranda	Gua	GK-27	2021-22	50.0	Silvi	5000	5.0	500	441	88.2	9
181	Saranda	Gua	GK-28	2021-22	75.0	Silvi	7500	8.0	800	667	83.4	9
182	Saranda	Gua	Karampade 02	2020-21	100.0	Silvi	Plantation not done				0	
183	Saraikella	Chandil	Dhonaburu-Raidih	2021-22	50.0	Silvi	10000	5.0	1000	842	84.2	9
184	Saraikella	Chandil	Tilla	2019-20	70.0	Silvi	14000	7.0	1400	1190	85	9
185	Saraikella	Saraikella	Reyardah	2020-21	55.0	Silvi	11000	6.0	1200	1047	87.3	9
186	Saraikella	Kharsawan	Dhadkidih	2021-22	50.0	Silvi	10000	5.0	1000	914	91.4	9
187	Saraikella	Kharsawan	Tiligora	2019-20	30.0	Silvi	6000	3.0	600	476	79.3	8
188	Saraikella	Kharsawan	Barjudih	2021-22	50.0	Silvi	10000	5.0	1000	810	81	9
189	Saraikella	Kharsawan	Mangudih	2019-20	50.0	Silvi	10000	5.0	1000	812	81.2	9
190	Simdega	Kolebira	Bongram	2019-20	30.00	Silvi	6000	3.0	600	337	56.2	6
191	Simdega	Bolba	Awrabahar	2021-22	50.0	Silvi	10000	5.0	1000	590	59	6
192	Simdega	Kolebira	Parba	2021-22	40.0	Silvi	8000	4.0	800	649	81.1	9
193	Simdega	Bano	Kewangutu	2019-20	30.0	Silvi	6134	3.0	613	296	48.3	5

### **Confidence Level of the Sample on Overall Projection to the Population/ Universe**

The confidence level of the sample studied under the Third Party Evaluation Study to assess the survival percentage at the Silviculture plantation has been calculated to project the sample result of survival on the overall populations.

#### **Statistical Methods Used**

Half width of the 95% Confidence Limit method has been used to calculate the confidence level of the sample survival percentage of plants in the plantation sites on overall populations. The Upper and Lower levels of 95% Confidence Limit have been calculated. If the half-width of 95% Confidence Limit is 0 then it can be said that the confidence level is close to the sample result.

The point estimate, i.e., the best estimate of the proportion of the survival of plants with the survival of plants against the planted calculated for 37 forest divisions. The 95% confidence interval was computed for each forest division.

95% confidence interval = effect size  $\pm$  1.96 x standard error of the effect size

Thus, we are 95% confident that the true proportion of survival of plants is between 36% and 96%. There are few forest divisions where the survival rate of plants against the one that survived against plantation is lower compared to other divisions.



**Table 4.13: Showing the Confidence level of sample result to overall Populations**

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
1	Bokaro	Bermo	Mungo Rangamati	2020-21	50	Silvi	10000	5.0	1000	913	91.3	9	0.91300	0.08700	0.00007943	0.008912	93.05	89.55	1.7
2	Bokaro	Peterwar	Karma	2019-20	50	Silvi	10000	5.0	1000	863	86.3	9	0.86300	0.13700	0.00011823	0.010873	88.43	84.17	2.1
3	Bokaro	Peterwar	Chaura	2019-20	50	Silvi	10000	5.0	1000	826	82.6	9	0.82600	0.17400	0.00014372	0.011988	84.95	80.25	2.3
4	Bokaro	Bokaro	Chapari	2019-20	50	Silvi	10000	5.0	1000	899	89.9	9	0.89900	0.10100	0.00009080	0.009529	91.77	88.03	1.9
5	Chaibasa	Noamundi	Lepang (M)	2019-20	75	Silvi	15000	8.0	1600	986	61.6	7	0.61625	0.38375	0.00014780	0.012157	64.01	59.24	2.4
6	Chatra North	Pratappur	Hindiakala	2021-22	50	Silvi	10000	5.0	1000	825	82.5	9	0.82500	0.17500	0.00014438	0.012016	84.86	80.14	2.4
7	Chatra North	Pratappur	Adhauria	2021-22	50	Silvi	10000	5.0	1000	785	78.5	8	0.78500	0.21500	0.00016878	0.012991	81.05	75.95	2.5
8	Chatra North	Rajpur	Bindhani	2020-21	50	Silvi	10000	5.0	1000	877	87.7	9	0.87700	0.12300	0.00010787	0.010386	89.74	85.66	2.0
9	Chatra North	Rajpur	Raushana	2021-22	50	Silvi	10000	5.0	1000	819	81.9	9	0.81900	0.18100	0.00014824	0.012175	84.29	79.51	2.4
10	Chatra North	Hunterganj	Kharanti	2021-22	60	Silvi	12000	6.0	1200	1040	86.7	9	0.86667	0.13333	0.00009630	0.009813	88.59	84.74	1.9
11	Chatra South	Chatra	Ichak	2021-22	50	Silvi	10000	5.0	1000	881	88.1	9	0.88100	0.11900	0.00010484	0.010239	90.11	86.09	2.0
12	Chatra South	Lawalongo	Kundri	2020-21	50	Silvi	10000	5.0	1000	876	87.6	9	0.87600	0.12400	0.00010862	0.010422	89.64	85.56	2.0
13	Chatra South	Lawalongo	Rajwar	2020-21	50	Silvi	10012	5.0	1000	878	87.8	9	0.87800	0.12200	0.00010712	0.010353	89.83	85.77	2.0
14	Deoghar	SC Range Madhup	Trilokitanr	2020-21	35	Silvi	7000	4.0	800	712	89.0	9	0.89000	0.11000	0.00012238	0.011062	91.17	86.83	2.2

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root (margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
		ur																	
15	Deoghar	SC Range Madhupur	Bhikhnadih	2019-20	100	Silvi	20000	10.0	2000	1740	87.0	9	0.87000	0.13000	0.00005655	0.00752	88.47	85.53	1.5
16	Deoghar	SC Range Madhupur	Damgarha	2021-22	20	Silvi	4000	2.0	400	369	92.3	9	0.92250	0.07750	0.00017873	0.013369	94.87	89.63	2.6
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	2021-22	20	Silvi	4000	2.0	400	360	90.0	9	0.90000	0.10000	0.00022500	0.015	92.94	87.06	2.9
18	Deoghar	SC Range Madhupur	Pathania	2021-22	15	Silvi	3000	2.0	400	353	88.3	9	0.88250	0.11750	0.00025923	0.016101	91.41	85.09	3.2
19	Dhanbad	Tundi	Sarra	2021-22	50	Silvi	10000	5.0	1000	877	87.7	9	0.87700	0.12300	0.00010787	0.010386	89.74	85.66	2.0
20	Dhanbad	Tundi	Kolkamardih	2020-21	500	Silvi	10000	5.0	1000	818	81.8	9	0.81800	0.18200	0.00014888	0.012201	84.19	79.41	2.4
21	Dhanbad	Topchanchi	Kankarchhuri	2020-21	40	Silvi	8659	4.0	866	723	83.5	9	0.83487	0.16513	0.00015919	0.012617	85.96	81.01	2.5
22	Dhanbad	Topchanchi	Palma	2021-22	50	Silvi	10000	5.0	1000	865	86.5	9	0.86500	0.13500	0.00011678	0.010806	88.62	84.38	2.1
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	2021-22	40	Silvi	8125	4.0	813	616	75.8	8	0.75769	0.24231	0.00022583	0.015028	78.71	72.82	2.9
24	Dumka	Dumka Damin Kathikund	Chirudih	2019-20	50	Silvi	10000	5.0	1000	934	93.4	9	0.93400	0.06600	0.00006164	0.007851	94.94	91.86	1.5

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
25	Dumka	Hizla East	Paharpur	2019-20	50	Silvi	10000	5.0	1000	865	86.5	9	0.86500	0.13500	0.00011678	0.010806	88.62	84.38	2.1
26	Dumka	Hizla West	Madhuban	2020-21	50	Silvi	10000	5.0	1000	848	84.8	9	0.84800	0.15200	0.00012890	0.011353	87.03	82.57	2.2
27	Dumka	Hizla West	Kalipathar	2020-21	30	Silvi	6000	3.0	600	547	91.2	9	0.91167	0.08833	0.00013422	0.011585	93.44	88.90	2.3
28	Dumka	Hizla West	Gadichoto	2019-20	50	Silvi	10000	5.0	1000	885	88.5	9	0.88500	0.11500	0.00010178	0.010088	90.48	86.52	2.0
29	Garhwa North	Nagar	Daheriya	2019-20	50	Silvi	10000	5.0	1000	921	92.1	9	0.92100	0.07900	0.00007276	0.008537	93.77	90.43	1.7
30	Garhwa North	Nagar	Jhumri	2019-20	50	Silvi	10000	5.0	1000	901	90.1	9	0.90100	0.09900	0.00008920	0.009445	91.95	88.25	1.9
31	Garhwa North	Nagar	Karwapahar	2021-22	50	Silvi	10000	5.0	1000	802	80.2	9	0.80200	0.19800	0.00015880	0.012601	82.67	77.73	2.5
32	Garhwa North	Nagar	Sharda	2021-22	50	Silvi	10000	5.0	1000	900	90.0	9	0.90000	0.10000	0.00009000	0.009487	91.86	88.14	1.9
33	Garhwa North	Bhawnathpur	Barwari	2019-20	70	Silvi	14000	7.0	1400	1207	86.2	9	0.86214	0.13786	0.00008489	0.009214	88.02	84.41	1.8
34	Garhwa North	Bhawnathpur	Rohinia	2019-20	90	Silvi	18000	9.0	1800	1477	82.1	9	0.82056	0.17944	0.00008180	0.009044	83.83	80.28	1.8
35	Garhwa North	Bhawnathpur	Makri	2019-20	40	Silvi	8000	4.0	800	721	90.1	9	0.90125	0.09875	0.00011125	0.010547	92.19	88.06	2.1
36	Garhwa North	Bhawnathpur	Bansari	2019-20	120	Silvi	24000	12.0	2400	2046	85.3	9	0.85250	0.14750	0.00005239	0.007238	86.67	83.83	1.4
37	Garhwa South	Ranka East	Durjan	2021-22	50	Silvi	10000	5.0	1000	862	86.2	9	0.86200	0.13800	0.00011896	0.010907	88.34	84.06	2.1
38	Garhwa South	Ranka East	Baligar	2019-20	50	Silvi	10000	5.0	1000	849	84.9	9	0.84900	0.15100	0.00012820	0.011322	87.12	82.68	2.2
39	Garhwa South	Ranka East	Chutiya	2020-21	50	Silvi	10000	5.0	2000	1796	89.8	9	0.89800	0.10200	0.00004580	0.006767	91.13	88.47	1.3

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
40	Garhwa South	Ranka West	Tahle	2020-21	50	Silvi	10000	5.0	1000	895	89.5	9	0.89500	0.10500	0.00009398	0.009694	91.40	87.60	1.9
41	Garhwa South	Kutku	Kurunl	2019-20	50	Silvi	10000	5.0	1000	922	92.2	9	0.92200	0.07800	0.00007192	0.00848	93.86	90.54	1.7
42	Garhwa South	Kutku	Chapalsi	2019-20	50	Silvi	10000	5.0	1000	902	90.2	9	0.90200	0.09800	0.00008840	0.009402	92.04	88.36	1.8
43	Garhwa South	Ranka East	Homiya	2021-22	50	Silvi	10000	5.0	1000	881	88.1	9	0.88100	0.11900	0.00010484	0.010239	90.11	86.09	2.0
44	Garhwa South	Ranka East	Hardag	2021-22	50	Silvi	10000	5.0	1000	851	85.1	9	0.85100	0.14900	0.00012680	0.011261	87.31	82.89	2.2
45	Garhwa South	Ranka East	Bhourri	2019-20	50	Silvi	10000	5.0	1000	820	82.0	9	0.82000	0.18000	0.00014760	0.012149	84.38	79.62	2.4
46	Giridih east	Gawan	Bhogtadih	2019-20	50	Silvi	10000	5.0	1000	932	93.2	9	0.93200	0.06800	0.00006338	0.007961	94.76	91.64	1.6
47	Giridih east	Parasnath	Tuio	2021-22	50	Silvi	10000	5.0	1000	743	74.3	8	0.74300	0.25700	0.00019095	0.013819	77.01	71.59	2.7
48	Giridih east	Parasnath	Chirki	2019-20	50	Silvi	10000	5.0	1000	764	76.4	8	0.76400	0.23600	0.00018030	0.013428	79.03	73.77	2.6
49	Giridih east	Gawan	Rijhani	2021-22	50	Silvi	10000	5.0	1000	811	81.1	9	0.81100	0.18900	0.00015328	0.012381	83.53	78.67	2.4
50	Giridih east	Dumri	Khutargurho	2021-22	40	Silvi	8000	4.0	800	635	79.4	8	0.79375	0.20625	0.00020464	0.014305	82.18	76.57	2.8
51	Giridih east	Dumri	Baledih	2021-22	60	Silvi	12681	6.0	1268	978	77.1	8	0.77129	0.22871	0.00013912	0.011795	79.44	74.82	2.3
52	Giridih east	Dumri	Madhogopali	2019-20	50	Silvi	10000	5.0	1000	767	76.7	8	0.76700	0.23300	0.00017871	0.013368	79.32	74.08	2.6
53	Giridih east	Dumri	Nagabad	2019-20	50	Silvi	10000	5.0	1000	746	74.6	8	0.74600	0.25400	0.00018948	0.013765	77.30	71.90	2.7
54	Giridih east	Dumri	Gurha	2021-22	50	Silvi	10000	5.0	1000	738	73.8	8	0.73800	0.26200	0.00019336	0.013905	76.53	71.07	2.7
55	Giridih	Bengaba	Bishnishara	2020-	50	Silvi	1000	5.0	1000	918	91.8	9	0.918	0.082	0.00007	0.00867	93.5	90.1	1.7

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																	Upper limit	Lower limit	
	west	d	n	21			0						00	00	528	6	0	0	
56	Giridih west	Doranda	Gundri	2019-20	30	Silvi	7980	3.0	798	759	95.1	9	0.95113	0.04887	0.00005825	0.007632	96.61	93.62	1.5
57	Giridih west	Jamua	Chitra Pahadi	2021-22	50	Silvi	10000	5.0	1000	941	94.1	9	0.94100	0.05900	0.00005552	0.007451	95.56	92.64	1.5
58	Giridih west	Jamua	Naitanr	2019-20	50	Silvi	10000	5.0	1000	772	77.2	8	0.77200	0.22800	0.00017602	0.013267	79.80	74.60	2.6
59	Giridih west	Bengabadd	Gandro	2019-20	30	Silvi	6000	3.0	600	455	75.8	8	0.75833	0.24167	0.00030544	0.017477	79.26	72.41	3.4
60	Giridih west	Bengabadd	Saathibad	2020-21	40	Silvi	8000	4.0	800	623	77.9	8	0.77875	0.22125	0.00021537	0.014676	80.75	75.00	2.9
61	Giridih west	Doranda	Suarchach	2021-22	50	Silvi	10000	5.0	1000	757	75.7	8	0.75700	0.24300	0.00018395	0.013563	78.36	73.04	2.7
62	Godda	Godda	Varistanr	2021-22	25	Silvi	5000	3.0	600	437	72.8	8	0.72833	0.27167	0.00032977	0.01816	76.39	69.27	3.6
63	Godda	Godda	Kalajhar	2020-21	50	Silvi	10000	5.0	1000	802	80.2	9	0.80200	0.19800	0.00015880	0.012601	82.67	77.73	2.5
64	Gumla	Kurumgarh	Silam	2021-22	50	Silvi	10000	5.0	1000	815	81.5	9	0.81500	0.18500	0.00015078	0.012279	83.91	79.09	2.4
65	Gumla	Gumla	Jorag	2021-22	50	Silvi	10000	5.0	1000	868	86.8	9	0.86800	0.13200	0.00011458	0.010704	88.90	84.70	2.1
66	Gumla	Gumla	Keluga	2021-22	50	Silvi	10000	5.0	1000	869	86.9	9	0.86900	0.13100	0.00011384	0.01067	88.99	84.81	2.1
67	Gumla	Gumla	Koenjara (Kyonjara)	2021-22	50	Silvi	10000	5.0	1000	811	81.1	9	0.81100	0.18900	0.00015328	0.012381	83.53	78.67	2.4
68	Gumla	Gumla	Brinda	2021-22	50	Silvi	10000	5.0	1000	819	81.9	9	0.81900	0.18100	0.00014824	0.012175	84.29	79.51	2.4
69	Gumla	Bishunpur	Barrang	2020-21	50	Silvi	10000	5.0	1000	850	85.0	9	0.85000	0.15000	0.00012750	0.011292	87.21	82.79	2.2
70	Gumla	Kurumgarh	Kerabar	2020-21	50	Silvi	10000	5.0	1000	750	75.0	8	0.75000	0.25000	0.00018750	0.013693	77.68	72.32	2.7
71	Gumla	Kurumg	Kedeng	2021-	50	Silvi	1000	5.0	1000	750	75.0	8	0.750	0.250	0.00018	0.01369	77.6	72.3	2.7

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																	Upper limit	Lower limit	
		arh		22			0						00	00	750	3	8	2	
72	Hazarib agh WL	WL Koderm a	Bahimar & Sarugarukh urd	2021-22	50	Silvi	10000	5.0	1000	948	94.8	9	0.94800	0.05200	0.00004930	0.007021	96.18	93.42	1.4
73	Hazarib agh WL	Hazarib agh WL	Chordaha	2021-22	50	Silvi	10000	5.0	1000	903	90.3	9	0.90300	0.09700	0.00008759	0.009359	92.13	88.47	1.8
74	Hazarib agh WL	Chatra WL	Tigda	2020-21	100	Silvi	20000	10.0	2000	1213	60.7	7	0.60650	0.39350	0.00011933	0.010924	62.79	58.51	2.1
75	Hazarib agh WL	Chatra WL	Paramatu	2021-22	50	Silvi	10000	5.0	1000	711	71.1	8	0.71100	0.28900	0.00020548	0.014335	73.91	68.29	2.8
76	Hazarib agh WL	Chatra WL	Lare	2021-22	50	Silvi	10000	5.0	1000	607	60.7	7	0.60700	0.39300	0.00023855	0.015445	63.73	57.67	3.0
77	Hazarib agh East	Daru	Digwar	2020-21	50	Silvi	10000	5.0	1000	884	88.4	9	0.88400	0.11600	0.00010254	0.010126	90.38	86.42	2.0
78	Hazarib agh East	Daru	Daru	2020-21	29	Silvi	5800	3.0	600	501	83.5	9	0.83500	0.16500	0.00022963	0.015153	86.47	80.53	3.0
79	Hazarib agh East	Daru	Peto	2020-21	35	Silvi	7000	4.0	800	682	85.3	9	0.85250	0.14750	0.00015718	0.012537	87.71	82.79	2.5
80	Hazarib agh East	Daru	Pipcho Bhadwar	2021-22	50	Silvi	10000	5.0	1000	882	88.2	9	0.88200	0.11800	0.00010408	0.010202	90.20	86.20	2.0
81	Hazarib agh East	Bagodar	Bagodih	2021-22	50	Silvi	10000	5.0	1000	929	92.9	9	0.92900	0.07100	0.00006596	0.008122	94.49	91.31	1.6
82	Hazarib agh East	Bagodar	Arjari	2019-20	40	Silvi	8000	4.0	800	665	83.1	9	0.83125	0.16875	0.00017534	0.013242	85.72	80.53	2.6
83	Hazarib agh East	Gomia	Karmo	2021-22	25	Silvi	5000	3.0	600	487	81.2	9	0.81167	0.18833	0.00025477	0.015962	84.30	78.04	3.1

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																	Upper limit	Lower limit	
84	Hazarib agh west	Hazarib agh Afforestation	Ujrahidigi	2020-21	50	Silvi	10000	5.0	1000	802	80.2	9	0.80200	0.19800	0.00015880	0.012601	82.67	77.73	2.5
85	Hazarib agh west	Hazarib agh Afforestation	Belargada	2020-21	50	Silvi	10000	5.0	1000	851	85.1	9	0.85100	0.14900	0.00012680	0.011261	87.31	82.89	2.2
86	Hazarib agh west	Hazarib agh Afforestation	Ambajit	2021-22	50	Silvi	10000	5.0	1000	705	70.5	8	0.70500	0.29500	0.00020798	0.014421	73.33	67.67	2.8
87	Hazarib agh west	Barkagaon	Aango	2019-20	50	Silvi	10000	5.0	1000	842	84.2	9	0.84200	0.15800	0.00013304	0.011534	86.46	81.94	2.3
88	Jamshed pur	Chaukulia	Panijiya	2019-20	50	Silvi	10000	5.0	1000	820	82.0	9	0.82000	0.18000	0.00014760	0.012149	84.38	79.62	2.4
89	Jamshed pur	Rakhamines	Godadih, Lailam	2021-22	50	Silvi	10000	5.0	1000	820	82.0	9	0.82000	0.18000	0.00014760	0.012149	84.38	79.62	2.4
90	Jamshed pur	Rakhamines	Chadradih, Chatna	2021-22	50	Silvi	10000	5.0	1000	803	80.3	9	0.80300	0.19700	0.00015819	0.012577	82.77	77.83	2.5
91	Jamshed pur	Rakhamines	Bango, Roladih	2021-22	50	Silvi	10000	5.0	1000	842	84.2	9	0.84200	0.15800	0.00013304	0.011534	86.46	81.94	2.3
92	Jamshed pur	Chaukulia	Godrashole, Rajabasa, Hathibari	2021-22	40	Silvi	8000	4.0	800	619	77.4	8	0.77375	0.22625	0.00021883	0.014793	80.27	74.48	2.9
93	Jamshed pur	Chaukulia	Jugitopa, Purnapani	2021-22	35	Silvi	7092	4.0	810	514	63.5	7	0.63457	0.36543	0.00028629	0.01692	66.77	60.14	3.3
94	Jamshed pur	Musabani	Tetuldanga, Aasanbani	2020-21	50	Silvi	10000	5.0	1000	900	90.0	9	0.90000	0.10000	0.00009000	0.009487	91.86	88.14	1.9



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																	Upper limit	Lower limit	
95	Jamshed pur, Elephant Project	Dalma WL east	Dangdung P.F	2019-20	50	Silvi	10000	5.0	1000	902	90.2	9	0.90200	0.09800	0.00008840	0.009402	92.04	88.36	1.8
96	Jamshed pur, Elephant Project	Dalma WL east	Bonta P.F	2019-20	50	Silvi	10000	5.0	1000	881	88.1	9	0.88100	0.11900	0.00010484	0.010239	90.11	86.09	2.0
97	Jamshed pur, Elephant Project	Dalma WL east	Kathsor P.F	2020-21	50	Silvi	10000	5.0	1000	901	90.1	9	0.90100	0.09900	0.00008920	0.009445	91.95	88.25	1.9
98	Jamtara	Kundhit	Patharchur	2019-20	20	Silvi	4000	2.0	400	231	57.8	6	0.57750	0.42250	0.00060998	0.024698	62.59	52.91	4.8
99	Jamtara	Kundhit	Kasidih	2020-21	50	Silvi	10000	5.0	1000	919	91.9	9	0.91900	0.08100	0.00007444	0.008628	93.59	90.21	1.7
100	Jamtara	Nala	Narithal	2019-20	40	Silvi	8000	4.0	800	740	92.5	9	0.92500	0.07500	0.00008672	0.009312	94.33	90.67	1.8
101	Jamtara	Nala	Balichur	2019-20	40	Silvi	8000	4.0	800	748	93.5	9	0.93500	0.06500	0.00007597	0.008716	95.21	91.79	1.7
102	Jamtara	Kundhit	Uttamdih	2019-20	25	Silvi	5000	3.0	600	523	87.2	9	0.87167	0.12833	0.00018644	0.013654	89.84	84.49	2.7
103	Khunti	Jariya Forest Range, Karra	Dufu	2019-20	50	Silvi	10000	5.0	1000	637	63.7	7	0.63700	0.36300	0.00023123	0.015206	66.68	60.72	3.0
104	Khunti	Jariya Forest Range, Karra	Plasa	2019-20	50	Silvi	10000	5.0	1000	629	62.9	7	0.62900	0.37100	0.00023336	0.015276	65.89	59.91	3.0
105	Khunti	Tamar	Lungtu	2019-20	60	Silvi	12000	6.0	1200	1068	89.0	9	0.89000	0.11000	0.00008158	0.009032	90.77	87.23	1.8
106	Khunti	Bundu	Dokad	2021-	50	Silvi	1000	5.0	1000	841	84.1	9	0.841	0.159	0.00013	0.01156	86.3	81.8	2.3

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				22			0						00	00	372	4	7	3	
107	Koderna	Koderna	Chilsodeeh	2020-21	60	Silvi	12000	6.0	1200	1021	85.1	9	0.85083	0.14917	0.00010576	0.010284	87.10	83.07	2.0
108	Koderna	Koderna	Nalwa	2020-21	30	Silvi	6000	3.0	600	473	78.8	8	0.78833	0.21167	0.00027811	0.016677	82.10	75.56	3.3
109	Koderna	Domchanch	Bangakhallar	2021-22	50	Silvi	10000	5.0	1000	852	85.2	9	0.85200	0.14800	0.00012610	0.011229	87.40	83.00	2.2
110	Koderna	Domchanch	Laxmipur	2020-21	25	Silvi	5000	3.0	600	454	75.7	8	0.75667	0.24333	0.00030687	0.017518	79.10	72.23	3.4
111	Koderna	Domchanch	Vanpok	2021-22	50	Silvi	10000	5.0	1000	735	73.5	8	0.73500	0.26500	0.00019478	0.013956	76.24	70.76	2.7
112	Koderna	Domchanch	Dhab	2020-21	40	Silvi	8000	4.0	800	550	68.8	7	0.68750	0.31250	0.00026855	0.016388	71.96	65.54	3.2
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	2021-22	10	Silvi	2000	1.0	200	186	93.0	9	0.93000	0.07000	0.00032550	0.018042	96.54	89.46	3.5
114	Kolhan	Kolhan	Ganmmor PF (Joogutu)	2021-22	50	Silvi	5000	5.0	500	461	92.2	9	0.92200	0.07800	0.00014383	0.011993	94.55	89.85	2.4
115	Kolhan	Santra	Ichahatu PF	2019-20	50	Silvi	2500	5.0	500	455	91.0	9	0.91000	0.09000	0.00016380	0.012798	93.51	88.49	2.5
116	Kolhan	Saitwa	Thakuragutu PF	2021-22	50	Silvi	5000	5.0	500	467	93.4	9	0.93400	0.06600	0.00012329	0.011104	95.58	91.22	2.2
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	2021-22	50	Silvi	2500	5.0	250	241	96.4	9	0.96400	0.03600	0.00013882	0.011782	98.71	94.09	2.3
118	Latehar	Chandwa	Tudamu	2019-20	50	Silvi	10000	5.0	1000	713	71.3	8	0.71300	0.28700	0.00020463	0.014305	74.10	68.50	2.8
119	Latehar	Chandwa	Tudamu (M)	2019-20	50	Silvi	10000	5.0	1000	779	77.9	8	0.77900	0.22100	0.00017216	0.013121	80.47	75.33	2.6
120	Latehar	Chandwa	Chiro	2019-20	50	Silvi	10000	5.0	1000	683	68.3	7	0.68300	0.31700	0.00021651	0.014714	71.18	65.42	2.9

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121	Latehar	Latehar	Dihi	2020-21	50	Silvi	10000	5.0	1000	623	62.3	7	0.62300	0.37700	0.00023487	0.015326	65.30	59.30	3.0
122	Latehar	Manika	Dundu	2020-21	50	Silvi	10000	5.0	1000	602	60.2	7	0.60200	0.39800	0.00023960	0.015479	63.23	57.17	3.0
123	Lohardaga	Lohardaga	Chot Chorgain	2019-20	70	Silvi	14000	7.0	1400	1204	86.0	9	0.86000	0.14000	0.00008600	0.009274	87.82	84.18	1.8
124	Lohardaga	Kuru	Kundgara	2021-22	50	Silvi	10000	5.0	1000	820	82.0	9	0.82000	0.18000	0.00014760	0.012149	84.38	79.62	2.4
125	Lohardaga	Kuru	Chalho	2019-20	50	Silvi	10000	5.0	1000	820	82.0	9	0.82000	0.18000	0.00014760	0.012149	84.38	79.62	2.4
126	Lohardaga	Banari	Tithi	2019-20	50	Silvi	10000	5.0	1000	900	90.0	9	0.90000	0.10000	0.00009000	0.009487	91.86	88.14	1.9
127	Lohardaga	Banari	Lapu	2021-22	50	Silvi	10000	5.0	1000	905	90.5	9	0.90500	0.09500	0.00008598	0.009272	92.32	88.68	1.8
128	Medininagar	Kundari	Baida	2021-22	50	Silvi	10000	5.0	1000	751	75.1	8	0.75100	0.24900	0.00018700	0.013675	77.78	72.42	2.7
129	Medininagar	Chatarpur East	Murumdag	2020-21	50	Silvi	10000	5.0	1000	783	78.3	8	0.78300	0.21700	0.00016991	0.013035	80.85	75.75	2.6
130	Medininagar, PTR North	Betla	Saraidih	2020-21	50	Silvi	10000	5.0	1000	627	62.7	7	0.62700	0.37300	0.00023387	0.015293	65.70	59.70	3.0
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	2020-21	100	Silvi	20000	10.0	2000	1281	64.1	7	0.64050	0.35950	0.00011513	0.01073	66.15	61.95	2.1
132	Medininagar, PTR North	Chhipadohar East	Gaypaswa	2019-20	50	Silvi	10000	5.0	1000	627	62.7	7	0.62700	0.37300	0.00023387	0.015293	65.70	59.70	3.0
133	Medininagar,	Chhipadohar	Koyabathan	2020-21	50	Silvi	10000	5.0	1000	778	77.8	8	0.77800	0.22200	0.00017272	0.013142	80.38	75.22	2.6

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																	Upper limit	Lower limit	
	PTR North	East																	
134	Medinin agar, PTR North	Chhipad ohar West	Pathar kudwa	2020-21	50	Silvi	10000	5.0	1000	513	51.3	6	0.51300	0.48700	0.00024983	0.015806	54.40	48.20	3.1
135	Medinin agar, PTR North	Chhipad ohar West	Karhain	2020-21	25	Silvi	5000	3.0	615	308	50.1	6	0.50081	0.49919	0.00040650	0.020162	54.03	46.13	4.0
136	Medinin agar, PTR North	Chhipad ohar West	Karam tongri	2020-21	30	Silvi	6000	3.0	600	321	53.5	6	0.53500	0.46500	0.00041463	0.020362	57.49	49.51	4.0
137	Medinin agar, PTR North	Chhipad ohar West	Shidhihiya ghati	2020-21	50	Silvi	10000	5.0	1000	478	47.8	5	0.47800	0.52200	0.00024952	0.015796	50.90	44.70	3.1
138	Medinin agar, PTR North	Chhipad ohar West	Hadhitand	2020-21	50	Silvi	10000	5.0	1000	526	52.6	6	0.52600	0.47400	0.00024932	0.01579	55.69	49.51	3.1
139	Medinin agar, PTR North	Chhipad ohar West	Belahi	2020-21	40	Silvi	8000	4.0	800	525	65.6	7	0.65625	0.34375	0.00028198	0.016792	68.92	62.33	3.3
140	Medinin agar, PTR North	Chhipad ohar West	Khairahi	2020-21	50	Silvi	10000	5.0	1000	812	81.2	9	0.81200	0.18800	0.00015266	0.012355	83.62	78.78	2.4
141	Medinin agar, PTR	Chhipad ohar West	Tendtand	2020-21	50	Silvi	10000	5.0	1000	616	61.6	7	0.61600	0.38400	0.00023654	0.01538	64.61	58.59	3.0

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root (margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
	North																		
142	Medininagar, PTR North	Chhipadohar West	Khairahikhand	2020-21	30	Silvi	6000	3.0	600	214	35.7	5	0.35667	0.64333	0.00038243	0.019556	39.50	31.83	3.8
143	Medininagar, PTR South	Garu East	KhajurTond	2020-21	55	Silvi	11000	5.5	1100	825	75.0	8	0.75000	0.25000	0.00017045	0.013056	77.56	72.44	2.6
144	Medininagar, PTR South	Garu West	Mundu PF	2019-20	50	Silvi	10000	5.0	1000	699	69.9	7	0.69900	0.30100	0.00021040	0.014505	72.74	67.06	2.8
145	Medininagar, PTR South	Baresandh	Jata Mod	2019-20	50	Silvi	10000	5.0	1000	750	75.0	8	0.75000	0.25000	0.00018750	0.013693	77.68	72.32	2.7
146	Medininagar, PTR South	Baresandh	GanimTand	2021-22	50	Silvi	10000	5.0	1000	750	75.0	8	0.75000	0.25000	0.00018750	0.013693	77.68	72.32	2.7
147	Medininagar, PTR South	Garu East	Kotam PF KhajurTand	2020-21	50	Silvi	10000	5.0	1000	722	72.2	8	0.72200	0.27800	0.00020072	0.014167	74.98	69.42	2.8
148	Pakur	Amrapara	Baghapara	2019-20	30	Silvi	6000	3.0	600	516	86.0	9	0.86000	0.14000	0.00020067	0.014166	88.78	83.22	2.8
149	Pakur	Gourpara	Gourpara	2019-20	25	Silvi	5000	3.0	600	545	90.8	9	0.90833	0.09167	0.00013877	0.011178	93.14	88.52	2.3
150	Pakur	Amrapara	Tilaiparapahar	2021-22	50	Silvi	10000	5.0	1000	863	86.3	9	0.86300	0.13700	0.00011823	0.010873	88.43	84.17	2.1

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
151	Pakur	Hiranpur	Chota Chatkam	2021-22	28	Silvi	5600	3.0	600	343	57.2	6	0.57167	0.42833	0.00040811	0.020202	61.13	53.21	4.0
152	Pakur	Pakur	Piyarsola	2020-21	5	Silvi	1000	1.0	200	92	46.0	5	0.46000	0.54000	0.00124200	0.035242	52.91	39.09	6.9
153	Pakur	Hiranpur	Fulpahari	2021-22	19	Silvi	3800	2.0	400	347	86.8	9	0.86750	0.13250	0.00028736	0.016952	90.07	83.43	3.3
154	Porahat	Anandpur	Jharbera	2019-20	50	Silvi	10071	5.0	1065	739	69.4	7	0.69390	0.30610	0.00019944	0.014122	72.16	66.62	2.8
155	Porahat	Anandpur	Mahishgira	2019-20	50	Silvi	10000	5.0	1060	688	64.9	7	0.64906	0.35094	0.00021489	0.014659	67.78	62.03	2.9
156	Porahat	Manoharpur	Batma	2021-22	50	Silvi	10000	5.0	1130	837	74.1	8	0.74071	0.25929	0.00016996	0.013037	76.63	71.52	2.6
157	Porahat	Kera	Kuitaka	2019-20	50	Silvi	10000	5.0	1000	792	79.2	8	0.79200	0.20800	0.00016474	0.012835	81.72	76.68	2.5
158	Porahat	Songra	Kandeyang DPF-12	2019-20	50	Silvi	Plantation not done				0.0		0.00000	0.00000	0.00000000	0	0.00	0.00	0.0
159	Porahat	Songra	Songra-24	2019-20	50	Silvi	Plantation not done				0.0		0.00000	0.00000	0.00000000	0	0.00	0.00	0.0
160	Porahat	Songra	Birda-2 (Kokorbo)	2020-21	50	Silvi	10000	5.0	1000	702	70.2	8	0.70200	0.29800	0.00020920	0.014464	73.03	67.37	2.8
161	Ramgarh	Gola	Uladaka	2020-21	50	Silvi	10000	5.0	1000	883	88.3	9	0.88300	0.11700	0.00010331	0.010164	90.29	86.31	2.0
162	Ramgarh	Gola	Purabdih	2020-21	50	Silvi	10000	5.0	1000	801	80.1	9	0.80100	0.19900	0.00015940	0.012625	82.57	77.63	2.5
163	Ramgarh	Patratu	Baridih	2020-21	25	Silvi	5000	3.0	600	517	86.2	9	0.86167	0.13833	0.00019866	0.014095	88.93	83.40	2.8
164	Ramgarh	Ramgarh	Bhuchungdih	2019-20	45	Silvi	9000	5.0	1000	861	86.1	9	0.86100	0.13900	0.00011968	0.01094	88.24	83.96	2.1
165	Ranchi	Kanke	Bagda	2019-20	50	Silvi	10000	5.0	1000	713	71.3	8	0.71300	0.28700	0.00020463	0.014305	74.10	68.50	2.8
166	Ranchi	Kanke	Rahra	2020-21	60	Silvi	12000	6.0	1200	616	51.3	6	0.51333	0.48667	0.00020819	0.014429	54.16	48.51	2.8

Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
167	Ranchi	Kanke	Jawabero	2021-22	60	Silvi	12000	6.0	1200	779	64.9	7	0.64917	0.35083	0.00018979	0.013776	67.62	62.22	2.7
168	Ranchi	Mander	Tala	2019-20	75	Silvi	15000	8.0	1600	1170	73.1	8	0.73125	0.26875	0.00012283	0.011083	75.30	70.95	2.2
169	Ranchi	Mander	Tangar Basli	2020-21	30	Silvi	6148	3.0	600	337	56.2	6	0.56167	0.43833	0.00041033	0.020257	60.14	52.20	4.0
170	Ranchi	Mander	Naro	2020-21	32	Silvi	6755	4.0	800	436	54.5	6	0.54500	0.45500	0.00030997	0.017606	57.95	51.05	3.5
171	Ranchi	Ranchi	Chanya	2020-21	70	Silvi	14000	7.0	1400	1148	82.0	9	0.82000	0.18000	0.00010543	0.010268	84.01	79.99	2.0
172	Ranchi	Ranchi	Murupiri	2021-22	80	Silvi	16000	8.0	1600	1296	81.0	9	0.81000	0.19000	0.00009619	0.009808	82.92	79.08	1.9
173	Ranchi, Wildlife	Agro-forestry model development	Baghima	2021-22	50	Silvi	10000	5.0	1000	837	83.7	9	0.83700	0.16300	0.00013643	0.01168	85.99	81.41	2.3
174	Sahebganj	Rajmahal	Hariyakol	2020-21	22	Silvi	4400	3.0	600	484	80.7	9	0.80667	0.19333	0.00025993	0.016122	83.83	77.51	3.2
175	Sahebganj	Barharwa	Godafulli	2020-21	20	Silvi	4000	2.0	400	285	71.3	8	0.71250	0.28750	0.00051211	0.02263	75.69	66.81	4.4
176	Sahebganj	Rajmahal	Chota Banapura	2020-21	18	Silvi	3600	2.0	400	287	71.8	8	0.71750	0.28250	0.00050673	0.022511	76.16	67.34	4.4
177	Sahebganj	Rajmahal	Khairwa	2019-20	50	Silvi	10000	5.0	1000	719	71.9	8	0.71900	0.28100	0.00020204	0.014214	74.69	69.11	2.8
178	Saranda	Kojna	Ankua 05	2021-22	50	Silvi	10000	5.0	1000	883	88.3	9	0.88300	0.11700	0.00010331	0.010164	90.29	86.31	2.0
179	Saranda	Gua	GK-27	2021-22	25	Silvi	2500	2.5	250	176	70.4	8	0.70400	0.29600	0.00083354	0.028871	76.06	64.74	5.7
180	Saranda	Gua	GK-27	2021-22	50	Silvi	5000	5.0	500	441	88.2	9	0.88200	0.11800	0.00020815	0.014427	91.03	85.37	2.8
181	Saranda	Gua	GK-28	2021-	75	Silvi	7500	8.0	800	667	83.4	9	0.833	0.166	0.00017	0.01316	85.9	80.8	2.6



Sl.no.	Division	Name of Range	Name of Site	Year	Planted Area (ha.)	Scheme	Planted Plants	Sample area (ha.)	Sample plants	Live plants	Survival %	Rank	Sample mean (p)	(1-p)	p (1-p)/n	Square root(margin error)	95% Confidence limit		Half width of 95% CI
																	Upper limit	Lower limit	
				22									75	25	326	3	5	0	
182	Saranda	Gua	Karampade 02	2020-21	100	Silvi	Plantation not done				0.0	0							
183	Saraikella	Chandil	Dhonaburu-Raidih	2021-22	50	Silvi	10000	5.0	1000	842	84.2	9	0.84200	0.15800	0.00013304	0.011534	86.46	81.94	2.3
184	Saraikella	Chandil	Tilla	2019-20	70	Silvi	14000	7.0	1400	1190	85.0	9	0.85000	0.15000	0.00009107	0.009543	86.87	83.13	1.9
185	Saraikella	Saraikella	Reyardah	2020-21	55	Silvi	11000	6.0	1200	1047	87.3	9	0.87250	0.12750	0.00009270	0.009628	89.14	85.36	1.9
186	Saraikella	Kharsawan	Dhadkidih	2021-22	50	Silvi	10000	5.0	1000	914	91.4	9	0.91400	0.08600	0.00007860	0.008866	93.14	89.66	1.7
187	Saraikella	Kharsawan	Tiligora	2019-20	30	Silvi	6000	3.0	600	476	79.3	8	0.79333	0.20667	0.00027326	0.016531	82.57	76.09	3.2
188	Saraikella	Kharsawan	Barjudih	2021-22	50	Silvi	10000	5.0	1000	810	81.0	9	0.81000	0.19000	0.00015390	0.012406	83.43	78.57	2.4
189	Saraikella	Kharsawan	Mangudih	2019-20	50	Silvi	10000	5.0	1000	812	81.2	9	0.81200	0.18800	0.00015266	0.012355	83.62	78.78	2.4
190	Simdega	Kolebira	Bongram	2019-20	30	Silvi	6000	3.0	600	337	56.2	6	0.56167	0.43833	0.00041033	0.020257	60.14	52.20	4.0
191	Simdega	Bolba	Awrabahar	2021-22	50	Silvi	10000	5.0	1000	590	59.0	6	0.59000	0.41000	0.00024190	0.015553	62.05	55.95	3.0
192	Simdega	Kolebira	Parba	2021-22	40	Silvi	8000	4.0	800	649	81.1	9	0.81125	0.18875	0.00019140	0.013835	83.84	78.41	2.7
193	Simdega	Bano	Kewangutu	2019-20	30	Silvi	6134	3.0	613	296	48.3	5	0.48256	0.51744	0.00040707	0.020176	52.21	44.30	4.0

## 4.2.2 Protection & Management

The plantation area has been reported protected properly during the execution phase by closing the boundary of the plantation sites either by trench fencing, loose, barbed wire, or loose stone walls to ensure the proper health of forests and plantations executed under CAMPA. The protection and management measures include both scientific and traditional measures to maintain the health of plants & care of the area. The site-specific measures have been taken at large at the sample sites.

During a visit to the project sites for third-party evaluation it was reported that the plantation site boundaries were constructed as per norms i.e. loose stone wall, trench fencing barbed wire fencing, etc. It was also observed at the sample sites that the fencing on the boundaries has been damaged. Also, the plantation sites have withdrawn the cattle guards that were placed during the execution phase. The plantation sites where the watcher has been withdrawn may be due to the end of the maintenance period were reported open and the village animals were reported entering into the plantation sites for grazing.

The table given below shows various types of fencing reported at the plantation sites for the protection of planted species. Trench fencing was reported at 181 sample sites. The dimensions of the trench/ ditch fencing were reported - width (T+B) of trench fencing is 1.8m & 1.2m, h- 1.2m. The present condition of the fencing was largely satisfactory. Silting was reported in some parts of trench fencing. The fencing is as per record & site condition. Silting of Trench fencing was reported at the plantation sites varying from 10 percent to 40 percent.

Likewise, loose stone wall fencing was reported at 15 sample sites & barbed wire fencing was reported at 12 sample sites. Also, other types (Hedge, etc.) of fencing were reported at 51 sample plantation sites.



**Table 4.14: Status of Fencing at Silviculture plantation sites**

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
1	Bokaro	Bermo	Mungo Rangamati	Silvi		6000			Yes	Yes	Useful
2	Bokaro	Peterwar	Karma	Silvi		600			Yes	Yes	Useful
3	Bokaro	Peterwar	Chaura	Silvi	780	2840		1800	Yes	Yes	Useful
4	Bokaro	Bokaro	Chapari	Silvi		3160		1940	Yes	Yes	Useful
5	Chaibasa	Noamundi	Lepang (M)	Silvi		Yes			Yes	Yes	Useful
6	Chatra North	Pratappur	Hindiakala	Silvi		2360	-		Yes	Yes	Useful
7	Chatra North	Pratappur	Adhauria	Silvi		4420	-		Yes	Yes	Useful
8	Chatra North	Rajpur	Bindhani	Silvi		3800	-		Yes	Yes	Useful
9	Chatra North	Rajpur	Raushana	Silvi		4500	-		Yes	Yes	Useful
10	Chatra North	Hunterganj	Kharanti	Silvi		5100	-		Yes	Yes	Useful
11	Chatra South	Chatra	Ichak	Silvi		4800			Yes	Yes	Useful
12	Chatra South	Lawalong	Kundri	Silvi		Yes			Yes	Yes	Useful
13	Chatra South	Lawalong	Rajwar	Silvi		5680			Yes	Yes	Useful
14	Deoghar	SC Range Madhupur	Trilokitanr	Silvi		4200			Yes	Yes	Useful
15	Deoghar	SC Range Madhupur	Bhikhnadih	Silvi		12000			Yes	Yes	Useful
16	Deoghar	SC Range	Damgarha	Silvi		Yes			Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
		Madhupur									
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	Silvi		2400			Yes	Yes	Useful
18	Deoghar	SC Range Madhupur	Pathania	Silvi		1800			Yes	Yes	Useful
19	Dhanbad	Tundi	Sarra	Silvi	40	6240			Yes	Yes	Useful
20	Dhanbad	Tundi	Kolkamardih	Silvi		Yes			Yes	Yes	Useful
21	Dhanbad	Topchanchi	Kankarchhuri	Silvi		Yes			Yes	Yes	Useful
22	Dhanbad	Topchanchi	Palma	Silvi		Yes			Yes	Yes	Useful
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	Silvi		4800			Yes	Yes	Useful
24	Dumka	Dumka Damin Kathikund	Chirudih	Silvi		Yes			Yes	Yes	Useful
25	Dumka	Hizla East	Paharpur	Silvi		Yes			Yes	Yes	Useful
26	Dumka	Hizla West	Madhuban	Silvi		Yes			Yes	Yes	Useful
27	Dumka	Hizla West	Kalipathar	Silvi		Yes			Yes	Yes	Useful
28	Dumka	Hizla West	Gadichoto	Silvi		6000			Yes	Yes	Useful
29	Garhwa North	Nagar	Daheriya	Silvi		Yes			Yes	Yes	Useful
30	Garhwa North	Nagar	Jhumri	Silvi		Yes			Yes	Yes	Useful
31	Garhwa North	Nagar	Karwapahar	Silvi		4020			Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
32	Garhwa North	Nagar	Sharda	Silvi	560	1140		1300	Yes	Yes	Useful
33	Garhwa North	Bhawnathpur	Barwari	Silvi		4680	820		Yes	Yes	Useful
34	Garhwa North	Bhawnathpur	Rohinia	Silvi	2300	3080		900	Yes	Yes	Useful
35	Garhwa North	Bhawnathpur	Makri	Silvi	1060			1420	Yes	Yes	Useful
36	Garhwa North	Bhawnathpur	Bansari	Silvi	1360			2400	Yes	Yes	Useful
37	Garhwa South	Ranka East	Durjan	Silvi		1800		3300	Yes	Yes	Useful
38	Garhwa South	Ranka East	Baligar	Silvi		1800		2400	Yes	Yes	Useful
39	Garhwa South	Ranka East	Chutiya	Silvi		2400			Yes	Yes	Useful
40	Garhwa South	Ranka Wast	Tahle	Silvi		Yes			Yes	Yes	Useful
41	Garhwa South	Kutku	Kurunl	Silvi		4180			Yes	Yes	Useful
42	Garhwa South	Kutku	Chapalsi	Silvi		1880		2040	Yes	Yes	Useful
43	Garhwa South	Ranka East	Homiya	Silvi		2200			Yes	Yes	Useful
44	Garhwa South	Ranka East	Hardag	Silvi		4400		400	Yes	Yes	Useful
45	Garhwa South	Ranka East	Bhouri	Silvi		1200		2800	Yes	Yes	Useful
46	Giridih east	Gawan	Bhogtadih	Silvi		Yes	-		Yes	Yes	Useful
47	Giridih east	Parasnath	Tuio	Silvi		Yes	-		Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
48	Giridih east	Parasnath	Chirki	Silvi		Yes	-		Yes	Yes	Useful
49	Giridih east	Gawan	Rijhani	Silvi		7600	-		Yes	Yes	Useful
50	Giridih east	Dumri	Khutargurho	Silvi		Yes	-		Yes	Yes	Useful
51	Giridih east	Dumri	Baledih	Silvi		Yes	-		Yes	Yes	Useful
52	Giridih east	Dumri	Madhogopali	Silvi		Yes	-		Yes	Yes	Useful
53	Giridih east	Dumri	Nagabad	Silvi		Yes	-		Yes	Yes	Useful
54	Giridih east	Dumri	Gurha	Silvi		Yes	-		Yes	Yes	Useful
55	Giridih west	Bengabad	Bishnisharan	Silvi		Yes			Yes	Yes	Useful
56	Giridih west	Doranda	Gundri	Silvi		Yes			Yes	Yes	Useful
57	Giridih west	Jamua	Chitra Pahadi	Silvi		Yes			Yes	Yes	Useful
58	Giridih west	Jamua	Naitanr	Silvi		Yes			Yes	Yes	Useful
59	Giridih west	Bengabad	Gandro	Silvi		Yes			Yes	Yes	Useful
60	Giridih west	Bengabad	Saathibad	Silvi		Yes			Yes	Yes	Useful
61	Giridih west	Doranda	Suarchach	Silvi		Yes			Yes	Yes	Useful
62	Godda	Godda	Varistanr	Silvi		3000			Yes	Yes	Useful
63	Godda	Godda	Kalajhar	Silvi		Yes		Yes	Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
64	Gumla	Kurumgarh	Silam	Silvi		Yes			Yes	Yes	Useful
65	Gumla	Gumla	Jorag	Silvi		Yes			Yes	Yes	Useful
66	Gumla	Gumla	Keluga	Silvi		4740		200	Yes	Yes	Useful
67	Gumla	Gumla	Koenjara (Kyonjara)	Silvi		520		200	Yes	Yes	Useful
68	Gumla	Gumla	Brinda	Silvi	240	5340		100	Yes	Yes	Useful
69	Gumla	Bishunpur	Barrang	Silvi		5400		600	Yes	Yes	Useful
70	Gumla	Kurumgarh	Kerabar	Silvi		6000			Yes	Yes	Useful
71	Gumla	Kurumgarh	Kedeng	Silvi		6000			Yes	Yes	Useful
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarukhurd	Silvi		2860		1400	Yes	Yes	Useful
73	Hazaribagh WL	Hazaribaghh WL	Chordaha	Silvi		Yes			Yes	Yes	Useful
74	Hazaribagh WL	Chatra WL	Tigda	Silvi		Yes			Yes	Yes	Useful
75	Hazaribagh WL	Chatra WL	Paramatu	Silvi		Yes			Yes	Yes	Useful
76	Hazaribagh WL	Chatra WL	Lare	Silvi		2740		2260	Yes	Yes	Useful
77	Hazaribagh East	Daru	Digwar	Silvi		5980		700	Yes	Yes	Useful
78	Hazaribagh East	Daru	Daru	Silvi		3300		180	Yes	Yes	Useful
79	Hazaribagh East	Daru	Peto	Silvi		4000		200	Yes	Yes	Useful



Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
80	Hazaribagh East	Daru	Pipcho Bhadwar	Silvi		6000		500	Yes	Yes	Useful
81	Hazaribagh East	Bagodar	Bagodih	Silvi		3960	420		Yes	Yes	Useful
82	Hazaribagh East	Bagodar	Arjari	Silvi		Yes			Yes	Yes	Useful
83	Hazaribagh East	Gomia	Karmo	Silvi		6000		500	Yes	Yes	Useful
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	Silvi		Yes			Yes	Yes	Yes
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	Silvi		Yes			Yes	Yes	Yes
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	Silvi		Yes			Yes	Yes	Useful
87	Hazaribagh west	Barkagaon	Aango	Silvi		3600		2400	Yes	Yes	Useful
88	Jamshedpur	Chaukulia	Panijiya	Silvi		6000			Yes	Yes	Useful
89	Jamshedpur	Rakhamines	Godadih, Lailam	Silvi		6000			Yes	Yes	Useful
90	Jamshedpur	Rakhamines	Chadradih, Chatna	Silvi			6000		Yes	Yes	Useful
91	Jamshedpur	Rakhamines	Bango, Roladih	Silvi			6000		Yes	Yes	Useful
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	Silvi		Yes			Yes	Yes	Useful
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	Silvi		Yes			Yes	Yes	Useful
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	Silvi		Yes			Yes	Yes	Useful
95	Jamshedpur,	Dalma WL	Dangdung P.F	Silvi		6000			Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
	Elephant Project	east									
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	Silvi		6000			Yes	Yes	Useful
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	Silvi		6000			Yes	Yes	Useful
98	Jamtara	Kundhit	Patharchur	Silvi		Yes			Yes	Yes	Useful
99	Jamtara	Kundhit	Kasidih	Silvi		Yes			Yes	Yes	Useful
100	Jamtara	Nala	Narithal	Silvi		2460			Yes	Yes	Useful
101	Jamtara	Nala	Balichur	Silvi			Yes		Yes	Yes	Useful
102	Jamtara	Kundhit	Uttamdih	Silvi			Yes		Yes	Yes	Useful
103	Khunti	Jariya Forest Range, Karra	Dufu	Silvi		Yes			Yes	Yes	Useful
104	Khunti	Jariya Forest Range, Karra	Plasa	Silvi		Yes			Yes	Yes	Useful
105	Khunti	Tamar	Lungtu	Silvi	700	3600			Yes	Yes	Useful
106	Khunti	Bundu	Dokad	Silvi	1000	5000			Yes	Yes	Useful
107	Koderma	Koderma	Chilsodeeh	Silvi		2460			Yes	Yes	Useful
108	Koderma	Koderma	Nalwa	Silvi		Yes	220	Yes	Yes	Yes	Useful
109	Koderma	Domchanch	Bangakhallar	Silvi		Yes		Yes	Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
110	Koderma	Domchanch	Laxmipur	Silvi		700		1900	Yes	Yes	Useful
111	Koderma	Domchanch	Vanpok	Silvi		Yes			Yes	Yes	Useful
112	Koderma	Domchanch	Dhab	Silvi		Yes			Yes	Yes	Useful
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	Silvi	Yes	Yes		Yes	Yes	Yes	Useful
114	Kolhan	Kolhan	Ganmmor PF (Joogutu)	Silvi	Yes	Yes		Yes	Yes	Yes	Useful
115	Kolhan	Santra	Ichahatu PF	Silvi		1620		340	Yes	Yes	Useful
116	Kolhan	Saitwa	Thakuragutu PF	Silvi		6000			Yes	Yes	Useful
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	Silvi		6000			Yes	Yes	Useful
118	Latehar	Chandwa	Tudamu	Silvi		Yes			Yes	Yes	Useful
119	Latehar	Chandwa	Tudamu (M)	Silvi		Yes		Yes	Yes	Yes	Useful
120	Latehar	Chandwa	Chiro	Silvi		Yes			Yes	Yes	Useful
121	Latehar	Latehar	Dihi	Silvi		Yes		Yes	Yes	Yes	Useful
122	Latehar	Manika	Dundu	Silvi		Yes		Yes	Yes	Yes	Useful
123	Lohardaga	Lohardaga	Chot Chorgain	Silvi		7000			Yes	Yes	Useful
124	Lohardaga	Kuru	Kundgara	Silvi		6000			Yes	Yes	Useful
125	Lohardaga	Kuru	Chalho	Silvi		3500	140	2360	Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
126	Lohardaga	Banari	Tithi	Silvi		4400		2060	Yes	Yes	Useful
127	Lohardaga	Banari	Lapu	Silvi		5900		100	Yes	Yes	Useful
128	Medininagar	Kundari	Baida	Silvi		4760			Yes	Yes	Useful
129	Medininagar	Chatarpur East	Murumdag	Silvi		Yes			Yes	Yes	Useful
130	Medininagar, PTR North	Betla	Saraidih	Silvi		Yes		-	Yes	Yes	Useful
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	Silvi		Yes		-	Yes	Yes	Useful
132	Medininagar, PTR North	Chhipadohar East	Gaypaswa	Silvi			Yes	Yes	Yes	Yes	Useful
133	Medininagar, PTR North	Chhipadohar East	Koyabathan	Silvi		Yes		Yes	Yes	Yes	Useful
134	Medininagar, PTR North	Chhipadohar West	Pathar kudwa	Silvi		Yes		Yes	Yes	Yes	Useful
135	Medininagar, PTR North	Chhipadohar West	Karhain	Silvi		Yes			Yes	Yes	Useful
136	Medininagar, PTR North	Chhipadohar West	Karam tongri	Silvi		Yes			Yes	Yes	Useful
137	Medininagar, PTR North	Chhipadohar West	Shidhiahiya ghati	Silvi		Yes		Yes	Yes	Yes	Useful
138	Medininagar, PTR North	Chhipadohar West	Hadhitand	Silvi		Yes		Yes	Yes	Yes	Useful
139	Medininagar, PTR North	Chhipadohar West	Belahi	Silvi		Yes		Yes	Yes	Yes	Useful
140	Medininagar, PTR North	Chhipadohar West	Khairahi	Silvi		3740			Yes	Yes	Useful
141	Medininagar, PTR North	Chhipadohar West	Tendtand	Silvi		Yes		Yes	Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
142	Medininagar, PTR North	Chhipadohar West	Khairahi khand	Silvi		Yes		Yes	Yes	Yes	Useful
143	Medininagar, PTR South	Garu East	Khajur Tond	Silvi		1700			Yes	Yes	Useful
144	Medininagar, PTR South	Garu West	Mundu PF	Silvi		3060			Yes	Yes	Useful
145	Medininagar, PTR South	Baresandh	Jata Mod	Silvi		Yes			Yes	Yes	Useful
146	Medininagar, PTR South	Baresandh	Ganim Tand	Silvi		1400			Yes	Yes	Useful
147	Medininagar, PTR South	Garu East	Kotam PF Khajur Tand	Silvi		Yes			Yes	Yes	Useful
148	Pakur	Amrapara	Baghapara	Silvi		3600			Yes	Yes	Useful
149	Pakur	Gourpara	Gourpara	Silvi		Yes			Yes	Yes	Useful
150	Pakur	Amrapara	Tilaiparapahar	Silvi		6000			Yes	Yes	Useful
151	Pakur	Hiranpur	Chota Chatkam	Silvi		3360			Yes	Yes	Useful
152	Pakur	Pakur	Piyarsola	Silvi		Yes			Yes	Yes	Useful
153	Pakur	Hiranpur	Fulpahari	Silvi		2280			Yes	Yes	Useful
154	Porahat	Anandpur	Jharbera	Silvi		6000			Yes	Yes	Useful
155	Porahat	Anandpur	Mahishgira	Silvi		Yes			Yes	Yes	Useful
156	Porahat	Manoharpur	Batma	Silvi		6000			Yes	Yes	Useful
157	Porahat	Kera	Kuitaka	Silvi		Yes			Yes	Yes	Useful
158	Porahat	Songra	Kandeyang	Silvi		6000			Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
			DPF-12								
159	Porahat	Songra	Songra-24	Silvi		Yes			Yes	Yes	Useful
160	Porahat	Songra	Birda-2 (Kokorbo)	Silvi		Yes			Yes	Yes	Useful
161	Ramgarh	Gola	Uladaka	Silvi	-	6100		-	Yes	Yes	Useful
162	Ramgarh	Gola	Purabdih	Silvi	-	Yes		-	Yes	Yes	Useful
163	Ramgarh	Patratu	Baridih	Silvi	-	500		Yes	Yes	Yes	Useful
164	Ramgarh	Ramgarh	Bhuchungdih	Silvi	400	3600		-	Yes	Yes	Useful
165	Ranchi	Kanke	Bagda	Silvi		1260		4740	Yes	Yes	Useful
166	Ranchi	Kanke	Rahra	Silvi		7200			Yes	Yes	Useful
167	Ranchi	Kanke	Jawabero	Silvi		7200			Yes	Yes	Useful
168	Ranchi	Mander	Tala	Silvi		8420		600	Yes	Yes	Useful
169	Ranchi	Mander	Tangar Basli	Silvi		5500			Yes	Yes	Useful
170	Ranchi	Mander	Naro	Silvi		3840			Yes	Yes	Useful
171	Ranchi	Ranchi	Chanya	Silvi		8400			Yes	Yes	Useful
172	Ranchi	Ranchi	Murupiri	Silvi			9600		Yes	Yes	Useful
173	Ranchi, Wildlife	Palkot Wildlife Sanctuary	Baghima	Silvi		6000			Yes	Yes	Useful

Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
174	Sahebganj	Rajmahal	Hariyakol	Silvi		Yes			Yes	Yes	Useful
175	Sahebganj	Barharwa	Godafulli	Silvi		Yes			Yes	Yes	Useful
176	Sahebganj	Rajmahal	Chota Banapura	Silvi					Yes	Yes	Useful
177	Sahebganj	Rajmahal	Khairwa	Silvi	Yes	Yes			Yes	Yes	Useful
178	Saranda	Kojna	Ankua 05	Silvi		3000			Yes	Yes	Useful
179	Saranda	Gua	GK-27	Silvi				200	Yes	Yes	Useful
180	Saranda	Gua	GK-27	Silvi		300		800	Yes	Yes	Useful
181	Saranda	Gua	GK-28	Silvi		500		300	Yes	Yes	Useful
182	Saranda	Gua	Karampade 02	Silvi	Not reported						
183	Saraikella	Chandil	Dhonaburu-Raidih	Silvi		6000		-	Yes	Yes	Useful
184	Saraikella	Chandil	Tilla	Silvi		4720			Yes	Yes	Useful
185	Saraikella	Saraikella	Reyardah	Silvi		6600		-	Yes	Yes	Useful
186	Saraikella	Kharsawan	Dhadkidih	Silvi		6000		-	Yes	Yes	Useful
187	Saraikella	Kharsawan	Tiligora	Silvi		Yes		-	Yes	Yes	Useful
188	Saraikella	Kharsawan	Barjudih	Silvi	100	5600		-	Yes	Yes	Useful
189	Saraikella	Kharsawan	Mangudih	Silvi		5940			Yes	Yes	Useful
190	Simdega	Kolebira	Bongram	Silvi	80	3600	120		Yes	Yes	Useful



Sl.no	Division	Name of Range	Name of Site	Scheme	Loose stone wall	Trench	Barbed	Hedge	Fencing as per site condition	Fencing as per record	Usefulness of fencing
191	Simdega	Bolba	Awrabahar	Silvi		5400			Yes	Yes	Useful
192	Simdega	Kolebira	Parba	Silvi		4800			Yes	Yes	Useful
193	Simdega	Bano	Kewangutu	Silvi		3340		1200	Yes	Yes	Useful



### 4.2.3 Soil & Moisture Conservation works (SMC Works) at Silviculture Plantation sites

Activities related to development of Soil & Moisture Conservation structures (SMC) is the key element of CAMPA Fund which is pre-requisite for the afforestation and plantation activities. Various SMC structures were constructed namely, SMC Structures – water Harvesting structures (WHS), Silt Detention dam (SDD), Gully plugging, Earthen Check dam, contour trench etc. Silt Detention dam (SDD) reported at 125 sites, Contour bunding at 186 sites, Gully plugging at 132 sites and others viz. Earthen Check dam, Loose stone checkdam & Gabion at 10 sites.

The table given below shows the status of SMC structures at silviculture plantation sites.





**Table 4.15: Status of SMC Structures at Silviculture Plantation Sites**

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
1	Bokaro	Bermo	Mungo Rangamati	Silvi	Yes		Yes		30	Useful	Improved	Good
2	Bokaro	Peterwar	Karma	Silvi	Yes	2500	Yes		20	Useful	Improved	Good
3	Bokaro	Peterwar	Chaura	Silvi		2500	40		30	Useful	Improved	Good
4	Bokaro	Bokaro	Chapari	Silvi	3	2500	118		20	Useful	Improved	Good
5	Chaibasa	Noamundi	Lepang (M)	Silvi		3750	21		60-70	Useful	Improved	Good
6	Chatra North	Pratappur	Hindiakala	Silvi	2	2500	88		45	Useful	Improved	Good
7	Chatra North	Pratappur	Adhauria	Silvi	1	2500	87		20	Useful	Improved	Good
8	Chatra North	Rajpur	Bindhani	Silvi	2	2500			25	Useful	Improved	Good
9	Chatra North	Rajpur	Raushana	Silvi	2	2500	40		35	Useful	Improved	Good
10	Chatra North	Hunterganj	Kharanti	Silvi	2	3000			45	Useful	Improved	Good
11	Chatra South	Chatra	Ichak	Silvi	2	2500	17		35	Useful	Improved	Good
12	Chatra South	Lawalong	Kundri	Silvi	1	2500	18		30	Useful	Improved	Good
13	Chatra South	Lawalong	Rajwar	Silvi	1	2502	7		30	Useful	Improved	Good
14	Deoghar	SC Range Madhupur	Trilokitanr	Silvi	9	1750			20	Useful	Improved	Good
15	Deoghar	SC Range Madhupur	Bhikhnadih	Silvi	Yes	5000			30	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
16	Deoghar	SC Range Madhupur	Damgarha	Silvi		1000			30	Useful	Improved	Good
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	Silvi		1000		Earthen Check dam-2	40	Useful	Improved	Good
18	Deoghar	SC Range Madhupur	Pathania	Silvi	1	750	3		15	Useful	Improved	Good
19	Dhanbad	Tundi	Sarra	Silvi	3	2500	8		30	Useful	Improved	Good
20	Dhanbad	Tundi	Kolkamardi h	Silvi		Yes	Yes		25	Useful	Improved	Good
21	Dhanbad	Topchanchi	Kankarchhuri	Silvi	Yes	Yes	Yes		40	Useful	Improved	Good
22	Dhanbad	Topchanchi	Palma	Silvi	Yes	Yes	Yes		30	Useful	Improved	Good
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	Silvi	1	2000	8		30	Useful	Improved	Good
24	Dumka	Dumka Damin Kathikund	Chirudih	Silvi	Yes	2500			30	Useful	Improved	Good
25	Dumka	Hizla East	Paharpur	Silvi	3	2500	Yes		20	Useful	Improved	Good
26	Dumka	Hizla West	Madhuban	Silvi	2	2500	70		25	Useful	Improved	Good
27	Dumka	Hizla West	Kalipathar	Silvi	Yes	1500			25	Useful	Improved	Good
28	Dumka	Hizla West	Gadichoto	Silvi	2	2500			25	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
29	Garhwa North	Nagar	Daheriya	Silvi	1	2500	42		35	Useful	Improved	Good
30	Garhwa North	Nagar	Jhumri	Silvi	1	2500	35		30	Useful	Improved	Good
31	Garhwa North	Nagar	Karwapahar	Silvi	Yes	1800	Yes		30	Useful	Improved	Good
32	Garhwa North	Nagar	Sharda	Silvi	3	2500	-		30	Useful	Improved	Good
33	Garhwa North	Bhawnath pur	Barwari	Silvi		2800	24		40	Useful	Improved	Good
34	Garhwa North	Bhawnath pur	Rohinia	Silvi		3600	33		30	Useful	Improved	Good
35	Garhwa North	Bhawnath pur	Makri	Silvi	Yes	Yes	Yes		20	Useful	Improved	Good
36	Garhwa North	Bhawnath pur	Bansari	Silvi	1	4800	33		35	Useful	Improved	Good
37	Garhwa South	Ranka East	Durjan	Silvi	9	2500	15		40	Useful	Improved	Good
38	Garhwa South	Ranka East	Baligar	Silvi	2	2500	24		30	Useful	Improved	Good
39	Garhwa South	Ranka East	Chutiya	Silvi	2	1600			30	Useful	Improved	Good
40	Garhwa South	Ranka Wast	Tahle	Silvi		2800	28	Loose Stone Check Dam-2	35	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
41	Garhwa South	Kutku	Kurun1	Silvi		2500		Loose Stone Check Dam-107	25	Useful	Improved	Good
42	Garhwa South	Kutku	Chapalsi	Silvi		2800	11		30	Useful	Improved	Good
43	Garhwa South	Ranka East	Homiya	Silvi	3	2500	12		35	Useful	Improved	Good
44	Garhwa South	Ranka East	Hardag	Silvi	2	2008	3		35	Useful	Improved	Good
45	Garhwa South	Ranka East	Bhouri	Silvi	2	1000	35		35	Useful	Improved	Good
46	Giridih east	Gawan	Bhogtadih	Silvi	Yes	Yes	Yes		25	Useful	Improved	Good
47	Giridih east	Parasnath	Tuio	Silvi	Yes	Yes	Yes		35	Useful	Improved	Good
48	Giridih east	Parasnath	Chirki	Silvi	Yes	Yes	Yes		25	Useful	Improved	Good
49	Giridih east	Gawan	Rijhani	Silvi	Yes	4500			30	Useful	Improved	Good
50	Giridih east	Dumri	Khutargurho	Silvi	Yes	2000	3		20	Useful	Improved	Good
51	Giridih east	Dumri	Baledih	Silvi	16	3000	-		20	Useful	Improved	Good
52	Giridih east	Dumri	Madhogopali	Silvi	Yes	Yes	-		25	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
53	Giridih east	Dumri	Nagabad	Silvi	Yes	Yes	-		25	Useful	Improved	Good
54	Giridih east	Dumri	Gurha	Silvi	Yes	Yes	-		30	Useful	Improved	Good
55	Giridih west	Bengabad	Bishnisharan	Silvi	2	4500			35	Useful	Improved	Good
56	Giridih west	Doranda	Gundri	Silvi		2700			25	Useful	Improved	Good
57	Giridih west	Jamua	Chitra Pahadi	Silvi	2	2500			25	Useful	Improved	Good
58	Giridih west	Jamua	Naitanr	Silvi		2500			20	Useful	Improved	Good
59	Giridih west	Bengabad	Gandro	Silvi	Yes	Yes			30		Improved	
60	Giridih west	Bengabad	Saathibad	Silvi	Yes	Yes			40	Useful	Improved	Good
61	Giridih west	Doranda	Suarchach	Silvi	Yes	Yes			35	Useful	Improved	Good
62	Godda	Godda	Varistanr	Silvi	2	1250	33		35	Useful	Improved	Good
63	Godda	Godda	Kalajhar	Silvi		2500			35	Useful	Improved	Good
64	Gumla	Kurumgarh	Silam	Silvi	Yes	Yes	Yes		20	Useful	Improved	Good
65	Gumla	Gumla	Jorag	Silvi	1	2400	10		25	Useful	Improved	Good
66	Gumla	Gumla	Keluga	Silvi		2400	Yes	Gabion	15	Useful	Improved	Good
67	Gumla	Gumla	Koenjara (Kyonjara)	Silvi		2400			25	Useful	Improved	Good
68	Gumla	Gumla	Brinda	Silvi	2	2400	7		30	Useful	Improved	Good



Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
69	Gumla	Bishunpur	Barrang	Silvi	2	2500	10		30	Useful	Improved	Good
70	Gumla	Kurumgarh	Kerabar	Silvi	2	2500	Yes		25	Useful	Improved	Good
71	Gumla	Kurumgarh	Kedeng	Silvi	2	2500	Yes		35	Useful	Improved	Good
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarukhurd	Silvi	3	2500	68	Earthen Check dam	25	Useful	Improved	Good
73	Hazaribagh WL	Hazaribagh WL	Chordaha	Silvi	Yes	Yes	Yes		20	Useful	Improved	Good
74	Hazaribagh WL	Chatra WL	Tigda	Silvi	4	Yes	Yes		15	Useful	Improved	Good
75	Hazaribagh WL	Chatra WL	Paramatu	Silvi	Yes	Yes	Yes	Earthen Check dam	10	Useful	Improved	Good
76	Hazaribagh WL	Chatra WL	Lare	Silvi	3	2817	19		20	Useful	Improved	Good
77	Hazaribagh East	Daru	Digwar	Silvi		2508	151		25	Useful	Improved	Good
78	Hazaribagh East	Daru	Daru	Silvi	Yes	1450	Yes		30	Useful	Improved	Good
79	Hazaribagh East	Daru	Peto	Silvi	Yes	1761			25	Useful	Improved	Good
80	Hazaribagh East	Daru	Pipcho Bhadwar	Silvi	2	2500	50		15	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
81	Hazaribagh East	Bagodar	Bagodih	Silvi	3	1160	Yes		25	Useful	Improved	Good
82	Hazaribagh East	Bagodar	Arjari	Silvi	Yes	Yes	Yes		15	Useful	Improved	Good
83	Hazaribagh East	Gomia	Karmo	Silvi	1	1250	Yes		25	Useful	Improved	Good
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	Silvi	-	2500	Yes		40	Useful	Improved	Good
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	Silvi	-	2500	40		30	Useful	Improved	Good
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	Silvi	-	2000	Yes		35	Useful	Improved	Good
87	Hazaribagh west	Barkagaon	Aango	Silvi		2500			50	Useful	Improved	Good
88	Jamshedpur	Chaukulia	Panijiya	Silvi		3400	30		23	Useful	Improved	Good
89	Jamshedpur	Rakhamines	Godadih, Lailam	Silvi		2500	50		30	Useful	Improved	Good
90	Jamshedpur	Rakhamines	Chadradih, Chatna	Silvi	1	2500	50		20	Useful	Improved	Good
91	Jamshedpur	Rakhamines	Bango, Roladih	Silvi	2	2500	25		15	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	Silvi	2	2008			20	Useful	Improved	Good
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	Silvi	4	1750			40	Useful	Improved	Good
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	Silvi		Yes			20	Useful	Improved	Good
95	Jamshedpur, Elephant Project	Dalma WL east	Dangdung P.F	Silvi		2500	-		40	Useful	Improved	Good
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	Silvi	2	2500	20		30	Useful	Improved	Good
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	Silvi	1	2500	15		40	Useful	Improved	Good
98	Jamtara	Kundhit	Patharchur	Silvi	Yes	1996			20	Useful	Improved	Good
99	Jamtara	Kundhit	Kasidih	Silvi	Yes	1996	Yes		25	Useful	Improved	Good
100	Jamtara	Nala	Narithal	Silvi	5	1250			35	Useful	Improved	Good
101	Jamtara	Nala	Balichur	Silvi	NA							
102	Jamtara	Kundhit	Uttamdih	Silvi	NA							
103	Khunti	Jariya Forest Range, Karra	Dufu	Silvi		Yes	Yes		10-12	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
104	Khunti	Jariya Forest Range, Karra	Plasa	Silvi		Yes	Yes		10-20	Useful	Improved	Good
105	Khunti	Tamar	Lungtu	Silvi		1339	170		25	Useful	Improved	Good
106	Khunti	Bundu	Dokad	Silvi	2	2000	36		30	Useful	Improved	Good
107	Koderma	Koderma	Chilsodeeh	Silvi		5400	Yes		25	Useful	Improved	Good
108	Koderma	Koderma	Nalwa	Silvi		2700	Yes		30	Useful	Improved	Good
109	Koderma	Domchanch	Bangakhall ar	Silvi	4	2500	Yes		20	Useful	Improved	Good
110	Koderma	Domchanch	Laxmipur	Silvi	Yes	Yes	Yes		15	Useful	Improved	Good
111	Koderma	Domchanch	Vanpok	Silvi	Yes	Yes	Yes		20	Useful	Improved	Good
112	Koderma	Domchanch	Dhab	Silvi		Yes	Yes		20	Useful	Improved	Good
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	Silvi	1	500	16		50	Useful	Improved	Good
114	Kolhan	Kolhan	Ganmmor PF (Jojugutu)	Silvi	5	2500	29		50	Useful	Improved	Good
115	Kolhan	Santra	Ichahatu PF	Silvi	2	2500	27		70	Useful	Improved	Good
116	Kolhan	Saitwa	Thakuragutu PF	Silvi	2	2500			50	Useful	Improved	Good
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	Silvi	2	2500	40		40	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
118	Latehar	Chandwa	Tudamu	Silvi		Yes	Yes		30	Useful	Improved	Good
119	Latehar	Chandwa	Tudamu (M)	Silvi	Yes	Yes			30	Useful	Improved	Good
120	Latehar	Chandwa	Chiro	Silvi	Yes	Yes			20	Useful	Improved	Good
121	Latehar	Latehar	Dihi	Silvi		Yes	Yes	Earthen Check dam	20	Useful	Improved	Good
122	Latehar	Manika	Dundu	Silvi		Yes	Yes		25	Useful	Improved	Good
123	Lohardaga	Lohardaga	Chot Chorgain	Silvi		2688	6		20	Useful	Improved	Good
124	Lohardaga	Kuru	Kundgara	Silvi	3	2500	24		15	Useful	Improved	Good
125	Lohardaga	Kuru	Chalho	Silvi	2	2500	39		20	Useful	Improved	Good
126	Lohardaga	Banari	Tithi	Silvi	1	2500	5		30	Useful	Improved	Good
127	Lohardaga	Banari	Lapu	Silvi	3	2500	4		20	Useful	Improved	Good
128	Medininagar	Kundari	Baida	Silvi	2	2500	30		40	Useful	Improved	Good
129	Medininagar	Chatarpur East	Murumdag	Silvi	3	Yes	15		40	Useful	Improved	Good
130	Medininagar, PTR North	Betla	Saraidih	Silvi		Yes			60	Useful	Improved	Good
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	Silvi		5002	45		50	Useful	Improved	Good
132	Medininagar, PTR	Chhipadohar East	Gaypaswa	Silvi		2518	24		50	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
	North											
133	Medininagar, PTR North	Chhipadohar East	Koyabathan	Silvi		1516	24		40	Useful	Improved	Good
134	Medininagar, PTR North	Chhipadohar West	Pathar kudwa	Silvi	Yes	2594	50		50	Useful	Improved	Good
135	Medininagar, PTR North	Chhipadohar West	Karhain	Silvi		1261	35		35	Useful	Improved	Good
136	Medininagar, PTR North	Chhipadohar West	Karam tongri	Silvi		1500	36		40	Useful	Improved	Good
137	Medininagar, PTR North	Chhipadohar West	Shidhiahiya ghati	Silvi	15	Yes			60	Useful	Improved	Good
138	Medininagar, PTR North	Chhipadohar West	Hadhitand	Silvi	Yes	2507	43		40	Useful	Improved	Good
139	Medininagar, PTR North	Chhipadohar West	Belahi	Silvi	Yes	2000	56		60	Useful	Improved	Good
140	Medininagar, PTR North	Chhipadohar West	Khairahi	Silvi		2535	36		50	Useful	Improved	Good
141	Medininagar, PTR	Chhipadohar West	Tendtand	Silvi	Yes	2501	36		40	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
	North											
142	Medininagar, PTR North	Chhipadohar West	Khairahikhand	Silvi		1500	40		50	Useful	Improved	Good
143	Medininagar, PTR South	Garu East	Khajur Tond	Silvi				Earthen Check Dam-1, Loose Stone Check Dam-10	50	Useful	Improved	Good
144	Medininagar, PTR South	Garu West	Mundu PF	Silvi		Not reported						
145	Medininagar, PTR South	Baresandh	Jata Mod	Silvi	3	Yes		Loose Stone Check Dam	50	Useful	Improved	Good
146	Medininagar, PTR South	Baresandh	Ganim Tand	Silvi	1	Yes		Earthen Check Dam	30	Useful	Improved	Good
147	Medininagar, PTR	Garu East	Kotam PF Khajur	Silvi		Yes	8		50	Useful	Improved	Good



Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
	South		Tand									
148	Pakur	Amrapara	Baghapara	Silvi	Yes	1420	9		40	Useful	Improved	Good
149	Pakur	Gourpara	Gourpara	Silvi		1250	Yes		30	Useful	Improved	Good
150	Pakur	Amrapara	Tilaiparaparhar	Silvi		1500			50	Useful	Improved	Good
151	Pakur	Hiranpur	Chota Chatkam	Silvi	2	Yes	5		40	Useful	Improved	Good
152	Pakur	Pakur	Piyarsola	Silvi	1	250	78		50	Useful	Improved	Good
153	Pakur	Hiranpur	Fulpahari	Silvi	1	950	12		40	Useful	Improved	Good
154	Porahat	Anandpur	Jharbera	Silvi	1	2500			20-25	Useful	Improved	Good
155	Porahat	Anandpur	Mahishgira	Silvi	Yes				40-50	Useful	Improved	Good
156	Porahat	Manoharpur	Batma	Silvi	Yes	2500			15	Useful	Improved	Good
157	Porahat	Kera	Kuitaka	Silvi		2500	5		40	Useful	Improved	Good
158	Porahat	Songra	Kandeyang DPF-12	Silvi	5	2500	27		30	Useful	Improved	Good
159	Porahat	Songra	Songra-24	Silvi	5	2500	27		30	Useful	Improved	Good
160	Porahat	Songra	Birda-2 (Kokorbo)	Silvi	5	2500	30		40	Useful	Improved	Good
161	Ramgarh	Gola	Uladaka	Silvi	3	6300	30		30	Useful	Improved	Good
162	Ramgarh	Gola	Purabdih	Silvi	Yes	Yes	Yes		40	Useful	Improved	Good
163	Ramgarh	Patratu	Baridih	Silvi	Yes	Yes			30	Useful	Improved	Good
164	Ramgarh	Ramgarh	Bhuchungdih	Silvi	Yes	Yes			25	Useful	Improved	Good
165	Ranchi	Kanke	Bagda	Silvi		Yes	Yes		20-25	Useful	Improved	Good
166	Ranchi	Kanke	Rahra	Silvi		3000	45		10-20	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
167	Ranchi	Kanke	Jawabero	Silvi		3000	30		35	Useful	Improved	Good
168	Ranchi	Mander	Tala	Silvi		3762			40	Useful	Improved	Good
169	Ranchi	Mander	Tangar Basli	Silvi		1505			20-25	Useful	Improved	Good
170	Ranchi	Mander	Naro	Silvi		2403	Yes		40	Useful	Improved	Good
171	Ranchi	Ranchi	Chanya	Silvi	5	3850			25	Useful	Improved	Good
172	Ranchi	Ranchi	Murupiri	Silvi	4	4400			25	Useful	Improved	Good
173	Ranchi, Wildlife	Palkot Wildlife Sanctuary	Baghima	Silvi	4	2500	82		5	Useful	Improved	Good
174	Sahebganj	Rajmahal	Hariyakol	Silvi		110			30	Useful	Improved	Good
175	Sahebganj	Barharwa	Godafulli	Silvi		1000			20	Useful	Improved	Good
176	Sahebganj	Rajmahal	Chota Banapura	Silvi		Yes			25	Useful	Improved	Good
177	Sahebganj	Rajmahal	Khairwa	Silvi		Yes	Yes		25	Useful	Improved	Good
178	Saranda	Kojna	Ankua 05	Silvi		2500	54		70	Useful	Improved	Good
179	Saranda	Gua	GK-27	Silvi	5	1612	22		50	Useful	Improved	Good
180	Saranda	Gua	GK-27	Silvi	5	3613	16		40	Useful	Improved	Good
181	Saranda	Gua	GK-28	Silvi	11	5249	57		30	Useful	Improved	Good
182	Saranda	Gua	Karampade 02	Silvi	4	5000	65		40	Useful	Improved	Good
183	Saraikella	Chandil	Dhonaburu-Raidih	Silvi	2	2500	160		25	Useful	Improved	Good
184	Saraikella	Chandil	Tilla	Silvi	7	4905	183		15	Useful	Improved	Good
185	Saraikella	Saraikella	Reyardah	Silvi		2780			30	Useful	Improved	Good
186	Saraikella	Kharsawan	Dhadkidih	Silvi	1	2500	91		20	Useful	Improved	Good

Sl. No.	Division	Name of Range	Name of Site	Scheme	Silt detention	Contour bunding	Gully plugging	Others	Extent of siltation (%)	Usefulness of SMC	Status of water level rising	Assessment of vegetation cover
187	Saraikella	Kharsawan	Tiligora	Silvi		Yes	Yes		30	Useful	Improved	Good
188	Saraikella	Kharsawan	Barjudih	Silvi	1	2500	Yes		25	Useful	Improved	Good
189	Saraikella	Kharsawan	Mangudih	Silvi		2500			20	Useful	Improved	Good
190	Simdega	Kolebira	Bongram	Silvi		Yes	Yes		20	Useful	Improved	Good
191	Simdega	Bolba	Awrabahar	Silvi		2250	25		30	Useful	Improved	Good
192	Simdega	Kolebira	Parba	Silvi		1095	85		20	Useful	Improved	Good
193	Simdega	Bano	Kewangutu	Silvi		1500	169		20-25	Useful	Improved	Good

#### 4.2.4 Adherence to Norms, Operation guidelines, directions and estimates in plantation works/ activities (Silviculture Plantation)

The CAMPA fund projects are very rich in terms of documents, preparation of operation guidelines, directions, and estimates available at the State level made available to Forest Divisions & Range offices to be followed for execution of the project activities. Based on the available guidelines and estimates the district prepared the plan, which was sanctioned by the State as per the annual budget. The State office has also developed operational guidelines for execution of various plantation models namely, Silviculture Plantation sites. The model estimates for plantations also cover the estimates for plantations & SMC works. The guidelines for various models issued by the State fixed per day labor cost as per the Minimum Wage Act.

As far as the availability of records at the plantation sites during the third-party evaluation is concerned, the availability of Pit panji cum plantation panji and maps were reported at all 193 silviculture operation sites followed by upload of the silviculture operation sites on the e-Green watch portal was reported of 118 sites (61%).

**Table 4.16: Adherence to Norms, Directions and Guidelines**

S. No	Division	Range	Name of Site	Availability of Journal/ Pitpanji	Availability of Map	Uploaded on e-green watch
1	Bokaro	Bermo	Mungo Rangamati (Silvi)	Yes	Yes	Yes
2	Bokaro	Peterwar	Karma (Silviculture)	Yes	Yes	No
3	Bokaro	Peterwar	Chaura	Yes	Yes	Yes
4	Bokaro	Bokaro	Chapari (Silviculture)	Yes	Yes	Yes
5	Chaibasa	Noamundi	Lepang (M)	Yes	Yes	Yes
6	Chatra North	Pratappur	Hindiakala	Yes	Yes	Yes
7	Chatra North	Pratappur	Adhauria	Yes	Yes	Yes
8	Chatra North	Rajpur	Bindhani	Yes	Yes	Yes
9	Chatra North	Rajpur	Raushana	Yes	Yes	Yes
10	Chatra North	Hunterganj	Kharanti	Yes	Yes	Yes
11	Chatra South	Chatra	Ichak	Yes	Yes	No
12	Chatra South	Lawalong	Kundri	Yes	Yes	Yes
13	Chatra South	Lawalong	Rajwar	Yes	Yes	Yes
14	Deoghar	SC Range Madhupur	Trilokitanr	Yes	Yes	No
15	Deoghar	SC Range Madhupur	Bhikhnadih	Yes	Yes	No

<b>S. No</b>	<b>Division</b>	<b>Range</b>	<b>Name of Site</b>	<b>Availability of Journal/ Pitpanji</b>	<b>Availability of Map</b>	<b>Uploaded on e-green watch</b>
16	Deoghar	SC Range Madhupur	Damgarha	Yes	Yes	No
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	Yes	Yes	No
18	Deoghar	SC Range Madhupur	Pathania	Yes	Yes	No
19	Dhanbad	Tundi	Sarra	Yes	Yes	No
20	Dhanbad	Tundi	Kolkamardih	Yes	Yes	Yes
21	Dhanbad	Topchanchi	Kankarchhuri	Yes	Yes	Yes
22	Dhanbad	Topchanchi	Palma	Yes	Yes	No
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	Yes	Yes	No
24	Dumka	Dumka Damin Kathikund	Chirudih	Yes	Yes	Yes
25	Dumka	Hizla East	Paharpur	Yes	Yes	Yes
26	Dumka	Hizla West	Madhuban	Yes	Yes	Yes
27	Dumka	Hizla West	Kalipathar	Yes	Yes	Yes
28	Dumka	Hizla West	Gadichoto	Yes	Yes	Yes
29	Garhwa North	Nagar	Daheriya	Yes	Yes	Yes
30	Garhwa North	Nagar	Jhumri	Yes	Yes	Yes
31	Garhwa North	Nagar	Karwapahar	Yes	Yes	No
32	Garhwa North	Nagar	Sharda	Yes	Yes	No
33	Garhwa North	Bhawnathpur	Barwari	Yes	Yes	Yes
34	Garhwa North	Bhawnathpur	Rohinia	Yes	Yes	Yes
35	Garhwa North	Bhawnathpur	Makri	Yes	Yes	Yes
36	Garhwa North	Bhawnathpur	Bansari	Yes	Yes	Yes
37	Garhwa South	Ranka East	Durjan	Yes	Yes	Yes
38	Garhwa South	Ranka East	Baligar	Yes	Yes	Yes
39	Garhwa South	Ranka East	Chutiya	Yes	Yes	Yes
40	Garhwa South	Ranka West	Tahle	Yes	Yes	Yes

S. No	Division	Range	Name of Site	Availability of Journal/ Pitpanji	Availability of Map	Uploaded on e-green watch
41	Garhwa South	Kutku	Kurunl	Yes	Yes	Yes
42	Garhwa South	Kutku	Chapalsi	Yes	Yes	Yes
43	Garhwa South	Ranka East	Homiya	Yes	Yes	Yes
44	Garhwa South	Ranka East	Hardag	Yes	Yes	Yes
45	Garhwa South	Ranka East	Bhour	Yes	Yes	Yes
46	Giridih east	Gawan	Bhogtadih	Yes	Yes	Yes
47	Giridih east	Parasnath	Tuio	Yes	Yes	Yes
48	Giridih east	Parasnath	Chirki	Yes	Yes	Yes
49	Giridih east	Gawan	Rijhani	Yes	Yes	Yes
50	Giridih east	Dumri	Khutargurho	Yes	Yes	No
51	Giridih east	Dumri	Baledih	Yes	Yes	Yes
52	Giridih east	Dumri	Madhogopali	Yes	Yes	No
53	Giridih east	Dumri	Nagabad	Yes	Yes	No
54	Giridih east	Dumri	Gurha	Yes	Yes	No
55	Giridih west	Bengabad	Bishnisharan	Yes	Yes	No
56	Giridih west	Doranda	Gundri	Yes	Yes	Yes
57	Giridih west	Jamua	Chitra Pahadi	Yes	Yes	Yes
58	Giridih west	Jamua	Naitanr	Yes	Yes	Yes
59	Giridih west	Bengabad	Gandro	Yes	Yes	Yes
60	Giridih west	Bengabad	Saathibad	Yes	Yes	No
61	Giridih west	Doranda	Suarchach	Yes	Yes	No
62	Godda	Godda	Varistanr	Yes	Yes	No
63	Godda	Godda	Kalajhar	Yes	Yes	No
64	Gumla	Kurumgarh	Silam	Yes	Yes	Yes
65	Gumla	Gumla	Jorag	Yes	Yes	Yes
66	Gumla	Gumla	Keluga	Yes	Yes	Yes
67	Gumla	Gumla	Koenjara (Kyonjara)	Yes	Yes	Yes
68	Gumla	Gumla	Brinda	Yes	Yes	Yes
69	Gumla	Bishunpur	Barrang	Yes	Yes	Yes
70	Gumla	Kurumgarh	Kerabar	Yes	Yes	Yes
71	Gumla	Kurumgarh	Kedeng	Yes	Yes	Yes
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarukhurd	Yes	Yes	Yes
73	Hazaribagh WL	Hazaribagh WL	Chordaha	Yes	Yes	No

S. No	Division	Range	Name of Site	Availability of Journal/ Pitpanji	Availability of Map	Uploaded on e-green watch
74	Hazaribagh WL	Chatra WL	Tigda	Yes	Yes	Yes
75	Hazaribagh WL	Chatra WL	Paramatu	Yes	Yes	No
76	Hazaribagh WL	Chatra WL	Lare	Yes	Yes	No
77	Hazaribagh East	Daru	Digwar	Yes	Yes	Yes
78	Hazaribagh East	Daru	Daru	Yes	Yes	No
79	Hazaribagh East	Daru	Peto	Yes	Yes	No
80	Hazaribagh East	Daru	Pipcho Bhadwar	Yes	Yes	Yes
81	Hazaribagh East	Bagodar	Bagodih	Yes	Yes	Yes
82	Hazaribagh East	Bagodar	Arjari	Yes	Yes	Yes
83	Hazaribagh East	Gomia	Karmo	Yes	Yes	Yes
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	Yes	Yes	No
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	Yes	Yes	Yes
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	Yes	Yes	No
87	Hazaribagh west	Barkagaon	Aango	Yes	Yes	Yes
88	Jamshedpur	Chaukulia	Panijiya	Yes	Yes	Yes
89	Jamshedpur	Rakhamines	Godadih, Lailam	Yes	Yes	No
90	Jamshedpur	Rakhamines	Chadradih, Chatna	Yes	Yes	No
91	Jamshedpur	Rakhamines	Bango, Roladih	Yes	Yes	No
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	Yes	Yes	No
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	Yes	Yes	No
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	Yes	Yes	No
95	Jamshedpur, Elephant Project	Dalma WL east	Dangdung P.F	Yes	Yes	Yes
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	Yes	Yes	Yes



S. No	Division	Range	Name of Site	Availability of Journal/ Pitpanji	Availability of Map	Uploaded on e-green watch
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	Yes	Yes	No
98	Jamtara	Kundhit	Patharchur	Yes	Yes	Yes
99	Jamtara	Kundhit	Kasidih	Yes	Yes	Yes
100	Jamtara	Nala	Narithal	Yes	Yes	Yes
101	Jamtara	Nala	Balichur	Yes	Yes	Yes
102	Jamtara	Kundhit	Uttamdih	Yes	Yes	Yes
103	Khunti	Jariya Forest Range, Karra	Dufu	Yes	Yes	Yes
104	Khunti	Jariya Forest Range, Karra	Plasa	Yes	Yes	Yes
105	Khunti	Tamar	Lungtu	Yes	Yes	Yes
106	Khunti	Bundu	Dokad	Yes	Yes	Yes
107	Koderma	Koderma	Chilsodeeh	Yes	Yes	Yes
108	Koderma	Koderma	Nalwa	Yes	Yes	No
109	Koderma	Domchanch	Bangakhallar	Yes	Yes	No
110	Koderma	Domchanch	Laxmipur	Yes	Yes	Yes
111	Koderma	Domchanch	Vanpok	Yes	Yes	No
112	Koderma	Domchanch	Dhab	Yes	Yes	Yes
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	Yes	Yes	Yes
114	Kolhan	Kolhan	Ganmmor PF (Jojogutu)	Yes	Yes	Yes
115	Kolhan	Santra	Ichahatu PF	Yes	Yes	Yes
116	Kolhan	Saitwa	Thakuragutu PF	Yes	Yes	Yes
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	Yes	Yes	Yes
118	Latehar	Chandwa	Tudamu	Yes	Yes	Yes
119	Latehar	Chandwa	Tudamu (M)	Yes	Yes	Yes
120	Latehar	Chandwa	Chiro	Yes	Yes	Yes
121	Latehar	Latehar	Dihi	Yes	Yes	Yes
122	Latehar	Manika	Dundu	Yes	Yes	Yes
123	Lohardaga	Lohardaga	Chot Chorgain	Yes	Yes	No
124	Lohardaga	Kuru	Kundgara	Yes	Yes	No
125	Lohardaga	Kuru	Chalho	Yes	Yes	No
126	Lohardaga	Banari	Tithi	Yes	Yes	No
127	Lohardaga	Banari	Lapu	Yes	Yes	No
128	Medininagar	Kundari	Baida	Yes	Yes	No
129	Medininagar	Chatarpur	Murumdag	Yes	Yes	Yes

S. No	Division	Range	Name of Site	Availability of Journal/ Pitpanji	Availability of Map	Uploaded on e-green watch
	r	East				
130	Medininagar, PTR North	Betla	Saraidih	Yes	Yes	No
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	Yes	Yes	No
132	Medininagar, PTR North	Chhipadohar East	Gaypaswa	Yes	Yes	No
133	Medininagar, PTR North	Chhipadohar East	Koyabathan	Yes	Yes	No
134	Medininagar, PTR North	Chhipadohar West	Pathar kudwa	Yes	Yes	No
135	Medininagar, PTR North	Chhipadohar West	Karhain	Yes	Yes	No
136	Medininagar, PTR North	Chhipadohar West	Karam tongri	Yes	Yes	No
137	Medininagar, PTR North	Chhipadohar West	Shidhihiya ghati	Yes	Yes	No
138	Medininagar, PTR North	Chhipadohar West	Hadhitand	Yes	Yes	No
139	Medininagar, PTR North	Chhipadohar West	Belahi	Yes	Yes	No
140	Medininagar, PTR North	Chhipadohar West	Khairahi	Yes	Yes	No
141	Medininagar, PTR North	Chhipadohar West	Tendand	Yes	Yes	No
142	Medininagar, PTR North	Chhipadohar West	Khairahi khand	Yes	Yes	No
143	Medininagar, PTR South	Garu East	Khajur Tond	Yes	Yes	No
144	Medininagar, PTR South	Garu West	Mundu PF	Yes	Yes	No

S. No	Division	Range	Name of Site	Availability of Journal/Pitpanji	Availability of Map	Uploaded on e-green watch
145	Medininagar, PTR South	Baresandh	Jata Mod	Yes	Yes	No
146	Medininagar, PTR South	Baresandh	Ganim Tand	Yes	Yes	Yes
147	Medininagar, PTR South	Garu East	Kotam PF Khajur Tand	Yes	Yes	No
148	Pakur	Amrapara	Baghapara	Yes	Yes	No
149	Pakur	Gourpara	Gourpara	Yes	Yes	No
150	Pakur	Amrapara	Tilaiparapahar	Yes	Yes	Yes
151	Pakur	Hiranpur	Chota Chatkam	Yes	Yes	Yes
152	Pakur	Pakur	Piyarsola	Yes	Yes	No
153	Pakur	Hiranpur	Fulpahari	Yes	Yes	Yes
154	Porahat	Anandpur	Jharbera	Yes	Yes	Yes
155	Porahat	Anandpur	Mahishgira	Yes	Yes	Yes
156	Porahat	Manoharpur	Batma	Yes	Yes	Yes
157	Porahat	Kera	Kuitaka	Yes	Yes	Yes
158	Porahat	Songra	Kandeyang DPF-12	Yes	Yes	Yes
159	Porahat	Songra	Songra-24	Yes	Yes	Yes
160	Porahat	Songra	Birda-2 (Kokorbo)	Yes	Yes	Yes
161	Ramgarh	Gola	Uladaka	Yes	Yes	Yes
162	Ramgarh	Gola	Purabdih	Yes	Yes	Yes
163	Ramgarh	Patratu	Baridih	Yes	Yes	Yes
164	Ramgarh	Ramgarh	Bhuchungdih	Yes	Yes	Yes
165	Ranchi	Kanke	Bagda	Yes	Yes	Yes
166	Ranchi	Kanke	Rahra	Yes	Yes	No
167	Ranchi	Kanke	Jawabero	Yes	Yes	No
168	Ranchi	Mander	Tala	Yes	Yes	Yes
169	Ranchi	Mander	Tangar Basli	Yes	Yes	No
170	Ranchi	Mander	Naro	Yes	Yes	No
171	Ranchi	Ranchi	Chanya	Yes	Yes	Yes
172	Ranchi	Ranchi	Murupiri	Yes	Yes	No
173	Ranchi, Wildlife	Palkot Wildlife Sanctuary	Baghima	Yes	Yes	No
174	Sahebganj	Rajmahal	Hariyakol	Yes	Yes	Yes
175	Sahebganj	Barharwa	Godafulli	Yes	Yes	Yes
176	Sahebganj	Rajmahal	Chota Banapura	Yes	Yes	Yes
177	Sahebganj	Rajmahal	Khairwa	Yes	Yes	Yes

S. No	Division	Range	Name of Site	Availability of Journal/ Pitpanji	Availability of Map	Uploaded on e-green watch
178	Saranda	Kojna	Ankua 05	Yes	Yes	No
179	Saranda	Gua	GK-27	Yes	Yes	No
180	Saranda	Gua	GK-27	Yes	Yes	No
181	Saranda	Gua	GK-28	Yes	Yes	No
182	Saranda	Gua	Karampade 02	Yes	Yes	No
183	Saraikella	Chandil	Dhonaburu-Raidih	Yes	Yes	Yes
184	Saraikella	Chandil	Tilla	Yes	Yes	Yes
185	Saraikella	Saraikella	Reyardah	Yes	Yes	Yes
186	Saraikella	Kharsawan	Dhadkidih	Yes	Yes	Yes
187	Saraikella	Kharsawan	Tiligora	Yes	Yes	Yes
188	Saraikella	Kharsawan	Barjudih	Yes	Yes	Yes
189	Saraikella	Kharsawan	Mangudih	Yes	Yes	Yes
190	Simdega	Kolebira	Bongram	Yes	Yes	Yes
191	Simdega	Bolba	Awrabahar	Yes	Yes	Yes
192	Simdega	Kolebira	Parba	Yes	Yes	Yes
193	Simdega	Bano	Kewangutu	Yes	Yes	Yes

#### 4.2.5 Entry Point Activity at Silviculture Plantation sites

As per the policy and models of plantations in the state, the provision for Entry point activity (EPA) was taken up at the silviculture plantation sites.

#### 4.2.6 Result of Coppicing

Coppicing is one of the oldest silvicultural management practices in many countries of the world. Coppice is generally defined as emergent shoots or growth from living stumps or suckers. It is an aged long method of forest management where many felled trees produce new growth from stumps or roots. In the process, stems are continuously felled at interval to ground level and so many new shoots emerge. After some years, the coppiced trees are ready to be harvested and the cycle begins again. The coppicing remains a common forest management system to provide myriads of products such as fuel wood, poles, timber and Non-Timber Forest Products (NTFPs). The significance of coppices increases in the field of nature protection and management where there is an increased population growth and competition for limited land area. Coppice management plays significant role in forest habitat maintenance and their characteristics improvement. It has been found that coppicing practice minimized soil damage during harvest, reduce weed invasion and enhance physical protection of coupe. The result of coppicing at 193 silviculture plantation site is stated in table & figure below.





Result of coppicing at the silviculture operaton sites

**Table 4.17: Average Height of coppice shoots at the Silviculture Plantation site (cm)**

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sid da	Ten du	Pal as	Asa n	Kara m	Barh al	Eucaly ptus	Dhao ra	Kar ra	Kor ya	Kusu m	Mahu wa	Kha ir
1	Bokaro	Bermo	Mungo Rangama ti	2020-21	40	30												
2	Bokaro	Peterwar	Karma	2019-20	440		310											
3	Bokaro	Peterwar	Chaura	2019-20	530		430											
4	Bokaro	Bokaro	Chapari	2019-20	160	130	125											
5	Chaibasa	Noamundi	Lepang (M)	2019-20	532													
6	Chatra North	Pratappur	Hindiakala	2021-22	280	450												
7	Chatra North	Pratappur	Adhauria	2021-22	600			380										
8	Chatra North	Rajpur	Bindhani	2020-21	280	440												
9	Chatra North	Rajpur	Raushana	2021-22	360	440												
10	Chatra North	Hunterganj	Kharanti	2021-22		410												
11	Chatra South	Chatra	Ichak	2021-22	180													
12	Chatra South	Lawalong	Kundri	2020-21	200													
13	Chatra South	Lawalong	Rajwar	2020-21	320													
14	Deoghar	SC Range Madhupur	Trilokitanr	2020-21	150													
15	Deoghar	SC Range Madhupur	Bhikhna di	2019-20	490													
16	Deoghar	SC Range Madhupur	Damgarha	2021-22	240													
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	2021-22	240													
18	Deoghar	SC Range Madhupur	Pathania	2021-22	290													
19	Dhanbad	Tundi	Sarra	2021-22	380													

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhao	Karra	Kor	Kusum	Mahu	Khair
20	Dhanbad	Tundi	Kolkamardih	2020-21	190		170											
21	Dhanbad	Topchanchi	Kankarchhuri	2020-21	460													
22	Dhanbad	Topchanchi	Palma	2021-22	370													
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	2021-22	390													
24	Dumka	Dumka Damin Kathikund	Chirudih	2019-20	360													
25	Dumka	Hizla East	Paharpur	2019-20	310		270	290										
26	Dumka	Hizla West	Madhuban	2020-21	120													
27	Dumka	Hizla West	Kalipathar	2020-21	380													
28	Dumka	Hizla West	Gadichoto	2019-20	360		310											
29	Garhwa North	Nagar	Daheriya	2019-20	385													
30	Garhwa North	Nagar	Jhumri	2019-20	390	395												
31	Garhwa North	Nagar	Karwaphar	2021-22	148	160		140										
32	Garhwa North	Nagar	Sharda	2021-22	360													
33	Garhwa North	Bhawnathpur	Barwari	2019-20	405	450												
34	Garhwa North	Bhawnathpur	Rohinia	2019-20	460	435												
35	Garhwa North	Bhawnathpur	Makri	2019-20	398	405												
36	Garhwa North	Bhawnathpur	Bansari	2019-20	450	462												
37	Garhwa South	Ranka East	Durjan	2021-22									180					



Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhao	Karra	Kor	Kusum	Mahu	Khair
38	Garhwa South	Ranka East	Baligar	2019-20	450	390			395									
39	Garhwa South	Ranka East	Chutiya	2020-21	165	150												
40	Garhwa South	Ranka West	Tahle	2020-21	335	360												
41	Garhwa South	Kutku	Kurunl	2019-20	490	410			460									
42	Garhwa South	Kutku	Chapalsi	2019-20	460	420			425									
43	Garhwa South	Ranka East	Homiya	2021-22	270													
44	Garhwa South	Ranka East	Hardag	2021-22	480	420												
45	Garhwa South	Ranka East	Bhour	2019-20	390													
46	Giridih east	Gawan	Bhogtadih	2019-20	152													
47	Giridih east	Parasnath	Tuio	2021-22	320													
48	Giridih east	Parasnath	Chirki	2019-20	200													
49	Giridih east	Gawan	Rijhani	2021-22	310													
50	Giridih east	Dumri	Khutargurho	2021-22	430													
51	Giridih east	Dumri	Baledih	2021-22	110													
52	Giridih east	Dumri	Madhogopali	2019-20	460	330	280											
53	Giridih east	Dumri	Nagabad	2019-20	490													
54	Giridih east	Dumri	Gurha	2021-22	480	310												
55	Giridih west	Bengabad	Bishnisharan	2020-21	340													
56	Giridih	Doranda	Gundri	2019-20	540													

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sid da	Ten du	Pal as	Asa n	Kara m	Barh al	Eucaly ptus	Dhao ra	Kar ra	Kor ya	Kusu m	Mahu wa	Kha ir
	west																	
57	Giridih west	Jamua	Chitra Pahadi	2021-22	460													
58	Giridih west	Jamua	Naitanr	2019-20	470													
59	Giridih west	Bengabad	Gandro	2019-20	540													
60	Giridih west	Bengabad	Saathiba d	2020-21	360													
61	Giridih west	Doranda	Suarchac h	2021-22	305													
62	Godda	Godda	Varistanr	2021-22	90													
63	Godda	Godda	Kalajhar	2020-21	270													
64	Gumla	Kurumgar h	Silam	2021-22	330		310											
65	Gumla	Gumla	Jorag	2021-22	210													
66	Gumla	Gumla	Keluga	2021-22	140													
67	Gumla	Gumla	Koenjara (Kyonjar a)	2021-22	No coppice done													
68	Gumla	Gumla	Brinda	2021-22	100													
69	Gumla	Bishunpur	Barrang	2020-21	240													
70	Gumla	Kurumgar h	Kerabar	2020-21	210													
71	Gumla	Kurumgar h	Kedeng	2021-22	320													
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugaru khurd	2021-22	150													305
73	Hazaribagh WL	Hazaribagh WL	Chordah a	2021-22	140		300											
74	Hazaribagh WL	Chatra WL	Tigda	2020-21	130		325											
75	Hazaribagh WL	Chatra WL	Paramatu	2021-22	130		285											
76	Hazaribagh	Chatra	Lare	2021-22	110		255											

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhao	Karra	Kor	Kusum	Mahu	Khair
	WL	WL																
77	Hazaribagh East	Daru	Digwar	2020-21	270													
78	Hazaribagh East	Daru	Daru	2020-21	360													
79	Hazaribagh East	Daru	Peto	2020-21	304													
80	Hazaribagh East	Daru	Pipcho Bhadwar	2021-22	270													
81	Hazaribagh East	Bagodar	Bagodih	2021-22	186													
82	Hazaribagh East	Bagodar	Arjari	2019-20	700													
83	Hazaribagh East	Gomia	Karmo	2021-22	270		304											
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	2020-21	320													
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	2020-21	360													
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	2021-22			280					260						
87	Hazaribagh west	Barkagaon	Aango	2019-20	600													
88	Jamshedpur	Chaukulia	Panijiya	2019-20	410													
89	Jamshedpur	Rakhames	Godadih, Lailam	2021-22	290													
90	Jamshedpur	Rakhames	Chadradih, Chatna	2021-22	300													
91	Jamshedpur	Rakhames	Bango, Roladih	2021-22	190													

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sid da	Ten du	Pal as	Asa n	Kara m	Barh al	Eucaly ptus	Dhao ra	Kar ra	Kor ya	Kusu m	Mahu wa	Kha ir
92	Jamshedpur	Chaukulia	Godrash ole, Rajabasa, Hathibari	2021-22	250													
93	Jamshedpur	Chaukulia	Jugitopa, Purnapan i	2021-22	600													
94	Jamshedpur	Musabani	Tetuldang, Aasanbani	2020-21	300													
95	Jamshedpur, Elephant Project	Dalma WL east	Dangdun g P.F	2019-20	180													
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	2019-20	445													
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	2020-21	150													
98	Jamtara	Kundhit	Patharchur	2019-20	210													
99	Jamtara	Kundhit	Kasidih	2020-21	480													
100	Jamtara	Nala	Narithal	2019-20	350													
101	Jamtara	Nala	Balichur	2019-20	440													
102	Jamtara	Kundhit	Uttamdih	2019-20	450													
103	Khunti	Jariya Forest Range, Karra	Dufu	2019-20	280		190											
104	Khunti	Jariya Forest Range, Karra	Plasa	2019-20	320													
105	Khunti	Tamar	Lungtu	2019-20	270				500			390						
106	Khunti	Bundu	Dokad	2021-22	120													
107	Koderma	Koderma	Chilsode	2020-21	300		165											

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhao	Karra	Kor	Kusum	Mahu	Khair
			eh															
108	Koderma	Koderma	Nalwa	2020-21	525													
109	Koderma	Domchanch	Bangakhallar	2021-22	225		105											
110	Koderma	Domchanch	Laxmipur	2020-21	120		110											
111	Koderma	Domchanch	Vanpok	2021-22	240		75											
112	Koderma	Domchanch	Dhab	2020-21	245		75											
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	2021-22	360		340											
114	Kolhan	Kolhan	Ganmmor PF (Jojobutu)	2021-22	380		340											
115	Kolhan	Santra	Ichahatu PF	2019-20	460	390				350								
116	Kolhan	Saitwa	Thakuragutu PF	2021-22						360								
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	2021-22						180								
118	Latehar	Chandwa	Tudamu	2019-20	300													
119	Latehar	Chandwa	Tudamu (M)	2019-20	340													
120	Latehar	Chandwa	Chiro	2019-20	320													
121	Latehar	Latehar	Dihi	2020-21	360	340												
122	Latehar	Manika	Dundu	2020-21	240													
123	Lohardaga	Lohardaga	Chot Chorgain	2019-20	330													
124	Lohardaga	Kuru	Kundgar	2021-22	380							260						
125	Lohardaga	Kuru	Chalho	2019-20	240													

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sid da	Ten du	Pal as	Asa n	Kara m	Barh al	Eucaly ptus	Dhao ra	Kar ra	Kor ya	Kusu m	Mahu wa	Kha ir
126	Lohardaga	Banari	Tithi	2019-20	450		240											
127	Lohardaga	Banari	Lapu	2021-22	320													
128	Medininagar	Kundari	Baida	2021-22	240		250	260										
129	Medininagar	Chatarpur East	Murumd ag	2020-21	215	330												
130	Medininagar, PTR North	Betla	Saraidih	2020-21	180			160										
131	Medininagar, PTR North	Chhipado har East	Bhainsak har	2020-21	380				360									230
132	Medininagar, PTR North	Chhipado har East	Gaypasw a	2019-20			170											150
133	Medininagar, PTR North	Chhipado har East	Koyabat han	2020-21			160											140
134	Medininagar, PTR North	Chhipado har West	Pathar kudwa	2020-21	180													150
135	Medininagar, PTR North	Chhipado har West	Karhain	2020-21														100
136	Medininagar, PTR North	Chhipado har West	Karam tongri	2020-21	320													
137	Medininagar, PTR North	Chhipado har West	Shidhiah iya ghati	2020-21	120						90							60
138	Medininagar, PTR North	Chhipado har West	Hadhitand	2020-21	360						180							
139	Medininagar, PTR North	Chhipado har West	Belahi	2020-21	220		160	180										

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhao	Karra	Kor	Kusum	Mahu	Khair
140	Medininagar, PTR North	Chhipadohar West	Khairahi	2020-21	270													
141	Medininagar, PTR North	Chhipadohar West	Tendtand	2020-21	280				230									
142	Medininagar, PTR North	Chhipadohar West	Khairahikhand	2020-21	240													160
143	Medininagar, PTR South	Garu East	Khajur Tond	2020-21	360	340			320									
144	Medininagar, PTR South	Garu West	Mundu PF	2019-20											400			
145	Medininagar, PTR South	Baresandh	Jata Mod	2019-20	550	500		300										
146	Medininagar, PTR South	Baresandh	Ganim Tand	2021-22	570	200												
147	Medininagar, PTR South	Garu East	Kotam PF Khajur Tand	2020-21	550		200	200										
148	Pakur	Amrapara	Baghapara	2019-20	400													
149	Pakur	Gourpara	Gourpara	2019-20	450													
150	Pakur	Amrapara	Tilaipara pahar	2021-22	410													
151	Pakur	Hiranpur	Chota Chatkam	2021-22	140				125									
152	Pakur	Pakur	Piyarsola	2020-21	350													
153	Pakur	Hiranpur	Fulpahari	2021-22	120													
154	Porahat	Anandpur	Jharbera	2019-20	500	350			360									
155	Porahat	Anandpur	Mahishgi ra	2019-20	360													



Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sid da	Ten du	Pal as	Asa n	Kara m	Barh al	Eucaly ptus	Dhao ra	Kar ra	Kor ya	Kusu m	Mahu wa	Kha ir
156	Porahat	Manoharpur	Batma	2021-22	480													
157	Porahat	Kera	Kuitaka	2019-20	380													
158	Porahat	Songra	Kandeyang DPF-12	2019-20	290													
159	Porahat	Songra	Songra-24	2019-20	310				280									
160	Porahat	Songra	Birda-2 (Kokorb o)	2020-21	420											380		
161	Ramgarh	Gola	Uladaka	2020-21	310													
162	Ramgarh	Gola	Purabdihi	2020-21	330													
163	Ramgarh	Patratu	Baridih	2020-21	720													
164	Ramgarh	Ramgarh	Bhuchungdih	2019-20	450													
165	Ranchi	Kanke	Bagda	2019-20	360													
166	Ranchi	Kanke	Rahra	2020-21	220	210												
167	Ranchi	Kanke	Jawabero	2021-22	360													
168	Ranchi	Mander	Tala	2019-20	320													
169	Ranchi	Mander	Tangar Basli	2020-21	220													
170	Ranchi	Mander	Naro	2020-21	310													
171	Ranchi	Ranchi	Chanya	2020-21	280													
172	Ranchi	Ranchi	Murupiri	2021-22	490													
173	Ranchi, Wildlife		Baghima	2021-22	320													
174	Sahebganj	Rajmahal	Hariyakol	2020-21	180												160	
175	Sahebganj	Barharwa	Godafulli	2020-21	430													
176	Sahebganj	Rajmahal	Chota Banapura	2020-21	170												155	
177	Sahebganj	Rajmahal	Khairwa	2019-20	430												280	
178	Saranda	Kojna	Ankua 05	2021-22	300													
179	Saranda	Gua	GK-27	2021-22	410													

Sl.no	Division	Name of Range	Name of Site	Year	Sal	Sid da	Ten du	Pal as	Asa n	Kara m	Barh al	Eucaly ptus	Dhao ra	Kar ra	Kor ya	Kusu m	Mahu wa	Kha ir
180	Saranda	Gua	GK-27	2021-22	460													
181	Saranda	Gua	GK-28	2021-22	310													
182	Saranda	Gua	Karampa de 02	2020-21	36													
183	Saraikella	Chandil	Dhonaburu-Raidih	2021-22	75													
184	Saraikella	Chandil	Tilla	2019-20	450		120											
185	Saraikella	Saraikella	Reyardah	2020-21	180													
186	Saraikella	Kharsawan	Dhadrkidih	2021-22	290				180								195	
187	Saraikella	Kharsawan	Tiligora	2019-20	390													
188	Saraikella	Kharsawan	Barjudih	2021-22	90													
189	Saraikella	Kharsawan	Mangudi h	2019-20	310													
190	Simdega	Kolebira	Bongram	2019-20	280													
191	Simdega	Bolba	Awrabah ar	2021-22	340	340												
192	Simdega	Kolebira	Parba	2021-22	105													
193	Simdega	Bano	Kewangu tu	2019-20	120	90								58	48			

**Table 4.18: Average DBH of coppice shoots at the Silviculture Plantation site (mm)**

Sl. no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhaura	Kara	Koraya	Kusum	Mahuwa	Khair
1	Bokaro	Bermo	Mungo Rangamati	2020-21	5	8												
2	Bokaro	Peterwar	Karma	2019-20	44		31											
3	Bokaro	Peterwar	Chaura	2019-20	53		43											
4	Bokaro	Bokaro	Chapari	2019-20	16	13	13											
5	Chaibasa	Noamundi	Lepang (M)	2019-20	55													
6	Chatra North	Pratappur	Hindiakala	2021-22	28	26												
7	Chatra North	Pratappur	Adhauria	2021-22	26			18										
8	Chatra North	Rajpur	Bindhani	2020-21	28	22												
9	Chatra North	Rajpur	Raushana	2021-22	36	22												
10	Chatra North	Hunterganj	Kharanti	2021-22		22												
11	Chatra South	Chatra	Ichak	2021-22	18													
12	Chatra South	Lawalong	Kundri	2020-21	20													
13	Chatra South	Lawalong	Rajwar	2020-21	32													
14	Deoghar	SC Range Madhupur	Trilokitanr	2020-21	15													
15	Deoghar	SC Range Madhupur	Bhikhnadih	2019-20	50													
16	Deoghar	SC Range Madhupur	Damgarha	2021-22	24													
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	2021-22	24													
18	Deoghar	SC Range Madhupur	Pathania	2021-22	30													
19	Dhanbad	Tundi	Sarra	2021-22	45													
20	Dhanbad	Tundi	Kolkamardih	2020-21	21		12											
21	Dhanbad	Topchanchi	Kankarchhuri	2020-21	32													
22	Dhanbad	Topchanchi	Palma	2021-22	32													
23	Dhanbad	Dhanbad Urban Forestry	Durgapur	2021-22	40													
24	Dumka	Dumka Damin Kathikund	Chirudih	2019-20	35													
25	Dumka	Hizla East	Paharpur	2019-20	30		25	29										
26	Dumka	Hizla West	Madhuban	2020-21	13													

Sl. no	Division	Name of Range	Name of Site	Year	Sa l	Si d d a	Ten du	Pal as	As an	Kar am	Bar hal	Eucal yptus	Dha ora	Ka ra	Kor ya	Kus um	Mah uwa	Kh air
27	Dumka	Hizla West	Kalipathar	2020-21	38													
28	Dumka	Hizla West	Gadichoto	2019-20	36		31											
29	Garhwa North	Nagar	Daheriya	2019-20	40													
30	Garhwa North	Nagar	Jhumri	2019-20	40	68												
31	Garhwa North	Nagar	Karwapahar	2021-22	30	32		21										
32	Garhwa North	Nagar	Sharda	2021-22	30													
33	Garhwa North	Bhawnathpur	Barwari	2019-20	65	75												
34	Garhwa North	Bhawnathpur	Rohinia	2019-20	85	81												
35	Garhwa North	Bhawnathpur	Makri	2019-20	68	71												
36	Garhwa North	Bhawnathpur	Bansari	2019-20	71	90												
37	Garhwa South	Ranka East	Durjan	2021-22									35					
38	Garhwa South	Ranka East	Baligar	2019-20	90	70			75									
39	Garhwa South	Ranka East	Chutiya	2020-21	32	30												
40	Garhwa South	Ranka West	Tahle	2020-21	58	61												
41	Garhwa South	Kutku	Kurunl	2019-20	90	82			80									
42	Garhwa South	Kutku	Chapalsi	2019-20	90	78			81									
43	Garhwa South	Ranka East	Homiya	2021-22	45													
44	Garhwa South	Ranka East	Hardag	2021-22	75	70												
45	Garhwa South	Ranka East	Bhour	2019-20	72													

Sl. no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhaura	Kara	Koraya	Kusum	Mahuwa	Khair
46	Giridih east	Gawan	Bhogtadih	2019-20	13													
47	Giridih east	Parasnath	Tuio	2021-22	16													
48	Giridih east	Parasnath	Chirki	2019-20	16													
49	Giridih east	Gawan	Rijhani	2021-22	16													
50	Giridih east	Dumri	Khutargurho	2021-22	22													
51	Giridih east	Dumri	Baledih	2021-22	12													
52	Giridih east	Dumri	Madhogopali	2019-20	21	14	10											
53	Giridih east	Dumri	Nagabad	2019-20	23													
54	Giridih east	Dumri	Gurha	2021-22	20	18												
55	Giridih west	Bengabad	Bishnisharan	2020-21	25													
56	Giridih west	Doranda	Gundri	2019-20	40													
57	Giridih west	Jamua	Chitra Pahadi	2021-22	35													
58	Giridih west	Jamua	Naitanr	2019-20	36													
59	Giridih west	Bengabad	Gandro	2019-20	40													
60	Giridih west	Bengabad	Saathibad	2020-21	28													
61	Giridih west	Doranda	Suarchach	2021-22	30													
62	Godda	Godda	Varistanr	2021-22	13													
63	Godda	Godda	Kalajhar	2020-21	27													
64	Gumla	Kurumgarh	Silam	2021-22	33		31											
65	Gumla	Gumla	Jorag	2021-22	22													
66	Gumla	Gumla	Keluga	2021-22	23													
67	Gumla	Gumla	Koenjara (Kyonjara)	2021-22														
68	Gumla	Gumla	Brinda	2021-22	16													
69	Gumla	Bishunpur	Barrang	2020-21	24													
70	Gumla	Kurumgarh	Kerabar	2020-21	21													
71	Gumla	Kurumgarh	Kedeng	2021-22	32													
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarukhurd	2021-22	18													27
73	Hazaribagh WL	Hazaribagh WL	Chordaha	2021-22	18		27											
74	Hazaribagh WL	Chatra WL	Tigda	2020-21	18		28											
75	Hazaribagh	Chatra WL	Paramatu	2021-22	17		25											

Sl. no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhaura	Kara	Koraya	Kusum	Mahuwa	Khair
	WL																	
76	Hazaribagh WL	Chatra WL	Lare	2021-22	15		24											
77	Hazaribagh East	Daru	Digwar	2020-21	35													
78	Hazaribagh East	Daru	Daru	2020-21	40													
79	Hazaribagh East	Daru	Peto	2020-21	40													
80	Hazaribagh East	Daru	Pipcho Bhadwar	2021-22	25													
81	Hazaribagh East	Bagodar	Bagodih	2021-22	21													
82	Hazaribagh East	Bagodar	Arjari	2019-20	54													
83	Hazaribagh East	Gomia	Karmo	2021-22	32		64											
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	2020-21	34													
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	2020-21	32													
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	2021-22			28					30						
87	Hazaribagh west	Barkagaon	Aango	2019-20	40													
88	Jamshedpur	Chaukulia	Panijiya	2019-20	49													
89	Jamshedpur	Rakhamines	Godadih, Lailam	2021-22	32													
90	Jamshedpur	Rakhamines	Chadradih, Chatna	2021-22	35													
91	Jamshedpur	Rakhamines	Bango, Roladih	2021-22	25													
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	2021-22	30													
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	2021-22	70													
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	2020-21	30													

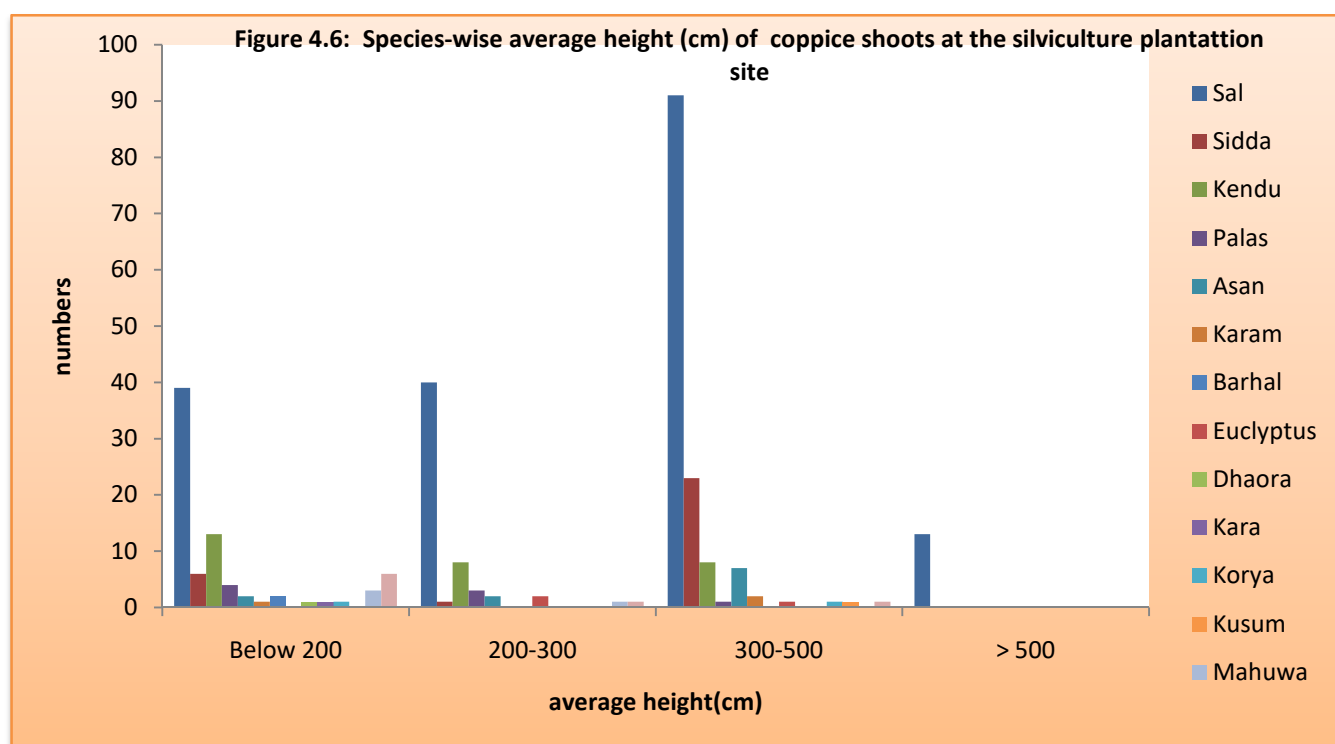
Sl. no	Division	Name of Range	Name of Site	Year	Sal	Sidda	Tendu	Palas	Asan	Karam	Barhal	Eucalyptus	Dhara	Karra	Koraya	Kusum	Mahuwa	Khair
95	Jamshedpur, Elephant Project	Dalma WL east	Dangdung P.F	2019-20	20													
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	2019-20	55													
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	2020-21	20													
98	Jamtara	Kundhit	Patharchur	2019-20	22													
99	Jamtara	Kundhit	Kasidih	2020-21	48													
100	Jamtara	Nala	Narithal	2019-20	35													
101	Jamtara	Nala	Balichur	2019-20	43													
102	Jamtara	Kundhit	Uttamdih	2019-20	44													
103	Khunti	Jariya Forest Range, Karra	Dufu	2019-20	40		22											
104	Khunti	Jariya Forest Range, Karra	Plasa	2019-20	38													
105	Khunti	Tamar	Lungtu	2019-20	30				40			37						
106	Khunti	Bundu	Dokad	2021-22	16													
107	Koderma	Koderma	Chilsodeeh	2020-21	45		28											
108	Koderma	Koderma	Nalwa	2020-21	65													
109	Koderma	Domchanch	Bangakhallar	2021-22	32		22											
110	Koderma	Domchanch	Laxmipur	2020-21	13		17											
111	Koderma	Domchanch	Vanpok	2021-22	34		13											
112	Koderma	Domchanch	Dhab	2020-21	34		12											
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	2021-22	36		34											
114	Kolhan	Kolhan	Ganmmor PF (Joogutu)	2021-22	38		34											
115	Kolhan	Santra	Ichahatu PF	2019-20	48	36				32								
116	Kolhan	Saitwa	Thakuragutu PF	2021-22						45								
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	2021-22						28								
118	Latehar	Chandwa	Tudamu	2019-20	30													



Sl. no	Division	Name of Range	Name of Site	Year	Sa l	Si d d a	Ten du	Pal as	As an	Kar am	Bar hal	Eucal yptus	Dha ora	Ka ra	Kor ya	Kus um	Mah uwa	Kh air
119	Latehar	Chandwa	Tudamu (M)	2019-20	34													
120	Latehar	Chandwa	Chiro	2019-20	32													
121	Latehar	Latehar	Dihi	2020-21	55	0												
122	Latehar	Manika	Dundu	2020-21	24													
123	Lohardaga	Lohardaga	Chot Chorgain	2019-20	45													
124	Lohardaga	Kuru	Kundgara	2021-22	38							26						
125	Lohardaga	Kuru	Chalho	2019-20	25													
126	Lohardaga	Banari	Tithi	2019-20	45		24											
127	Lohardaga	Banari	Lapu	2021-22	33													
128	Medininagar	Kundari	Baida	2021-22	28		29	31										
129	Medininagar	Chatarpur East	Murumdag	2020-21	19	34												
130	Medininagar, PTR North	Betla	Saraidih	2020-21	18			16										
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	2020-21	40				34									25
132	Medininagar, PTR North	Chhipadohar East	Gaypaswa	2019-20			14											12
133	Medininagar, PTR North	Chhipadohar East	Koyabathan	2020-21			8											8
134	Medininagar, PTR North	Chhipadohar West	Pathar kudwa	2020-21	23													15
135	Medininagar, PTR North	Chhipadohar West	Karhain	2020-21														10
136	Medininagar, PTR North	Chhipadohar West	Karam tongri	2020-21	40													
137	Medininagar, PTR North	Chhipadohar West	Shidhihiya ghati	2020-21	20						20							8
138	Medininagar, PTR North	Chhipadohar West	Hadhitand	2020-21	40						30							
139	Medininagar, PTR North	Chhipadohar West	Belahi	2020-21	12		9	12										
140	Medininagar, PTR North	Chhipadohar West	Khairahi	2020-21	40													
141	Medininagar, PTR North	Chhipadohar West	Tendtand	2020-21	50				22									

Sl. no	Division	Name of Range	Name of Site	Year	Sa l	Si d d a	Ten du	Pal as	As an	Kar am	Bar hal	Eucal yptus	Dha ora	Ka ra	Kor ya	Kus um	Mah uwa	Kh air
142	Medininagar, PTR North	Chhipadohar West	Khairahi khand	2020-21	28													30
143	Medininagar, PTR South	Garu East	Khajur Tond	2020-21	36	35			32									
144	Medininagar, PTR South	Garu West	Mundu PF	2019-20											40			
145	Medininagar, PTR South	Baresandh	Jata Mod	2019-20	50	40		25										
146	Medininagar, PTR South	Baresandh	Ganim Tand	2021-22	55	24												
147	Medininagar, PTR South	Garu East	Kotam PF Khajur Tand	2020-21	45		25	25										
148	Pakur	Amrapara	Baghapara	2019-20	45													
149	Pakur	Gourpara	Gourpara	2019-20	50													
150	Pakur	Amrapara	Tilaiparapahar	2021-22	45													
151	Pakur	Hiranpur	Chota Chatkam	2021-22	16				10									
152	Pakur	Pakur	Piyarsola	2020-21	39													
153	Pakur	Hiranpur	Fulpahari	2021-22	12													
154	Porahat	Anandpur	Jharbera	2019-20	35	32			32									
155	Porahat	Anandpur	Mahishgira	2019-20	40													
156	Porahat	Manoharpur	Batma	2021-22	56													
157	Porahat	Kera	Kuitaka	2019-20	41													
158	Porahat	Songra	Kandeyang DPF-12	2019-20	32													
159	Porahat	Songra	Songra-24	2019-20	35				30									
160	Porahat	Songra	Birda-2 (Kokorbo)	2020-21	46											45		
161	Ramgarh	Gola	Uladaka	2020-21	28													
162	Ramgarh	Gola	Purabdih	2020-21	33													
163	Ramgarh	Patraru	Baridih	2020-21	65													
164	Ramgarh	Ramgarh	Bhuchungdih	2019-20	42													
165	Ranchi	Kanke	Bagda	2019-20	37													
166	Ranchi	Kanke	Rahra	2020-21	22	21												
167	Ranchi	Kanke	Jawabero	2021-22	45													
168	Ranchi	Mander	Tala	2019-20	32													

Sl. no	Division	Name of Range	Name of Site	Year	Sa l	Si d d a	Ten du	Pal as	As an	Kar am	Bar hal	Eucal yptus	Dha ora	Ka ra	Kor ya	Kus um	Mah uwa	Kh air
169	Ranchi	Mander	Tangar Basli	2020-21	22													
170	Ranchi	Mander	Naro	2020-21	28													
171	Ranchi	Ranchi	Chanya	2020-21	28													
172	Ranchi	Ranchi	Murupiri	2021-22	49													
173	Ranchi, Wildlife	Agro-forestry model development	Baghima	2021-22	28													
174	Sahebganj	Rajmahal	Hariyakol	2020-21	20												22	
175	Sahebganj	Barharwa	Godafulli	2020-21	45													
176	Sahebganj	Rajmahal	Chota Banapura	2020-21	18												20	
177	Sahebganj	Rajmahal	Khairwa	2019-20	45												30	
178	Saranda	Kojna	Ankua 05	2021-22	35													
179	Saranda	Gua	GK-27	2021-22	40													
180	Saranda	Gua	GK-27	2021-22	45													
181	Saranda	Gua	GK-28	2021-22	35													
182	Saranda	Gua	Karampade 02	2020-21	12													
183	Saraikella	Chandil	Dhonaburu-Raidih	2021-22	10													
184	Saraikella	Chandil	Tilla	2019-20	45		14											
185	Saraikella	Saraikella	Reyardah	2020-21	21													
186	Saraikella	Kharsawan	Dhadkidih	2021-22	22				16								18	
187	Saraikella	Kharsawan	Tiligora	2019-20	45													
188	Saraikella	Kharsawan	Barjudih	2021-22	20													
189	Saraikella	Kharsawan	Mangudih	2019-20	30													
190	Simdega	Kolebira	Bongram	2019-20	28													
191	Simdega	Bolba	Awrabahar	2021-22	34	34												
192	Simdega	Kolebira	Parba	2021-22	22													
193	Simdega	Bano	Kewangutu	2019-20	22	18								16	18			



**Table 4.19 : Species wise average height (cm)of coppice shoots at the plantation site**

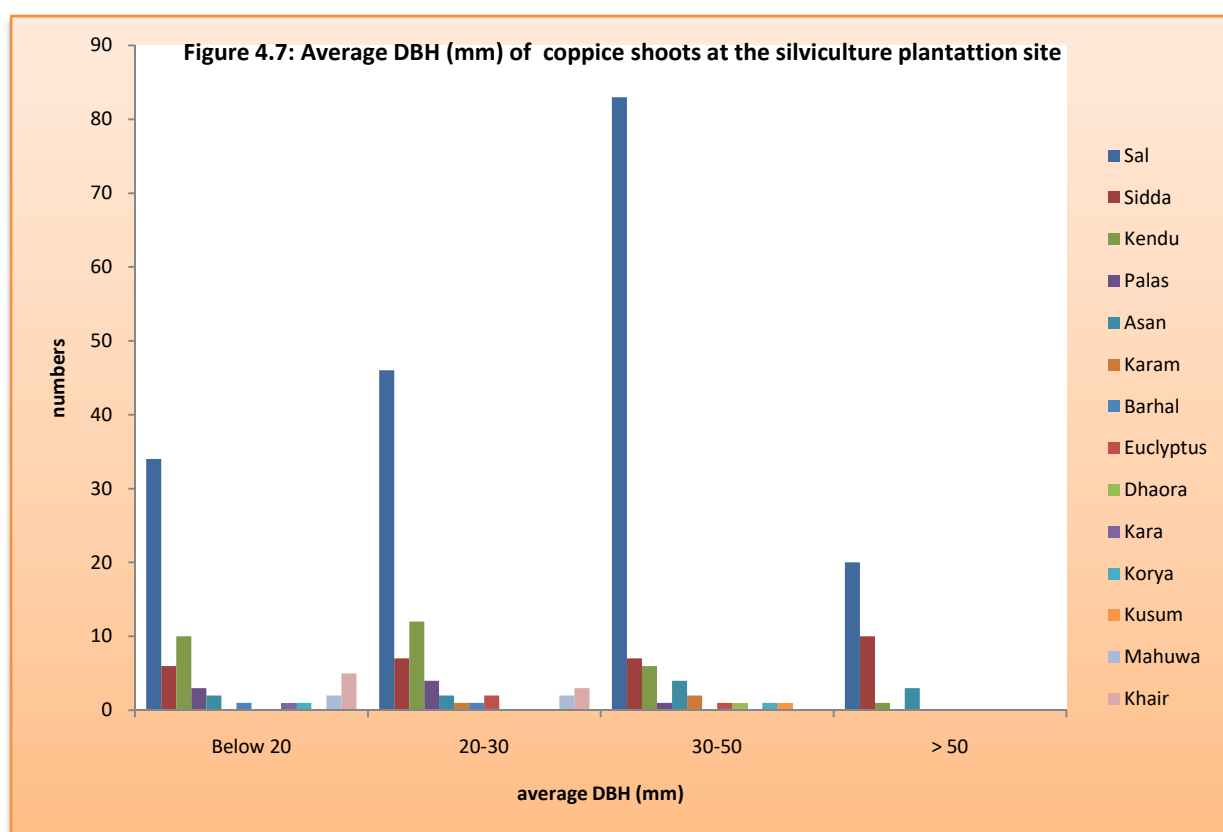
Coppice shoots	Below 200	200-300	300-500	> 500	Total
Sal	39	40	91	13	183
Sidda	6	1	23		30
Kendu	13	8	8		29
Palas	4	3	1		8
Asan	2	2	7		11
Karam	1		2		3
Barhal	2				2
Eucalyptus		2	1		3
Dhaora	1				1
Kara	1				1
Korya	1		1		2
Kusum			1		1
Mahuwa	3	1			4
Khair	6	1	1		8
Total	79	58	136	13	286

The table 4.19 & figure 4.6 shows species-wise average height (cm) of coppice shoots at the plantation site. At 95 percent silviculture plantation site coppice shoots was reported of Sal

species followed by Sidda (15.5 percent), Kendu (15.0 percent), Asan (5.7 percent) & Palas (4.1 percent). Average height of coppice shoots was reported below 200 cm at 79 silviculture plantation site (27.6 percent) followed by between 200-300 cm at 58 silviculture plantation site (20.3 percent), between 300-500 cm at 136 silviculture plantation site (47.6 percent) & more than 500 cm at 13 silviculture plantation site (4.5 percent). Hence, the average height of coppice shoots was between 300-500 cm at 48 percent silviculture plantation site which was good.

The table 4.20 & figure 4.7 shows species-wise average DBH (mm) of coppice shoots at the plantation site. Average DBH of coppice shoots was reported below 20 mm at 65 silviculture plantation site (22.7 percent) followed by between 20-30 mm at 80 silviculture plantation site (28.0 percent), between 30-50 mm at 107 silviculture plantation site (37.4 percent) & more than 50 mm at 34 silviculture plantation site (11.9 percent). Hence the average DBH of coppice shoots was between 30-50 mm at 37.4 percent silviculture plantation site which is good.

<b>Table 4.20 : Species wise average DBH (cm)of coppice shoots at the plantation site</b>					
<b>Coppice shoots</b>	<b>Below 20</b>	<b>20-30</b>	<b>30-50</b>	<b>&gt; 50</b>	<b>Total</b>
<b>Sal</b>	34	46	83	20	183
<b>Sidda</b>	6	7	7	10	30
<b>Kendu</b>	10	12	6	1	29
<b>Palas</b>	3	4	1		8
<b>Asan</b>	2	2	4	3	11
<b>Karam</b>		1	2		3
<b>Barhal</b>	1	1			2
<b>Euclyptus</b>		2	1		3
<b>Dhaora</b>			1		1
<b>Kara</b>	1				1
<b>Korya</b>	1		1		2
<b>Kusum</b>			1		1
<b>Mahuwa</b>	2	2			4
<b>Khair</b>	5	3			8
<b>Total</b>	65	80	107	34	286





## Chapter - 5

### Evaluation of Assets /works – Buildings, Forest Guard Quarters, Barack, Hazat, Checkdam, Causeway, Solar Pump, weed eradication & Nurseries

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#### 5.1 Report of Evaluation of asset created under CAMPA

One of the most important protective functions of forests is related to Soil and Water resources. Forests conserve water by increasing infiltration, reducing runoff velocity and surface erosion, and decreasing sedimentation (which is particularly relevant behind dams and in irrigation systems).

The activities under the CAMPA scheme, in addition to plantations various support activities have also been carried out for the management of wildlife, betterment, protection and development of forests, enhancement of forest cover, and infrastructure development were Buildings, Forest Guard quarters, Barracks, Hazat, Checkdam, Causeway, Solar Pump, weed eradication & Nurseries etc.



The sample sites of works and assets created under CAMPA were selected for 10 percent of the number of works/ assets created in the Forest Divisions/ Circles during the years 2019-20, 2020-21, and 2021-22. After reaching the sample sites selected work, photography along with the GPS coordinates have been carried out for 53 Buildings (FG quarters/Barack/Hazat/boundary wall & Check naka repair), 207 Checkdam & SMC works, 55 Forest Road repair/Causeway/Culvert/Chalka, 27 Biodiversity & Wildlife Management/IWMP (Water Hole, Watch tower, Solar Pump, Solar light) & 03 weed eradication, & 37 Nurseries. All sites have been visited and GPS-enabled photos have been taken for all along with the condition of sites also. In total, 382 assets were evaluated by the third-party team. Various aspects have been checked such as documents during the development of assets, and



maintenance of records during evaluation. The present condition of assets and their uses were also recorded.

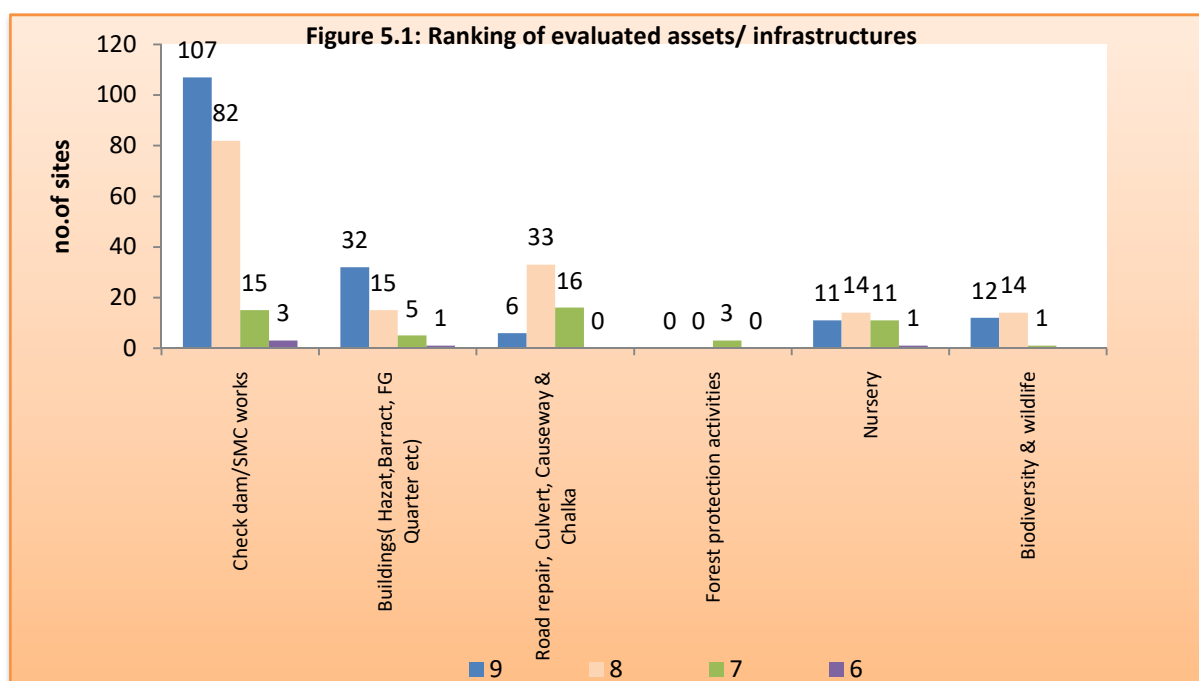
## Findings of the Evaluation Team

### Ranking of Assets Evaluated

The detail of ranking of evaluated 382 assets under various categories is given in the table 5.1 & figure 5.1.

**Table 5.1: Ranking of Evaluated Assets**

Sl no	Assets	Asset-wise no. of site having ranking between 9 and 6				
		9	8	7	6	Total
1	Check dam/SMC works	107	82	15	3	207
2	Buildings( Hazat,Barrack, FG Quarter etc)	32	15	5	1	53
3	Road repair, Culvert, Causeway & Chalka	6	33	16	0	55
4	Forest protection activities	0	0	3	0	3
5	Nursery	11	14	11	1	37
6	Biodiversity & wildlife	12	14	1		27
Total		168	158	51	5	382



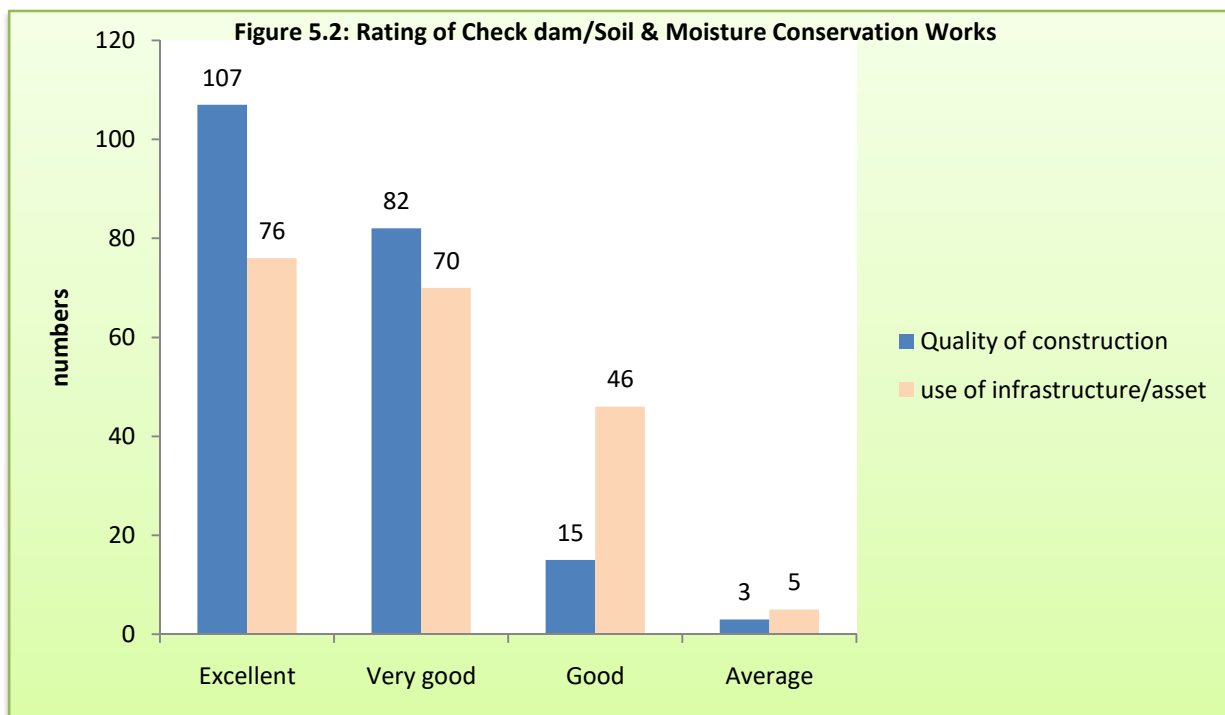
Out of total selected & evaluated 382 sites of assets of 50 divisions, the ranking (table 5.2 & figure 5.1) was:

- Excellent (9) of 168 site
- Very good (8) of 158 sites
- Good (7) of 51 sites
- Average (6) of 5 sites

## 5.2 Assessment of Check dam/ SMC works

In total, 207 Check dam/ SMC works had been evaluated, out of which 3 were average & 15 were good, 82 were very good & 107 were excellent in quality of construction. Regarding rating of use of infrastructure/asset 5 were average & 46 were good, 70 were very good & 76 were excellent.

The details of the report of evaluation of Checkdam/SMC works are given in table 5.2 & figure 5.2.



**Table 5.2: Evaluation of Check dam/SMC Works**

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
1	Bokaro	Chas	Aamdeeha	2021-22	Checkdam	No	8	8
2	Bokaro	Bermo	Penk	2020-21	Checkdam	No	9	9
3	Bokaro	Bermo	Kothi	2019-20	Checkdam	No	8	7
4	Bokaro	Petarwar	Karma	2020-21	Checkdam	No	8	7
5	Bokaro	Petarwar	Karkatakalla	2020-21	Checkdam	No	8	7
6	Dhanbad	Tundi	Sarra/ Bandojor	2021-22	Checkdam	No	9	9
7	Dhanbad	Tundi	Rishibhita	2020-21	Checkdam	No	9	9
8	Dhanbad	Topchanchi	Palma	2021-22	Checkdam	No	9	7
9	Dhanbad	Tundi	Kolher (50Hac.)	2021-22	SMC work	No	9	9
10	Dhanbad	Dhanbad Urban Forestry	Kenjiyapahad (40 Hac.)	2021-22	SMC work	No	8	7
11	Dhanbad	Dhanbad Urban Forestry	Manjhladih (30 Ha.)	2021-22	SMC work	No	8	8
12	Giridih East	Khurchutta	Badkitand	2020-21	Checkdam	No	9	8
13	Giridih East	Giridih	Manakdiha	2020-21	Checkdam	No	9	9
14	Giridih East	Gawan	Dhamelwa	2021-22	Checkdam	No	9	9
15	Giridih East	Dumri	Baso Kando	2021-22	Checkdam	No	9	9
16	Giridih West	Bengabad	Gahirjhor	2021-22	Checkdam	No	9	9
17	Giridih West	Jamua	Khurobindo	2020-21	Checkdam	No	9	8
18	Ramgarh	Gola	Purabdih	2021-22	Checkdam	Yes	9	9
19	Ramgarh	Mandu	Mandu	2021-22	Checkdam	Yes	9	8
20	Ramgarh	Patratu	Pali	2021-22	Checkdam	Yes	9	9
21	Deoghar	T Range Deoghar	Banbariya	2020-21	Checkdam	No	9	8
22	Deoghar	SC Range,	Majhiladih	2020-21	Checkdam	No	8	8

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
		Madhopur						
23	Deoghar	SC Range, Madhopur	Chechali	2019-20	Checkdam	No	8	8
24	Godda	Godda	Mahuatanr	2021-22	Checkdam	Yes	8	8
25	Godda	Sunderpahari	Soladih	2021-22	Checkdam	Yes	8	8
26	Godda	Sunderpahari	Chandna	2021-22	Checkdam	No	8	8
27	Godda	Boarijor	Tilaibeda	2021-22	Checkdam	No	7	7
28	Jamtara	Jamtara	Kalajhariya	2020-21	Checkdam	Yes	8	7
29	Jamtara	Jamtara	Murlidih	2020-21	Checkdam	Yes	8	7
30	Jamtara	Kundhit	Bogiyara	2019-20	Checkdam	No	8	8
31	Dumka Social Forestry	Jamtara	Mohula	2019-20	Checkdam	Yes	9	9
32	Dumka Social Forestry	Jamtara	Khattojori	2020-21	Checkdam	No	9	9
33	Dumka	Dumka Damin Kathikund	Tetulmath	2020-21	Checkdam	Yes	8	7
34	Dumka	Dumka Damin Kathikund	Badabhalki	2020-21	Checkdam	Yes	8	8
35	Dumka	Hazla East	Jabardaha	2020-21	Checkdam	Yes	8	8
36	Dumka	Hazla West	Palasi	2021-22	Checkdam	Yes	8	8
37	Dumka	Hazla West	Thakha	2020-21	Checkdam	Yes	8	7
38	Dumka	Hazla West	Dhunabhasha	2020-21	Checkdam	Yes	8	8
39	Dumka	Hazla West	Gadichoto	2020-21	Checkdam	Yes	8	7
40	Dumka	Hazla West	Haroraidih	2021-22	Checkdam	Yes	8	8
41	Pakur	Amrapara	Taldih	2021-22	Checkdam	No	8	8
42	Pakur	Hiranpur	Chota Chatkam	2019-20	Checkdam	Yes	7	6
43	Sahebganj	Mandro	Hijri	2021-22	Checkdam	No	9	7
44	Sahebganj	Mandro	Mangal Medo	2021-22	Checkdam	No	9	7

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
45	Sahebganj	Mandro	Dhobna	2021-22	Checkdam	No	9	7
46	Chatra North	Hunterganj	Gerua	2020-21	Checkdam	Yes	9	8
47	Chatra North	Pratappur	Mohanpur	2019-20	Checkdam	No	9	8
48	Chatra North	Pratappur	Mohanpur	2020-21	Checkdam	Yes	9	8
49	Chatra North	Kunda	Kunda	2019-20	Checkdam	No	9	8
50	Chatra North	Kunda	Sanjamatu	2020-21	Checkdam	Yes	9	8
51	Chatra South	Chatra	Gulli	2019-20	Checkdam	No	9	9
52	Chatra South	Chatra	Nanhaniya	2020-21	Checkdam	No	9	8
53	Chatra South	Chatra	Gidhour	2020-21	Checkdam	No	9	9
54	Chatra South	Lawalong	Kundri	2020-21	Checkdam	No	9	9
55	Hazaribagh East	Daru	Dandia Khurd	2019-20	Checkdam	Yes	9	9
56	Hazaribagh East	Daru	Saronikala	2020-21	Checkdam	No	9	9
57	Hazaribagh East	Daru	Sekha	2020-21	Checkdam	No	9	9
58	Hazaribagh East	Bagodar	Bagodih	2019-20	Checkdam	Yes	9	9
59	Hazaribagh East	Bagodar	Pipradih	2020-21	Checkdam	No	9	9
60	Hazaribagh East	Bagodar	Ramua	2019-20	Checkdam	Yes	9	8
61	Hazaribagh East	Gomia	Titahi	2019-20	Checkdam	Yes	8	7
62	Hazaribagh West	Hazaribagh Aff.	Sahpur	2021-22	Checkdam	No	9	9
63	Hazaribagh West	Barhi	Bendgi	2021-22	Checkdam	No	9	7
64	Hazaribagh	Barhi	Bendgi	2021-22	SMC work	No	9	9

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
	West							
65	Hazaribagh West	Barhi	Kahudag	2021-22	Percolation Tank	No	9	9
66	Hazaribagh West	Chouparan	Pabai	2019-20	Checkdam	No	9	9
67	Hazaribagh West	Hazaribagh	Bes	2021-22	Checkdam	No	9	9
68	Hazaribagh West	Barkagaon	Talaswar	2020-21	Checkdam	No	9	8
69	Hazaribagh West	Barkagaon	Barwania	2021-22	Checkdam	No	9	9
70	Koderma	Koderma	Chilsodeeh	2019-20	Checkdam	Yes	9	9
71	Koderma	Koderma	Bhadurpur	2020-21	Checkdam	Yes	9	9
72	Koderma	Koderma	Ashana	2020-21	Checkdam	Yes	9	9
73	Koderma	Koderma	Tillaiya	2021-22	Checkdam	Yes	9	9
74	Koderma	Koderma	Nalwa	2020-21	Checkdam	Yes	9	9
75	Koderma	Gajandi	Badki Karonjiya	2021-22	Checkdam	Yes	9	9
76	Koderma	Gajandi	Badki Karonjiya	2020-21	Checkdam	No	9	8
77	Koderma	Gajandi	Chahrahi	2021-22	Checkdam	Yes	9	9
78	Koderma	Domchanch	Vanpok	2019-20	Checkdam	Yes	9	9
79	Koderma	Domchanch	Bangakhallar	2020-21	Checkdam	Yes	9	9
80	Koderma	Domchanch	Madhuvan	2021-22	Checkdam	Yes	9	9
81	Koderma	Domchanch	Golgo	2020-21	Checkdam	Yes	9	9
82	Koderma	Domchanch	Lalki Mines	2021-22	Checkdam	No	9	9
83	Koderma	Domchanch	Laxmipur	2021-22	Checkdam	Yes	9	9
84	Koderma	Domchanch	Domchanch	2021-22	Checkdam	Yes	9	9
85	Hazaribagh Wildlife	WL Range Koderma	Muglamaran-1	2019-20	Checkdam	Yes	8	7

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
86	Hazaribagh Wildlife	WL Range Koderma	Lokay	2021-22	Checkdam	Yes	9	9
87	Hazaribagh Wildlife	WL Range Koderma	Chordaha	2019-20	Checkdam	Yes	9	9
88	Hazaribagh Wildlife	WL Range Koderma	Ashanachua	2021-22	Checkdam	No	9	9
89	Hazaribagh Wildlife	WL Range Hazaribagh	Kaile	2020-21	SMC work	No	9	9
90	Hazaribagh Wildlife	WL Range Hazaribagh	Kaila Road	2019-20	Desilting	Yes	8	7
91	Hazaribagh Wildlife	WL Range Hazaribagh	Salparni	2019-20	Checkdam	Yes	8	7
92	Hazaribagh Wildlife	WL Range Hazaribagh	Khutra	2019-20	Checkdam	Yes	9	9
93	Hazaribagh Wildlife	WL Range Hazaribagh	Parasi	2019-20	Checkdam	Yes	8	7
94	Hazaribagh Wildlife	WL Range Chatra	Bulbul	2021-22	Checkdam	Yes	8	7
95	Hazaribagh Wildlife	WL Range Chatra	Bulbul	2020-21	SMC work	Yes	8	8
96	Hazaribagh Wildlife	WL Range Chatra	Hardirpur	2019-20	Checkdam	Yes	8	7
97	Hazaribagh Wildlife	WL Range Chatra	Paramatu	2019-20	Checkdam	No	8	7
98	Hazaribagh Wildlife	WL Range Chatra	Hedum	2019-20	SMC work	Yes	8	8
99	Hazaribagh Wildlife	WL Range Chatra	Hedum	2021-22	Checkdam	No	9	9
100	Social	Koderma	Badki Karunjia	2019-20	Checkdam	Yes	9	8



S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
	Forestry Koderma							
101	Social Forestry Koderma	Koderma	Tiliya	2020-21	Checkdam	Yes	9	9
102	Social Forestry Hazaribagh	S F range Hazaribagh	Nawadeeh	2019-20	Checkdam	Yes	9	9
103	Social Forestry Hazaribagh	S F range Hazaribagh	Sinariya	2021-22	Checkdam	No	9	9
104	Chaibasa	Noamundi	Lepang	2020-21	Checkdam	Yes	9	9
105	Jamshedpur	Rakhamines	Laylum	2021-22	Checkdam	Yes	8	9
106	Jamshedpur	Musabani	Purilia ( Ghibhanga)	2021-22	Checkdam	Yes	9	9
107	Jamshedpur	Ghatsila	Narsinghpur	2021-22	Checkdam	Yes	7	7
108	Jamshedpur	Ghatsila	Jhatijharna	2019-20	Checkdam	Yes	8	8
109	Jamshedpur	Ghatsila	Bhuru	2020-21	Checkdam	Yes	8	8
110	Seraikela	Kharsawan	Kashidih	2019-20	Checkdam	Yes	9	9
111	Seraikela	Kharsawan	Kashidih	2021-22	Checkdam	Yes	9	9
112	Seraikela	Kharsawan	Bitapur	2019-20	Checkdam	Yes	9	9
113	Seraikela	Kharsawan	Simla	2021-22	Checkdam	Yes	9	9
114	Seraikela	Kharsawan	Samudih	2021-22	Checkdam	Yes	9	9
115	Seraikela	Kharsawan	Bitapur	2021-22	Checkdam	Yes	9	9
116	Seraikela	Seraikela	Dubrajpur	2019-20	Checkdam	Yes	7	7
117	Seraikela	Chandil	Kathghora	2020-21	Checkdam	No	8	8
118	Seraikela	Chandil	Saparum	2021-22	Checkdam	Yes	8	8
119	Kolhan	Saitba	Kundruhatu	2020-21	Checkdam	Yes	8	9
120	Kolhan	Saitba	Pasuhatu	2019-20	Checkdam	Yes	8	9

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
121	Porahat	Songra	Bandijor, Songra-06	2019-20	Checkdam	Yes	9	9
122	Porahat	Songra	Songra-RF 22	2021-22	Checkdam	Yes	9	9
123	Porahat	Anandpur	Boraita	2019-20	Checkdam	Yes	9	8
124	Porahat	Kera	Geredih	2019-20	Checkdam	Yes	9	9
125	Porahat	Anandpur	Kolpotka	2021-22	Checkdam	Yes	7	6
126	Saranda	Koina	Ankua-4	2020-21	Checkdam	Yes	9	9
127	Saranda	Gua	KP-10	2020-21	Checkdam	Yes	9	9
128	Saranda	Gua	KP-10	2020-21	Checkdam	Yes	7	9
129	Saranda	Gua	GK-30	2021-22	Checkdam	No	9	9
130	Elephant Project Jamshedpur	Dalma (East)	Budha-Budhi	2019-20	Checkdam	Yes	8	8
131	Elephant Project Jamshedpur	Dalma (East)	Bandar Kocha	2019-20	Checkdam	Yes	8	8
132	Elephant Project Jamshedpur	Dalma (East)	Budha-Budhi (Balijharna)	2019-20	Checkdam	No	8	8
133	Elephant Project Jamshedpur	Dalma (East)	Kamarjal (Dhowari)	2019-20	Checkdam	Yes	8	8
134	Elephant Project Jamshedpur	Dalma (East)	Dhusra	2019-20	Checkdam	No	8	8
135	Elephant Project Jamshedpur	Dalma (East)	Badakanta Nala	2020-21	Checkdam	No	8	8
136	Elephant	Dalma (East)	Meghdoha Nala	2020-21	Checkdam	No	8	8

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
	Project Jamshedpur							
137	Elephant Project Jamshedpur	Dalma (East)	Kalidoha Nala	2020-21	Checkdam	No	8	8
138	Elephant Project Jamshedpur	Dalma South	Girjuria Nala (Tulin PF)	2019-20	Checkdam	Yes	8	8
139	Social Forestry Chaibasa	Jagannatpur Social forestry	Kusmita	2021-22	Checkdam	No	8	8
140	Social Forestry Chaibasa	Majhgaon Social forestry	Bhonda	2020-21	Checkdam	No	8	8
141	Adityapur Social Forestry	Aadityapur	Barabanki Earthen Checkdam	2021-22	Checkdam	No	8	8
142	Adityapur Social Forestry	Chandil	Kumir Earthen Checkdam	2021-22	Checkdam	No	8	8
143	Lohardaga	Lohardaga	Senha	2019-20	Checkdam	Yes	8	8
144	Lohardaga	Lohardaga	Badla	2019-20	Checkdam	Yes	8	8
145	Lohardaga	Kuru	Hesal, Boda Nala	2020-21	Checkdam	No	8	8
146	Gumla	Gumla	Okba	2020-21	Checkdam	Yes	9	8
147	Gumla	Gumla	Joreya	2019-20	Checkdam	Yes	9	8
148	Gumla	Gumla	Tukai	2020-21	Checkdam	Yes	9	7
149	Gumla	Kurumgarh	Silfari	2019-20	Checkdam	Yes	9	8
150	Gumla	Bishunpur	Malgo	2021-22	Checkdam	Yes	9	8

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
151	Gumla	Bishunpur	Chatmdag	2021-22	Checkdam	No	9	7
152	Gumla	Gumla	Charkatangar	2020-21	SMC work	No	7	7
153	Simdega	Kolebira	Patratoli	2019-20	Checkdam	Yes	8	8
154	Simdega	Bolba	Langwa Nala, Samsera	2020-21	Checkdam	Yes	8	8
155	Ranchi	Bero	Dimba	2021-22	Checkdam	No	8	8
156	Khunti	Tamar	Barukandey	2020-21	Checkdam	Yes	8	8
157	Wildlife Division, Ranchi	Palkot Wildlife Sancturay	Hansdon	2021-22	Checkdam	No	9	9
158	Wildlife Division, Ranchi	Palkot Wildlife Sancturay	Bangru	2019-20	SMC work	No	8	8
159	Wildlife Division, Ranchi	Palkot Wildlife Sancturay	Baghima	2020-21	SMC work	No	8	8
160	Ranchi Social Forestry	Lohardaga	Samar Nala	2019-20	Checkdam	No	8	8
161	Ranchi Social Forestry	Lohardaga	Khesra Nala	2019-20	Checkdam	No	8	8
162	Simdega Social Forestry	Gumla	Kulmunda Nala	2019-20	Checkdam	No	9	9
163	Simdega Social Forestry	Kolebira	Nuwas Dhodha	2021-22	Checkdam	No	9	9
164	Garwah North	Garwah	Gobardaha	2020-21	Checkdam	No	7	7
165	Garwah North	Garwah	Kalyanpur	2021-22	Checkdam	No	8	9
166	Garwah North	Nagar	Shakti	2019-20	Checkdam	Yes	8	9

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
			(Dhambarnala)					
167	Garwah North	Nagar	Shakti	2021-22	Checkdam	No	8	9
168	Garwah North	Bhawnathpur	Rohinia	2020-21	Checkdam	Yes	8	9
169	Garwah South	Bhandariya	Tehri	2021-22	Checkdam	Yes	8	9
170	Garwah South	Kutu	Kudrum	2021-22	Checkdam	Yes	8	9
171	Garwah South	Ranka East	Chutiya	2019-20	Checkdam	Yes	8	9
172	Garwah South	Ranka East	Chutiya (Majhwar Tola)	2020-21	Checkdam	Yes	8	9
173	Garwah South	Ranka West	Tahle (Rakshili Nala)	2021-22	Checkdam	Yes	8	9
174	Garwah South	Ranka West	Tahle (Pathalgarwa Nala)	2021-22	Checkdam	Yes	8	9
175	Latehar	Latehar	Hotwag	2021-22	Checkdam	No	6	6
176	Latehar	Manika	Lali	2021-22	Checkdam	No	6	6
177	Medininagar	Chatarpur West	Lalgarhi	2021-22	Checkdam	No	7	7
178	Medininagar	Chatarpur West	Bhitiha	2021-22	Checkdam	No	6	6
179	Medininagar	Kundari	Bhang	2020-21	Checkdam	No	8	8
180	Medininagar	Manatu	Naudiha	2020-21	Checkdam	No	8	8
181	Garwah Social Forestry	Garwah	Gobardaha	2020-21	Checkdam	No	8	9
182	Garwah Social Forestry	Chainpur	Tetardih	2020-21	Checkdam	No	8	9
183	Garwah Social	Chainpur	Kushwar	2021-22	Checkdam	No	8	9

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
	Forestry							
184	Garwah Social Forestry	Chainpur	Barwa	2019-20	Checkdam	Yes	8	9
185	Garwah Social Forestry	Chainpur	Tetardih	2021-22	Checkdam	No	8	9
186	Latehar Social Forestry	Latehar Social Forestry	Bari	2021-22	Checkdam	No	9	8
187	Latehar Social Forestry	Latehar Social Forestry	Sikni	2021-22	Checkdam	No	9	9
188	Latehar Social Forestry	Latehar Social Forestry	Jariyang	2019-20	Checkdam	Yes	9	9
189	Latehar Social Forestry	Latehar Social Forestry	Jariyang	2020-21	Checkdam	No	9	9
190	PTR, North	Betla	Shiv Nallah	2021-22	Checkdam	No	9	7
191	PTR, North	Betla	Parsadah	2019-20	Checkdam	No	9	7
192	PTR, North	Betla	Nursery Nalla	2021-22	Checkdam	No	9	8
193	PTR, North	Chipa Dohar West	Jamtinala	2021-22	Checkdam	No	9	7
194	PTR, North	Betla	Lami Pahar	2020-21	SMC work	No	7	7
195	PTR, North	Betla	Futhawa Bandh	2021-22	Desilting	No	7	7
196	PTR, North	Betla	Meethka Peepar	2019-20	Checkdam	No	7	7
197	PTR, North	Betla	Lahibar	2020-21	SMC work	No	7	7
198	PTR, North	Betla	Morania Depot	2021-22	Desilting	Yes	7	7
199	PTR, North	Chipadohar East	Gohkatwa	2019-20	Checkdam	No	7	7
200	PTR, South	Garu East	Lohargada PF Dhawai Chuan	2021-22	Checkdam	No	9	7

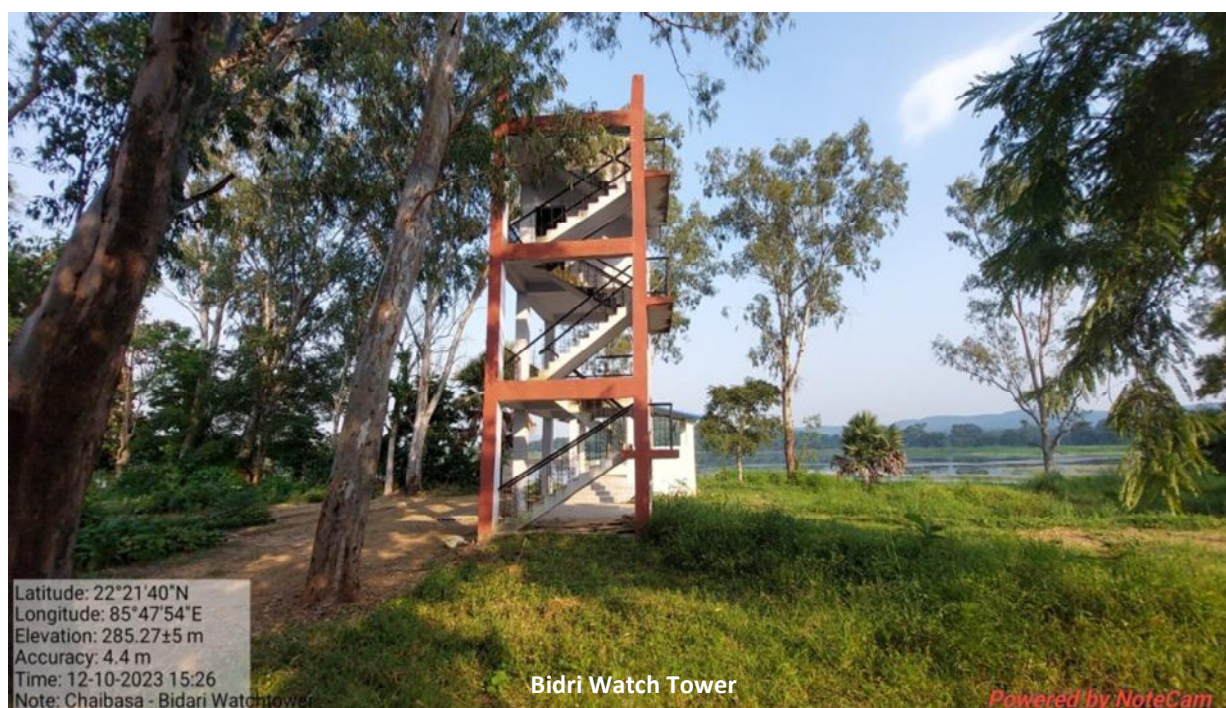
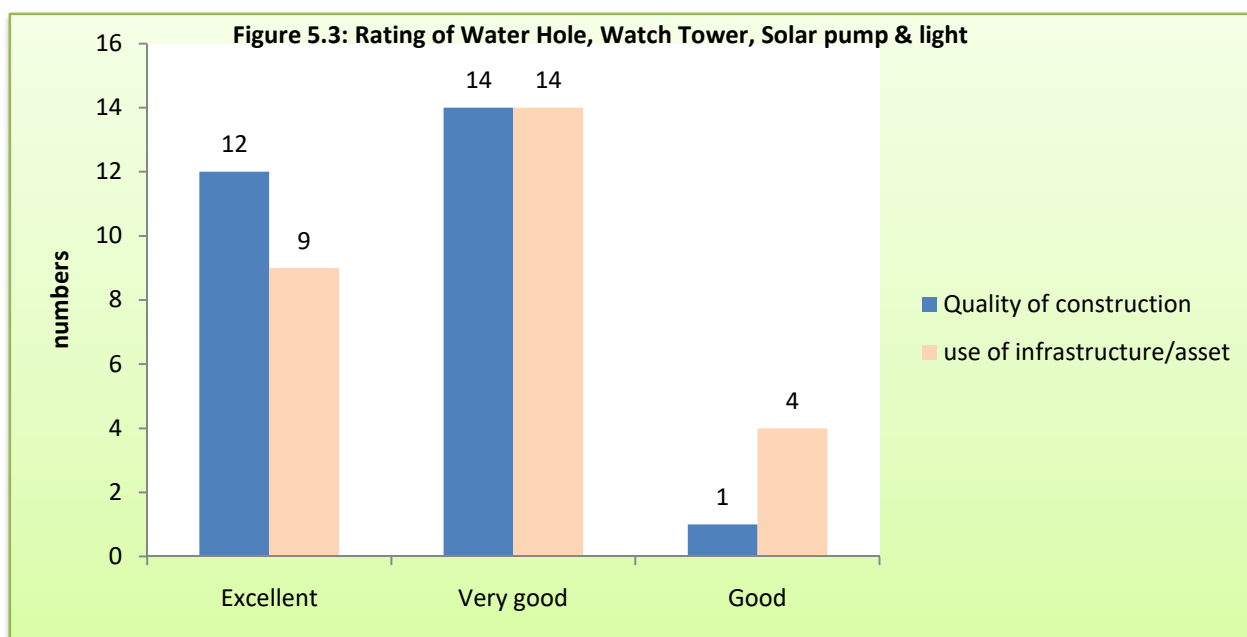
<b>S. No</b>	<b>Forest Division</b>	<b>Forest Range</b>	<b>Name of Site</b>	<b>Year</b>	<b>Name of Infrastructure</b>	<b>Whether uploaded on e-Green watch</b>	<b>Rating of Quality of Construction/works</b>	<b>Rating of use of infrastructures/ assets</b>
<b>201</b>	PTR, South	Garu East	Lohargarh PF Suar Banwa	2021-22	Checkdam	No	9	7
<b>202</b>	PTR, South	Garu East	Mirchaiya Fall	2020-21	Checkdam	Yes	9	7
<b>203</b>	PTR, South	Baresandh	Sembar Kona	2020-21	Checkdam	No	9	7
<b>204</b>	PTR, South	Baresandh	Bardag Nala	2019-20	Desilting	Yes	9	7
<b>205</b>	PTR, South	Baresandh	Kerakachar	2020-21	Desilting	Yes	9	7
<b>206</b>	Hazaribagh Training School	RFO Forester-cum-Forest Guard Training School, Hazaribagh	Jabra	2019-20	SMC work	No	9	7
<b>207</b>	SFTI, Ranchi		Mahilong	2019-20	Checkdam	No	8	8



### 5.3 Assessment of Biodiversity & Wildlife Management

The details of report of evaluation of assets created under Biodiversity & Wildlife Management (IWMP) viz. construction of Watch Tower, Water Hole, desiltation of Water Hole, and installation of Solar Pump, Solar light & Solar Panel are given in table 5.3 & figure 5.3.

In total, 27 assets created under Biodiversity & Wildlife Management (IWMP) viz. construction of Watch Tower, Water Hole, desiltation of Water Hole, and installation of Solar Pump, Solar light & Solar Panel had been evaluated, out of which 01 was good, 14 were very good & 12 were excellent in quality of construction. Regarding rating of use of infrastructure/assets, 04 were good, 14 were very good & 9 were excellent.



**Table 5.3: Evaluation of Biodiversity & Wildlife Management**

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
1	Hazaribagh West	Hazaribagh	Parheriya	2021-22	Water Hole	No	9	9
2	Hazaribagh West	Barhi	Kedarut	2021-22	Water Hole	No	9	9
3	Hazaribagh West	Barkagاون	Mahudi	2020-21	Repair of Old Watch Tower	No	9	8
4	Hazaribagh West	Barkagاون	Mahudi	2021-22	Construction of Watch Tower	No	9	8
5	Koderma	Domchanch	Kolgarma	2021-22	Water Hole	Yes	8	7
6	Hazaribagh Wildlife	WL Range Koderma	Muglamaran	2019-20	Water Hole	Yes	9	9
7	Hazaribagh Wildlife	WL Range Koderma	Bholaghat road	2019-20	Water Hole	Yes	9	9
8	Hazaribagh Wildlife	WL Range Hazaribagh	Datto Khurd	2019-20	Water Hole	Yes	8	7
9	Hazaribagh Wildlife	WL Range Hazaribagh	Mahto Baandh	2019-20	Water Hole	Yes	8	7
10	Hazaribagh Wildlife	WL Range Hazaribagh	Salparni	2020-21	Water hole & Solar pump	Yes	9	9

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
11	Hazaribagh Wildlife	WL Range Koderma	Koderma	2020-21	Installation of Solar pump	Yes	9	8
12	Chaibasa	Chaibasa	Bidri	2019-20 to 2021-22	Watch Tower	No	8	8
13	Chaibasa	Noamundi	Lepang	2019-20	Watch Tower	No	8	8
14	Seraikela	Chandil	Pilid	2021-22	Watch Tower	Yes	9	9
15	Saranda	Gua	Baraiburu	2019-20	Water Hole	No	9	9
16	Elephant Project Jamshedpur	Dalma (East)	Bhojodih	2019-20	Water Holes Desiltation	No	8	8
17	Elephant Project Jamshedpur	Dalma (East)	Kalajobhi	2019-20	Water Holes Desiltation	No	8	8
18	Elephant Project Jamshedpur	Dalma (East)	Rangasingh Bandh	2019-20	Water Holes Desiltation	No	8	8
19	Elephant Project Jamshedpur	Dalma South	Nichlabandh	2019-20	Water Hole	No	8	8
20	Elephant Project Jamshedpur	Dalma South	Bad Ka Bandh	2019-20	Water Hole	No	8	8
21	Elephant Project Jamshedpur	Dalma South	Manjalabandh	2019-20	Water Hole	No	8	8
22	Gumla	Gumla	Borekela	2019-20	Solar Light	Yes	7	7
23	Wildlife Division, Ranchi	Palkot Wildlife Sanctuary	Palkot	2019-20	Water Hole		8	8

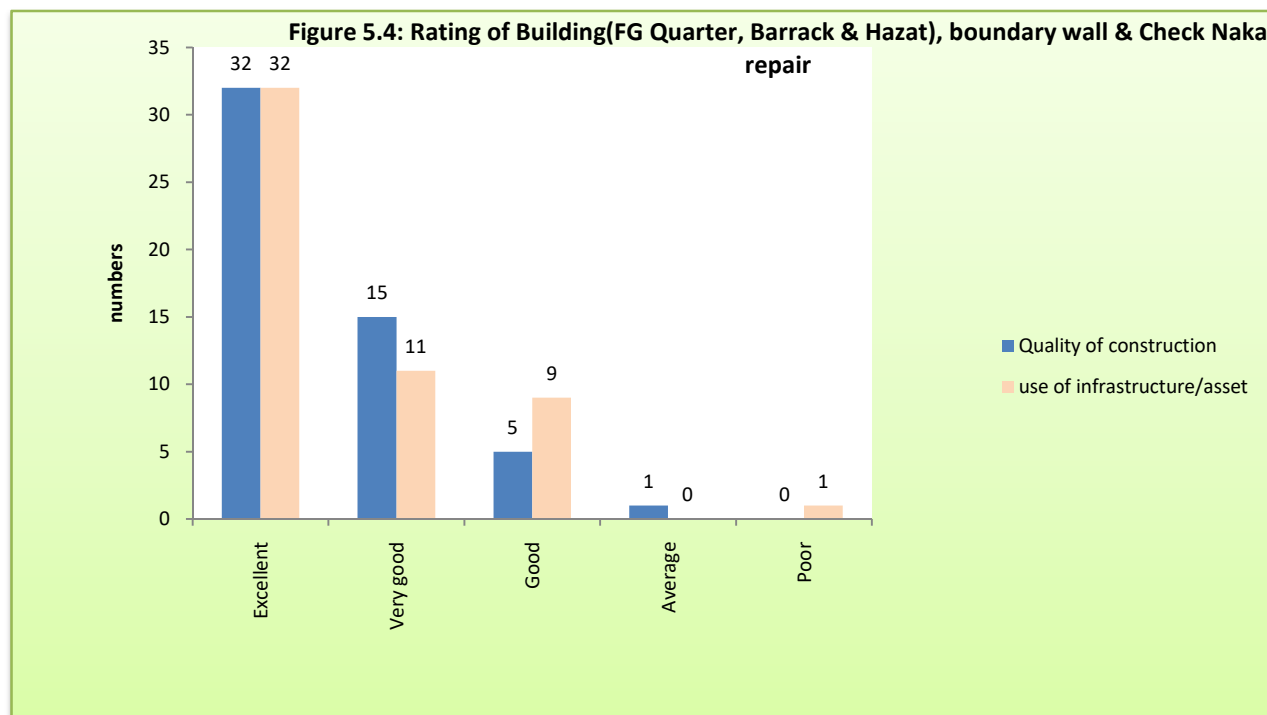
S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
24	PTR, South	Garu East	Panchwastandiya	2019-20	Water Hole	No	8	8
25	PTR, South	Garu East	Parsapani	2019-20	Solar Street Light & Water Solar Pump	No	8	8
26	Hazaribagh Training School	RFO Forester-cum-Forest Guard Training School, Hazaribagh	FTS, Hazaribagh Campus	2019-20	Solar energy estd.	No	9	9
27	SFTI, Ranchi		Palas Hostel, Mahilong Training Centre	2019-20	Solar Panel installation		9	9



## 5.4 Assessment of Buildings/Check Naka/Boundary Wall

The details of the report of evaluation of buildings (Hazat, FG Quarter & Barrack)/Check Naka/Boundary Wall are given in table 5.4 & figure 5.4.

In total, 53 buildings (Hazat, FG Quarter & Barrack/Check Naka/Boundary Wall) had been evaluated, out of which 01 was average, 05 was good, 15 were very good & 32 were excellent in quality of construction. Regarding rating of use of infrastructure/assets, 01 was poor, 09 were good, 11 were very good & 32 were excellent.



**Table 5.4: Evaluation of Buildings/Check Naka/Boundary Wall**

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/assets
1	Bokaro	Chas	RO Office Chas	2019-20	Hazat	No	9	9
2	Bokaro	Chas	RO Office Chas	2019-20	Barrack	No	9	9
3	Bokaro	Bermo	RO Office Bermo	2019-20	Hazat	No	8	8
4	Bokaro	Bermo	RO Office Bermo	2019-20	Forest Guard Quarter	No	9	9
5	Bokaro	Bermo	RO Office Bermo	2019-20	Barrack	No	9	9
6	Giridih East	Parasnath	Range campus	2019-20	Check Naka Repair	No	8	8
7	Giridih East	Gawan	Tisri	2020-21	Forest Guard Quarter	No	9	9
8	Giridih East	Gawan	Deori	2019-20	Forest Guard Quarter	No	9	9
9	Giridih West	Jamua	Jamua	2020-21	Forest Guard Quarter	No	8	7
10	Ramgarh	Mandu	Mandu	2019-20	Forest Guard Quarter	No	9	9
11	Deoghar Social Forestry	SF Mohanpur	Jharkhandi	2019-20	Forest Guard Quarter	Yes	6	5
12	Godda	Sunderpahari	Sunderpahari	2019-20	Hazat	No	8	8
13	Dumka	Dumka Damin Kathikund	Shivtalla	2019-20	Barrack	Yes	9	9
14	Dumka	Hazla West	Phutabandh	2019-20	Barrack	Yes	9	9

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/assets
15	Dumka	Hazla West	Haroraidih	2019-20	Forest Guard Quarter	Yes	9	9
16	Pakur	Hiranpur	Hiranpur Range Office Campus	2019-20	Barrack	No	8	8
17	Chatra North	Pratappur	Range Campus	2019-20	Boundary wall	Yes	9	9
18	Chatra North	Hunterganj	Range Office	2019-20	Forest Guard Quarter	Yes	9	9
19	Hazaribagh West	Hazaribagh Aff.	Hazaribagh Old forest Colony	2020-21	Forest Guard Quarter	No	9	9
20	Hazaribagh West	Barkagaon	Check Naka Barkagaon	2019-20	Repair of Check Naka	No	9	9
21	Koderma	Gajandi	Ratansotha	2020-21	Vulture Restoration Centre (WLMP)	No	8	7
22	Koderma	Koderma	Koderma	2021-22	QRT Vehicle Purchase	No	8	7
23	Hazaribagh Wildlife	WL Range Chatra	Lawalong	2020-21	Forest Guard Quarter	Yes	9	9
24	Social Forestry Koderma	Markacho	Markacho	2019-20	Forest Guard Quarter	No	9	9
25	Chaibasa	Chaibasa	Tungri	2019-20	Forest Guard Quarter	No	9	9
26	Jamshedpur	Chakulia	Dighi	2019-20	Barrack	No	7	7
27	Jamshedpur	Chakulia	Dighi	2019-20	Hazat	Yes	7	7



S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/assets
28	Jamshedpur	Musabani	Musabani	2019-20	Hazat	Yes	7	7
29	Jamshedpur	Mango	Godabanda (Ganesh Mandir)	2019-20	Forest Guard Quarter	No	8	9
30	Jamshedpur	Ghatsila	Patmaulia	2019-20	Barrack	No	7	7
31	Kolhan	Santra	Sonua	2019-20	Hazat	Yes	9	9
32	Kolhan	Santra	Sonua	2019-20	Barrack	Yes	9	9
33	Kolhan	Santra	Sonua	2019-20	Forest Guard Quarter	Yes	9	9
34	Saranda	Koina	Range Campus Koina	2019-20	Hazat	No	9	9
35	Elephant Project Jamshedpur	Dalma South	Chakulia to Dalma Top	2019-20	Guard wall - 200 Mtrs	Yes	9	9
36	Adityapur Social Forestry	Aadityapur	Jay Prakash Udyan, Aadityapur	2019-20	Forest Guard Quarter	No	8	8
37	Lohardaga	Lohardaga	Baksidipa	2019-20	Barrack	No	9	9
38	Lohardaga	Kuru	Kuru	2019-20	Forest Guard Quarter	No	7	7
39	Gumla	Kurumgarh	Chainpur	2019-20	Forest Guard Quarter	Yes	9	8
40	Gumla	Bishunpur	Bishunpur	2019-20	Forest Guard Quarter	No	9	9
41	Simdega	Simdega	Simdega	2019-20	Forest Guard Quarter	No	9	9

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/assets
42	Ranchi	Munder	Maklusiganj	2019-20	Forest Guard Quarter	No	8	8
43	Khunti	Jariya Forest Range, Karra	Karra	2019-20	Hazat	Yes	8	8
44	Wildlife Division, Ranchi		Rescue Center Barwey	2019-20	Hospital, Store		9	9
45	Wildlife Division, Ranchi	Palkot Wildlife Sanctuary	Mobile team in mobile Vehicle	2019-20, 2020-21 & 2021	QRT Team & QRT Vehicle	No	9	9
46	Garwah North	Bhawnathpur	Bhawnathpur	2019-20	Hazat	Yes	9	8
47	Garwah North	Bhawnathpur	Bhawnathpur	2019-20	Forest Guard Quarter	No	9	9
48	Medininagar	Chatarpur West	Latheya	2019-20	Forest Guard Quarter	No	9	9
49	Garwah Social Forestry	Chainpur	Forest Guard Quarter Chainpur	2019-20	Forest Guard Quarter	Yes	8	9
50	PTR, North	Chipa Dohar West	Forest Campus Barwadih	2019-20	Forest Guard Quarter	Yes	8	8
51	PTR, North	Chipa Dohar West	Forest Campus Morwai	2019-20	Forest Guard Quarter	Yes	8	7
52	PTR, South	Garu East	Garu	2019-20	Check Naka Maintenance	No	8	8
53	SFTI, Ranchi		Mahilong Training Centre	2019-20	Boundary wall	No	9	9

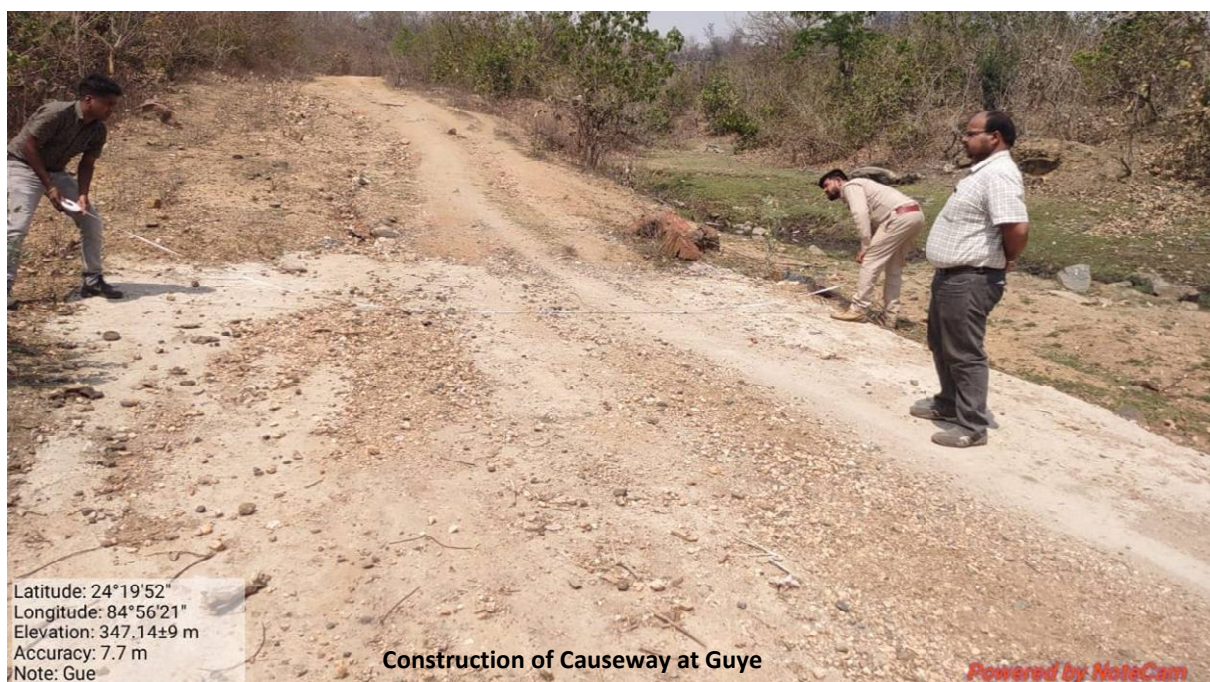
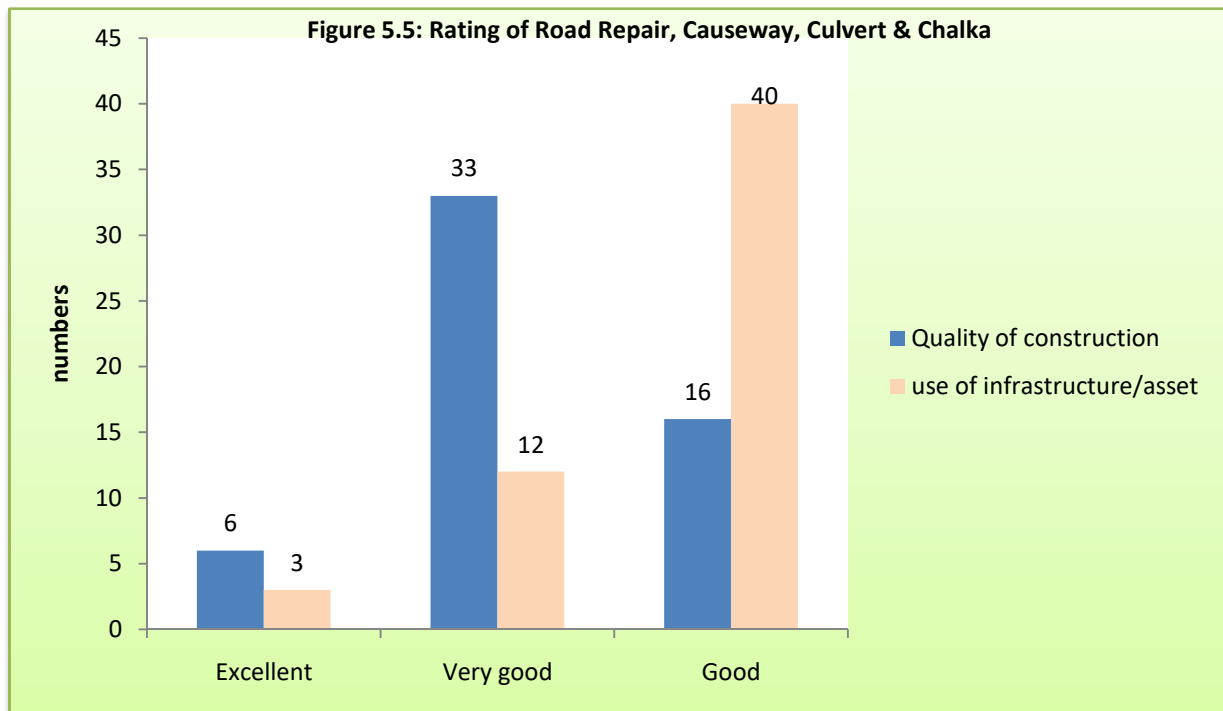




## 5.5 Assessment of Forest Road repair, Causeway, Chalka & Culvert

The report provides a detailed evaluation of Forest Road repair, Culvert, Causeway & Chalka constructions under CAMPA across 21 Forest Divisions. The findings are presented in table 5.5 & figure 5.5.

A total of 55 sites were evaluated for Forest Road repair, Culvert, Causeway, and Chalka. Out of these, 16 sites were deemed good, 33 were very good, and 06 sites were considered excellent in terms of construction quality. As for infrastructure/assets usage, 40 sites were classified as good, 12 sites as very good, and 03 sites as excellent.



**Table 5.5: Evaluation of Forest Road repair, Culvert, Causeway & Chalka**

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
1	Dhanbad	Topchanchi	Palma	2021-22	Culvert	No	8	8
2	Dhanbad	Topchanchi	Parvatpur	2019-20	Causeway	No	8	7
3	Giridih East	Gawan	Ratangurha	2021-22	Culvert	No	9	8
4	Deoghar	T Range Deoghar	Jiyakhara-Gashko	2020-21	Road Repair	No	7	7
5	Godda		Tilatanr	2021-22	Culvert	No	7	7
6	Chatra North	Hunterganj	Kanguruya	2021-22	Causeway	No	9	8
7	Chatra North	Pratappur	Guye	2021-22	Causeway	Yes	9	8
8	Chatra North	Pratappur	Asakal to Hesatu	2019-20	Road repair	Yes	9	8
9	Chatra South	Chatra	Pitij to Gangpur (8kms)	2019-20	Road Repair	No	8	8
10	Hazaribagh East	Daru	Around Canary hill (5km)	2019-20 & 2020-21	Road repair	Yes	8	7
11	Koderma	Domchanch	Nai Tanr to Golgo	2021-22	Road repair	No	8	7
12	Koderma	Domchanch	Boriyadeeh to Simarkundi	2021-22	Road repair	Yes	8	7
13	Hazaribagh Wildlife	WL Range Koderma	Koderma to Khalkhambi	2020-21	Road repair	Yes	8	8
14	Hazaribagh Wildlife	WL Range Koderma	Ashanachua to Buked	2020-21	Road repair	No	8	7

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
15	Hazaribagh Wildlife	WL Range Hazaribagh	Tower no.7 to tower no. 11	2019-20& 2020-21	Road repair	No	8	7
16	Hazaribagh Wildlife	WL Range Hazaribagh	Kaila to Rajderwa(2km)	2019-20 &2020-21	Road repair	Yes	8	7
17	Hazaribagh Wildlife	WL Range Hazaribagh	Rajderwa Bypass(7km)	2019-20 &2020-21	Road repair	Yes	8	7
18	Hazaribagh Wildlife	WL Range Hazaribagh	Pokhariya to Rajderwa (10km)	2019-20	Road repair	Yes	8	7
19	Hazaribagh Wildlife	WL Range Hazaribagh	Sijuwa-Salparni(2km)	2019-20	Road repair	Yes	8	7
20	Hazaribagh Wildlife	WL Range Chatra	Hardirpur to Rimi (10 km)	2020-21	Road repair	Yes	8	7
21	Hazaribagh Wildlife	WL Range Chatra	Tigda to Tikuliya (7 km)	2020-21	Road repair	Yes	8	7
22	Hazaribagh Wildlife	WL Range Chatra	Tigda to Loharsi(6km)	2019-20	Road repair	Yes	8	7
23	Jamshedpur	Ghatsila	Basadera	2019-20	Culvert	Yes	8	9
24	Porahat	Kera	Janta Moro to Jenasai	2019-20	Road repair	Yes	8	8
25	Porahat	Anandpur	Dhanapali/ Kashijora	2021-22	Causeway	Yes	7	7

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
26	Saranda	Gua	KP-10	2021-22	Causeway	No	9	9
27	Elephant Project Jamshedpur	Dalma (East)	Bandarjal	2019-20	PCC Road	Yes	9	9
28	Lohardaga	Banari	Banalat-Hapad	2019-20	Road Repair	No	7	7
29	Lohardaga	Banari	Jori-Nirasi	2019-20	Road Repair	No	7	7
30	Khunti	Bundu	Forest Road Repair(3.5 km)	2019-20	Road Repair	Yes	7	7
31	Khunti	Bundu	Tinjharia	2019-20	Causeway	No	7	7
32	PTR, North	Betla	Kila Baksa Road (6.5 km)	2019-20	Road Repair	Yes	8	7
33	PTR, North	Betla	Betla Park Rd. No.3	2020-21	Road Repair	Yes	8	7
34	PTR, North	Betla	Betla Park road no.1(5.8 km)	2019-20	Road Repair	Yes	8	7
35	PTR, North	Betla	Betla Park road no.5(5.3 km)	2019-20	Road Repair	Yes	8	7
36	PTR, North	Betla	Baksa Mod To Gadi Gate(2.2 km)	2019-20	Road Repair	No	8	7
37	PTR, North	Betla	Kila Kamalda	2019-20	Road Repair	Yes	8	7
38	PTR, North	Chipa Dohar East	Lukuiya Macharjharwa (2.0 km)	2019-20	Road Repair	No	8	7



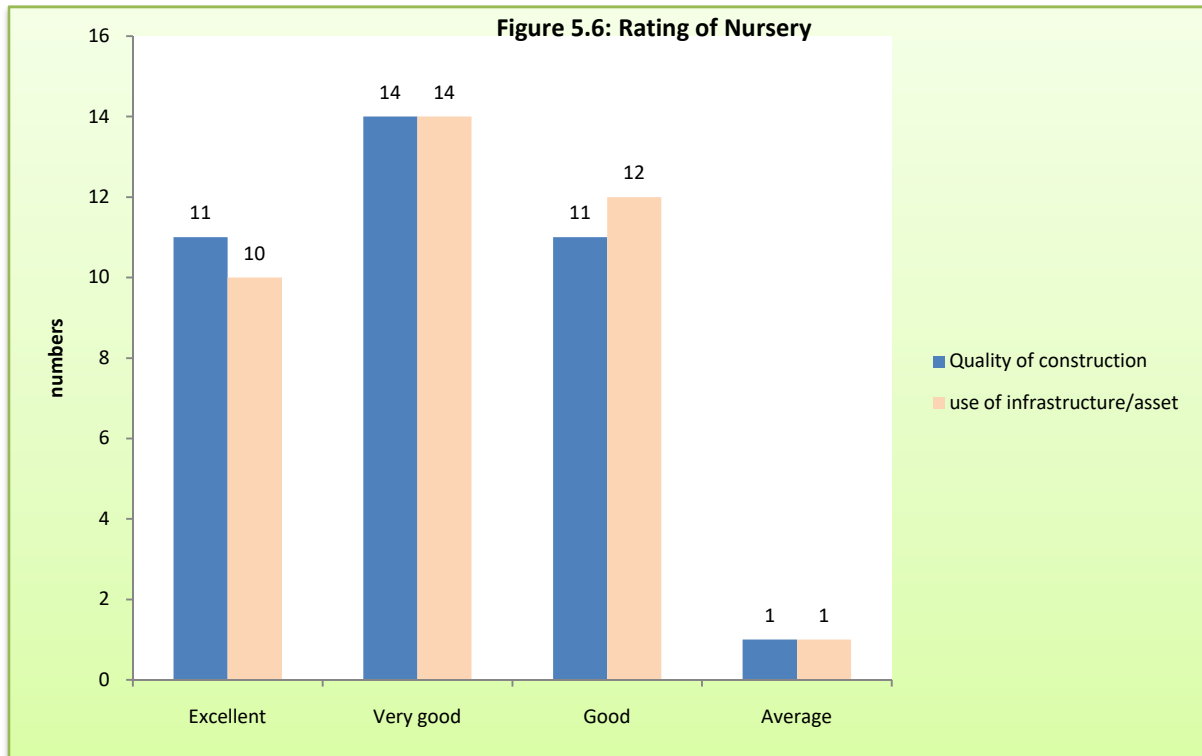
<b>S.No</b>	<b>Forest Division</b>	<b>Forest Range</b>	<b>Name of Site</b>	<b>Year</b>	<b>Name of Infrastructure</b>	<b>Whether uploaded on e-Green watch</b>	<b>Rating of Quality of Construction/works</b>	<b>Rating of use of infrastructures/ assets</b>
<b>39</b>	PTR, North	Chipa Dohar East	Chippa Dohar Hehegara(10 km)	2019-20	Road Repair	No	8	7
<b>40</b>	PTR, North	Chipa Dohar West	Saidup-Badhaniya (10 km)	2019-20	Road Repair	Yes	8	7
<b>41</b>	PTR, North	Chipa Dohar West	Saidup to Harinamar (7km)	2019-20	Road Repair	Yes	8	7
<b>42</b>	PTR, North	Chipa Dohar West	Putuagarh-Sindhorwa(15km)	2019-20	Road Repair	Yes	8	7
<b>43</b>	PTR, South	Garu East	Getha Achar Rd.	2019-20	Road Repair	Yes	7	7
<b>44</b>	PTR, South	Garu East	Chaingate to Fulhar	2019-20	Road Repair	Yes	7	7
<b>45</b>	PTR, South	Garu East	Daldaliya Bukikona Rd.	2019-20	Road Repair	Yes	7	7
<b>46</b>	PTR, South	Baresandh	Tinfutiya-Teno Forest Rd.	2019-20	Road Repair	Yes	7	7
<b>47</b>	PTR, South	Baresandh	Baresandh-Lat Forest Rd.	2020-21	Road Repair	Yes	7	7

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
48	PTR, South	Baresandh	Balapani-Pandara Pani Forest Rd.	2020-21	Road Repair	Yes	7	7
49	PTR, South	Baresandh	Tinfutiya-Pandara Pani Forest Rd.	2020-21	Road Repair	Yes	7	7
50	PTR, South	Baresandh	Mallah Chattan Balapani Forest Rd.	2020-21	Road Repair	Yes	7	7
51	PTR, South	Baresandh	Adhe Korgi Henar Forest Rd.	2019-20	Road Repair	Yes	7	7
52	PTR, South	Garu East	Bala Pani	2019-20	Chalka	No	8	8
53	PTR, South	Garu East	Jahaj Girwa	2019-20	Chalka	No	8	8
54	PTR, South	Garu East	Timna Khad	2019-20	Chalka	No	8	8
55	PTR, South	Garu East	Kera Pani	2019-20	Chalka	No	8	8

## 5.6 Assessment of Nursery

The detailed reports of the evaluation of the Nurseries of 37 sites are given in table 5.6 & figure 5.6.

In total, nurseries were evaluated at 37 sites, out of which 01 was average, 11 were good, 14 were very good & 11 were excellent in quality of construction. Regarding the use of infrastructure/assets, at 01 site use of nurseries was average, 12 were good, 14 were very good & 10 were excellent.



**Table 5.6: Evaluation of Nursery**

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
1.	Bokaro	Petarwar	Bundu Protected Forest	2021-22	Nursery	No	9	9
2.	Bokaro	Bokaro	Kharpito	2019-20	Nursery	No	9	9
3.	Dhanbad	Dhanbad Urban Forestry	Aamghata	2019-20	Nursery	No	8	8
4.	Dhanbad	Tundi	Parsatand	2020-21	Nursery	No	9	9
5.	Giridih East	Khurchutta	Jambad/ Chamgadda	2020-21	Nursery	No	9	8
6.	Giridih West	Bengabad	Bishanpur	2020-21	Nursery	No	9	8
7.	Ramgarh	Patratu	Bhurkunda	2019-20	Nursery	No	8	8
8.	Ramgarh	Gola	Purabdihi	2020-21	Nursery	No	8	8
9.	Deoghar	T Range	Khijuriya	2019-20	Nursery	No	7	7
10.	Deoghar Social Forestry	Sarath	Sagarbhanga	2020-21	Nursery	No	8	8
11.	Deoghar Social Forestry	SF Mohanpur	Jharkhandi	2021-22	Hi-tech Nursery	No	7	7
12.	Godda	Boarijor	Gudiya	2020-21	Nursery	No	7	7
13.	Chatra North	Pratappur	Pratappur range office	2020-21	Nursery	No	9	9
14.	Chatra South	Chatra	Gidhour	2019-20	Nursery	No	9	9

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
15.	Hazaribagh West	Hazaribagh	Jai Prakash Udhyan Permanent Nursery	2019-20, 2020-21	Nursery	Yes	9	9
16.	Koderma	Gajandi	Chaurahi	2020-21	Nursery	No	8	7
17.	Social Forestry Koderma	Domchanch	Tetriyadeeh	2020-21	Hi-tech Nursery	Yes	9	9
18.	Social Forestry Hazaribagh	S F range Hazaribagh	Charwa	2019-20 to 2021-22	Hi-tech Nursery	No	8	7
19.	Chaibasa	Chaibasa	Bidri	2019-20 to 2021-22	Nursery	Yes	8	8
20.	Jamshedpur	Chakulia	Digi	2019-20	Nursery	No	7	8
21.	Seraikela	Seraikela	Gamharia		Nursery	No	7	7
22.	Kolhan	Santra	Mahuldiha	2019-20	Nursery	Yes	8	8
23.	Porahat	Songra	Kandeyang	2021-22	Nursery	Yes	9	9
24.	Social Forestry Chaibasa	Jagannatpur Social forestry	Basudeopur	2019-20 to 2021-22	Nursery	Yes	9	9
25.	Lohardaga	Lohardaga	Baxidipa	2019-20	Nursery	Yes	7	7
26.	Gumla	Bisunpur	Dewaki	2019-20	Nursery	Yes	7	7
27.	Gumla	Gumla	Koinara	2019-20	Nursery	Yes	7	7
28.	Simdega	Simdega	Gotra	2019-20	Nursery	Yes	8	8

S.No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/ assets
29.	Simdega	Simdega	Jokari	2019-20	Nursery	Yes	8	8
30.	Ranchi	Ranchi Afforestation range Bero	Mahilong	2019-20	Nursery	No	7	7
31.	Khunti	Jariya Forest Range, Karra	Katamkuku	2019-20	Nursery	Yes	8	8
32.	Ranchi Social Forestry	Social Forestry Ranchi	Tril	2019-20	Nursery	Yes	8	8
33.	Simdega Social Forestry	Gumla	Raydih Marium Toli	2021-22	Nursery		8	8
34.	Garwah South	Ranka West	Serasham	2020-21	Nursery	No	8	9
35.	Latehar	Balumath	Tasatbar	2021-22	Nursery	Yes	6	6
36.	Medininagar	Chainpur	Chak Harbhonga	2000-01	Nursery	No	7	7
37.	CF Plantation & Research	Maheshpur	Barwey	2019-20	Nursery	Yes	7	7

## 5.7 Assessment of Forest Protection Activities

The detailed report of evaluation of forest protection activities at 03 sites are given in table 5.7. Weed eradication was reported under forest protection activities. The rating of quality & use was reported good.

**Table 5.7: Evaluation of Forest Protection activities**

S. No	Forest Division	Forest Range	Name of Site	Year	Name of Infrastructure	Whether uploaded on e-Green watch	Rating of Quality of Construction/works	Rating of use of infrastructures/assets
1.	Hazaribagh Wildlife	WL Range Koderma	Koderma Old RF South Surangi	2020-21	Weed Removal	Yes	7	7
2.	Ranchi Wildlife	Palkot Wildlife Sanctuary	Hansdon	2020-21	Weed Eradication	No	7	7
3.	PTR South, Medininagar	Baresandh	Ginjan Damar	2021-22	Weed removal	No	7	7





## Chapter - 6

### Key Findings of Intervention under Integrated Wild Life Management Programme

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Jharkhand is a state that has been blessed by Mother Nature with abundant natural beauty. It is gifted with lush green forests, cascading waterfalls, captivating hills and hillocks, gurgling streams, and mesmerizing landscapes with colorful wildlife. This state is home to tigers, leopards, elephants, deer, a variety of reptiles, birds, and many other wild creatures. The forests are also home to majestic Sal trees and a variety of trees, herbs, shrubs, grasses, etc. In totality, Jharkhand forests present themselves as a perfect textbook of biodiversity.

An Integrated Wildlife Management Plan (IWMP) is extremely important for the scientific management of this natural treasure. It is a tool that helps in the effective management of forests and wildlife for their better growth, conservation, and development. The focus of various activities for wildlife management in the state includes the promotion of effective wildlife management.

In the state effort has been made to promote effective wildlife management, they were,

#### **(I) Technical Aspects (Issues):**

- (1) Habitat Improvement – The CAMPA fund supported activities namely, Bamboo plantation in the corridor of elephant movement, silviculture operation, provision of salt lick in the villages.

This is the most important aspect for the IWMP, for through it sufficient food materials along with the homes of the wildlife are preserved and created. It can be achieved through.

- Mass scale plantation in blank areas of the forests
- Corridors of elephants to be improve by proper plantation and improvements of vegetation of appropriate species.
- Rehabilitation of degraded forests.
- Grasslands development.
- Soil conservation measures
  - Gully plugging
  - Contour trenching
- (2) Availability of drinking water - Soil and Water conservation works (digging of contour trenches, seed sowing on trench bunds, gully plugging and silt detention dam etc.

After food safe and clean water is essential for the survival of any living being and so is the wildlife. And for it following actions should be taken:

- Cleaning & desilting of flowing rivers & streams.
- Wherever available making of check dams.
- Creation of pucca check dams at major places

- Desilting of natural ponds/lakes in the forest areas.
- At the pick of dry seasons facilities to transport water to fill the check dams/ponds etc.

### (3) Prey base improvement

- For carnivores prey are very important for these herbivores are their food.
- For prey base improvement following actions to be taken.
  - Development of sufficient numbers of grass lands.
  - Cleaning & improvement of natural, existing grasslands.
  - If prey base is poor creation of prey base in big areas by artificial means e.g. big enclosures in forests for breeding and then release them in the forests.
  - Translocation of healthy prey animals in these big enclosures from elsewhere e.g. zoo etc.

### (4) Vaccination of Domestic Animals

Most of the wildlife are infected by different kinds of diseases through domestic animals of nearby villages. Thus proper vaccination of domestic animals of nearby villages of forests/wildlife sanctuaries will guarantee good health of wildlife.

## **II. Managerial Aspects (Issues)**

### **(1) Effective Administrative setup:**

- An effective administrative setup of any wildlife division/ sanctuary is the essence of IWMP.
- There should no any vacant post in the areas of wildlife management.

### **(2) Trained officers/staff**

- Wildlife management is a highly technical issue.
- The officers/ staff posted for such task should be well trained in wildlife management.

### **(3) Training of officers/ staff:**

Officers/ staff posted in wildlife area should be sent for special training to the reputed institutes and National parks etc. to improve upon themselves.

### **(4) Liasoning with the forest dwellers:**

- Public relation with the local people of nearby forests/ sanctuaries is an important tool in wildlife management.
- Public awakening can be done though-
  - Making wildlife protection team young boys & girls of the local villages. Their training for the task will make it more effective.
  - Seminars/symposiums for the local people.
  - Showing of wildlife related films in villages.

### **(5) Human-wildlife conflict mitigation**

- Developing a perfect public liasoning and awakening for wildlife will dress up this issue to a large extent.
- Proper and timely given compensation to public for their losses will lessen their itch for the wildlife.
- Training of people to tackle emergency situations related to wildlife.
- Providing people resources e.g. k.oil, dragon trench etc to tackle such urgent issues.

**(6) Surveillance of NP/TR/Sanctuaries:**

- Effective surveillance is very important for the protection wildlife.
- Sophisticated and modern drone cameras are very effective for this purpose.
- Good number of wireless stations with modern wireless setups for better communication.
- All the officers and staff must be equipped with the smart mobile phone for effective communication among them.

**(7) Special wildlife protection Force:**

- Besides the traditional administrative setup wildlife areas should have special wildlife protection force of trained officers and staff equipped with modern arms & ammunitions.
- This force will have to do effective patrolling in wildlife area and have the ability to strike quickly where wildlife related crime/issue takes place.

During evaluation of the wildlife related funds in CAMPA it has been observed that at many places good works have been done and at many places re-dressings are suggested in light of above aspects of the IWMP.

**(8) Medical rescue team & veterinary hospital.**

- Every wildlife sanctuary should have medical rescue team housing veterinary doctor & his co-staff.
- Every such area should have a well equipped veterinary hospital with all modern facilities.

## 6.1 Key Interventions in Forest divisions/ circles related to IWMP

In the state of Jharkhand, Integrated wild Life Management has been taken with support from CAMPA fund during the years 2019-20, 2020-21 and 2021-22 in various Forest divisions/circles.

**Table 6.1: Progress of works undertaken under IWMP in the state**

Sr No	Division/ Circles	Integrated Wild Life Management Plan	Financial Target	Financial Achievemen t
		<b>Works description</b>		
1.	West	Development of Wild life habitat, wildlife	47,37,500	47,37,,500

	Giridih	management, preventing of wild life hunting, Agni Suraksha and socio- economies works etc. under New B.G. Railway Line (Koderma- Giridih) Project on 44 Villages.		
2.	Deoghar	08 water holes desiltation and restoration, Silviculture works in 160 Hect. , awareness Campaign, capacity development in villagers, organizing veterinary camps, distribution of medical Kit in 25 villages. Bamboo plantation 10 Ha, Lantena eradication, Check dam construction in 04 water harvesting structures, Gabian plantation works of 6.00 km. etc. under ECL – Chitara open cast mining project.	5,94,56,500	5,94,56,500
3	East Hazaribagh	Development of Natural Forest development at Kanheri hills and wildlife awareness campaign etc. under newly constructed Hazaribagh to Barkakana Railway line Project.	1,50,09,600	
4	West Hazaribagh	Vulture Conservation and protection of migratory bird's habitat and publicity in Tillaiya Dam, Chauwa Dam and Gonda dam, Establishment of Jal Sanrakshan Kendra under newly constructed Hazaribagh to Barkakana Rail line Project.	99,90,400	
5	Koderma	Various works for wildlife management under Koderma – Giridih Railway Project.	3,00,00,000	
		Various works for wildlife management under Koderma – Tillaiya (Nawada) New B.G. Railway Line Project.		
6	Gumla	Installation of 21 Solar lights in 07 villages for reducing human – wildlife conflict, Construction of 07 check dam reinforcements of communication arrangements for helping Village – forest management committees, conducting wildlife awareness campaign etc. works under 132 Km. Gumla Simdega Transmission line Project.	90,73,200	50,51,965
7	Ranchi	Arrangement of Halla Party for drive away elephants, Construction of 01 watch tower, Construction of 02 Check dams, awareness campaign, Arrangements of medical camps in cluster of 06 villages under newly constructed Ranchi to Barkakana Railway Line Project.	52,60,000	52,60,000
8	Simdega	Installation of 125 Solar lights in 31 villages for reducing of human –wildlife conflict, Construction of 05 watch towers, Construction of 16 water harvesting structures, Arrangements of kerosene oil and fire crackers, reinforcements of communication arrangements organizing medical and veterinary camps etc works under 765 km. Ranchi (Bedo)- Dharmjaigarh Transmission line Project.	2,40,35,600	2,22,00,665
	<b>Total</b>		<b>15,75,62,800</b>	<b>9,67,06,630</b>

#### Activities undertaken under CAMPA Funds



The main goal of the IWMP program in the state is to protect, conserve, and develop wildlife habitats to increase the space for wildlife and decrease human-animal conflicts.

- A. Habitat Improvement** – This includes activities supported by the CAMPA fund, such as planting bamboo in elephant corridors, silviculture operations, and providing salt licks in villages. Other activities include soil and water conservation work, like digging contour trenches, sowing seeds on trench bunds, plugging gullies, and building silt detention dams, as well as constructing earthen and pucca check dams. Additionally, efforts have been made to conserve and develop vulture populations in the Koderma and Hazaribagh divisions.

### Bamboo Plantation for providing Food at Bindhatoli, Simdega division



### Vulture Restoration Centre at Ratansotha , Gajandi range

The site visited under asset created under CAMPA Integrated Wildlife Management Plan (IWLMP) was Vulture Restoration Centre at Ratansotha in Gajandi range. The site was visited, surveyed, GPS co-ordinates recorded and photographed taken along with the information was filled up in tool 4.

At Ratansotha in Gajandi range, the Vulture Restoration Centre has been evaluated. Vulture Restoration Centre

was constructed in the year 2020-21. The site is basically food station for vulture. GPS location





of this area was 24°24'49" N and 85°31'39" E. The site will be helpful in promoting and improved survival of vultures.

**Water Conservation/ Checkdam at Jamshedpur Elephant Division**





- B. Socio-economic Development Activity** – distribution of net for collection of Mahuwa and other fruits seeds and flowers to reduce the fire incidence.
- C. Minimize of Human-elephant/ Animal conflict** – Provision of wildlife tracker. In addition, training and capacity building training of members of Village Forest Management and Protection committee/ eco-development Committee.
- D. Infrastructures & Equipments** – The major intervention in the head is construction/repair and maintenance of watch tower, purchase of Quick response Team Vehicle for patrolling, procurement of night vision binoculars, projectors, GPS equipments, digital cameras, drone cameras, and laptops etc.

### Quick Response Team Vehicle at Koderma Range

The infrastructure related works evaluated at Koderma range is Quick Response Team Vehicle (Yodha Vahan) at Koderma range. One vehicle was purchased with accessories in the year 2021-22. It is used to rescue wild animals



and also in case of forest fire. The items found available in QRT vehicle during the vehicle were Jungle boots, dress, Cap, gloves, water proof LED search light & set of snake catcher. The investment on QRT vehicle was reported very useful in responding to the demand of wild animals to protect and care them.

### Integrated Wildlife Management in WL Ranchi –Palkot Range, District Gumla

The key activities undertaken under IWMP in the division was formation of Quick Response Team (QRT team) comprising of 6 members and the Forest guards of department. The QRT team was engaged on monthly basis. Each member get honorarium of Rs. 8896 per month. The expenditure on QRT Team and QRT vehicle was spent from CAMPA fund. The key role of QRT team is to protect and support wild animals so that they should not get harmed by the villages and public. Simultaneously, they also work on reduction of human-animal conflict.

Also, the expenditures on Mashal, crackers etc. were charged from CAMPA fund to reduce the incidence of man-animal conflict. The area has movement of elephants who has incident of conflict with villagers in the area. The QRT team helps in reduction of conflicts and diverting the wild animals so that they get protected and get freedom.

Thus the major roles of QRT Team are:

- Watch the movement of wild animals specially the elephants in the area and in human habitation/ villages.
- QRT reported very well involved in the process of reduction of man-animal conflict.



- QRT train villagers & give them Mashal and crackers.
- QRT visit the elephant affected village and also at the time of elephant movement.
- Provide relief to people as well as wild animals
- Protect wild animals from harm of local villagers.

## IWMP - Quick Response Team



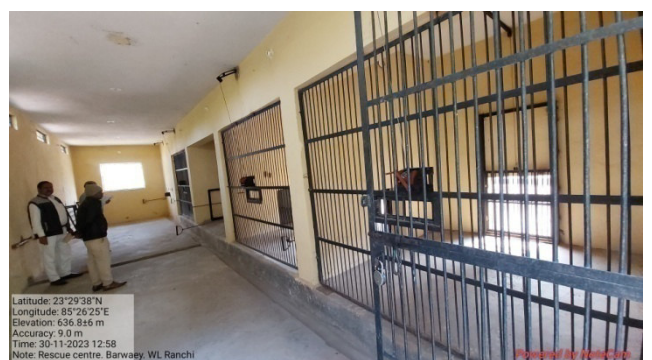
**E. Field gear to Staffs** – The major intervention in the head is purchase and support the movement of field forest staffs viz. Shoe, Torch, Water bottle, Raincoat etc.

## 6.2 Key Findings, Comments & Suggestions

1. The investments made under IWMP have proven to be useful in several aspects, including habitat improvements, socio-economic development, minimizing human-elephant/animal conflict, infrastructures, equipment, and field gear for staff.
2. The Vulture Restoration Centres are an innovative initiative that needs to be mobilized and made functional.
3. The QRT teams have been working positively towards reducing human-animal conflicts.
4. Under IWMP, efforts should be made to reduce the terror among villagers regarding wild animals/elephants. This would help the villagers provide support to the forest team and the wild animals to retain their territory and corridors.
5. The functionaries and staffs may be appointed as per the need at Rescue centre Berway so that the centre may run in full swing with all developed facilities.



## Rescue Centre Berway, Ranchi, WL Division





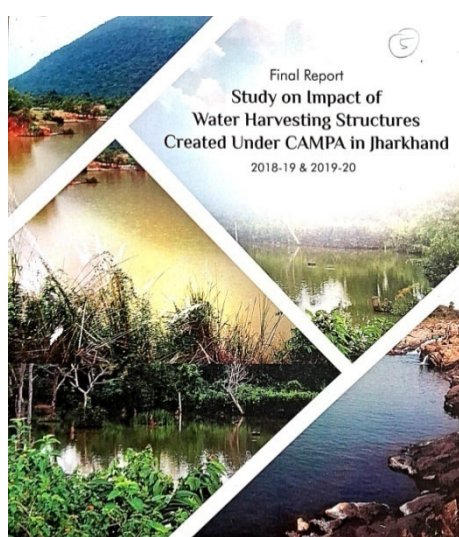
## Chapter - 7

### Research, Evaluations, Capacity Building & Trainings

#### 7.1 Activities and Achievements

Various activities related to research, capacity building, and training have been undertaken in the state with support from CAMPA funds. The Forest Division/Circle has implemented the major interventions listed below:

S.No.	Forest Division/ Circle	Funding under CAMPA during years			Remarks
		2019-20	2020-21	2021-22	
1.	Conservator of Forests, Plantation, Research & Evaluation Circle, Ranchi.	☑	-	-	
2.	Conservator of Forests, State Silviculturist, Jharkhand, Ranchi	☑	-	-	
3.	Divisional Forest Officer, Training School, Hazaribagh	☑	-	-	
4.	State Forest Training Institute, Mahilong Ranchi	☑	-	-	



Submitted to  
Department of Forests,  
Environment & Climate Change  
Government of Jharkhand



Submitted by  
Regional Centre, NAEB &  
School of Water Resources Engineering  
Jadavpur University, Kolkata



## 1. Conservator of Forests, State Silviculturist, Jharkhand, Ranchi

The works related Research & Evaluation studies undertaken by Conservator of Forests, State Silviculturist, Jharkhand is stated hereunder,

**Table 7.1: Works undertaken & Assessment of the Research & Evaluation studies & works undertaken under CAMPA for evaluation**

S.No.	Name of Work/ Infrastructure	Sanctioned cost (Rs.)	Expenditures (Rs.)	About report	Relevance, Efficacy & Usefulness of the report	Comments / Suggestion
1.	“Impacts of Subsidiary silviculture Operations in Sal forest of Jharkhand” – Annual report	16.007lac	16.007 lac	145 pages report and it is well presented	Relevant & Useful	Report Need to be shared with the RCCFs and DFOs in the state will help in reflection while planning the activities related silviculture operations
2.	Improvement of Elephant Habitat in Jharkhand to Minimize Human Elephant Conflict	30.671 lac	30.671 lac	139 pages report and it is well presented	Relevant & Useful	
3.	Socio-economic prospects of Siali (Bauhinia vahlii) leaves in Jharkhand	7.571	7.571	58 pages report and it is well presented	Relevant & Useful	
4.	Long term ecological analysis in 40 permanent plots (Old) and establishment of 10 new permanent plot in Jharkhand, Year 2019-20	25.996 lac	25.996 lac	128 pages report and it is well presented	Relevant & Useful	

## 2. Conservator of Forests, Plantation, Research & Evaluation Circle, Ranchi.

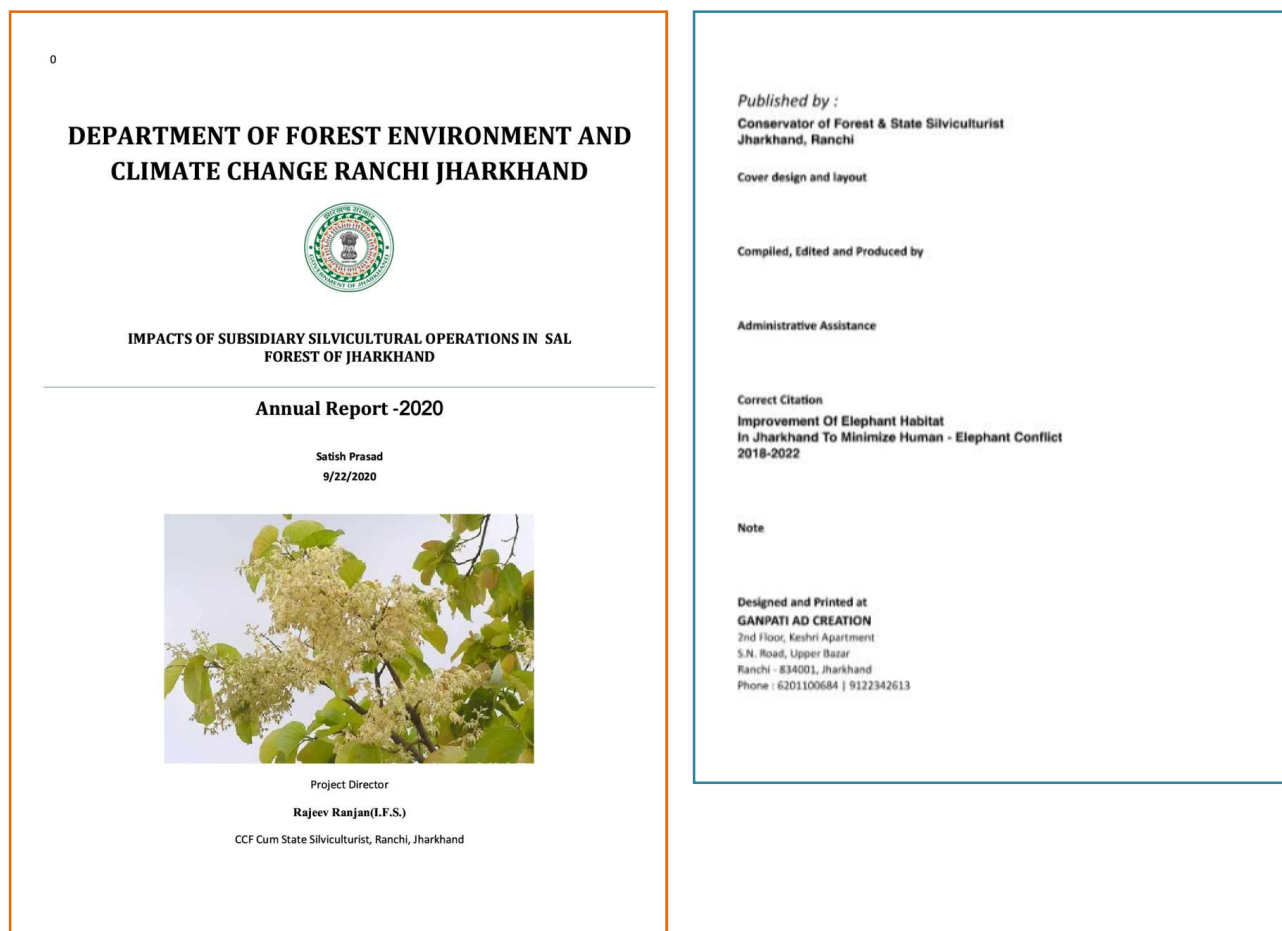
The works related Research & Evaluation studies undertaken by Conservator of Forests, Plantation, Research & Evaluation Circle, Ranchi is stated hereunder,

Table 7.2: Assessment of the Research & Evaluation studies & works undertaken under CAMPA for evaluation

S.No .	Name of Work/ Infrastructure	Sanctioned cost (Rs.)	Expenditure cost (Rs.)	About report	Relevance, Efficacy & Usefulness of the report	Comments/ Suggestion
1.	Study on contribution of forest with respect to nutrient and soil fertility in nearby agriculture land	1353000	871000	46 pages report and it is well presented	Relevant & Useful	Report Need to be shared with the RCCFs and DFOs in the state will help in reflection while planning the activities and plantation
2.	Ecosystem services valuation and accounting of Jharkhand forest	1200000	1200000	76 pages report and it is well presented	Relevant & Useful	
3.	Study on Impact of Forest Patta Grant on Forests in Jharkhand - 2018-19 and 2019-20	500000	482854	228 pages report and it is well presented	Relevant & Useful	
4.	Investigation on factors responsible for Sal ( <i>Shorea robusta</i> ) mortality in Jharkhand State using Maxent Model	2656500	2656500	128 pages report and it is well presented	Relevant & Useful	
5.	Effect of forest types on Water Quality in Jharkhand	1420100	833000	30 pages report	Relevant & Useful	
6.	Study on Impact of Water Harvesting structures created under CAMPA in Jharkhand -2018-19 and 2019-20	1200000	1190840	229 pages report and it is well presented	Relevant & Useful	

### 3. Research Activities

The State silviculturist division has undertaken Research studies on ‘Improvement of Elephant Habitat in Jharkhand to Minimize Human Elephant Conflict’ by spending Rs. 30.67 lac during the evaluation years. The report is submitted of 139 pages report and it is well presented.



### 4. Demonstration & Training activities related plantations at Forest Training Institutes (SFTI, Ranchi & Hazaribagh Training school – Arboratum, Setum & Agro-forestry model development

The works related Research & Evaluation studies undertaken by Conservator of Forests, State Silviculturist, Jharkhand is stated hereunder,

Sl.no.	Forest Range	Name of Site	Year of Plantation	Ha	Name of Sub-scheme
1.	RFO Forester-cum-Forest Guard Training School, Hazaribagh	Kani Mundawar	2019-20	2	Arboretum
2.	RFO Forester-cum-Forest Guard Training School, Hazaribagh	Kani Mundawar	2019-20	2	Bamboo Setum
3.	SFTI, Ranchi	Village-Kawali	2019-20	6	Agro-forestry model development
4.	SFTI, Ranchi	Village-Mahilong	2019-20	2.52	Arboretum Development



## Site Arboretum - Village-Mahilong (2019-20)



Display board at the plantation site



Measuring collar girth of planted seedling



Natural vegetation at the plantation site



Mahilong Arboretum plantation site

### Comments & Suggestions

- At Hazaribagh training school research and demonstration initiatives, regular fund should be given for proper upkeep & maintenance of site. Both the plantation sites (Arboretum & Setum) had received fund only once in the year 2019-20. Also, watcher/ Guard should be posted at the site for its better protection.
- At SFTI research and demonstration initiatives, regular fund should be given for proper upkeep & maintenance of site. Both the plantation sites (Arboretum) had received fund only once in the year 2019-20. Also, watcher/ Guard should be posted at the site for its better protection.

### 7.2 Strengths & Weaknesses

Strengths	Weaknesses
Research studies were relevant & Useful in deciding the further action	No availability of fund should be given for proper upkeep & maintenance of site after 2019-20
Arboretum & Setum intervention were useful for the trainees in identifying the various species and understand the plantation mechanisms	Provision of Watcher was not given



## **Chapter - 8**

### **Key Findings, Conclusion, Suggestions & Recommendations**

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In recent times, the state has recognized its obligation to integrate sustainable forest management practices, including ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of urban forestry, and alignment with the Sustainable Development Goals (SDGs). The CAMPA fund has made notable efforts to support the achievement of SDG 13 - Climate Action. This is in line with the state's commitment to contribute towards SDG-13 and integrate disaster and climate change risks, sustainable natural resource management, and human security into its development strategies.

The key interventions under CAMPA Fund in the state include Afforestation & Plantation, Soil and Moisture Conservation works, construction of Forest Guard Quarters, Barracks, Hazat, boundary walls, Culverts/Causeways, Pullia and Check dams. These activities were undertaken in 50 Forest divisions across 24 districts of Jharkhand. However, the evaluation study for the Years 2019-20, 2020-21 & 2021-22 focused on 43 forest divisions for plantation/afforestation works and 47 forest divisions for building and asset development, construction of boundary walls, Causeway, Forest roads, Nursery, Hazat and Barrack, and boundary walls.

The CAMPA fund is primarily used for activities such as afforestation and plantation, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood-saving devices, and other related activities. During the evaluation process, various aspects of the treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood-saving devices, and other related activities being implemented were assessed. Some encouraging progress was reported in some areas, while the programme was lagging in others. The findings of the third-party evaluation assessment are presented under the following categories: (1) Success/survival of afforestation/plantation and silviculture operations, (2) Soil and Moisture Conservation structures (SMC), (3) Building constructions and infrastructure development, (4) Forest Protection and Infrastructure development, (5) Biodiversity and wildlife management, (6) Capacity Building Training and Awareness, (7) Allied activities, and (8) Policy issues, etc.

The success and effectiveness of the CAMPA fund project can be assessed by evaluating the survival and growth of plantations carried out under the project, the functioning of Forest Divisions and range offices, institution building, initiatives for soil and moisture conservation, construction of water harvesting structures, protection/boundary walls, development of nurseries, capacity building, and training programs in both forest and wildlife areas.

The Third Party Evaluation study has reviewed the project's performance based on various indicators such as Relevance, Efficiency, Effectiveness, Impact, Sustainability, Key Innovative Initiatives, and lessons learned on different parameters. The results of the study are listed below.

## 8.1 Strengths & Weaknesses

The key findings in terms of Strengths & Weaknesses are stated hereunder,

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1. The CAMPA Fund project activities have supported to save forest at the plantation sites from further degradations and increase the forest cover on new diverted land by the administration in lieu of forest land used for development project purpose in the state.</li> <li>2. Developed useful Hi-tech/Permanent nurseries for the afforestation/ plantation in the forest ranges. Also expanded the volume and quality of infrastructures at nurseries.</li> <li>3. Increased plantation of local species at the afforestation sites.</li> <li>4. SMC activities were executed in proper manner including selection of right sites at majority of places. The quality of construction has been reported from satisfactory to good in most of the cases.</li> <li>5. Increase in forest and vegetal cover added value to overall process and system of forestry development.</li> <li>6. SMC related activities at the afforestation/ plantation sites impacted conservation of soil and water.</li> <li>7. The impact of SMC works were visible in most of sites helping in increasing the vegetative cover of the sites. The natural vegetation was better reported than the planting saplings on thanwalas.</li> <li>8. Contour trench/ bunding works</li> </ol>	<ol style="list-style-type: none"> <li>1. The forest areas were facing extreme climate conditions in the area where rainfall is low in last 2-3 years.</li> <li>2. The soil cover on rocky area of Deoghar, Medininagar PTR, Pakur, Training School Hazaribagh, Ranchi and Simdega, is low resulting into limited survival of planted plants.</li> <li>3. The nursery development may take into consideration the long-term perspective and sustainability of requirement of nursery as catalytic role for Forestry development.</li> <li>4. The plantation sites largely drive towards plantation only i.e. completing the activity. The element of 'People' was kept at lower level. People's participation was reported less at the plantation sites.</li> <li>5. The role of VFM&amp;PCs in protection and management of were limited. 2-3 members who get works were active at the plantation / afforestation sites.</li> <li>6. At the most of the sample sites, micro-plan was not the base document for execution of works.</li> <li>7. The capacity building, training, research, communication &amp; extension activities were reported at lower scale, which should be at higher scale for executing the project in broader spectrum and with support from local people.</li> <li>8. The documents namely, VFM&amp;PC records, Pit panji cum Plantation panji were maintained in limited way i.e. only the pit number is mentioned. It is good if all the details of the plantation sites may the plants details planted, expenditures on various activities and period of activity can be useful in reflection of the sites in case of transfer of site in charge and also in case of visit of the study team and state</li> </ol>

<p>were done largely in a proper way.</p> <p>9. SDD and Gully plugging resulted into reduction of soil erosion and checked the water flow velocity. At most of plantation sites, it was reported constructed at proper site and with proper quality.</p> <p>10. Construction of WHSs at the plantation sites/ near plantation sites helped in checking the soil erosion.</p> <p>11. The quality of checkdam/ WHS was reported proper and useful.</p>	<p>officials at the site.</p> <p>9. Protection &amp; care of plantation/ activities sites being beyond project phase was reported limited or almost nil and it causes nullifying the investments due to grazing by the cattle/local livestock at some the sites where maintenance period is completed.</p> <p>10. No provisions of operation and maintenance of SMC work have been made. Also, in some cases the site selection for Checkdam was not very strong resulting in breakage of structure / not proper use.</p> <p>11. Local people/ stakeholders were informed about the project may be with various methods i.e. meetings, trainings, orientations, exposure visit as per the project activity plan. However, their involvements were reflected in a limited way in the project activities.</p>
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## 8.2 Key Findings & Conclusions

### 8.2.1 Overall Review of Physical progress on CAMPA Fund

- There has been visible impact of the expenditures under CAMPA Fund in the forest sites in terms of Improving the quality of Degraded Forest Lands (RDF), improving and increasing the forest cover in the Non-Forest Lands (NFL), providing better facilities and improving the habitat of wildlife as a result the sighting of various animals were reported, and improving the health of the forest area where works and activities undertaken from CAMPA fund.
- The initiatives for sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and robust convergence has been reflected which certainly add value for Climate change (Sustainable Development Goals-13 (SDGs-13). These all will help in better protection, restore and promote sustainable use of ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss with initiatives in the state under CAMPA.

### 8.2.2 Afforestation, Plantation, Growth & Survival

- Under CA/ SC&A/RDF/Linear Plantation sites (year-wise), in the year 2019-20, the survival percentage of the plants was below 50% at 06 sites, between 50%-60% at 05 sites, between 60%-70% at 12 sites, between 70%-80% at 14 sites & 80% & above at 56 sites. In the year 2020-21, the survival percentage of the plants was below 50% at 02 sites, between 50%-60% at 01 site, between 60%-70% at 02 sites, between 70%-80% at 10 sites & 80% & above at 55 sites. In the year 2021-22, the survival percentage of the plants was below 50% at 02 sites, between 60%-70% at 04 sites, between 70%-80% at 10 sites & 80% & above at 77 sites. In total, the survival percentage of the plants was below 50% at 10 sites, between 50%-60% at 06 sites, between 60%-70% at 18 sites, between 70%-80% at 34 sites & 80% & above at 188 sites.
- The overall ranking of sample CA/ SC&A/RDF/Linear Plantation sites was excellent with average survival percentage of 83.2%.
- Under Silviculture plantation sites (year-wise), in the year 2019-20, the survival percentage of the plants was below 50% at 01 site, between 50%-60% at 02 sites, between 60%-70% at 08 sites, between 70%-80% at 14 sites & 80% & above at 37 sites. In the year 2020-21, the survival percentage of the plants was below 50% at 03 sites, between 50%-60% at 07 sites, between 60%-70% at 08 sites, between 70%-80% at 11 sites & 80% & above at 30 sites. In the year 2021-22, the survival percentage of the plants was between 50%-60% at 02 sites, between 60%-70% at 03 sites, between 70%-80% at 19 sites & 80% & above at 46 sites. In total, the survival percentage of the plants was below 50% at 04 sites, between 50%-60% at 11 sites, between 60%-70% at 19 sites, between 70%-80% at 44 sites & 80% & above at 112 sites.
- The overall ranking of sample Silviculture plantation sites was very good with average survival percentage of 79.4%.

### 8.2.3 Factors affecting Growth & survival (Biotic and Abiotic)

- Growth of termite affects the growth of planted seedling.
- Grazing by stray animals, cattle's & destruction by Neelgai. Neelgai and village animals ate the branches and leaves of plants. The growth and survival of plants was affected due to grazing by Neelgai and village animals (Sheep, Goats, Cows, Bulls and Buffaloes etc.).
- Trench/ Ditch fencing was damaged at many places. At some places, the locals made route from trench/ ditch fencing to plantation site for cattle grazing. Village and wild animals grazed almost all planted species. Loose stone wall fencing was damaged at many places. The stones of loose stone fencing were removed from many places and route to plantation site was made by the locals.
- Low rainfall was reported at the plantation site during last 2 to 3 years. This affects the survival & growth of planted species.
- Soil quality obstructs the growth of planted seedling. The soil was rocky at many plantation sites. The chances of survival of seedlings in rocky soil are low.

#### **8.2.4 Impact on Vegetal Cover**

- There has been reported increase and improvement in vegetal cover at the sample plantation sites viz. Silviculture/ CA/ SC&A/RDF/Linear plantation. The plantation and soil & moisture conservation activities at the plantation sites have certainly added value in terms of increase in the vegetal cover namely, trees Palash, Neem, Mahuwa, Tendu, Baheda, Sagwan, Ket Sagwan, Khair, Shesham, Acacia, Mango, Jamun, Guawa, Bamboo, Jackfruit, Pipal, Ber etc..

#### **8.2.5 Protection & Management**

- Certainly, the protection and management are important parameters and add value in the positive improvement in the coverage and increase in vegetal coverage. The trench fencing, loose stone wall fencing, hedge & barbed wire fencing constructed under CAMPA fund helped in demarcating the forest land and boundaries and protecting from encroachment.
- At CA/SC&A/Linear plantation site trench fencing was reported at 216 sample sites. The dimensions of the trench/ ditch fencing were reported - width (T+B) of trench fencing is 1.8m & 1.2m, h-1.2m. Present condition of fencing was largely satisfactory. Silting was reported in some parts of trench fencing. The fencing is as per record & site condition. Silting of Trench fencing was reported at the plantation sites vary from 10 percent to 40 percent. Like-wise, loose stone wall fencing was reported at 27 sample sites & barbed wire fencing was reported at 27 sample sites. Also, other types (Hedge/ Bamboo gabion etc.) of fencing were reported at 56 sample plantation sites.
- At Silviculture plantation site, trench fencing was reported at 181 sample sites. Present condition of fencing was largely satisfactory. Silting was reported in some parts of trench fencing. The fencing is as per record & site condition. Silting of Trench fencing was reported at the plantation sites vary from 10 percent to 40 percent.
- Like-wise, loose stone wall fencing was reported at 15 sample sites & barbed wire fencing was reported at 12 sample sites. Also, other types (Hedge etc.) of fencing were reported at 51 sample plantation sites.

#### **8.2.6 Maintenance & Other Silvi-cultural operations**

- As a part of maintenance, the site used to be visited on regular basis to keep watching regarding protection aspects. Also, loose stone fencing, ditch fencing & barbed wire fencing was effective to a larger extent in controlling the biotic pressure at plantation sites.
- Hoeing and weeding was reported at plantation sites. Coppicing was also reported at the silviculture operation sites, whereas post plantation operation such as pruning & thinning was reported in a limited manner at the plantation site. Mortality in the plantation is replaced in the second and third year by miscellaneous species.

#### **8.2.7 Soil & Moisture Conservation works (SMC Works)**

- At CA/SC&A/Linear plantation site, Silt Detention dam (SDD) reported at 123 sites, Contour bunding at 216 sites, Gully plugging at 106 sites and others viz. Earthen Check dam, Loose stone checkdam & Gabion at 7 sites.

- At Silviculture plantation site, Silt Detention dam (SDD) was reported at 125 sites, Contour bunding at 186 sites, Gully plugging at 132 sites and others viz. Earthen Check dam, Loose stone checkdam & Gabion at 10 sites.
- Activities related to development of Soil & Moisture Conservation structures (SMC) is the key element of CAMPA Fund which is pre-requisite for the afforestation and plantation activities. Various SMC structures were constructed namely, SMC Structures – Checkdam, WHS, Gully plugging, SDD, Contour trench etc.
- The works of SMC can be appreciated undertaken at the plantation sites which were largely found useful and relevant.
- Contour trenches 0.45m x 0.45m x 5m and 0.3mx 0.3 m x 5m were reported at 145 plantation sites. It was reported proper and systematic at majority of sites.

#### **8.2.8 Entry Point Activity (EPA) at the plantation site**

- Entry point activity (EPA) at CA/SC&A/RDF/ site is the key element of CAMPA Jharkhand Fund. The aim of providing EPAs is to gain the trust of the village residents towards the Project by satisfying their immediate demands. Various EPA were undertaken at CA/SC&A/RDF plantation site. Pond/ earthen check dam was reported at 104 plantation sites, soakpit & distribution of lantern was reported at 01 plantation site, chabutra was reported at 02 plantation sites, chabutra & shed was reported at 01 plantation site, Changing room with stairs was reported at 01 plantation site, earthen check dam & handpump was reported at 01 plantation site, distribution of book to government school & gym item was reported at 01 plantation site, distribution of utensils, catering item, chair, table,dari etc. to VFM & PC was reported at 02 plantation sites, installation of hand pump & motor with 2 HP was reported at 01 plantation site, installation of hand pump was reported at 10 plantation site, installation of hand pump & chabutra was reported at 01 plantation site, installation of handpump & construction of Dhadi Chuan was reported at 01 plantation site, installation of handpump & distribution of utensils,catering item, chair, table,dari etc. to VFM & PC was reported at 01 plantation site, installation of handpump & shamshan shed was reported at 02 plantation sites, installation of Solar Jal Minar & Chabutra was reported at 20 plantation sites, installation of Solar Jal Minar & Solar pump was reported at 06 plantation site, installation of Solar Jal Minar & handpump was reported at 01 plantation site, construction of Samudayik Bhawan was reported at 08 plantation sites & installation of Solar Street Light was reported at 12 plantation sites.
- The activities/ works and support given under EPA were reported instrumental and of great help for the villagers/ community.

#### **8.2.9 Result of Coppicing**

- At 95 percent silviculture plantation site coppice shoots was reported of Sal species followed by Sidda (15.5 percent), Kendu (15.0 percent), Asan (5.7 percent) & Palas (4.1 percent). Average height of coppice shoots was reported below 200 cm at 79 silviculture plantation site (27.6 percent) followed by between 200-300 cm at 58 silviculture plantation site (20.3 percent), between 300-500 cm at 136 silviculture plantation site (47.6 percent) & more than 500 cm at 13 silviculture plantation site (4.5 percent). Hence, the average height



of coppice shoots was between 300-500 cm at 48 percent silviculture plantation site which is good.

- Average DBH of coppice shoots was reported below 20 mm at 65 silviculture plantation site (22.7 percent) followed by between 20-30 mm at 80 silviculture plantation site (28.0 percent), between 30-50 mm at 107 silviculture plantation site (37.4 percent) & more than 50 mm at 34 silviculture plantation site (11.9 percent). Hence the average DBH of coppice shoots was between 30-50 mm at 37.4 percent silviculture plantation site which is good.

#### **8.2.10 Various assets created under the project in terms of Quantity & Quality**

- Regarding quality & use of check dam/ SMC works, out of 207 Check dam evaluated, 03 were average & 15 were good, 82 were very good & 107 were excellent in quality of construction. Regarding rating of use of infrastructure/asset 5 were average & 46 were good, 70 were very good & 76 were excellent.
- In total, 382 assets/infrastructures sites were covered in 49 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2019-20, 2020-21 & 2021-22. As per the TOR, total assets/infrastructures sites during the year 2019-20, 2020-21 & 2021-22 was 2456. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 10% of total assets/infrastructures i.e. 245.6. However, total assets/infrastructures sites covered during third party evaluation were 382.
- In total, 27 assets created under Biodiversity & Wildlife Management (IWMP) viz. construction of Watch Tower, Water Hole, desiltation of Water Hole, and installation of Solar Pump, Solar light & Solar Panel had been evaluated, out of which 01 was good, 14 were very good & 12 were excellent in quality of construction. Regarding rating of use of infrastructure/assets, 04 were good, 14 were very good & 9 were excellent.
- Out of total 53 buildings (Hazat, FG Quarter & Barrack/Check Naka/Boundary Wall) evaluated, 01 was average, 05 was good, 15 were very good & 32 were excellent in quality of construction. Regarding rating of use of infrastructure/assets, 01 was poor, 09 were good, 11 were very good & 32 were excellent.
- Forest Road repair, Culvert, Causeway & Chalka were evaluated at 55 sites, out of which 16 were good, 33 were very good & 06 were excellent in quality of construction. Regarding use of infrastructure/asset, at 40 sites Forest Road repair, Culvert, Causeway & Chalka were good, at 12 sites very good & excellent at 03 sites.
- In total, nurseries were evaluated at 37 sites, out of which 01 was average, 11 were good, 14 were very good & 11 were excellent in quality of construction. Regarding use of infrastructure/asset, at 01 site use of nursery was average, 12 were good, 14 were very good & 10 were excellent.
- Weed eradication was reported under forest protection activities. The rating of quality & use was reported good.

#### **8.2.11 Assessment of documentation & record keeping**

- As far as availability of records at the plantation sites during the third party evaluation is concerned, availability of Pit panji cum plantation panji and maps were reported at all the



193 silviculture operation sites followed by upload of the silviculture operation sites on e-Green watch portal was reported of 118 sites (61%).

- As far as availability of records at the plantation sites (CA/PCA, SC&A, RDF, Linear Plantation sites) during the third party evaluation is concerned, availability of Pit panji cum plantation panji and maps were reported at all the 257 CA/PCA, SC&A, RDF, Linear Plantation sites followed by upload of the plantation/ CA/PCA, SC&A, RDF, Linear Plantation sites on e-Green watch portal was reported of 115 sites (45%).
- The upload of the assets/work created under CAMPA during the years 2019-20 to 2021-22 on the e-Green watch portal was reported at 181 sites (47.38 %).

#### **8.2.12 Monitoring & Supervision**

- The beat and sub-beat level functionaries has limited orientation of ensuring the quality and standards which certainly are adhered with regularly monitoring and handholding support by Range officers at the time of construction and execution of activities at site level.

#### **8.2.13 Integrated Wildlife Management Programme**

- The investments made under IWMP have proven to be useful in several aspects, including habitat improvements, socio-economic development, minimizing human-elephant/animal conflict, infrastructures, equipment, and field gear for staff.
- The Vulture Restoration Centers are an innovative initiative that needs to be mobilized and made functional.
- The QRT teams have been working positively towards reducing human-animal conflicts.
- Under IWMP, efforts should be made to reduce the terror among villagers regarding wild animals/elephants. This would help the villagers provide support to the forest team and the wild animals to retain their territory and corridors.

#### **8.2.14 Research, Evaluation, Capacity Building & Trainings**

- Research studies undertaken by the CF circles were relevant & Useful in deciding the further action
- The works related Arboretum & Setum intervention were useful for the trainees in identifying the various species and understand the plantation mechanisms.
- The studies on various issues namely, “Impacts of Subsidiary silviculture Operations in Sal forest of Jharkhand” –Annual report; Improvement of Elephant Habitat in Jharkhand to Minimize Human Elephant Conflict; Study on contribution of forest with respect to nutrient and soil fertility in nearby agriculture land; Ecosystem services valuation and accounting of Jharkhand forest, etc. undertaken by Forest circles i.e. CF, State Silviculturist & CF, Plantation, Research & Evaluation circles were reported useful.

## 8.3 Recommendations & Suggestions

### 8.3.1 Afforestation, Growth & Survival

- The system of replacement of casualty 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- 13 (SDGs-13)).
- 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 termite and local livestock's*) 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.
- The analysis of success and failures of plantation sites and having interaction with forest officials, PRIs, local functionaries and VFM&PC members, they were of the opinion that Cattle watcher (Chowkidar) appointed at the plantation sites may be extended 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 need to revise the plantation models of CA/PCA, RDF and silviculture operations looking to the outcome/ result of afforestations and plantations. It has been reported that at some sites it becomes a problem to execute the model. Similarly, the case may be for other models, too.
- 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 destruction to planted seedling by termite was observed during third party evaluation. It needs proper treatment so that the huge investment on plantation can be meaningful in improving the forest cover.
- There should be provision for post plantation intervention namely, pruning, thinning and hoeing and should be practiced at the site so that the growth of seedling planted may be proper. Grazing by domestic village animals & cattle's was reported at the site.
- There should be provision for O&M of EPA activities either at community level or at department level. Then only the investment can be said useful under EPA.

### 8.3.2 Strengthening formation & Functioning of Institution

- The sample project Forest Divisions did excellent job in fulfillment of their responsibility of undertaking plantation and construction activities with the help of VFM&PC at the project sites. However, the real requirement is towards creating a system and institutions at village level, which should really undertake its responsibilities properly. In the whole CAMPA Fund supported project, the role of VFM&PC is pivotal. Hence, there is stronger need to activate the VFM&PC which should come forward to take active role in protection and management of forest related initiatives and plantations.
- At VFM&PC level, the mechanism of operation and maintenance was not reported for assets created under CAMPA fund project at the SMC sites.
- There is need to review and support the various activities undertaken beyond the afforestation/ plantation & SMC works namely, Institution building i.e. VFM&PC and capacity building by Forest division level. A regular review and facilitative support will be instrumental in understanding the local problems, and then it will be possible to provide required & timely support irrespective of financial releases.
- The Forest Division should perform its role as per the whole plan of action associated with CAMPA fund and achieving the SDGs - 13 related to climate changes namely, ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and wild conservations. It is also true that stakeholders at Forest Division/ Range should also understand their importance and develop better coordination with project team and should understand their role in the project rather than completing the project activities anyhow.
- The records of works need to be maintained at the range level in addition to Pit panji cum plantation panji and total sanctions, expenditure should be reported along with completion date, and GPS location of the works sites (longitude and latitude).
- The Quality of records needs to be improved specially meetings records of VFM&PC. It was also observed that active participation of members in VFM&PC meeting is the real need, which has to be thought-off urgently. Only Chairman & a few members of VFM&PC were found active. There is strong need to work for institutional building and mobilizing local institutions.
- The VFM&PC meetings need to be planned properly and should be treated as essence of the project. The fix date, adequate time suiting to the community/ EC members and deciding venue of meeting are some important elements. In addition, the meeting agenda need to be prepared for every meeting of VFM&PC.

### 8.3.3 Records & Documentations of works

- Availability & updation of Pit panji cum plantation panji and other records is required especially during the third party visit for evaluation at the site. The number of planted in the plantation sites on the various quadrates/ Block can be mentioned in the pit cum plantation Panji.
- There should be proper system of record keeping so that the various works undertaken in the jurisdiction of range offices can be traced even after the transfer / retirement of officials/ functionaries.

#### **8.3.4 Soil & Water Conservation and Improvement in Soil & Moisture Content**

- The initial level planning for water conservation structures namely, Contour trench/bunding (CBD), Check dam, trenches, SDD, Gully plugging contour trenches, Gully plugging etc. with required plan and estimate definitely would help in creating a quality and useful structures.
- The timely and proper maintenance of Soil and water conservation structures should be taken up under the project namely, Check dams, WHS, Water holes etc. in order to keep them functional for longer time period.
- The details of SMC works and other works details namely, name of work, year of construction, project fund, expenditures and sanctions etc. need to be taken up in order to locate the works at the site. Nevertheless, the importance site level display of information cannot be negated. Although, it will be helpful too.

#### **8.3.5 Support in Development of Nursery**

- The nursery development may take into consideration present as well as future requirements in terms of infrastructure, expertise & capacity in order to have better use of the investment in the nursery.
- The expenditures in the particular nursery should be based on the requirements rather than taking the activities as per the provisions in the budget. It will help in developing the nurseries as per the need. This will help in proper functioning of the nursery.
- The plants lying at nurseries-may be of 3-4 years can be taken to plantation sites rather than increasing the burden of replacement of poly bags every year and maintenance.

#### **8.3.6 Community Mobilization – Awareness camps & Meetings**

- VFM&PC meetings should be organized regularly. This will ensure involvement/participation of VFM&PC members in various other activities. The role of VFM&PC members should be recognized by the local forest functionaries, too.
- The visit to the sample plantation sites and project villages to assess various activities executed under the CAMPA fund reflects that the community mobilization might be better. Hence, it is recommended to plan the activities related to community mobilization and awareness proper planning in advance.
- The effective community mobilization capsule definitely has powerful influence on individual and VFM&PC members. The necessity is to have effective planning and management of the intervention related to community mobilization.
- The intervention of forestry development work namely, plantation, construction of SMC works and forest & wild life protection measures etc. should be taken up in holistic way so that the forest development and development of people should also be ensured in terms of social and economic development. Then only the association of people and real 'People's Participation' can be ensured. It is an essence for future activities and initiatives, which will be supported by the local level stakeholders.

- The involvement of local people both men and women in the process of forest development should be made right from the stage of planning, designing, implementation and monitoring and evaluation of various activities and initiatives at VFM&PC.

### **8.3.7 Capacity Building Training**

- The importance of capacity building inputs is instrumental in shaping the right skill at right time. It has been reported that various capacity-building trainings were undertaken for Forest Division, Range and VFM&PC officials under the project. The training was mainly on the project background, objectives and purposes. The activities under the project were discussed. The roles of various level institutions were discussed. It would be better if the capacity building training would be planned in terms of inputs, processes, outputs and outcomes expected under CAMPA. This would help in understanding the real purpose of each and every activity related to CAMPA Fund.
- The forest department functionaries/officials executing the activities related to plantations, SMC structures and assets creation should be oriented about the technicality of the various SMC structures and its importance. It has been experienced during evaluation of the sites that forest guard was not acquainted with the SMC structures and its technicality. The understanding and usefulness of each of the minor component is necessary.
- The functionaries namely, guard should be given training of various Water & Soil conservation structures, planning and preparedness in a systematic manner.

### **8.3.8 Ensuring Quality of works – Monitoring & Supervision**

- Each of the Forest Division/ Range should play an important role in ensuring quality of works under the CAMPA fund activities. The role of Forest Division is required in ensuring quality works namely plantation and Afforestation, construction of boundary walls, rescue wards and office buildings etc. The monthly review meeting at the Forest Division level may be organized with the whole team to discuss on the various inputs, processes and outputs as well as strengths and challenges.
- The project has a component of monitoring and supervision. However, it needs to be taken up properly and regularly at the division and range level in order to strengthen the project expenditures in terms of delivering quality works.
- It has been reported that the monitoring, supervision and guidance by DFOs/ACFs at field level was lagging periodically in order to ensure quality interventions. The pit panji cum plantation panji bearing the page for officials to note their observations in the column do not bear the note that to what extent the directions were followed at the site. The condition of the construction sites require regular supervision and monitoring in order to ensure the quality of construction.
- It has been observed at almost all the construction sites at the various sample ranges that, the works were carried out as per the estimates and drawings and budgetary provisions in the estimates. The real demands of the site were not assessed. Therefore, at some places it does not look a very useful initiative. Hence, it is recommended to undertake the work at sites as per the existing conditions and requirements.
- The monitoring should be done on real time basis using advanced GIS applications and mobile Apps by the Department Monitoring Unit involving the VFM&PCs.

### 8.3.9 Policy Issues

- Transparency board should be installed at the VFM&PC village, which gives details of overall project of CAMPA fund project & members of VFM&PC etc.
- The protection in terms of cattle guards may be extended to 3-5 more years in order to have better results. In other way, it can be said that the whole investment may be guarded/protected for 3-5 years more in order to have better results.
- The watcher should be placed in the silviculture operation site for another 3-4 years to ensure proper development of afforestation and coppice similar to other plantation models.
- There should be provision for watering the plants viz. at least for first three years & when monsoon is weak.
- Timely releases of funds certainly add value to the works as it will ensure the continuity as well as quality. It will also enable timely completion of the work undertaken.
- All the plantation sites should be given watcher may be area is less than 30 Ha or as per the situation and location. Other-wise, it is difficult to protect the plantation sites.
- There is need to have required information painted at the construction and plantation sites bearing ID numbers on the transparency board so that one can get information about the year of activity/construction and under which project/ programme it has been constructed/ made and should also bear estimated cost and expenditures and completion date.
- The interventions of silviculture operations should also be extended up to 6-7 years like other models sites in order to have better results.
- The beat and sub-beat level functionaries has limited orientation of ensuring the quality and standards which certainly are adhered with regularly monitoring and handholding support by Range officers at the time of construction and execution of activities at site level.
- The vacancy of frontline forest functionaries/staffs need to be filled. In the present situation, the overall vacancy of RFOs is of more than 60 percent and of SBO/Forest Guards is about 50 percent.

# ANNEXURE

## **I. Snapshots of Plantations and works Division-wise**



## Adityapur Social Forestry Division





## Bokaro Forest Division





## Chaibasa Forest Division





# Chatra North Forest Division



Measuring ditch fencing at the plantation site



Evaluation team at the plantation site



Contour Bunding at the plantation site



Availability of water in Gerua Check dam



Evaluation team at Guye Causeway site



Construction of Forest Guard Quarter at Hunterganj range office



## Chatra South Forest Division





## Deoghar Forest Division



Display board at the site



Plantation team at Loharjori plantation site



Barbed wire fencing at the site



Facilities at Khijuriya Nursery



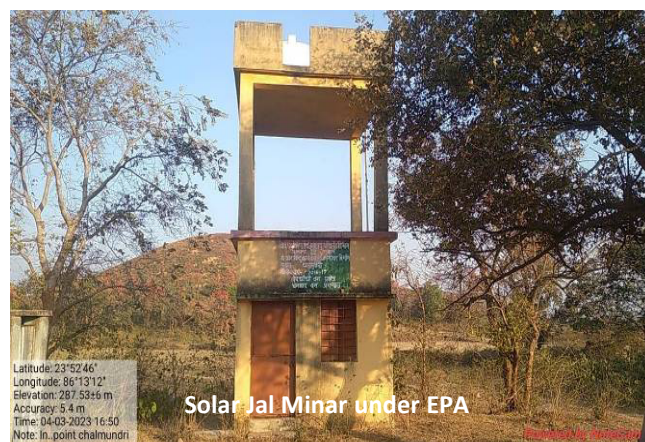
Water availability in Banbariya checkdam



Jiyakhara-Gashko Road Repair



## Dhanbad Forest Division



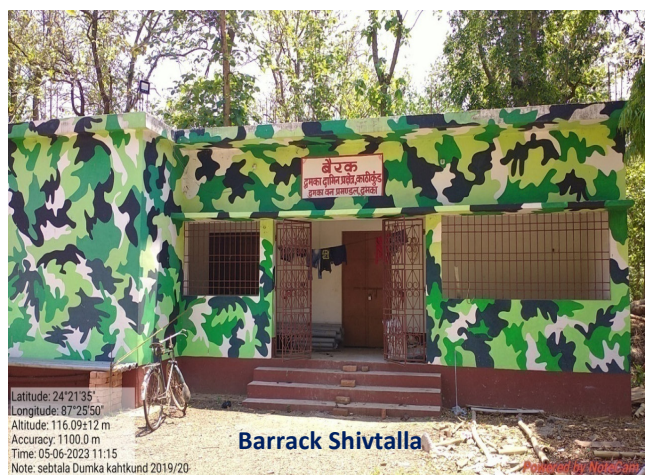


## Dumka Social Forestry Division



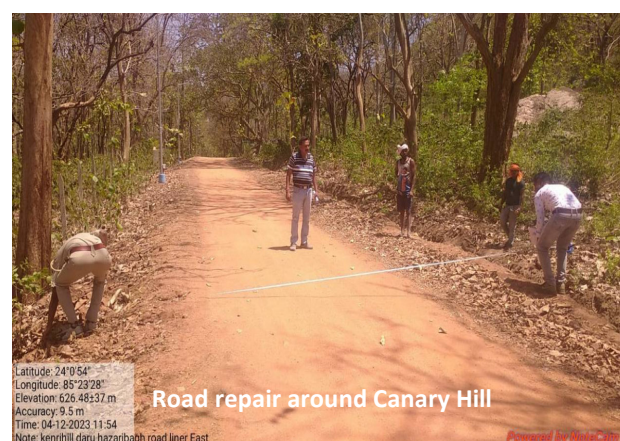


## Dumka Forest Division





## Hazaribagh (East) Forest Division





## Elephant Project, Jamshedpur Forest Division



Plantation board at the Dangdung site



Contour Bunding at the plantation site



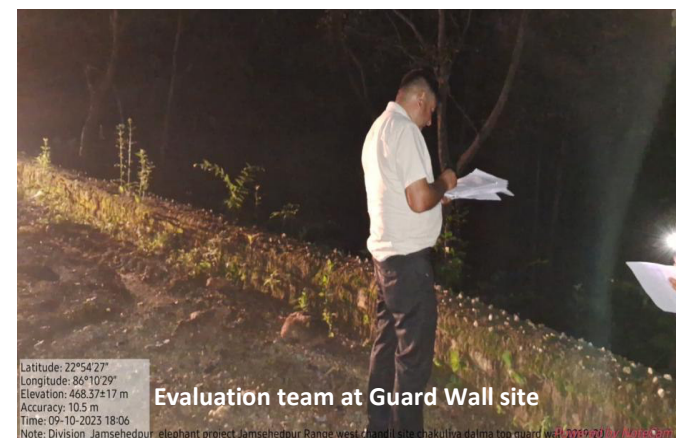
Evaluation team at the plantation site



Budha- Budhi Check dam



Evaluation team at Bandarjal PCC road site



Evaluation team at Guard Wall site

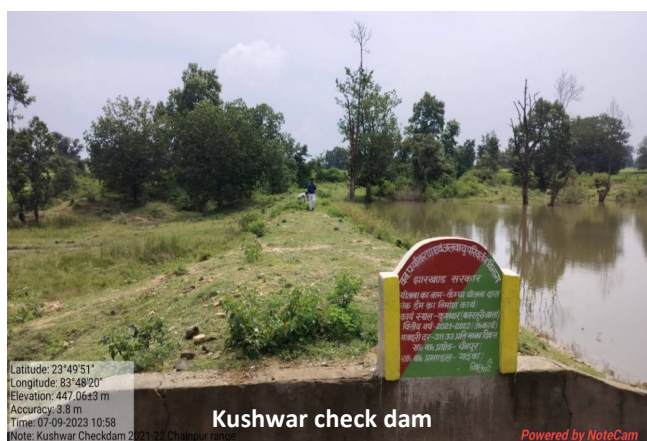


## Garhwa (North) Forest Division





## Garhwa Social Forestry Division





## Garhwa (South) Forest Division





## Giridih (East) Forest Division





## Giridih (West) Forest Division



evaluation team at Chitradih plantation site



measuring trench fencing at the plantation site



Measuring DBH of planted seedling



Nursery at Bishanpur



Khurobindo check dam



## Godda Forest Division





## Gumla Forest Division





## Hazaribagh Social Forestry Division





## Jamshedpur Forest Division





## Jamtara Forest Division



Evaluation team at Yaududih plantation site



Measuring the DBH of planted seedling



Plantation board at Narithal site



Barbed wire fencing at Murgabani site



Trench fencing at Patharchur site



Bogiyara check dam



## Khunti Forest Division



Construction of pond under EPA



Display board at the site



Evaluation team at the site



Karra Hazat



Tinjharia Causeway



## Koderma Forest Division





## Kolhan Forest Division



Information board at Ichahatu plantation



Silt detention dam at the site



Measuring collar girth of planted



Sonua Hazat



Kundruhatu Check dam

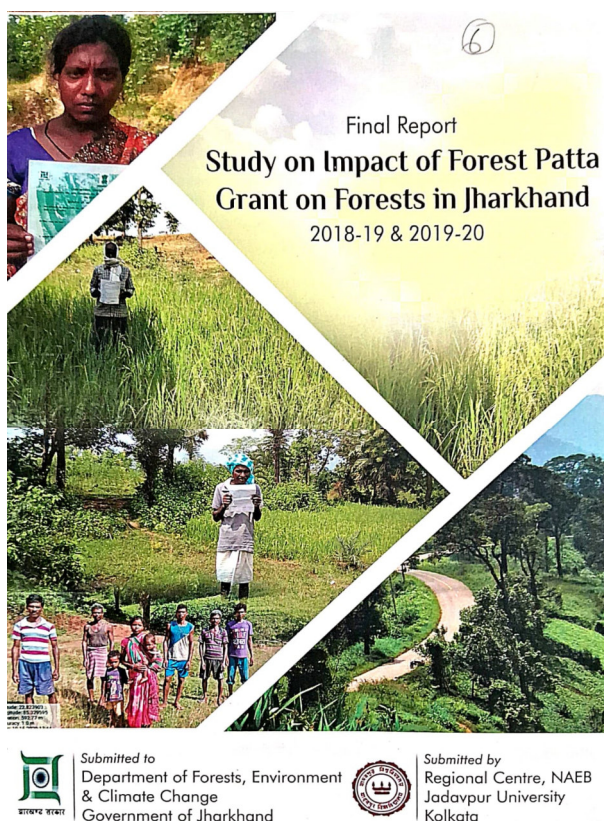
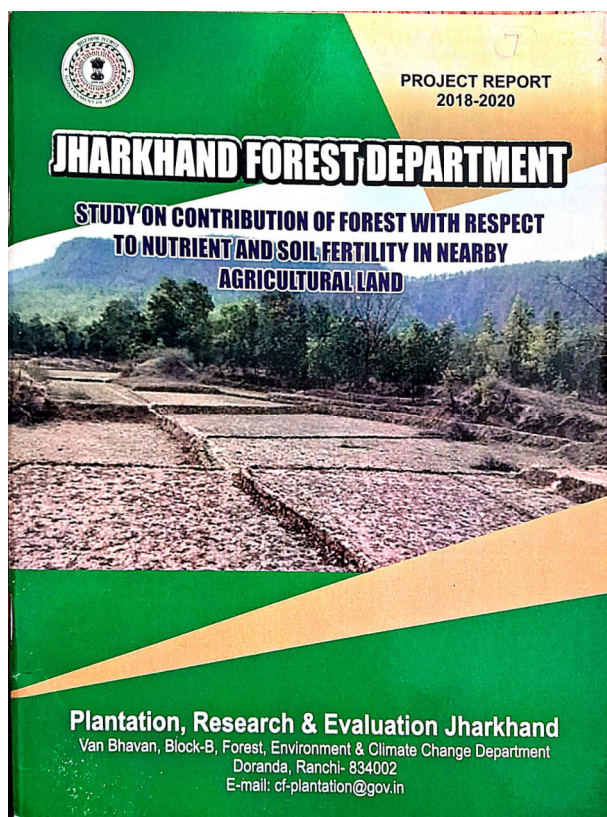


Forest Guard Quarter at Sonua



# Office of CF- Plantations, Research & Evaluation

## Report of the studies undertaken





# Office of CF circle - State Silviculturist

## Report of the studies undertaken



### “Socio-economic prospects of Siali (*Bauhinia vahlii*) leaves in Jharkhand”

Year: 2019-20

### Annual Progress Report

#### PREPARED BY:

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Mr. Arjun Mahto (Field Assistant)

Department of Forest, Environment &  
Climate Change  
Jharkhand, Ranchi

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### DEPARTMENT OF FOREST ENVIRONMENT AND CLIMATE CHANGE RANCHI JHARKHAND



IMPACTS OF SUBSIDIARY SILVICULTURAL OPERATIONS IN SAL  
FOREST OF JHARKHAND

### Annual Report -2020

Satish Prasad  
9/22/2020



Project Director

Rajeev Ranjan(I.F.S.)

CCF Cum State Silviculturist, Ranchi, Jharkhand

“Long term Ecological analysis in 40 permanent plots (old) and establishment of 10 new  
permanent plots in Jharkhand”

### “ Long term Ecological analysis in 40 permanent plots (old) and establishment of 10 new permanent plots in Jharkhand”





## Latehar Forest Division





## Latehar Social Forestry Division





## Lohardaga Forest Division





## Medininagar Forest Division





## Pakur Forest Division





## Porahat Forest Division





## PTR North, Medininagar Forest Division





## PTR South, Medininagar Forest Division



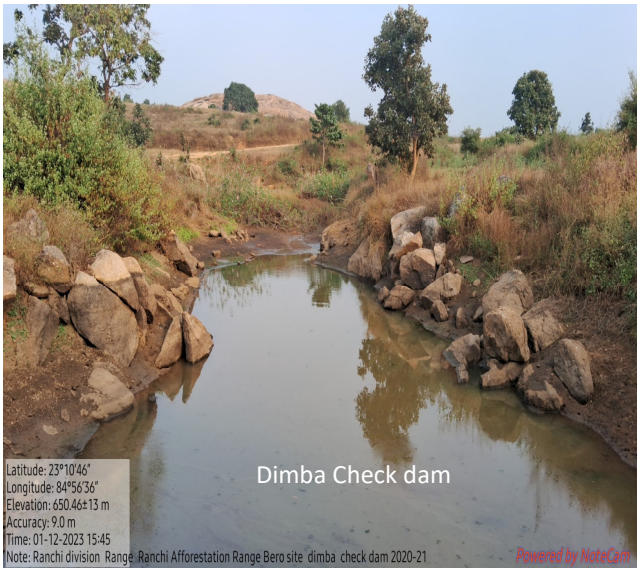


## Ramgarh Forest Division





## Ranchi Forest Division





## Sahebganj Forest Division





## Saranda Forest Division





## Saraikele Forest Division





## Social Forestry Chaibasa Division



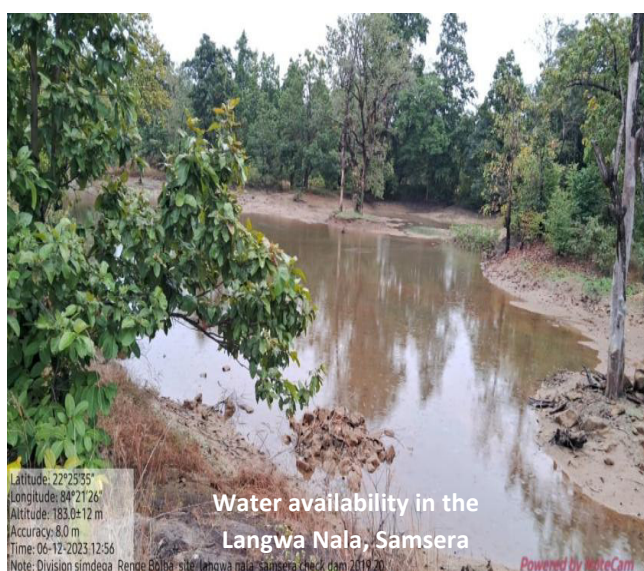
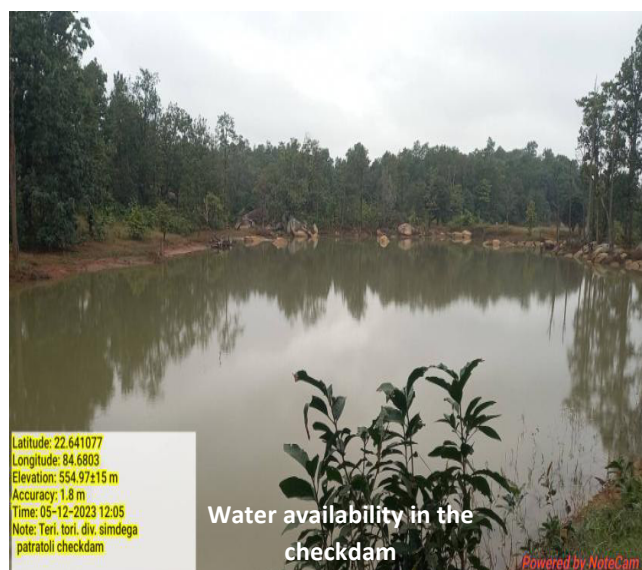


## Social Forestry Deoghar





## Simdega Forest Division





## Social Forestry Koderma



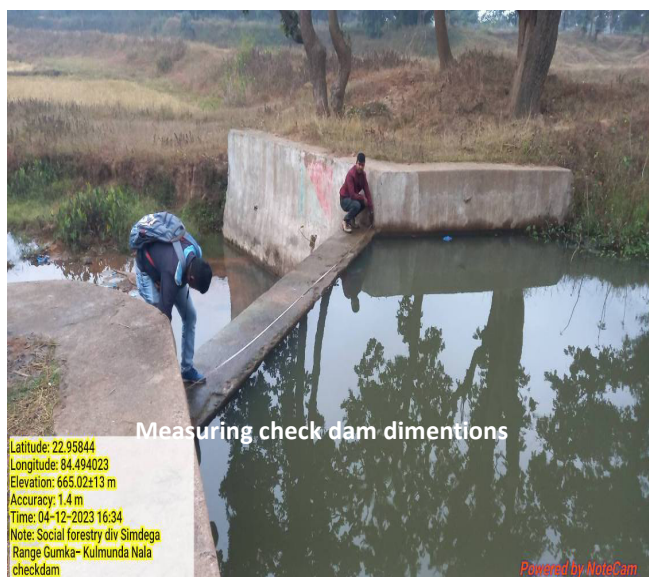


# Social Forestry Ranchi



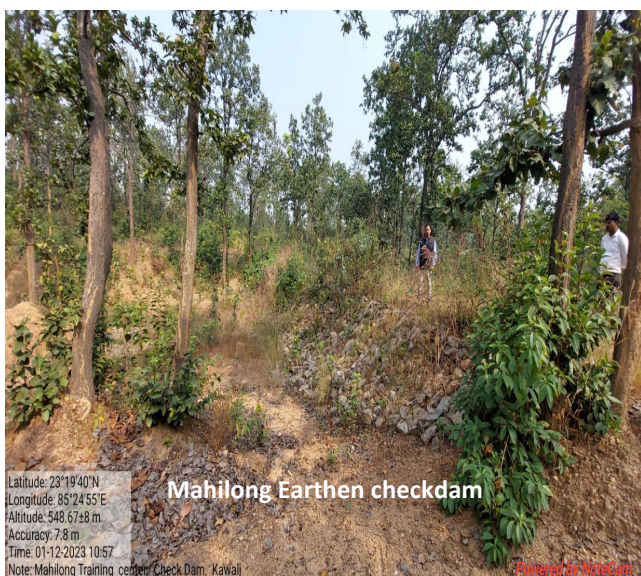


## Social Forestry Simdega





# State Forest Training Institute Mahilong, Ranchi





# Hazaribagh Forest Training School



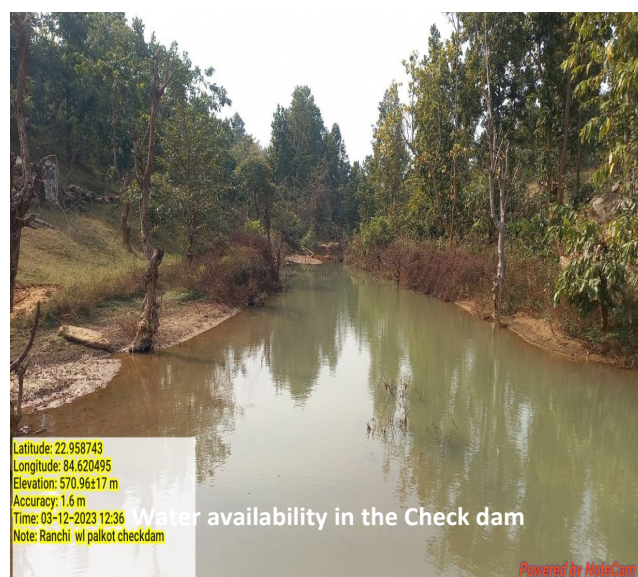


## Hazaribagh (West) Forest Division





## Ranchi Wildlife Forest Division





# Hazaribagh Wildlife Forest Division





## Efforts & Activities under IWMP



## II. Species of Trees at the Sample sites

S.No.	Botanical Name	Local name
1.	<i>Acacia arabica</i>	Babul
2.	<i>Acacia catechu</i>	Khair
3.	<i>Adina cordifolia</i>	Karam
4.	<i>Aegle marmelos</i>	Bel
5.	<i>Alangium Lamarckii</i>	Dhela
6.	<i>Albizzia lebbek</i>	Siris
7.	<i>Albizzia odoratissima</i>	Jang Siris
8.	<i>Albizzia procera</i>	Safed Siris
9.	<i>Alstonia scholaris</i>	Chatni
10.	<i>Antidesma ghaesembilla</i>	Bhabiranj
11.	<i>Arotocarpus integrifolia</i>	Kathal
12.	<i>Artocarpus lakoocha</i>	Barhar
13.	<i>Azadirachta indica</i>	Neem
14.	<i>Bauhinia retusa</i>	Kathul
15.	<i>Bauhinia variegata</i>	Kachnar
16.	<i>Bombax ceiba</i>	Semal
17.	<i>Butea frondosa</i>	Palas
18.	<i>Cassia fistula</i>	Dhanraj/Amaltas
19.	<i>Chloroxylon swietenia</i>	Bharhul
20.	<i>Cordia myxa</i>	Bahuar
21.	<i>Cochlospermum gossypium</i>	Galgol
22.	<i>Dalbergia latifolia</i>	Kala Shisham
23.	<i>Dalbergia sissoo</i>	Shisham
24.	<i>Diospyros melanoxylon</i>	Tend/Kend/Tiril
25.	<i>Ehretia laevis</i>	Bhaire
26.	<i>Emblica officinalis</i>	Amla
27.	<i>Eugenia heyneana</i>	Katjamun
28.	<i>Eugenia jamb</i>	Jamun
29.	<i>Ficus benghalensis</i>	Bar
30.	<i>Ficus cunia</i>	Parho
31.	<i>Ficus religiosa</i>	Pipal
32.	<i>Gmelina arborea</i>	Gamhar
33.	<i>Holoptelea integrifolia</i>	Chilbil
34.	<i>Hymenodictyon excelsum</i>	Bhurkur
35.	<i>Kydia calycina</i>	Pula
36.	<i>Lagerostroemia parviflora</i>	Sidha
37.	<i>Madhuca latifolia</i>	Mahua
38.	<i>Mangifera indica</i>	Mango
39.	<i>Melia azedarach</i>	Bakain
40.	<i>Morus spp.</i>	Tut



41.	Pongamia glabra	Karanj
42.	Shorea robusta	Sal/Sakhua
43.	Tamarindus indica	Imli
44.	Tectona grandis	Sagwan/Teak
45.	Terminalia arjuna	Arjun
46.	Terminalia belerica	Bahera
47.	Terminalia chebula	Harra
48.	Terminalia tomentosa	Asan
49.	Wendlandia exerta	Tilia/Tiril
50.	Zizyphus mauritiana	Ber
51.	Zizyphus xylopyra	Katber

### **III. Tables showing details of Growth of Plantations/Afforestation sites in terms of Height & DBH of planted seedling species-wise**

Sl.No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwana	Acacia	Chakrandi	Mango	Khair	Bambooo	Karanj	Junun	Semal	Shisham	Guanhar	Amra	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guaava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residiyana	Amaltas	Kadam	Sil	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Burhal	Kara	Karya						
1	Bokaro	Bermo	Mungo Rangamati (Silvi)	130	110	150																														40	30																
2	Bokaro	Peterwar	Karma (Silviculture)	160	150	180	120					80		110		90					130		110													440		310															
3	Bokaro	Peterwar	Chaura			180			200																											530		430															
4	Bokaro	Bokaro	Chapari (Silviculture)	125	100	140						90	80																							160	130	125															
5	Chaibasa	Noamundi	Lepang (M)	500		820	240				200											360													360	532																	
6	Chatra North	Pratapppur	Hindiakala	220				140						190									600													280	450																
7	Chatra North	Pratapppur	Adharua	160			120	100		90				120		60					70														600				380														
8	Chatra North	Rajpur	Bindhani	120				85	150				100	130	110					135							90		95							280	440																
9	Chatra North	Rajpur	Raushana	190			140	110	130	90				140		120																				360	440																
10	Chatra North	Hunterganj	Kharanti	170			180	110	150	90				190																						410																	
11	Chatra South	Chatra	Ichak	75			115	50	75	60				180		45	90				60															180																	
12	Chatra South	Lawalong	Kundri			150	165	60		95				90																					200																		
13	Chatra South	Lawalong	Rajwar	150			480		55					310																					360	320																	
14	Deoghar	SC Range Madhupur	Trilokitanr	160	150	340	290											220																		150																	
15	Deoghar	SC Range Madhupur	Bhikhnadih	270	290								300				420																			490																	
16	Deoghar	SC Range Madhupur																																																			

Sl.No	Division	Name of Range	Name of Site	Sagvan	Kat Sagvan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamlar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residiyana	Amaltas	Kadam	Sal		Sidda	Tendu	Palas	Asan	Dhuona	Euclyptus	Karam	Burhal	Kara	Korya					
48	Giridih east	Parasnath	Chirki	186									75	60				90								60											200																
49	Giridih east	Gawan	Rijhani	90	48	120	80																															310															
50	Giridih east	Dumri	Khutargurho	75		80	70				65			80		45																						430															
51	Giridih east	Dumri	Baledih	78		160	77	60			65			90		40						50																110															
52	Giridih east	Dumri	Madhogopali	100			110	105								90																	100					460	330	280													
53	Giridih east	Dumri	Nagabad		150	130																																490															
54	Giridih east	Dumri	Gurha	70		80	75		65					75		65						70																480	310														
55	Giridih west	Bengabad	Bishnisharan	310		280		160			190			150							185								170									340															
56	Giridih west	Doranda	Gundri	290		450												310																			540																
57	Giridih west	Jamua	Chitra Pahadi	110		150							86					90																			460																
58	Giridih west	Jamua	Naitanr	160		170								140			110				90																	470															
59	Giridih west	Bengabad	Gandro	170		160				240		160		145	140		150				155																	540															
60	Giridih west	Bengabad	Saathibad	120		110																							100									360															
61	Giridih west	Doranda	Suarchach	170		120																											100				305																
62	Godda	Godda	Varistanr			250																															90																
63	Godda	Godda	Kalajhar	180		120																																270															
64	Gumla	Kurumgarh	Silam	160		180	140	140				130																										330		310													
65	Gumla	Gumla	Jorag	70			80	80		105		90											80	70				85										210															
66	Gumla	Gumla	Keluga			180	70	120		120				100	80	80							80			140		80										140															
67	Gumla	Gumla	Koenjara (Kyonjara)			205	180	80		120							70									60																											
68	Gumla	Gumla	Brinda	90		180	100	90		250		90																95										100															
69	Gumla	Bishunpur	Barrang		120	300	210	160	120	340	140	120		140				300								120		320						120				240															
70	Gumla	Kurumgarh	Kerabar	30	30	210		120				40		120		120												40										210															
71	Gumla	Kurumgarh	Kedeng	20	30	120				90	80	90		60		60												140										320															
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarikhurd	190	180		90		110	235	120		75	250	170	150	135																					150															
73	Hazaribagh WL	Hazaribagh WL	Chordaha	75	110	140					125				100																								140		300												
74	Hazaribagh WL	Chatra WL	Tigda	170			130			180	90			140			90						120																130		325												
75	Hazaribagh WL	Chatra WL	Paramatu	160			130					120				130	110					140		155						90							150	130		285													
76	Hazaribagh WL	Chatra WL	Lare	230			160	170				180				210						170																	110		255												
77	Hazaribagh East	Daru	Digwar								75				110							80								80	90		100					270															
78	Hazaribagh East	Daru	Daru	170		200								110	80		80																					360															
79	Hazaribagh East	Daru	Peto	160		185	160								130																								304														
80	Hazaribagh East	Daru	Pipcho Bhadwar	90		210	160			60				110		85																							270														
81	Hazaribagh East	Bagodar	Bagodih			186	90			150	120			110		180				90								180											186														
82	Hazaribagh East	Bagodar	Arjari	180		200	110				80								70				120																700														
83	Hazaribagh East	Gomia	Karmo	180		165			70					110																									270		304												
84	Hazaribagh west	Afforestation	Ujrahidigi	70						80				40																									320														
85	Hazaribagh west	Afforestation	Belargada	100						140				90																									360														
86	Hazaribagh west	Afforestation	Ambajit	40		40				40								30																								280				260							
87	Hazaribagh west	Barkagaon	Aango	350		700	225			300	150				225													150											600														
88	Jamshedpur	Chaukulia	Panijiya	240	250	325	290				180			270								170																	410														
89	Jamshedpur	Rakhamines	Godadih, Lailam	190	180						75																												290														



Sl.No	Division	Name of Range	Name of Site	Sugvan	Kat Sugvan	Acacia	Chakundi	Mango	Khair	Bamboo	Karaj	Jamun	Semal	Shisham	Gamlar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residyana	Amaltas	Kadam	Sal	Sidda	Tenda	Palas	Asan	Dhuora	Euclyptus	Karam	Burhal	Kara	Korya					
90	Jamshedpur	Rakhamines	Chadradih, Chatna			200					150										180															300																
91	Jamshedpur	Rakhamines	Bango, Roladih	89	90	120	115																													190																
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	145	109			132			125	116				74						75				91						120					250															
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	145				125				129		91								61	118									85					600															
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	280	290	290	290	240			295						190	360		260	230	240						290	280							300																
Jamshedpur, Elephant Project	Dalma WL east	Dangdung P.F		475			550	220		415		315				315																				430	180															
Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F		410		460	300	240	400	415		300				180							250													450	445															
Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F		410						540		380											410										420			390	150															
98	Jamtara	Kundhit	Patharchur	100			95						105	90	100	102	98																				210															
99	Jamtara	Kundhit	Kasidih	315	330		310							315	290	120	280				140		220														480															
100	Jamtara	Nala	Narital	280		390	290			370			310				190																				350															
101	Jamtara	Nala	Balichur	390		410	210			190			280				120																				440															
102	Jamtara	Kundhit	Uttamdih	130	124		118						130	119	120	113	125																				450															
103	Khunti	Jariya Forest Range, Karra	Dufu	350			220			700					430																						280	190														
104	Khunti	Jariya Forest Range, Karra	Plasa	550		330				550					510																						320															
105	Khunti	Tamar	Lungtu	480										490																							270				500		390									
106	Khunti	Bundu	Dokad	60									70			50		60	65													40					120															
107	Koderma	Koderma	Chilsodech	375		325						120		165																							300	165														
108	Koderma	Koderma	Nalwa	170		180	140				110						90																				525															
109	Koderma	Domchanch	Bangakhallar	120	140						150			130		107						160															225	105														
110	Koderma	Domchanch	Laxmipur	215					80		160			230			110																				120	110														
111	Koderma	Domchanch	Vanpok	280				180			160			240	180							230								190							240	75														
112	Koderma	Domchanch	Dhab	280	250				110		125			240																							245	75														
113	Kolhan	Kolhan	Ganmmor PF (Ghaghra)	110		77	105						100			65																					360	340														
114	Kolhan	Kolhan	Ganmmor PF (Jojugutu)			90	110	85			56		65																								380	340														
115	Kolhan	Santra	Ichahatu PF	420		270	300	120			120						105			130																	460	390									350					
116	Kolhan	Saitwa	Thakuragutu PF	90		120	150									95					60																										360					
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	90		125	120										50				45																												180			
118	Latehar	Chandwa	Tudamu	103							75	60		95	105																						300															
119	Latehar	Chandwa	Tudamu (M)	440						410	390			340																							340															
120	Latehar	Chandwa	Chiro	120						60	80			90			75					60															320															
121	Latehar	Latehar	Dih	90	110								85	100		75																					360	340														
122	Latehar	Manika	Dundu	180	125		105							120	220	120																					240															
123	Lohardaga	Lohardaga	Chot Chorgain			360	300			370		150																									330															
124	Lohardaga	Kuru	Kundgara		180	120		90			90		90	60		70	120	60									90						60			380							260									
125	Lohardaga	Kuru	Chalho	240		600	210	280		380	180	180	400	210		120		300																			240															
126	Lohardaga	Banari	Tithi	360		360				360					300	100		410																			450		240													
127	Lohardaga	Banari	Lapu	96		250	100					70		100					60																		320															
128	Medininagar	Kundari	Baida	110			90		80	300	120			200			120																				240		250	260												
129	Medininagar	Chatarpur East	Murumdag	115	230	160	110				80			80			140																				215	330														



Sl.No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karaj	Jamun	Semal	Shisham	Gamlar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera		Imli	Shirish	Peepal	Residiana	Amaltas	Kadam	Sul		Sidda	Tendu	Palas	Asan	Dhuora	Euclyptus	Karam	Burhal	Kara	Korya																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
169	Ranchi	Mander	Tangar Basli							215																												220																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
170	Ranchi	Mander	Naro	160		215	220							155																									310																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
171	Ranchi	Ranchi	Chanya	270			780			410		290							360																				280																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
172	Ranchi	Ranchi	Murupiri	155			125	100				100																											490																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
173	Ranchi, Wildlife	Agro-forestry model development	Baghima	180				140		160				210			120				140														130					320																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
174	Sahibganj	Rajmahal	Hariyakol	280			350											250												160									180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
175	Sahibganj	Barharwa	Godafulli			370										430		600												155			450					430																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
176	Sahibganj	Rajmahal	Chota Banapura	310			250						210					280												155									170																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
177	Sahibganj	Rajmahal	Khairwa	410														450												280								430																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
178	Saranda	Kojna	Ankua 05	90																																		300																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
179	Saranda	Gua	GK-27	69																																		410																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
180	Saranda	Gua	GK-27	75																																		460																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
181	Saranda	Gua	GK-28																																			310																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
182	Saranda	Gua	Karampade 02																																			36																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
183	Seraikella	Chandil	Dhonaburu-Raidih	45		75	60						93																									75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
184	Seraikella	Chandil	Tilla	180		450	410							100						110	195																	450		120																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
185	Seraikella	Seraikella	Reyardah	150		120						120		90	150														150									180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
186	Seraikella	Kharsawan	Dhadkidih	260		210	110	100	90									120							140		80				195							290					180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
187	Seraikella	Kharsawan	Tiligora	270	280	330	310																															390																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
188	Seraikella	Kharsawan	Barjudih	95	100	130	110																															90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
189	Seraikella	Kharsawan	Mangudih	200		380	210										90																					310																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
190	Simdega	Kolebira	Bongram	120		130	138																															280																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
191	Simdega	Bolba	Awrabahar	125	130				85	65				47							43																47		340	340																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

**DBH of planted seedling at Silviculture Plantation site (mm)**

SRI of planted seedling at Silviculture Plantation site (mm)																																																			
Sl. No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bambo	Karanj	Janun	Senal	Shisham	Ganhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuva	Bahera	Imli	Shirash	Peepal	Residiyana	Amaltas	Kadam	Sal	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Barhal	Kara	Korya				
1	Bokaro	Bermo	Mungo Rangamati	12	12	15																														5	8														
2	Bokaro	Peterwar	Karma	15	15	17	12					7		11		9					12		11														44	31													
3	Bokaro	Peterwar	Chaura				65		80																											53	43														
4	Bokaro	Bokaro	Chapari (Silviculture)	12	10	14						9	7					7																		16	13	13													
5	Chaibasa	Noamundi	Lepang (M)	60		70	30				16						50					62													40	55															
6	Chatra North	Pratappur	Hindiakala	14					12					12										22												28	26														
7	Chatra North	Pratappur	Adhauria	10			10		8		8			8		6						8											8			26			18												
8	Chatra North	Rajpur	Bindhani	12					9	13			10	13	10					13								9		9						28	22														
9	Chatra North	Rajpur	Raushana	14			11		9	9	8			10		9																				36	22														
10	Chatra North	Hunterganj	Kharanti	14			18		12	11	9			16																						22															
11	Chatra South	Chatra	Ichak	13			13	5	12		7			15		15	17							10													18														
12	Chatra South	Lawalong	Kundri			14	15		9		10			13																						20															
13	Chatra South	Lawalong	Rajwar	9			35		11					34																						32															
14	Deoghar	SC Range Madhupur	Trilokitanr	19	20	29	26											21																		15															
15	Deoghar	SC Range Madhupur	Bhikhnadih	40	41									45		60																				50															
16	Deoghar	SC Range Madhupur	Damgarha	8		10																														24															
17	Deoghar	T Range Deoghar	Birajpur, Pathleda	14	16	19	18																													24															
18	Deoghar	SC Range Madhupur	Pathania			26	22						21					19																		30															
19	Dhanbad	Tundi	Sarra											12							13															45															
20	Dhanbad	Tundi	Kolkamardih	13	12					12				12																						21		12													
21	Dhanbad	Topchanchi	Kankarchhuri	32			28		14										20																	32															
22	Dhanbad	Topchanchi	Palma				8						10	7				10																		32															
23	Dhanbad	Dhanbad Urban Forestry	Durgapur																																																
				17	13	20				10			14	12	14							12														40															
24	Dumka	Dumka Damin Kathikund	Chirudih	30			26			20	35	28																								35															
25	Dumka	Hizla East	Paharpur	100	125		60				70						80																			30		25	29												
26	Dumka	Hizla West	Madhuban	22	24	28	25											26				23														13															
27	Dumka	Hizla West	Kalipathar	24	23	28	26																													38															
28	Dumka	Hizla West	Gadichoto	35	32	43	42	29				30					28	36				32														36		31													
29	Garhwa North	Nagar	Daheriya	73			80							79								72														40															
30	Garhwa North	Nagar	Jhumri	75			79							70	55							68														40	68														
31	Garhwa North	Nagar	Karwapahar	20		16	18	10	11					15														12								30	32		21												
32	Garhwa North	Nagar	Sharda	21			17				19																									30															
33	Garhwa North	Bhawathpur	Barwari	69		72	75							70																						65	75														
34	Garhwa North	Bhawathpur	Rohinia	65		79	75		60																											85	81														
35	Garhwa North	Bhawathpur	Makri	75		70	72		60																											68	71														
36	Garhwa North	Bhawathpur	Bansari	65		70	71		55					67																						71	90														
37	Garhwa South	Ranka East	Durjan	28	29		30		20	22	20																																								
38	Garhwa South	Ranka East	Baligar	70			80		55	50				75																						90	70			75											
39	Garhwa South	Ranka East	Chutiya	45																																32	30														
40	Garhwa South	Ranka West	Tahle	30			35							32	36	22																				58	61														



Sl. No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bambo	Karanj	Jamun	Semal	Shisham	Gambhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Petofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residiyana	Amaltas	Kadam	Sal	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Barhal	Kara	Korya				
41	Garhwa South	Kutku	Kurunl	80		82	85		60					75	79																						90	82			80										
42	Garhwa South	Kutku	Chapalsi	85		86	80		60																												90	78			81										
43	Garhwa South	Ranka East	Homiya	19		16				8	6					8																					45														
44	Garhwa South	Ranka East	Hardag	70		75	72		65					67																							75	70													
45	Garhwa South	Ranka East	Bhouri	59		55	60		50																												72														
46	Giridih east	Gawan	Bhogtadih	13		15	15		12				11					14																			13														
47	Giridih east	Parasnath	Tuio	6		10	8			6				6		4											6										16														
48	Giridih east	Parasnath	Chirki	14																																	16														
49	Giridih east	Gawan	Rijhani	11	12	15	12						13	12				14								10											16														
50	Giridih east	Dumri	Khutargurho	11		8	14				6			10		5																					22														
51	Giridih east	Dumri	Baledih	8		12	8	7			7			9		5						6															12														
52	Giridih east	Dumri	Madhogopali	11			11	10								10																					21	14	10												
53	Giridih east	Dumri	Nagabad		12	10																															23														
54	Giridih east	Dumri	Gurha	6		8	7		6					7		6						7															20	18													
55	Giridih west	Bengabad	Bishnisharan	22		24		5			19			5						6									18								25														
56	Giridih west	Doranda	Gundri	27		26													28																		40														
57	Giridih west	Jamua	Chitra Pahadi	11		15							9					9																			35														
58	Giridih west	Jamua	Naitanr	14		15								13		10					9																36														
59	Giridih west	Bengabad	Gandro	16		15				16		16		14	15		14			13																	40														
60	Giridih west	Bengabad	Saathibad	12		10																							9								28														
61	Giridih west	Doranda	Suarchach	15		12																															30														
62	Godda	Godda	Varistanr			19																															13														
63	Godda	Godda	Kalajhar	19		19																															27														
64	Gumla	Kurumgarh	Silam	16		17	14	13				13																									33		31												
65	Gumla	Gumla	Jorag	10			12	12		10		12											12	12				12									22														
66	Gumla	Gumla	Keluga			22	10	20		12				14	12	12						14				16	14										23														
67	Gumla	Gumla	Koenjara (Kyonjara)			16	16	10		10							10									10																						No			
68	Gumla	Gumla	Brinda	14		16	12	12		14		12																13									16														
69	Gumla	Bishunpur	Barrang		12	30	21	16	12	30	14	12		14				30								12		32									24														
70	Gumla	Kurumgarh	Kerabar	3	3	21		12				4		12		12												4									21														
71	Gumla	Kurumgarh	Kedeng	2	3	12				9	7	9		6		5													14								32														
72	Hazaribagh WL	WL Koderma	Bahimar & Sarugarukhurd	21	15		12		12	18	12		9	27	26	10	11																				18														
73	Hazaribagh WL	Hazaribagh WL	Chordaha	20	25	22					15				15																						18		27												
74	Hazaribagh WL	Chatra WL	Tigda	16			14			18	9			15			10						13														18		28												
75	Hazaribagh WL	Chatra WL	Paramatu	16			14					13				14	12						14		16						10						16	17		25											
76	Hazaribagh WL	Chatra WL	Lare	24			17	18				19				22						18																15		24											
77	Hazaribagh East	Daru	Digwar							8					12							9								9	9		11				35														
78	Hazaribagh East	Daru	Daru	16		20								10	8		9																				40														
79	Hazaribagh East	Daru	Peto	15		19	16								14																						40														
80	Hazaribagh East	Daru	Pipcho Bhadwar	19		18	17				7				12		9																					25													
81	Hazaribagh East	Bagodar	Bagodih	14		21	19			9	14			16			21			22								18									21														
82	Hazaribagh East	Bagodar	Arjari	12		18	12				8							14				12															54														
83	Hazaribagh East	Gomia	Karmo	14		17			8					10																							32		64												

Sl. No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Senal	Shisham	Gamlar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofam	Mahuwa	Behera	Imli	Shirash	Peepal	Residiana	Amaltas	Kadam	Sal	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Barhal	Kara	Korya																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
84	Hazaribagh west	Hazaribagh Afforestation	Ujrahidigi	10						6				5																						34																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
85	Hazaribagh west	Hazaribagh Afforestation	Belargada	9						8				8																						32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
86	Hazaribagh west	Hazaribagh Afforestation	Ambajit	4		4				4								3																					28				30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
87	Hazaribagh west	Barkagaon	Aango	12		35	10			12	10				12															10						40																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
88	Jamshedpur	Chaukulia	Panijiya	30	34	51	40				29			42							38															49																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
89	Jamshedpur	Rakhamines	Godadih, Lailam	29	27						18																										32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
90	Jamshedpur	Rakhamines	Chadradih, Chatna			30					18										24															35																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
91	Jamshedpur	Rakhamines	Bango, Roladih	14	15	18	19																													25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
92	Jamshedpur	Chaukulia	Godrashole, Rajabasa, Hathibari	21	19			19			16	12				11					18				11								14				30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
93	Jamshedpur	Chaukulia	Jugitopa, Purnapani	20				18				14		13							9	17											11				70																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
94	Jamshedpur	Musabani	Tetuldanga, Aasanbani	24	26	29	18	24			22						16	28		25	20	24						26	25							30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
95	Jamshedpur, Elephant Project	Dalma WL east	Dangdung P.F	65			75	32		45		35				36																				70	20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
96	Jamshedpur, Elephant Project	Dalma WL east	Bonta P.F	65		75	60	28	60	45		45				22							29													50	55																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
97	Jamshedpur, Elephant Project	Dalma WL east	Kathsor P.F	60						40		44											42											45		50	20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
98	Jamtara	Kundhit	Patharchur	11			10						11	9	10	11	10																				22																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
99	Jamtara	Kundhit	Kasidih	19	22		27						0	24	24	16	21			18			21														48																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
100	Jamtara	Nala	Narithal	22		32	27				13			25																								35																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
101	Jamtara	Nala	Balichur	30		35	27			21				30																								43																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
102	Jamtara	Kundhit	Uttamdih	21	25		29						30	22	19	21	24																					44																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

Sl. No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Janun	Semal	Shisham	Ganhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residiana	Amaltas	Kadam	Sal	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Barhal	Kara	Korya			
114	Kolhan	Kolhan	Ganmmor PF (Joogutu)			10	12	8			7		9																							38		34												
115	Kolhan	Santra	Ichahatu PF	45		28	31	24			20						22				26															48	36							32						
116	Kolhan	Saitwa	Thakuragutu PF	18		24		16								17						15																							45					
117	Kolhan	Saitwa	Thakuragutu PF (Khutpani)	20		22		17									16					14																							28					
118	Latehar	Chandwa	Tudamu	12							8	7		10	12																					30														
119	Latehar	Chandwa	Tudamu (M)	42						40	39			35																						34														
120	Latehar	Chandwa	Chiro	13						7	8			10			8					7														32														
121	Latehar	Latehar	Dihi	10	11								9	10		7																				55	0													
122	Latehar	Manika	Dundu	15	11		16							8	21	14																				24														
123	Lohardaga	Lohardaga	Chot Chorgain			40	40			33		20																								45														
124	Lohardaga	Kuru	Kundgara		18	12		9			9		9	6		7	12	9										9				6				38						26								
125	Lohardaga	Kuru	Chalho	24		60	21	28		38	18	18	40	21		12	30																		25															
126	Lohardaga	Banari	Tithi	36		36				9					30	12		45																		45		24												
127	Lohardaga	Banari	Lapu	9		28	12					9		12					4																33															
128	Medininagar	Kundari	Baida	12			10		9	20	13			20			13																		28		29	31												
129	Medininagar	Chatarpur East	Murumdag	14	25	17	13				9			9			15																			19	34													
130	North	Betla	Saraidih	8			8			8					12	7	6		6	8															18			16												
131	Medininagar, PTR North	Chhipadohar East	Bhainsakhar	8					6	8						7		20																		40				34										
132	Medininagar, PTR North	Chhipadohar East	Gaypaswa	9			15		16				8			8					5		13																14											
133	Medininagar, PTR North	Chhipadohar East	Koyabathan	8	8				8	16			10			8		12	8	9																	14			8										
134	Medininagar, PTR North	Chhipadohar West	Pathar kudwa	8		10			30		14			11	22																					23														
135	Medininagar, PTR North	Chhipadohar West	Karhain	8		7	8		10	8				7				7																																
136	Medininagar, PTR North	Chhipadohar West	Karam tongri	12		5			9	8																8											40													
137	Medininagar, PTR North	Chhipadohar West	Shidhihiya ghati	8	6				9																												20							20						
138	Medininagar, PTR North	Chhipadohar West	Hadhitand	6		5								6																							40									30				
139	Medininagar, PTR North	Chhipadohar West	Belahi	10		6			6	12																											12		9	12										
140	Medininagar, PTR North	Chhipadohar West	Khairahi	10	12	6			6	8	6			8																							40													
141	Medininagar, PTR North	Chhipadohar West	Tendtand	16		16			7	14				6																							50				22									
142	Medininagar, PTR North	Chhipadohar West	Khairahi khand	8		5			22	6																	7										28													
143	Medininagar, PTR South	Garu East	Khajur Tond	15			10			19	18		30	12	11	15																					36	35			32									
144	Medininagar, PTR South	Garu West	Mundu PF	32	14		36		36			24	25								20																													40

Sl. No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bambo	Karanj	Jamun	Semal	Shisham	Gambhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residiana	Amaltas	Kadam	Sal	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Barhal	Kara	Korya					
145	Medininagar, PTR South	Baresandh	Jata Mod	28			30							16		12				12												12					50	40		25												
146	Medininagar, PTR South	Baresandh	Ganim Tand	13	7		7		11	12			8	13	7	5																				55	24															
147	Medininagar, PTR South	Garu East	Kotam PF Khajur Tand	18									35	22				26											30							45		25	25													
148	Pakur	Amrapara	Baghapara	67														72	60																	45																
149	Pakur	Gourpara	Gourpara	67														70	50																	50																
150	Pakur	Amrapara	Tilaiparapahar	40							30																									45																
151	Pakur	Hiranpur	Chota Chatkam	19		21	15				19						22																			16				10												
152	Pakur	Pakur	Piyarsola			27					39																	31								39																
153	Pakur	Hiranpur	Fulpahari	18		25	17			20	20																									12																
154	Porahat	Anandpur	Jharbera	15		14		14				10					12	10										14								35	32			32												
155	Porahat	Anandpur	Mahishgira	34			30			40																										40																
156	Porahat	Manoharpur	Batma	10			11	10			10	9	12																						56																	
157	Porahat	Kera	Kuitaka	35	25			24	10			25		29	50						17		14					31							48	41																
158	Porahat	Songra	Kandeyang DPF-12	42		22						12				16																				32																
159	Porahat	Songra	Songra-24									30																								35				30												
160	Porahat	Songra	Birda-2 (Kokorbo)	18				10			9	8										13														46																
161	Ramgarh	Gola	Uladaka																																	28																
162	Ramgarh	Gola	Purabdih																																	33																
163	Ramgarh	Patratu	Baridih	33						30				21				58																		65																
164	Ramgarh	Ramgarh	Bhuchungdih		18	34	25			20																										42																
165	Ranchi	Kanke	Bagda	37		42	40	28						41	42							22														37																
166	Ranchi	Kanke	Rahra	17			16	11		8	9	10								13		14	9									12				22	21															
167	Ranchi	Kanke	Jawabero	22			32			22	26			30															25							45																
168	Ranchi	Mander	Tala	28		38	40																													32																
169	Ranchi	Mander	Tangar Basli							20																										22																
170	Ranchi	Mander	Naro	14		20	21							16																						28																
171	Ranchi	Ranchi	Chanya	27			78			32		29						36																		28																



Sl. No	Division	Name of Range	Name of Site	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Bel	Guava	Babool	Mahogani	Peltofarm	Mahuwa	Bahera	Imli	Shirash	Peepal	Residiyana	Amaltas	Kadam	Sal	Sidda	Tendu	Palas	Asan	Dhaora	Euclyptus	Karam	Barhal	Kara	Korya
186	Seraikella	Kharsawan	Dhadkidih	24		20	11	10	9								12						14		8					18							22				16						
187	Seraikella	Kharsawan	Tiligora	36	35	40	39																													45											
188	Seraikella	Kharsawan	Barjudih	18	19	24	22																													20											
189	Seraikella	Kharsawan	Mangudih	22		40	23										10																			30											
190	Simdega	Kolebira	Bongram	12		14	14																													28											
191	Simdega	Bolba	Awrabahar	12	13					8	6			4						4														4	34	34											
192	Simdega	Kolebira	Parba	13		19	22									20																				22											
193	Simdega	Bano	Kewangutu	13			14				8			10		8																				22	18							16	18		

**Height of planted seedling at CA/SC&A/RDF/Linear plantation site (cm)**

Sl. No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sugwan	Acacia	Chakundi	Mango	Khair	Bambo	Karaj	Jamun	Semal	Shisham	Gambhar	Amla	Ajun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofam	Guluka	Mahuwa	Chibil	Bahera	Indi	Shirash	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal				
1	Bokaro	Chas	Kumardaga	CA			285	120		80	360	80					60			60		160							120																			
2	Bokaro	Chas	Mayurdubbi	CA	160	80	150	150	90		180	70	80		110	110		70				85	120							110																		
3	Bokaro	Chas	Bhawanipur	CA	90	80	160	80			160					110	80					75																										
4	Bokaro	Chas	Boriadih	CA	70	70	140	120	80				95	70	80	60						60																										
5	Bokaro	Bermo	Govindpur	CA	80	60	95					40																																				
6	Bokaro	Bermo	Mungo Rangamati A	CA	90	50	40				60								35																													
7	Bokaro	Bermo	Mungo Rangamati B	CA	55	80	90					40					45																															
8	Bokaro	Bermo	Penk	CA	180	170	190	120																																								
9	Bokaro	Bermo	Penk	CA	185	172	200	140			165																																					
10	Bokaro	Bermo	Pokhariya	RDF	230	210	240					140																																				
11	Bokaro	Bermo	Pokhariya	RDF	250	240				160	220						130																															
12	Bokaro	Bermo	Tengnachu	CA	210	170		170		80						165	120																															
13	Bokaro	Peterwar	Ulgadda	CA	100	85	90	80	70	60			70	60										65																								
14	Bokaro	Peterwar	Putkadih	CA	240	180	160			130	190	140			180																																	
15	Bokaro	Peterwar	Nawadih	CA	250	310	425	300	210	150	625	60	310	110	125	110		85	90																													
16	Bokaro	Peterwar	Tengikudar	CA	240	300	350	190						400	250											150	110																					
17	Bokaro	Peterwar	Beldih	CA	350	360	450	280		160	245	210		260	310	240	230	180	350																													
18	Bokaro	Peterwar	Banga	CA	160	150		140	120	80			110		120		80	110																														
19	Bokaro	Peterwar	Chanpi	CA		130	180	140		80			110	150								130																										
20	Bokaro	Bokaro	Galudih	CA	170	180	140	110					90						85	110																												
21	Bokaro	Bokaro	Nasia	Dwarf	250	200	300	140				170			210	270	160		140		210		255																									
22	Bokaro	Bokaro	Taratanr, Kharipitto, Junodih	Dwarf	210	190	200	110				155	170									140	300																								110	
23	Bokaro	Bokaro	Potso	CA	220	190	210	190														210																										
24	Chaibasa	Noamundi	Barajamda	CA (SCA)	180		200	100				120						90	130			140				110																						
25	Chaibasa Social Forestry	Chakradharpur Social Forestry	Kumram Gendemundi	CA (SCA)		280	750	700			200			670			620																															
26	Chaibasa Social Forestry	Jagannatpur Pratappur	Patajaint	CA (SCA)	600		536	546			546								526																													
27	Chatra North		Lipda	RDF	120		130	110		60	90	60			80																80																	
28	Chatra North	Rajpur	Banda to Bengnatari	Linear			270			115							110			90	135					120																		130				
29	Chatra South	Chatra	Manjhawan 1	SC	60	75		90		66	60	96		150	120	60	75	65					30				40							45						45	45	165						
30	Chatra South	Chatra	Manjhawan 2	SC	60	75		90		55	150	96		150	120	60	75	75					45										65							45	45	165						
31	Chatra South	Chatra	Manjhawan 3	SC	62	40		90		50	155	100		130	110	60	80	65					45										60							60	50	80						
32	Chatra South	Chatra	Bae	SC	60	85		135	105	60	125			150	122		90						90	80									75															
33	Chatra South	Chatra	Dumbi/ Barwadih	SC	150	40	210	480		60	180	135			390	75	165	100	450														90															
34	Chatra South	Chatra	Sheda	SC	135	165		105		75	75	45		120	180	165	60	90																										195				
35	Chatra South	Chatra	Sikid	SC				107		75	75	45		165	182	172	65	90																85	47													

Sl. No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gumhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Inli	Shirash	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal					
36	Chatra South	Lawalong	Kundri	SC	60		150	150		45	75	65		120	130		75																85																
37	Chatra South	Simariya	Shivrajpur	SC	90	65		105		55	96	60		100	75			70																															
38	Deoghar	SC Range Madhupur	Trilokitanr	CA (SCA)	180	160	270	240			180	120		150			75																																
39	Deoghar	T Range Deoghar	Ajabraidih	CA (SCA)		140	210	200			160	150					100																																
40	Deoghar	SC Range Madhupur	Bhikhnadih	CA (SCA)		130	320			120								140	270		290																												
41	Deoghar	SC Range Madhupur	Paharpur	PCA	260	240	540	490		120							135																																
42	Deoghar	SC Range Madhupur	Manjhladih	CA (SCA)	290	260	540	600			800								300																														
43	Deoghar	Deoghar	Gamhariatanr	CA (SCA)	190		240				140	120				130					180																												
44	Deoghar	SC Range Madhupur	Chandpur	Linear			260					230																	190																				
45	Deoghar	SC Range Madhupur	Chatnadangal	Linear			260	220																		180		140																					
46	Deoghar	T Range Deoghar	Bochbandh	RDF	160		240	230																																									
47	Deoghar	T Range Deoghar	Bishanpur	CA (SMC)	180	160	270	230				120					110	130																															
48	Deoghar	SC Range Madhupur	Dubrajpur	CA (SMC)	280	240	420	410		300	240	220																																					
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadih	CA (SMC)		180	260					120					150			240																													
50	Deoghar	SC Range Madhupur	Loharjor	CA (SMC)	130	120	210	200			180	140					100																																
51	Deoghar	SC Range Madhupur	Harla	CA (SMC)	270		380	490		290					310			410																															
52	Deoghar	SC Range Madhupur	Lamba	CA (SMC)			360	310						280				300																															
53	Deoghar	T Range Deoghar	Tehunia	CA (SMC)			120	110			70						60																																
54	Deoghar	T Range Deoghar	Samlapur	CA (SMC)	60	75	90	100																																									
55	Deoghar	SC Range Madhupur	Alumpur	CA (SCA)								100					60			90					80		90		120																				
56	Deoghar, Social Forestry	Deoghar	Baratanr	CA (SCA)		310	390			270	250			370																																			
57	Dhanbad	Tundi	Navatand	SC			150	130																																									
58	Dhanbad	Tundi	Lakrakhundi	IWMP	160	180	310		90		260		112		86			96			210																												
59	Dhanbad	Tundi	Karitant, Arwatand, Kenduatand	SC	400	305	900	700			457							310																															
60	Dhanbad	Tundi	Rishibita	IWMP							310																																						
61	Dhanbad	Tundi	Barbad Bolardih	SC	80		130	128	125		90		95		105		110			80																													
62	Dhanbad	Tundi	Kansjor,Birajdi	RDF	210	170	190	160			170																																						
63	Dhanbad	Topchanchi	Sadhobad Chutiyo	SC	500		560	420		200	300				415			390		310													480																
65	Dhanbad	Topchanchi	Gendwadi Chalmundri	SC	610	360		410				180		390	600				900																														

Sl. No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera		Imli	Shirash	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal			
66	Dhanbad	Topchanchi	Parwatpur	RDF	510			380			310			340	400					200	300		210			210																						
67	Dhanbad	Topchanchi	Gopalpur	RDF	130	110	80																			90																						
68	Dhanbad	Dhanbad Urban Forestry	Lagata	RDF	510		470						280					120															440															
69	Dhanbad	Dhanbad Urban Forestry	Dulasol	SC	600		460	415							450						215		220										440															
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	RDF	435		680	410						310	600				280																													
71	Dhanbad	Dhanbad Urban Forestry	Madandih	SC	180	160	200	180							90			210															210															
72	Dumka	Dumka Damin Kathikund	Astajora	CA (SCA) Linear	450			360																									176															
73	Dumka	Dumka Damin Kathikund	Aamgachi to Saldaha I												260																												300	220				
74	Dumka	Hizla East	DudhajoI	RDF	90	120	180					80	85		85		60					110																						90				
75	Dumka	Hizla East	Sugnibhasha	Bamboo							360							340																														
76	Dumka	Hizla East	Barmasiya	CA (SCA)	40	90	190	96										90																														
77	Dumka	Hizla West	Ramkhari	RDF	90	180	190	160													140																											
78	Dumka	Hizla West	Karmatanr	CA (SCA)	180	280	320	360										210	260																													
79	Dumka	Hizla West	Suggapahari	RDF	120	90	360	290										180	200			170																										
80	Dumka	Hizla West	Latabani	CA (SCA)	190	180	260	220										170	250																													
81	Garhwa North	Nagar	Mirchaiya	CA (SCA)	402			425		64					391	290	310		362																													
82	Garhwa North	Garhwa	Khundra	RDF	125			110		65					76			95																														
83	Garhwa North	Bhawnathpur	Ghordag	CA (SCA)	310		330	350		260					320																																	
84	Garhwa South	Bhandariya	Ramar	CA (SCA)		90	240	120		60	75	75			85	130														75																		
85	Garhwa South	Ranka West	Beta	RDF				120	90	72	95				110							10			9																						190	
86	Giridih east	Dumri	Chalmo	SC	120	280	360				100				190	180																																
87	Giridih east	Gawan	Duarpahari	SC	185	158	372					165		190	180	181																																
88	Giridih east	Parasnath	Dhanyadih	SC	60		120					60	55							45	90	40																										
89	Giridih east	Giridih	Kornatand	SC	180		240					160			170											165																						
90	Giridih east	Giridih	Tatokiya	SC			180	170						120	125							90																										
91	Giridih east	Giridih	Maheshpur	SC	70		150	75	60						150	50			90	55	81																											
92	Giridih east	Giridih	Phulchi	SC					50		80	60	55		60				80		90		50	40																								
93	Giridih east	Giridih	Lohpiti	Linear								180	120		465		96	190					195						216	330						70									128	215		
94	Giridih east	Khurchutta	Chandiyo Pipratol	Linear		190	230	180				165					130					170	210																									
95	Giridih east	Khurchutta	Asgandho	SC			410	180		215		170					140	250				130	210										190															
96	Giridih east	Khurchutta	Badkitand	SC		180	430	170		190							150	260			130	180																										
97	Giridih east	Khurchutta	Mankadiha	SC	110		240	140			130				90						210		150																									
98	Giridih east	Dumri	Nagabad	SC	170		160	130							140																																	



Sl. No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gumhar	Amla	Ajruj	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bheera	Imli	Shirash	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal					
99	Giridih east	Gawan	Malukchal	SC	200		200	160			160			170				140																															
100	Giridih east	Dumri	Naro	SC	73		85	70				68			85	60																																	
101	Giridih east	Dumri	Agalagri	SC	62	55	85	85							80		50						55																										
102	Giridih east	Khurchutta	Bedodih	SC		75	150	75		75		60					39		90			45	66																										
103	Giridih east	Khurchutta	Ratiyabahar	RDF	62	65	120	85			60	75			150		36		97			44						68																					
104	Giridih east	Khurchutta	Lakhanpur	RDF	130	120	140	105		110	190	110			115	170	80		140				135																										
105	Giridih east	Giridih	Gangapur	Linear											180								160																		150								
106	Giridih west	Jamua	Chitradih	RDF	90		140	110							85	70					90																												
107	Giridih west	Jamua	Bhupatidih	IWMP	190		290	160				155		160	170																																		
108	Giridih west	Jamua	Khurobindo	IWMP	270	270	380	240			260			207	280						190																												
109	Godda	Sunderpahari	Sunderpahari	SC & PI	60		120																																										
110	Godda	Sunderpahari	Chandna	RDF	160		270	230				170		150		90																																	
111	Godda	Sunderpahari	Sunderpahari	SC & PI	170		210				100	90							180	75																													
112	Godda	Sunderpahari	Salodih	SC & PI	160		180			90						60			150	75																													
113	Godda	Godda	Mahuatanr	SC & PI	80		250	220									150	180																															
114	Godda	Godda	Sabalpur	RDF			260										150																																
115	Godda	Godda	Nipanja	SC & PI	120		230	190						140			80			100																													
116	Godda	Godda	Bhaluka	SC & PI			210	190									100	150																															
117	Godda	Boarjor	Chota Shaharpur Sheet 2	SC & PI	290	300	390	360		220					280		240																		210						310								
118	Godda	Boarjor	Balajhar	SC & PI	160	170	210	200						180	165																																		
119	Godda	Godda	Kamradol	RDF	50		90	80									40																																
120	Godda	Godda	Thakurnahan	SC & PI	180		240	210									140	135		110																													
121	Godda	Godda	Charghara	SC & PI	140		180	170												100																													
122	Gumla	Bishunpur	Salgi	CA	710	690		680			680				730																																		
123	Gumla	Gumla	Charkatangar	CA	410		700	310		875	580				378	510	385																																
124	Gumla	Gumla	Gindra	CA			740	600							550	510																																	
125	Gumla	Vishunpun	Jehangutuwa	CA			180		60			280			85	75			90	105					110																								
126	Gumla	Gumla	Banai	CA			590	410													270																												
127	Gumla	Bishunpur	Rehe	RDF							180																																						
128	Gumla	Bishunpur	Chatmdag	RDF	130	120	150		160		150				120	150			160										130											180									
129	Gumla	Kurumgarh	Tati	CA	30		620	290							30																																		
130	Gumla	Kurumgarh	Nawadih Kataitoli	CA	270		320	450				120	240		700	450													450																				
131	Hazaribagh East	Daru	Kesura	CA	120		135	130		50	150	85		60	90		60	60	70	50																													
132	Hazaribagh East	Daru	Chiruwar/Irga	CA	130		150	120				80			120		70						115																										
133	Hazaribagh East	Bagodar	Pandra-Sadaro	CA	75	60	120	90		45	50		75				70				105																												
134	Hazaribagh East	Bagodar	Sonturpi	RDF	90	75	110	95			90		60			70	55				66		60																										
135	Hazaribagh East	Bagodar	Ambadih	RDF	75	60	120	90		45	50		75				70				105																												

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bambo	Kanuj	Jamun	Semal	Shisham	Gambur	Amla	Arjun	Bakun	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Gulika	Mahuwa	Chibhal	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal					
136	Hazaribagh west	Barhi	Maskedih	RDF	560		720	635		390	440	455			550	515	500	360																															
137	Hazaribagh west	Barhi	Barion	RDF	435		690	367		310	390	440			370	490	315																																
138	Hazaribagh west	Barhi	Digwar	SC	185		210	180		110	200	130			180	160	120																																
139	Hazaribagh west	Barhi	Koderma Bokaro transmission line	DSP																																													
					470		620	540		275	330	315			315	390	290																																
140	Hazaribagh west	Barhi	Sewatand	RDF	180		180	160		110	180	135			140	140	140																																
141	Hazaribagh west	Barhi	Sewatand	RDF	290		315	220							215	180	245			130																													
142	Hazaribagh west	Barhi	Kedarut	SC	135		160	140			130	80			110		80	70																															
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	Linear	90							60	60					50			60		60							70			100													110			
144	Hazaribagh west	Barhi	Nagarbarsot II	SC	85	65	110	80	40	40	90		50					60		50	45								70																				
145	Hazaribagh west	Chouparan	Sohra	RDF	90		192	140				80			60				130											80																			
146	Hazaribagh west	Chouparan	Madhogopali	RDF	110		120	90				60			75				80																														
147	Hazaribagh west	Chouparan	Gangahar	RDF	680	580	650	550		160																																					330		
148	Hazaribagh west	Hazaribagh Afforestation	Kama Kewal	RDF																																													
					30		45	30			50			30			30				30								30																				
149	Hazaribagh west	Barkagaon	Ghutu	SC	310		610	160		180	210		167	185	655	130		145																															
150	Hazaribagh west	Barkagaon	Gosaibaliya	RDF	515		765	286		196		130	153		816		143	173																															
151	Hazaribagh west	Barkagaon	Talaswar	RDF	400		600	200		150	210				700	110	280	160																															
152	Hazaribagh west	Hazaribagh	Pabra	RDF	700		700	400			600	100			600		400	700																													500		
153	Hazaribagh west	Hazaribagh	Perheriya	RDF	300		710	415			550				390																																		
154	Hazaribagh west	Hazaribagh	Haram	IWMP	310							130									220									150																90			
155	Hazaribagh west	Hazaribagh	Bes	IWMP	110							60									100			70					80	125																			
156	Hazaribagh west	Hazaribagh	Marhand	IWMP	130							60									125			60						90	120																120		
157	Hazaribagh west	Hazaribagh	Khapriyawa to Khapriyawa	Linear									120		110			90					16																								118		
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	Linear									130		170		140			120		160	120							160																140	180		
159	Hazaribagh west	Hazaribagh	Marigada	RDF			215	160				110			130	140			140											90																			
160	Hazaribagh,Forest Guard Training School	Training School, Hazaribag	Kani Mundawar	Arboratum							307																																						

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gumhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirish	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal				
161	Hazaribagh,Forest Guard Training School	Training School, Hazaribag	Kani Mundawar	Bambo Setum	50					70					60												45																					
162	Hazaribagh, Social Forestry	Sadar	Kanchanpur	NPV	310	450	600	380		340	300				400		410		750																													
163	Jamshedpur	Chaukulia	Manikabera, Choira, Ghosda	Bamboo							180																																					
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	Plantation	95	90	120	118		45				125			90					45																										
165	Jamshedpur	Chaukulia	Kadamdiha	Plantation		75	90	95							50		60					45																										
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	Linear																																												
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	Linear			75															60																										
168	Jamshedpur	Rakhamines	Durku	Linear	60	75	100	110				45						43																														
169	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	Plantation	85	50	105	70		60					50		50					105																										
170	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	Plantation	95	50	105					60					70					85																										
171	Jamshedpur	Musabani	Paharpur, Churiapahar, Mudakati	Bamboo	300		360	360	180	240	450	240									180	300	360							240	330																	
172	Jamshedpur	Musabani	Gudabanda	Bamboo							280																																					
173	Jamshedpur	Musabani	Gudabanda	Linear	145	130	195	170				160			140		145				140	190	160								160																	
174	Jamshedpur	Ghatsila	Anidi	Plantation			210	110	50			90		160							150	115																										
175	Jamshedpur	Ghatsila	Borajuri, Sorodohan	Plantation		760	1050				360											540			600																							
176	Jamshedpur	Ghatsila	Kalapathar (Part A)	Plantation	90	110	230		60					130								120								100																	100	
177	Jamshedpur	Ghatsila	Narsinghpur	Plantation	300	540	1200	600			210	450			1260		450	450			240	340																										
178	Jamtara	Narayanpur	Yaududih	CA (SCA)	210	200	280					150			180		120																															
179	Jamtara	Jamtara	Sunsundabra	CA (SCA)			490	560							440	310		120																														
180	Jamtara	Jamtara	Lakhanpur	Linear								100						240	120			280					160		210																			
181	Jamtara	Jamtara	Murgabani	Linear	340	310	330	290				280			310												250		240																			
182	Khunti	Khunti	Oskeya	CA		240			240			260	250		450	310							230															210										
183	Khunti	Bundu	Taimara	CA	75	52						50			85	90	55	70												60																		
184	Khunti	Tamar AFF Range, Bundu	Nuridih	CA	380	370		390							490	520	270																															
185	Khunti	Tamar	Barendra	CA		420	500		240			245			490	510	240						230																									

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gumhar	Amli	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Surifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirish	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal			
186	Koderma	Koderma	Nawadith to Koderma	CA				110							210	450																															
187	Koderma	Domchanch	Kari Pahari to Sijuha	CA	180							120	160		110		150	150													210												90				
188	Koderma	Domchanch	Sijuwa to Purnadeeh	CA	75	110						120	120		90		60	90																											100		
189	Latehar	Balumath	Soparam	CA (SCA)	250		280	290							210																																
190	Latehar	Chandwa	Rud	CA (SCA)	390		420								370			240																													
191	Latehar	Chandwa	Hesala	CA (SCA)	330			410		285	290				400		190	90																													
192	Latehar	Balumath	Mailam	CA (SCA)	340		420	390		120	310				320				410																												
193	Latehar	Latehar	Sohdag	CA (SCA)	360		390	320							380		220																														
194	Latehar	Latehar	Jaram	CA (SCA)	110	80	270	60	30	30					280		85																														
195	Latehar	Manika	Doki	CA (SCA)	150	100	110	70		120	105				81																																
196	Latehar	Manika	Bakoriya (M)	CA (SCA)				700		800					800				750																												
197	Lohardaga	Lohardaga	Nini	CA	210		600	450				270			390				260																												
198	Lohardaga	Lohardaga	Hisri	RDF	390		480	430							370	410			270																												
199	Lohardaga	Lohardaga	Ugra	RDF	120		210	90			120								75																												
200	Lohardaga	Banari	Ghaghra	RDF	390		980	700				650			560		480		980																												
201	Medininagar	Chatarpur East	Kuhkuh Khurd	Kshatipur ak Vanropan	300		500	500		300				400	400																																
202	Medininagar	Kundari	Bhawardah	Kshatipur ak Vanropan	500			90				200	200	300	400																																
203	Medininagar	Kundari	Navagarh	Kshatipur ak Vanropan	200		250	400		150				600	400	600	250		200																												
204	Pakur	Hiranpur	Dhangarha	CA	310		350	240				280																																			
205	Porahat	Kera	Chandpur, Bondih, Barkani	CA (SCA)		330		400							580	390	410												560		490																
206	Porahat	Kera	Unchibita	RDF		280		360									180		310			120																									
207	Porahat	Kera	Bangrasai (Parsa Bahal)	CA (SCA)		330																																									
208	Ramgarh	Gola	Kujukalan	SC	200		190	140	60		170			160	150		120	120								60		80																			
209	Ramgarh	Patratu	Ghutuwase Manmohna	Linear	330									200			210										60		80																300		
210	Ramgarh	Patratu	Deoria	SC			710	700			700				220	190					140			450							290																
211	Ramgarh	Kuju	Ratwe	SC		121	368	305			181				80																																
212	Ramgarh	Kuju	Orla	SC			310	280		270																																					
213	Ramgarh	Ramgarh	Tewardag	SC		76	137	61			61	65		152	60	35			45																												
214	Ramgarh	Mandu	Govindpur	SC		366	310	213		457	274				215	180			457																												
215	Ramgarh	Mandu	Padrangi	SC	630		680	470		330			490						600																												
216	Ranchi	Kanke	Hehal Hill	Plantatio n			270	260				180										120																									



Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Kanaj	Jamun	Senal	Shisham	Gumhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahem	Imli	Shirash	Bargad	Peepal	Residiana	Kachnar	Kadam	Gulmohar	Sal						
217	Ranchi	Kanke	Uruguttu	CA	360	340	400	415			370			180	410	390			240		190																													
218	Ranchi	Kanke	Bariyatu Hill	Plantation		540		420			600	450	150									400																												
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	Plantation				315			162			455		320														352						305														
220	Ranchi	Mander	Tumang	CA			52	105																																										
221	Ranchi	Bero	Lawagai	RDF		70	300	95			110			280	120																																			
222	Ranchi	Ranchi	Danekara	RDF		98	125	320			90			120	120	130			300		280																													
223	Ranchi	Ranchi	Bargai Firing Range Hill	Plantation		660	450				600	240			720						600									200																				
224	Ranchi	Mahilong	Paharsingh	CA	750	700	900																																											
225	Ranchi	Mahilong	Nawagarh	CA	700		550	600																					280																					
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	CA			1020	1140		180		90			645																																			
227	Ranchi, Training School		Village-Kawali	NPV					110			110			180			100					210						320																			230		
228	Ranchi, Training School		Village-Mahilong	NPV								190	90	270			120		140			550																												
229	Sahibganj	Barharwa	Bada Togra	RDF	230	160			220														210																											
230	Sahibganj	Barharwa	Demchak Pahar	RDF	56		110	170				78		90	120				66																															
231	Sahibganj	Barharwa	Chota Tegra	RDF	190	180		140															180																											
232	Seraikella	Seraikella	Bada Hariharpur	Plantation	120	120	60	150				90	60					105					60																										75	
233	Seraikella	Chandil	Shaharbera	Plantation	210		450	215			450											180	92																											
234	Seraikella	Chandil	Chunidi	Bamboo							510																																							
235	Seraikella	Chandil	Puriyara	Plantation		300	250	300							300						250	40																												
236	Seraikella	Seraikella	Sahebganj	Plantation	120		180	130								180		120				120															120													
237	Seraikella	Kharsawan	Tilopada	Plantation		360																																												
238	Seraikella	Kharsawan	Silpingda	Plantation	90	90	150	120		80									90							110																								
239	Seraikella	Kharsawan	Silpingda	Plantation	500	460													280																															
240	Seraikella	Kharsawan	Kasidih	Plantation	560		600																																											
241	Seraikella	Kharsawan	Haribhanja	Plantation			1000																																											
242	Simdega	Kolebira	Jaldega to Gangutoli	Bamboo Gabion	180				180						215								192	205						192																				
243	Simdega	Kolebira	Dadibera to Jampani	Bamboo Gabion					192						225								185	210						182																185				
244	Simdega	Kolebira	Dharamshala to Jampani	Bamboo Gabion	152				165						245								172	195																										

Sl.N o	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karunj	Jamun	Semal	Shikam	Gumhar	Anla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Inli	Shirash	Bargud	Peepal	Residiana	Kachur	Kadam	Gulmohar	Sal		
245	Simdega	Kolebira	Kamlapani to Gangutoli	Bamboo Gabion	165				172						235								235							245												165				
246	Simdega	Bolba	Sagalpoch to Bolba	Bamboo Gabion	450										350	370					290		360							180											360	790				
247	Simdega	Bolba	Kundurmunda	CA	450	120	480														120																									
248	Simdega	Simdega	Tamra to Kuruskela	Gabion	515								330		360			310			280		280							330																
249	Simdega	Simdega	Bindhantoli	RDF							255																																			
250	Simdega	Kolebira	Parba	CA	340		280	260						360	110				120																										105	
251	Simdega	Kolebira	Saraipani	RDF	85		152	170			115				260		135					280																								
252	Simdega	Simdega	Sarlonga	CA	450		650	510	380				280		600	500	330					450								310																
253	Simdega	Bano	Orga to Dumarmunda	Gabion					380						340			235	315				280	280						396														315		
254	Simdega	Bano	Dumarmunda to Girda	Gabion					280				280	360	320								390	380						380	260															
255	Simdega	Bano	Hurda to Girda	Gabion					280			140					220	290	320				290	340						360	370															
256	Simdega, Social Forestry	Gumla	Sargaon	CA	900									810	720	660	305		1130																											
257	Simdega, Social Forestry	Kolebira	Saraipani	CA			800								260				410	160		280																								

**DBH at CA/SC&A/RDF/Linear plantation site (mm)**

SL.N o	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gambhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal				
1	Bokaro	Chas	Kumardaga	CA			30	8		7	12	5					6			8		14							10										10									
2	Bokaro	Chas	Mayurdubbi	CA	12	8	15	15	8		12	7	7		8	10		8			9	11								10																		
3	Bokaro	Chas	Bhawanipur	CA	9	7	15	7			10					10	7				7																											
4	Bokaro	Chas	Boriadih	CA	7	7	12	11	8				9	7	8	6						6																										
5	Bokaro	Bermo	Govindpur	CA	22	20	15					12																																				
6	Bokaro	Bermo	Mungo Rangamati A	CA	20	25	10				8								12																													
7	Bokaro	Bermo	Mungo Rangamati B	CA	15	32	12					8					8																															
8	Bokaro	Bermo	Penk	CA	20	18	18	12																																								
9	Bokaro	Bermo	Penk	CA	15	18	20	14			13																																					
10	Bokaro	Bermo	Pokhariya	RDF	35	36	40					15																																				
11	Bokaro	Bermo	Pokhariya	RDF	44	42				18	22						14																															
12	Bokaro	Bermo	Tengnachuwan	CA	24	19		20		12						22	18																															
13	Bokaro	Peterwar	Ulgadda	CA	10	10	9	8	7	6			8	6										6																								
14	Bokaro	Peterwar	Putkadih	CA	18	16	14			13	17	14			19																																	
15	Bokaro	Peterwar	Nawadih	CA	20	30	25	20	10	10	25	8	15	15	14	12		11	9																													
16	Bokaro	Peterwar	Tengikudar	CA	80	80	70	40						110	100											25	11																					
17	Bokaro	Peterwar	Beldih	CA	125	125	155	130		60	90	110		80	110	100	60	40	140																													
18	Bokaro	Peterwar	Banga	CA	15	14		12	12	8			11		13			8	10																													
19	Bokaro	Peterwar	Chanpi	CA		12	16	13		8			12	15								13																										
20	Bokaro	Bokaro	Galudih	CA	25	27	20	15					10						10	12																												
21	Bokaro	Bokaro	Nasia	Dwarf Species Plantation	15	20	40	15				20			25	35	17		12		25		18																									
22	Bokaro	Bokaro	Taratanr, Kharpitto, Junodih	Dwarf Species Plantatio	18	22	25	14				20	18									15	30																								13	
23	Bokaro	Bokaro	Potso	CA	24	21	24	22														21																										
24	Chaibasa	Noamundi	Barajamda	CA (SCA)	8		2	11				13						9	13			12			12																							
25	Chaibasa Social Forestry	Chakradharpur Social Forestry	Kumram Gendemundi	CA (SCA)		24	20	24			12			22				22																														
26	Chaibasa Social Forestry	Jagannatpur Pratappur	Patajaint	CA (SCA)	14		78	75			75								72																													
27	Chatra North	Rajpur	Lipda	RDF	10		11	9		6	8	6			7																7																	
28	Chatra North	Chatra	Banda to Bengnatari	Linear			22			11							11			10	13					12																				12		
29	Chatra South	Chatra	Manjhawan 1	SC	11	10		12		10	10	10		16	10	8	9	12				3				7								10					13	10	18							
30	Chatra South	Chatra	Manjhawan 2	SC	11	10		12		10	6	10		17	10	8	9	15					7											13					13	10	19							

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semul	Shisham	Gamlhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal					
31	Chatra South	Chatra	Manjhawan 3	SC	12	12		10		9	7	11		20	9	8	10	14					10										12						12	11	11								
32	Chatra South	Chatra	Bae	SC	9	10		28	12	15	9			30	15		12						10	13									13																
33	Chatra South	Chatra	Dumbi/ Barwadiah	SC	19	30	26	35		15	10	22			38	18	29	24	24														18																
34	Chatra South	Chatra	Seheda	SC	20	15		19		13	9	6		20	16	25	9	16																							25								
35	Chatra South	Chatra	Sikid	SC				19		13	9	6		21	18	27	9	16																11	6														
36	Chatra South	Lawalong	Kundri	SC	10		22	25		13	9	10		26	15		12																	13						11	10	26							
37	Chatra South	Simariya	Shivrajpur	SC	10	9		15		9	13	9		12	11			10																								14							
38	Deoghar	SC Range Madhupur	Trilokitanr	CA (SCA)	16	13	30	25			10	11		12			9																																
39	Deoghar	T Range Deoghar	Ajabraidih	CA (SCA)		12	20	19			10	11					11																																
40	Deoghar	SC Range Madhupur	Bhikhnadih	CA (SCA)		21	32			18								19	24		26																												
41	Deoghar	SC Range Madhupur	Paharpur	PCA	38	32	55	57		29							25																																
42	Deoghar	SC Range Madhupur	Manjhladih	CA (SCA)	25	24	48	43			41								29																														
43	Deoghar	Deoghar	Gamlhariatanr	CA (SCA)	25	0	29				19	16				27					22																												
44	Deoghar	SC Range Madhupur	Chandpur	Linear			29					27																	19																				
45	Deoghar	SC Range Madhupur	Chatnadangal	Linear			29	26																		22		19																					
46	Deoghar	T Range Deoghar	Bochbandh	RDF	13		18	18																																									
47	Deoghar	T Range Deoghar	Bishanpur	CA (SMC)	16	12	22	18				11					12	10																															
48	Deoghar	SC Range Madhupur	Dubrajpur	CA (SMC)	19	22	32	29		18	19	16																																					
49	Deoghar	SC Range Deoghar	Rajpura, Kaswadiah	CA (SMC)		13	20					11						10			18																												
50	Deoghar	SC Range Madhupur	Loharjor	CA (SMC)	8	6	10	9			8	7						6																															
51	Deoghar	SC Range Madhupur	Harla	CA (SMC)	45		48	57		29					32				45																														
52	Deoghar	SC Range Madhupur	Lamba	CA (SMC)			29	25						19					16																														
53	Deoghar	T Range Deoghar	Tehunia	CA (SMC)			10	9			5						5																																
54	Deoghar	T Range Deoghar	Samlapur	CA (SMC)	7	6	10	9																																									
55	Deoghar	SC Range Madhupur	Alumpur	CA (SCA)									11				9		10					10		11		13																					



Sl.N o	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal		
56	Deoghar, Social Forestry	Deoghar	Baratanr	CA (SCA)		24	29			23	23			26																																
57	Dhanbad	Tundi	Nawatand	SC			10	9																																						
58	Dhanbad	Tundi	Lakrakhundi	IWMP	12	25	31		6		35		8		11				18		16																									
59	Dhanbad	Tundi	Karitand, Arwatand, Kenduatand	SC	19	28	48	48			17								16																											
60	Dhanbad	Tundi	Rishibita	IWMP							19																																			
61	Dhanbad	Tundi	Barbad Bolardih	SC	7		9	13	15		9		8			12		13			8															14		9				10				
62	Dhanbad	Tundi	Kansjor,Birajdih	RDF	16	15	16	14			12																																			
63	Dhanbad	Topchanchi	Sadhobad Chutiyaro	SC	34		40	36		18	14				38				34		28												40													
64	Dhanbad	Topchanchi	Kuramu	RDF	36	38		38							28																															
65	Dhanbad	Topchanchi	Gendwadih Chalmundri	SC	36	34		38				20		35	55				42																											
66	Dhanbad	Topchanchi	Parwatpur	RDF	36			28			14			22	31					22	22		18			17																				
67	Dhanbad	Topchanchi	Gopalpur	RDF	8	8	7																			8																				
68	Dhanbad	Dhanbad Urban Forestry	Lagata	RDF	30		40						20				12																24													
69	Dhanbad	Dhanbad Urban Forestry	Dulasol	SC	35		40	55							55					20		20											38													
70	Dhanbad	Dhanbad Urban Forestry	Dhangi	RDF	34		52	48						25	50				24																											
71	Dhanbad	Dhanbad Urban Forestry	Madandih	SC	17	16	18	18							8			14															21													
72	Dumka	Dumka Damin Kathikund	Astajora	CA (SCA)	65			56																									44													
73	Dumka	Dumka Damin Kathikund	Aamgachi to Saldaha 1	Linear											26																												28		29	
74	Dumka	Hizla East	Dudhajol	RDF	20	18	22					16	15		15		14					16										30													17	
75	Dumka	Hizla East	Sugnibhasha	Bamboo							18							26																												
76	Dumka	Hizla East	Barmasiya	CA (SCA)	11	16	18	17										17																												
77	Dumka	Hizla West	Ramkhari	RDF	15	30	35	28													20																									
78	Dumka	Hizla West	Karmatanr	CA (SCA)	22	24	27	26										21	25																											
79	Dumka	Hizla West	Suggapahari	RDF	25	24	65	50										23	28			24																								
80	Dumka	Hizla West	Latabani	CA (SCA)	20	24	28	29										18	25																											

Sl.N o	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamlhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chitbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal				
81	Garhwa North	Nagar	Mirchaiya	CA (SCA)	78			75	15						67	58	62		51																													
82	Garhwa North	Garhwa	Khundra	RDF	20			18	14						13			13																														
83	Garhwa North	Bhawnathpur	Ghordag	CA (SCA)	62		69	71	57						67																																	
84	Garhwa South	Bhandariya	Ramar	CA (SCA)	18	22	20		13	12	9			17	21														16																			
85	Garhwa South	Ranka Wast	Beta	RDF				18	12	14	15				17																																	35
86	Giridih east	Dumri	Chalmo	SC	18	24	29				15				16		15																															
87	Giridih east	Gawan	Duarpahari	SC	16	12	28					10		18	18		14																															
88	Giridih east	Parasnath	Dhanyadih	SC	4		7					4	4							3	4	3																										
89	Giridih east	Giridih	Kornatand	SC	18		20					15			17											16																						
90	Giridih east	Giridih	Tatokiyari	SC			19	12						14	8							15																										
91	Giridih east	Giridih	Maheshpur	SC	8		12	8	6						8	6			8	5	7																											
92	Giridih east	Giridih	Phulchi	SC					9		12	12	11		12				13		14		13	7																								
93	Giridih east	Giridih	Lohpiti	Linear								25	17		34		12	24					21						18	48					9													
94	Giridih east	Khurchutta	Chandiyo Pipratol	Linear			8	10	9				7				6				9	9																										
95	Giridih east	Khurchutta	Asgandho	SC			11	8		9		8					7		9			7		9										8														
96	Giridih east	Khurchutta	Badkitand	SC		7	11	6		7							6		10		6	6															6											
97	Giridih east	Khurchutta	Mankadiha	SC	9		22	11			10				7						16		10																									
98	Giridih east	Dumri	Nagabad	SC	12		12	10							11																																	
99	Giridih east	Gawan	Malukchal	SC	14		16	16			12			14				11																														
100	Giridih east	Dumri	Naro	SC	7		8	7				7			8	6																																
101	Giridih east	Dumri	Agalagri	SC	6	5	8	8							8		5						5																									
102	Giridih east	Khurchutta	Bedodih	SC			8	12	8		8		7				5		9			6	7																									
103	Giridih east	Khurchutta	Ratiyabahar	RDF	7	7	12	8			7	8			12		5		9			6							7																			
104	Giridih east	Khurchutta	Lakhanpur	RDF	12	12	13	10			10	12	10			10	14	8		12			12																									
105	Giridih east	Giridih	Gangapur	Linear											12								12																									
106	Giridih west	Jamua	Chitradih	RDF	8		12	10							9		7				9																											
107	Giridih west	Jamua	Bhupatidih	IWMP	18		22	16				14		12	14																																	
108	Giridih west	Jamua	Khurobindo	IWMP	22	22	28	21			15				17	22						17																										

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarn	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal					
115	Godda	Godda	Nipanjya	SC & PI	13		20	19						15			11			9																													
116	Godda	Godda	Bhaluka	SC & PI			19	18										10	13																														
117	Godda	Boarijor	Chota Shaharpur Sheet 2	SC & PI	22	22	29	25		17					24			19																50		70													
118	Godda	Boarijor	Balajhar	SC & PI	10	10	18	16						12	11																																		
119	Godda	Godda	Kamradol	RDF	9		9	7										4																		18													
120	Godda	Godda	Thakurnahan	SC & PI	13		19	18									11	10		9																													
121	Godda	Godda	Charghara	SC & PI	13		21	19												10																													
122	Gumla	Bishunpur	Salgi	CA	95	89		75			55				85																																		
123	Gumla	Gumla	Charkatangar	CA	28		85	32		75	62				41	70		45																															
124	Gumla	Gumla	Gindra	CA			80	65							48	61																																	
125	Gumla	Vishunpun	Jehangutuwa	CA			15		8			40			8	10			8	10				13																									
126	Gumla	Gumla	Banai	CA			45	42													39																												
127	Gumla	Bishunpur	Rehe	RDF							28																																						
128	Gumla	Bishunpur	Chatmdag	RDF	13	12	15		16	15					12	15		16											13											18									
129	Gumla	Kurumgarh	Tati	CA	3		60	28							3																																		
130	Gumla	Kurumgarh	Nawadih Kataitoli	CA	27		32	45				12	24		70		45												45																				
131	Hazaribagh East	Daru	Kesura	CA	11		13	13		6	13	9		7	10			7	8	9	6																												
132	Hazaribagh East	Daru	Chiruwar/Irga	CA	11		13	10				9			10			8					11																										
133	Hazaribagh East	Bagodar	Pandra-Sadaro	CA	10	9	14	13		7	8		10					10			13																												
134	Hazaribagh East	Bagodar	Sonturpi	RDF	10	11	13	12			7		8			10		9			10		9																										
135	Hazaribagh East	Bagodar	Ambadih	RDF	10	9	14	13		7	8		10					10			13																												
136	Hazaribagh west	Barhi	Maskedih	RDF	48		60	55		26	36	39			47	44	44	28																															
137	Hazaribagh west	Barhi	Barion	RDF	32		47	24		24	29	36			26	38	22																																
138	Hazaribagh west	Barhi	Digwar	SC	12		16	12		8	9	10			12	10	9																																

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semul	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal			
142	Hazaribagh west	Barhi	Kedarut	SC	10		10	13			10	6			8		7	6																													
143	Hazaribagh west	Barhi	Ghiyahi to Kedarut	Linear	8							6	7					5			7		6							7			8											8			
144	Hazaribagh west	Barhi	Nagarbarsot II	SC	9	6	10	8	5	5	9		5					6		5	5									8																	
145	Hazaribagh west	Chouparan	Sohra	RDF	8		14	10				8			6				10											6						6											
146	Hazaribagh west	Chouparan	Madhogopali	RDF	10		10	8				7			7				7																		7										
147	Hazaribagh west	Chouparan	Gangahar	RDF	51	52	60	48		16																																		22			
148	Hazaribagh west	Hazaribagh Afforestation	Karma Kewal	RDF	3		4	3			4				3				3									3																			
149	Hazaribagh west	Barkagaon	Ghutu	SC	10		28	11		12	14		13	15	35	10		12																													
150	Hazaribagh west	Barkagaon	Gosaibaliya	RDF	20		80	19		16		12	16		96		14	11																													
151	Hazaribagh west	Barkagaon	Talaswar	RDF	18		60	15		11	12				45	10	20	8																													
152	Hazaribagh west	Hazaribagh	Pabra	RDF	42		70	40			25	12			60		35	55																										38			
153	Hazaribagh west	Hazaribagh	Perheriya	RDF	28		45	40			22				20																																
154	Hazaribagh west	Hazaribagh	Haram	IWMP	18							11									20										12												8				
155	Hazaribagh west	Hazaribagh	Bes	IWMP	7							4									7			4					5	6																	
156	Hazaribagh west	Hazaribagh	Marhand	IWMP	20							6									15			6						8	18													10			
157	Hazaribagh west	Hazaribagh	Khapriyawa to Khapriyawa	Linear									12		8			8					14																					10			
158	Hazaribagh west	Hazaribagh	Bind to Kathautiya	Linear									9		11			11			10		12	10						12													12	14			
159	Hazaribagh west	Hazaribagh	Marigada	RDF			20	18				8			10	13			11												7																
160	Hazaribagh,Forest Guard Training School	Training School, Hazaribag	Kani Mundawar	Arboratum							28																																				
161	Hazaribagh,Forest Guard Training School	Training School, Hazaribag	Kani Mundawar	Bambo Setum	22						15				20													20																			
162	Hazaribagh, Social Forestry	Sadar	Kanchanpur	NPV	27	32	110	36		34	33				45		42		42																												
163	Jamshedpur	Chaukulia	Manikabera, Chhira, Ghosda	Bamboo							16																																				



Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Janun	Semal	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samuwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarn	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal				
164	Jamshedpur	Chaukulia	Dhukundi, Karaiya, Nayawasan	Plantation	19	18	22	21		14				21			17					16																										
165	Jamshedpur	Chaukulia	Kadamdiha	Plantation		15	17	18							10		12					9																										
166	Jamshedpur	Chaukulia	Kadamdiha, Jamirdiha, Dharampur, Pochakhali	Linear			22	20														16																										
167	Jamshedpur	Chaukulia	Bihinda, Mahulishol	Linear			16															15																										
168	Jamshedpur	Rakhamines	Durku	Linear	13	14	18	16				11						12																														
169	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part A)	Plantation	8	5	11	8		5					5		5					10																										
170	Jamshedpur	Chaukulia	Kalapathar, Lodhasholi, Kulwadiya (Part B)	Plantation	10	6	10					6					7					8																										
171	Jamshedpur	Musabani	Paharpur, Churiapahar, Mudakati	Bamboo	30		38	36	18	24	45	24									18	30	36							24	45																	
172	Jamshedpur	Musabani	Gudabanda	Bamboo							25																																					
173	Jamshedpur	Musabani	Gudabanda	Linear	12	10	17	15				12			10		10					13	16	12								14																
174	Jamshedpur	Ghatsila	Anidi	Plantation			10	11	6			8		12							12	11																										
175	Jamshedpur	Ghatsila	Borajuri, Sorodohan	Plantation		57	127				48											80			64												89											
176	Jamshedpur	Ghatsila	Kalapathar (Part A)	Plantation	8	10	22		6					12								12								14																10		
177	Jamshedpur	Ghatsila	Narsinghpur	Plantation	26	54	96	80			26	32			111		29	32			45	29																										
178	Jamtara	Narayanpur	Yaududih	CA (SCA)	21	22	29					16			18		13																						18	22								
179	Jamtara	Jamtara	Sunsundabra	CA (SCA)			50	56							44	33	13																															
180	Jamtara	Jamtara	Lakhanpur	Linear								11					25	12			25					17	22																					
181	Jamtara	Jamtara	Murgabani	Linear	20	20	24	21				22			26												22	24																				
182	Khunti	Khunti	Oskeya	CA		25			24			26	25		45	35								24													22											
183	Khunti	Bundu	Taimara	CA	12	11						12			15	16	11	13												13														13				
184	Khunti	Tamar AFF Range, Bundu	Nuridih	CA	35	34		42							40	45	32																															
185	Khunti	Tamar	Barendra	CA		37	45		32			32			43	42	33							30																								
186	Koderma	Koderma	Nawadih to Koderma	CA				11							22	35																																

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semul	Shisham	Gambhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Im li	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal			
187	Koderma	Domchanch	Sijuha	CA	19							12	16		11		14	14													23											9					
188	Koderma	Domchanch	Sijuwa to Purnadeeh	CA	10	12						15	15		12		8	10																										15			
189	Latehar	Balumath	Soparam	CA (SCA)	30		32	30							22																																
190	Latehar	Chandwa	Rud	CA (SCA)	28		32								32			22																													
191	Latehar	Chandwa	Hesala	CA (SCA)	34			42		32	30				42		20	10																													
192	Latehar	Balumath	Mailam	CA (SCA)	35		42	40		13	32				33				42																												
193	Latehar	Latehar	Sohdag	CA (SCA)	37		40	32							38		23																														
194	Latehar	Latehar	Jaram	CA (SCA)	11	8	19	6	6	5					24		9																														
195	Latehar	Manika	Doki	CA (SCA)	10	10	9	8		12	11				8																																
196	Latehar	Manika	Bakoriya (M)	CA (SCA)				75		85					93				78																												
197	Lohardaga	Lohardaga	Nini	CA	25		85	50				40				55			35																												
198	Lohardaga	Lohardaga	Hisri	RDF	52		65	60							57	60			39																												
199	Lohardaga	Lohardaga	Ugra	RDF	18		20	13			12								8																												
200	Lohardaga	Banari	Ghaghra	RDF	39		90	75				60			50		45	90																													
201	Medininagar	Chatarpur East	Kuhkuh Khurd	Kshatipur ak Vanropan	28		43	50		28				28	33																																
202	Medininagar	Kundari	Bhawardah	Kshatipur ak Vanropan	39			6				16	18	23	38																																
203	Medininagar	Kundari	Navagarh	Kshatipur ak Vanropan	16		30	40		15				55	28	52	19		15																												
204	Pakur	Hiranpur	Dhangarha	CA	35		31	19				25																																			
205	Porahat	Kera	Chandpur, Bondih, Barkani	CA (SCA)		30		58								60	42	37											51		48																
206	Porahat	Kera	Unchibita	RDF		28		35									30		28			25																									
207	Porahat	Kera	Bangrasai (Parsa Bahal)	CA (SCA)		30																																									
208	Ramgarh	Gola	Kujukalan	SC	18		19	14	7		14			16	14		9	10								7		8																			
209	Ramgarh	Patratu	Ghutuwa se Manmohna	Linear	28									18		17	18				12										22													24			
210	Ramgarh	Patratu	Deoria	SC			35	48			34				41			44	40				40																								
211	Ramgarh	Kuju	Ratwe	SC		11	31	29			19				8																																
212	Ramgarh	Kuju	Orla	SC			28	26		24																																					

Sl.N o	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamlar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofam	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepul	Residiyana	Kachnar	Kadam	Gulmohar	Sal				
213	Ramgarh	Ramgarh	Tewardag	SC		18	21	23			19	18		9	17	12			20																													
214	Ramgarh	Mandu	Govindpur	SC		39	28	24		39	30				21	20			48																													
215	Ramgarh	Mandu	Padrangi	SC	45		55	38		32			34						43																													
216	Ranchi	Kanke	Hehal Hill	Plantatio n			28	28				19											14																									
217	Ranchi	Kanke	Uruguttu	CA	38	35	42	42			40			19	42	40			25		20																		20	20								
218	Ranchi	Kanke	Bariyatu Hill	Plantatio n		55		43			45	45	16										41																									
219	Ranchi	Mander	Bariyatu Booty Water Tank Hill	Plantatio n				32			18				43		33														32					28												
220	Ranchi	Mander	Tumang	CA			7	10																																								
221	Ranchi	Bero	Lawagai	RDF		6	30	9			9			24	12																																	
222	Ranchi	Ranchi	Danekara	RDF		9	12	32			9			12	12	12			30		28																											
223	Ranchi	Ranchi	Bargai Firing Range Hill	Plantatio n		56	25				60	24			60						60											18																
224	Ranchi	Mahilong	Paharsingh	CA	74	68	86																																									
225	Ranchi	Mahilong	Nawagarh	CA	68		53	57																					28																			
226	Ranchi, Social Forestry	Lohardaga	Jhaljhamira	CA			212	242		32		28			108																																	
227	Ranchi, Training School		Village-Kawali	NPV					20			14			22			12						22							45																	40
228	Ranchi, Training School		Village-Mahilong	NPV								10	12	22			12		10			50																										
229	Sahibganj	Barharwa	Bada Togra	RDF	16	14			19														18																									
230	Sahibganj	Barharwa	Demchak Pahar	RDF	8		11	17				9		10	13				7																													
231	Sahibganj	Barharwa	Chota Tegra	RDF	16	16		15															18																									
232	Seraikella	Seraikella	Bada Hariharpur	Plantatio n	13	12	8	17				10	8					12					7																								9	
233	Seraikella	Chandil	Shaharbera	Plantatio n	23		46	22			35												20	12																								
234	Seraikella	Chandil	Chunidihi	Bamboo							40																																					
235	Seraikella	Chandil	Puriyara	Plantatio n		25	22	24							24						25	6																										
236	Seraikella	Seraikella	Sahebganj	Plantatio n	12		18	12								18		12				12															12											
237	Seraikella	Kharsawan	Tilopada	Plantatio n		40																																										
238	Seraikella	Kharsawan	Silpingda	Plantatio n	8	8	10	8		8									8							10																						
239	Seraikella	Kharsawan	Silpingda	Plantatio n	55	48												28																														

Sl.No	Division	Name of Range	Name of Site	Scheme	Sagwan	Kat Sagwan	Acacia	Chakundi	Mango	Khair	Bamboo	Karanj	Jamun	Semal	Shisham	Gamhar	Amla	Arjun	Bakain	Ber	Chatwan	Cashew	Neem	Kathal	Samruwa	Sarifa	Bel	Guava	Babool	Mahogani	Peltofarm	Guluka	Mahuwa	Chilbil	Bahera	Imli	Shirash	Bargad	Peepal	Residiyana	Kachnar	Kadam	Gulmohar	Sal				
240	Seraikella	Kharsawan	Kasidih	Plantation	64		62																																									
241	Seraikella	Kharsawan	Haribhanja	Plantation			89																																									
242	Simdega	Kolebira	Jaldega to Gangutoli	Bamboo Gabion	18				18						21								19	20						19																		
243	Simdega	Kolebira	Dadibera to Jampani	Bamboo Gabion					19						23								18	22						18													19					
244	Simdega	Kolebira	Dharamshala to Jampani	Bamboo Gabion	16				17						25								17	20																								
245	Simdega	Kolebira	Kamlapani to Gangutoli	Bamboo Gabion	16				18						23									23						24													16					
246	Simdega	Bolba	Sagalpoch to Bolba	Bamboo Gabion	45										35	37					29			36						18												36	79					
247	Simdega	Bolba	Kundurmunda	CA	45	12	48														12																											
248	Simdega	Simdega	Tamra to Kuruskela	Gabion	28								30		29			36			28			22					28																			
249	Simdega	Simdega	Bindhantoli	RDF							8																																					
250	Simdega	Kolebira	Parba	CA	28		50	30						55	14				20																											22		
251	Simdega	Kolebira	Saraipani	RDF	8		14	14						10	26		13					32																										
252	Simdega	Simdega	Sarlonga	CA	40		90	55	42				30		60	52	30					45							22																			
253	Simdega	Bano	Orga to Dumarmunda	Gabion					56						48			38	56				52	48					52																	48		
254	Simdega	Bano	Girda	Gabion					42				42	46	46								52	50					48	46																		
255	Simdega	Bano	Hurda to Girda	Gabion					44			32					38	48	46				38	46					48	50																		
256	Simdega, Social Forestry	Gumla	Sargaon	CA	82									118	82	114	56		203																		42											
257	Simdega, Social Forestry	Kolebira	Saraipani	CA			58								28					38	18		32																									



"A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people."

— Franklin D. Roosevelt

"The sacred place of silent minds and deep souls is the depths of the forest!"

— Mehment Murat ildan



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