

Himachal Pradesh Forest Department

**Instructions Manual for Monitoring and
Evaluation of Plantations and Other Field Works**

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*“Intent and Goal of plantations raised by the State Forest
Department is to enhance green cover in the state
and not merely to undertake plantations”*



Instructions Manual *for* Monitoring & Evaluation *of* Plantations and Other Field Works





*Our
Moto
Green
Himachal*



*“The best time to plant a tree is twenty years ago.
The second best time is now.”*

-Anonymous

FOREWORD

Monitoring and Evaluation is an integral part of any program, project or scheme that helps in keeping constant vigil on the efficacy of implementation process towards achieving the planned outcomes and goals. Monitoring and Evaluation also aims to provide inputs for carrying out mid-term corrections and in improving the planning process.

The Himachal Pradesh Forest Department, entrusted with the management of forests and forest land covering about two third of the geographical areas of the state, undertakes a wide range of activities to protect the forest resources, increase the forest cover in the state and improve the status of existing forests towards enhancing ecosystem services from the forests. Needless to say, significant amount of public money is spent on these activities every year. It is, therefore, imperative to monitor the works during and after their execution to evaluate the completeness and quality of the works and their impact.

The department has, from time to time, issued various instructions and technical orders to prescribe mandatory inspection protocols for field officers. Scattered across decades many of these instructions and orders seem to have got lost in the files. This 'Instructions Manual for Monitoring and Evaluation of Plantations and Other Field Works' approved vide Technical Standing Order No 01/2018 dated 24 March 2018 (Annexure-X) attempts to collate the various instructions and orders on the subject with the aim to firmly integrate in the forest working a robust mechanism for monitoring and evaluation to improve the current and the future management outputs, outcomes and impact of various works carried out by the department. The 'Instructions Manual' also puts in place a three-tier monitoring and evaluation mechanism, with the third-tier monitoring and evaluation to be carried out by independent evaluators of established credentials towards establishing credibility and objectivity of monitoring and evaluation exercise.

The Instructions Manual, in respect of Mandatory Field Inspections, is based



on the PCCF HP's Standing Order No. 1/1992-93 dated 11.03.1993, PCCF HP's Technical Standing Order No.1/93-94 dated 05.03.1994 on Mandatory Field Inspections, revised and updated vide PCCF's No. Ft.(Pro.)/ dated 14.01.2004, PCCF's No. Ft. 112-2/71(S)(B) dated 17.07.2004, PCCF (HoFF) HP's letter no. APCCF (M&E) dated 02.12.2014, PCCF (HoFF) HP's letter No. APCCF (M&E) MFI/2015 Main File Vol.-II dated 19.09.2015, PCCF (HoFF) HP's letter No. APCCF (M&E) MFI/2015 dated 14.12.2015 and PCCF (HoFF) HP's letter no. APCCF (M&E) MFI/2015 Main File Vol.II dated 01.04.2017.

Similarly, in respect of Mandatory Field Touring by the field officers, this Instructions Manual is based on the PCCF, HP's letter No. Ft. 3-17/66 (PA) dated 04.05.1194, FC-cum-Secretary (Fts)'s No. Fts.-I (B) (15)-20/87-II dated 25.04.2001, and PCCF HP's No. FT.3-17/66(PA)-II dated 15.02.2007.

I would like to place on record my appreciation for Sh. K. S. Thakur, IFS, Chief Conservator of Forests (Monitoring & Evaluation) and Sh. Kehar Singh Thakur, Superintendent Gr-II, for their painstaking effort in compiling the previous instructions on the subject in the form of this comprehensive instructions manual. I would also like to thank my other senior colleagues for helping in fine-tuning the document. The instructions contained in this manual shall be over-riding on all previous instructions related to (a) mandatory field inspections, and (b) mandatory field tour protocols.

I hope that this 'Instructions Manual for Monitoring and Evaluation of Plantations and Other Field Works' would be followed in letter and spirit by the forest officers of all rank, and shall result in improved monitoring of the various technical and developmental works carried out by the department.

(Dr. G. S. Goraya) IFS
Principal Chief Conservator of Forests (HoFF)

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1. Introduction

Himachal Pradesh Forest Department (HPFD) is entrusted with responsibility to manage the forests and the forest land spread over about two third of the geographical area of the state. The forest resources of the state perform a crucial role in the day-to-day lives of the local communities in the form of providers of a variety of provisions of significant socio-economic values. These forests also perform equally important ecological function that includes soil conservation, recharge of aquifers, conservation of biodiversity; and environmental ameliorative function to offset the impact of climate change. The forest cover in the state, as per the Forest Survey of India's biennial State of Forest Report for the year 2017, stands at 27.1% of the total geographical area of the state. The state has taken upon itself the challenge of enhancing this forest cover to 30% by 2030 as part of its commitment to the Sustainable Development Goals! It is a big challenge as the demands on forests and forest land in the state are increasing by the day due to increase in the human and the livestock population, and the developmental pressures.

The State Forest Department, to mitigate the various adverse impacts on the forests and to improve the forest resources in the state for better eco-system services, has been engaged in undertaking diverse ameliorative and developmental activities in the forests and on forest land. The major field activities include plantation to improve the existing forests and to bring hitherto open wastelands under tree cover; managing a network of nurseries for production of quality planting stock; soil and moisture conservation works; managing ingress of alien invasive plant species; silvicultural operations towards scientific management of forests, etc. In addition, the department also undertakes various types of civil works in the form of construction of buildings, roads, paths and bridges. Good time is spent in planning the various forestry operations and good amount of public money is incurred on the execution of these planned forestry operations.

In view of the ecological, environmental and economic role of the forests and the type of investments being made to improve the quality of forests, it becomes imperative that a close watch is kept on the integrity of the forest land, the health & status of forests, and the implementation of the various forestry operations to ensure optimum outcomes of our efforts. The Himachal Pradesh Forest Department has been live to the need for monitoring and evaluation of the various forestry activities and various instructions on the subject have been issued from time to time.

However, with principles of forest management having undergone a quantum change over the years, the scope of forestry activities has also diversified. A need has, therefore, been felt to compile the various instructions and revise/update these in view of the changing demands on forestry. This manual is a step towards meeting this need.

2. Monitoring and Evaluation (M&E)

The State Forest Department, in its endeavor to increase the forest cover in the state and to improve the quality of forests for continuous flow of eco-system services, undertakes a variety of forestry activities across the state through its field units. Presently, there are 13 Forest Circles (10 Territorial, and 3 Wildlife) and 45 Forest Divisions (38 Territorial, and 7 Wildlife). For quality outputs, it is necessary that these various activities are carried out in accordance with uniform guidelines and Standard Operating Systems. Implementation of these activities towards achievement of intended outcomes and goals, therefore, need to be monitored from time to time and evaluated, to carry out mid-term corrections, if any, required to ensure high quality outputs.

Monitoring and Evaluation is, therefore, an integral process of any program and can be understood as below:

2.1. Monitoring

Monitoring can be defined as the ongoing process by which regular feedback on the progress towards achieving planned goals is gathered through structured review of the various activities. It is, therefore, a mechanism to measure progress towards achieving outcomes and long term goals rather than to merely assess the implementation of activities. Thus, the intended outcome and goal of plantations by the State Forest Department is to enhance green cover in the state and not merely to undertake plantations. Similarly, construction of check dams is not the objective; rather it is an activity towards enhanced soil and moisture conservation. Understanding and appreciation of the real objectives of monitoring is, thus, very important.

Monitoring, therefore, needs to bring out the some key questions and attempt to find answers towards achievement of intended goals, enhancing accountability and learning. Some of these key questions are:

- Whether the planned outputs were being achieved effectively and efficiently?
- Whether there were any current or foreseen issues, risks and challenges hindering the achievement of set outcomes and need to be addressed towards achievement of goals?
- Whether any change in the strategy was needed in view of availability of new technology/ learning having potential to improve execution of planned works?

Monitoring is, thus, not merely a management or reporting requirement; it is an integral part of program and project management.

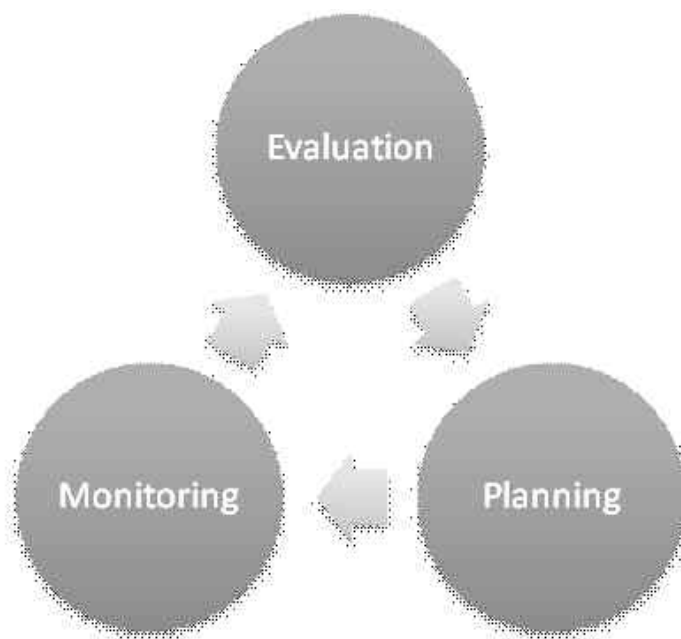


2.2. Evaluation

Evaluation is a rigorous and independent assessment of both the completed and the ongoing activities to determine the effectiveness of these activities in achieving intended objectives and goals. Evaluation draws heavily from monitoring and like monitoring, is also an integral part of program management and a critical management tool. Evaluation complements monitoring by providing an independent and in-depth assessment of what worked and what did not work, and why this was the case. The benefits of using evaluation are multiple. A quality evaluation provides feedback that can be used to improve planning, policy and strategy. Evaluation also identifies unintended results and consequences of development initiatives, which may not be obvious in regular monitoring as the latter focuses on the implementation of the development plan. Information generated from evaluation contributes to organizational learning as well as the global knowledge base on development effectiveness. Thus, whereas monitoring will bring out real-time information about the quality and completeness of plantations, the evaluation will bring out the extent to which such plantations have contributed to the enhancement of forest cover - the key objective of such plantations.

2.3. Monitoring and Evaluation- Working Framework

As brought out above, monitoring and evaluation carried out at regular predetermined intervals helps in extracting relevant information from past and ongoing activities, in



understanding whether the intended results were being achieved as planned, and what corrective action might be needed to ensure delivery of the intended results. Monitoring and Evaluation, thus, helps in fine-tuning of projects / schemes, their reorientation and future planning. Effectively planned and executed, monitoring and evaluation guides the projects/ schemes towards 'result based management', along with greater ownership by

The provision for systematic and rigorous monitoring and evaluation, therefore, needs to be incorporated at the time of planning the projects/ schemes with a clear framework specifying -

- What is to be monitored and evaluated?
- Who is responsible for monitoring and evaluation?
- When monitoring and evaluation activities are planned (timing)?
- How monitoring and evaluation is to be carried out (methods)?
- What resources are required?

The goal of putting in place a robust mechanism for monitoring and evaluation is to improve current and future management outputs, outcomes and impact. It is also necessary to establish credibility and objectivity of monitoring and evaluation by involving independent evaluators of established credentials.

It needs to be appreciated that monitoring and evaluation is NOT a fault-finding exercise. It rather aims to Motivate and Encourage the implementing officials in better execution of projects/ schemes.

3. Monitoring and Evaluation Strategy of the State Forest Department

Even as various instructions and standing technical orders in respect of mandatory field inspections by field functionaries have been issued from time to time, institutional ingraining of monitoring and evaluation in the working of the State Forest Department has not happened. Monitoring and evaluation continues to be seen at field functionary level as an additional activity, which is to be somehow undertaken and reported. The Department has also not been able to put in place a consistent monitoring and evaluation mechanism and desired level of infrastructure for the purpose.



This manual lays down foundation for integrating in the forest working a robust mechanism for monitoring and evaluation with a view to improve current and future management outputs, outcomes and impact of various responsibilities and activities carried or by the department. It also provides for involvement of independent evaluators of established credentials towards establishing credibility and objectivity of monitoring and evaluation exercise. A three-tier monitoring system is, therefore, put in place as detailed below:

3.1. FIRST-TIER MONITORING

First-tier monitoring involves in-house checking of forests as to their integrity and to review the completeness and quality of various forestry works by various levels of field officers. This first-tier monitoring is to be carried out with the objective to review whether the works are leading to the intended outcomes and meeting the larger goals. The results of this monitoring, therefore, must lead to comprehensive evaluation of the works/observations for eventual improvement in the implementation mechanisms. The first-tier monitoring shall be carried out by various levels of field officers for which the following regimen of **Mandatory Field Inspections** is laid down:

3.1.1. General Checking of Forests

Nature has bestowed the state with vast tracts of a variety of forests spreading over about two third geographical area of the state. Checking of this vast forest resource towards maintaining its integrity and constant improvement is the prime responsibility of the department. It has, however, been noticed that inspections of pristine high forests have become fewer and far apart. It has resulted in many cases of encroachments, soil breaking, illicit felling, and unauthorized removal of NTFPs remaining unreported for long, only to crop up later putting the department to avoidable embarrassment. Deep concern about the issue was earlier also raised by the PCCF, HP in his letter no. Ft.3-17/66 (PA)-II dated 15 February 2007.

The forest officials at all levels need to rise to their professional best and ensure that the integrity of the state's forests is maintained for continuous flow of ecosystem services, and for mitigating the challenges related to climate change. The Mandatory Field Inspection regimen fixed for the purpose shall be as under:

Field Official	Prescribed Mandatory Check	Remarks
a. Boundaries of RFs/ DPFs		
CF/CCF (T&WL)	At least one Compartment/ Month	<ul style="list-style-type: none">• The compartments taken up for checking of boundaries shall be different for different levels of field officials.• Forest boundaries shall be checked with the Boundary Pillar Register/ Topographic Sheets/ Revenue Record.• GPS coordinates at the boundary pillar locations shall be recorded. (The Lat/ Long may be provided to GIS Lab along with the name of the compartment so that it could be validated with the already digitized boundaries of the forests)• The check must result in certifying that all boundary pillars are in place and in good condition. Cognizance of any shortcoming will be taken and addressed immediately.
DFO (T&WL)	At least one Compartment/ Month	
ACF o/o DFO (T&WL)	At least one Compartment/ Month	
Range Officer	At least one Compartment/ Month	
Block Officer	At least one Compartment/ Month	
b. Status of Forest Cover/ Regeneration/ Exotic Weeds/ Disease & Insect attack		
CF/CCF (T&WL)	At least one Compartment/ Month	<ul style="list-style-type: none">• Thorough inspection of compartment and record observations on the status of forest cover, under-storey, litter, humus, regeneration of main species, and incidence of exotic weeds (to be recorded species-wise in percentage categories, i.e. upto 25%; 26-50%; 51-75%>75%).• Incidence of disease & insect pests affecting tree species with estimated spread.• The compartment selected for boundary check can be taken up for this purpose also.
DFO (T&WL)	At least one Compartment/ Month	
ACF o/o DFO (T&WL)	At least one Compartment/ Month	
Range Officer	At least one Compartment/ Month	
Block Officer	At least one Compartment/ Month	



c. Checking of Forest Offences		
CF/CCF (T&WL)	At least one Compartment/ Month	<ul style="list-style-type: none"> • Thorough checking of compartment and recording of observations on the incidence of any forest offence. • Take cognizance of any forest offence instance (viz. illicit felling, collection of NTFPs outside prescribed collection cycle, breaking of soil, encroachment, poaching). • The compartment selected for boundary check can be taken up for this purpose
DFO (T&WL)	At least one Compartment/ Month	
ACF o/o DFO (T&WL)	At least one Compartment/ Month	
Range Officer	At least one Compartment/ Month	
Block Officer	At least one Compartment/ Month	

d. Checking of Timber Distribution		
CF/CCF (T&WL)	2% of number of trees marked during the year	<ul style="list-style-type: none"> • Check whether trees have been marked in accordance with the approved TD Policy/ Rules. • Check on random basis whether the TD sanctioned over the past 3 years has been used for the purpose for which sanction was accorded.
DFO (T&WL)	5% of number of trees marked during the year	
ACF o/o DFO (T&WL)	10% of number of trees marked during the year	
Range Officer	25% of number of trees marked during the year	

Notes:

- The inspecting officers may carry out inspection in respect of all the above subjects (3.1.1 a to d) in one compartment selected for inspection during the month.
- The compartments selected for such inspections over the year should be spread evenly in all Divisions/ Ranges/ Blocks/ Beats under the respective jurisdiction.
- Inspecting Officers to ensure that documents/ records viz. Working Plan, Compartment History File, Boundary Pillar Register, concerned Topographic Sheets, Timber Distribution Register, and instruments for checking boundary pillars are carried by the concerned staff during the monitoring.
- Format for recording observations/data given as **Annexure-III**.

3.1.2. Inspection of Forest Working Operations

The forests need to be regularly visited to assess their status and to monitor various on-going operations. The following mandatory field inspection protocol shall be followed for these inspections:

Field Official	Prescribed Mandatory Check	Remarks
a. Checking of PB Areas/ Status of Forests under Protection Working Circles		
CF/CCF (T&WL)	2% of areas under working	• Checking of forest working operations, including marking under prescribed silvicultural system, regeneration felling, conversion process, clearance of debris/ weeds, regeneration/ coppice establishment.
DFO (T&WL)	5% of areas under working	
ACF o/o DFO (T&WL)	10% of areas under working	
Range Officer	100% of areas under working	• Checking health of forests in protection working circle. • Checking health of forests where prescribed silvicultural operations have not been taken up.
b. Checking of Timber/ Fuelwood Lots		
CF/CCF (T&WL)	2% of the number of lots	• Inspections to be carried out (a) before handing over lots to HPSFDC to check appropriateness of marking, and to check hammer marking signs/ khudan and matching the same with marking lists, (b) after handing over to HPSFDC to check whether tree felling is in accordance with the marking lists, and to check any damage during felling.
DFO (T&WL)	10% of the number of lots	
ACF o/o DFO (T&WL)	15% of the number of lots	
Range Officer	25% of the number of lots	
c. Inspection of Resin lots		
CF/CCF (T&WL)	1% of the number of trees enumerated	• Inspections to be carried out (a) at the time of crop setting to check appropriateness of tree selection, (b) during tapping process to check whether tapping protocol is being followed or not. • Complete section, and NOT individual trees, shall be the unit of random inspections of resin lots and each such section must be checked thoroughly.
DFO (T&WL)	5% of the number of trees enumerated	
ACF o/o DFO (T&WL)	10% of the number of trees enumerated	
Range Officer	15% of the number of trees enumerated	



d. Inspection of Lantana Eradication Works		
CF/CCF (T&WL)	2% of area treated	<ul style="list-style-type: none">• Check w.r.t implementation of prescribed method of Lantana eradication i.e. Cut Root Stock (CRS) method and use of correct tools.• The areas taken up for monitoring by CFs/ DFOs shall not be the same.• Check w.r.t. damage to any native shrub/ tree regeneration.• Assess impact of work in areas taken up for intervention in previous years.• Protocol for Lantana eradication is given in <u>Annexure-II</u>.
DFO (T&WL)	5% of area treated	
ACF o/o DFO (T&WL)	10% of area treated	
Range Officer	15% of area treated	
e. Inspection of Fire Lines & Control Burning		
CF/CCF (T&WL)	2% of length of fire lines	<ul style="list-style-type: none">• Check that fire lines are cleared before fire season.• Check that prescribed (control) burning has been carried out.• Check that fire prevention and control mechanisms are in place before fire season.
DFO (T&WL)	5% of length of fire lines	
ACF o/o DFO (T&WL)	10% of length of fire lines	
Range Officer	25% of length of fire lines	

Notes:

- The time- line for the mandatory inspections laid down under 3.1.2 shall be one year.
- The Inspecting Officers to ensure that documents/ records viz. Compartment History File, Boundary Pillar Register, concerned Topographic Sheets, Timber Distribution Register and instruments for checking boundary pillars are carried by the concerned staff during the monitoring.
- Format for recording observations/data is given as **Annexure-IV** .

3.1.3. Checking of Forest Plantations

The Forest Department takes up plantations over an average area of 10,000 ha every year under various schemes/ projects towards enhancement and improvement of forest cover. Successful establishment of these plantations to achieve the objective of enhancing the forest cover and improving the density of existing forest cover is the objective of these plantations. Therefore, the objective of monitoring would not merely be to assess survival percentage, rather monitoring would need to assess chances of establishment of the plantation in view of choice of species vs. site, quality of planting stock used, and level of protection accorded to the plantation.

Field Official	Prescribed Mandatory Check	Remarks
a. First Year Plantations (Random Sampling)		
CF/CCF (T&WL)	10% of the new plantations in each Division subject to minimum 50 Ha for Circle	<ul style="list-style-type: none">• The areas for monitoring shall be randomly selected.• Information shall be recorded species-wise.• The areas taken up for monitoring by CFs/ DFOs shall not be the same.• Random Sampling design given as <i>Annexure-I</i>.• Format for recording observations/ data given as <i>Annexure-V</i>.
DFO (T&WL)	25% of the new plantations in each Range subject to minimum 50 Ha for Division	
ACF o/o DFO (T&WL)	50% of the new plantations in each Range	
Range Officer	100%	
Block Officer	100%	
b. First Year Plantations (100% Physical Verification)		
CF/CCF (T&WL)	5% of the new plantations in each Division subject to minimum 25 Ha for Circle	<ul style="list-style-type: none">• The areas for monitoring shall be selected on random sampling design and shall ideally be different from those taken up for random sampling.• Information shall be recorded species-wise.• The areas taken up for monitoring by CFs/ DFOs shall not be the same.• Format for recording observations/ data given as <i>Annexure-V</i>.
DFO (T&WL)	15% of the new plantations in each Range subject to minimum 25 Ha for the Division	
ACF o/o DFO (T&WL)	15% of the new plantations in each Range subject to minimum 50 Ha for the Division	
Range Officer	50% of the new plantations in each Block	
Block Officer	100%	



c. Old Plantations (Random Sampling of 2nd & 3rd year old Plantations)		
CF/CCF (T&WL)	2% of 2 & 3 years old plantations in each Division	<ul style="list-style-type: none"> • Areas to be selected through random sampling method and should be evenly spread across the Divisions/Ranges/Blocks. • The areas taken up for monitoring by CFs/ DFOs shall not be the same. • Format for recording observations/ data given as <i>Annexure-V</i>. • Separate procedure for checking of 4 year and 7 year old plantations has been laid vide section 3.1.4 below.
DFO (T&WL)	10% of 2 & 3 years old plantations in each Range	
ACF o/o DFO (T&WL)	10% of 2 & 3 years old plantations in each Range	
Range Officer	100%	
Block Officer	100%	

Notes:

- The time- line for the mandatory inspections laid down under 3.1.2 shall be one year.
- The Inspecting Officers to ensure that updated Plantation Journals are made available to them during monitoring of plantations.
- The Inspecting Officers, in respect of old plantations, to check whether the species composition matches with the one used at the time of plantation. Change, if any, needs to be brought out in respect of (a) reasons for change, and (b) who authorized the change.
- The reporting would be separate for monsoon and winter plantations in respect of new plantations. The report of monsoon planting is to be submitted by 31st December and for winter planting by 31st May in the following year.

3.1.4. Confirmation of Plantation Establishment

As emphasized above, the objective of carrying out plantations is to (a) enhance forest cover through afforestation, and (b) to improve density of forest cover in existing forests through enrichment plantations. It means that every plantation must establish at the earliest. The department, to ensure fully stocked plantations, has been undertaking casualty replacement and maintenance of the plantations for period varying from 3-5 years. However, formal mechanism to report establishment status of plantations beyond this maintenance period was introduced only recently vide PCCF (HoFF)'s Office Order No. 93/2017 dated 30 May 2017. It is crucial to know the status of these plantations beyond maintenance period to make use of the learning from its success or failure in future planning. It is also important from the public scrutiny point of view. There is also need to notify successfully established plantations.

The following two committees are constituted to assess the status of plantations beyond maintenance period and to confirm their establishment status:

A. Divisional Level Committee

1. Divisional Forest Officer	Chairman
2. Assistant Conservator of Forests	Member
3. Concerned Range Forest Officer	Member

The functions of the Divisional Level Committee shall be as under:

- The committee will monitor and evaluate the **Four Year Old Plantations** to ascertain the establishment status and prepare comprehensive report on the basis of field inspection.
- The committee shall, in the report, also mention the type and quantum of maintenance carried out over the years, and the results of the same.
- In case the committee finds that the survival percentage is less than 40%, it will (a) propose specific interventions for quick establishment of the concerned plantation along with budgetary requirement, (b) report reasons for low survival percentage, and (c) report negligence, if any, of the field staff.

B. Circle Level Committee

1. Chief Conservator/ Conservator of Forests	Chairman
2. DFO of concerned Division	Member
3. Assistant Conservator of Forests	Member

The functions of the Circle Level Committee shall be as under:

- The committee will monitor and evaluate the **Seven Year Old Plantations** to assess the establishment status and prepare comprehensive report on the basis of field inspection.
- The committee shall, in the report, also mention the type and quantum of maintenance carried out over the years, and the results of the same.
- Plantations where the survival percentage is more than 40% will be considered as established and recommended to the PCCF (HoFF), HP to be notified as “**Established Plantation**”.



- In case the committee finds that the survival percentage is less than 40%, it will (a) propose specific interventions for quick establishment of the concerned plantation along with budgetary requirement, (b) report reasons for low survival percentage, and (c) report negligence, if any, of the field staff.

The PCCF (HoFF), on the basis of reports submitted by the Division Level and the Circle Level Committees, shall either notify the plantations as established or approve these for course correction.

3.1.5. Inspection of Forest Nurseries: Forest nurseries are the backbone of the plantation program of the department. A good nursery and good nursery stock are a promise to success of plantations and their early establishment. The forest nurseries are, therefore, required to be periodically monitored in terms of qualitative/quantitative parameters laid down in the Department's Nursery Manual. The regime for mandatory inspection of forest nurseries shall be as under:

Field Official	Prescribed Mandatory Check	Remarks
CF/CCF (T&WL)	At least one nursery/ Division/ month	<ul style="list-style-type: none"> • The nurseries shall be visited in rotation and all nurseries shall be inspected at least once every year by the senior officers • Nursery stock position shall be recorded species-wise using both local and botanical names. • Format for recording observations/ data given as <u>Annexure- VI.</u>
DFO (T&WL)	At least one nursery/ Range/ month	
ACF o/o DFO (T&WL)	At least five nurseries in Division/ month	
Range Officer	All nurseries in Range/ month	
Block Officer	All nurseries in Block/ month	

Notes:

- The Inspecting Officers to ensure that updated Nursery Journals are made available to them during monitoring of nurseries.
- The Inspecting Officers to check whether (a) Duly approved Nursery Plan was available, and (b) whether species grown in the nursery matched with the ones proposed in the approved Nursery Plan.
- Change in species selection, if any, needs to be brought out in respect of (a) reasons for change, and (b) who authorized the change.

3.1.6. Inspection of Civil Works

The department, as part of its multifarious job requirements and responsibilities, implements various kinds of civil works. The major civil works include the construction and maintenance of Buildings - both residential and non-residential; construction and maintenance of Roads and Paths; and Soil and Water Conservation Works (Check Dams, Retaining Walls, Water Harvesting Structures). The department has its own Engineering Wing to prepare and approve the structural drawings and estimates of these works with responsibility to inspect these works at various stages of completion. However, the responsibility of execution of these works lies with the forest field staff. As such it becomes incumbent upon them to ensure the completeness and quality of these works. Protocol for inspection of civil works are included in the Mandatory Field Inspection order vide PCCF (HoFF), HP's letter No. APCCF (M&E) dated 19.09.2015.

Field Official	Prescribed Minimum Mandatory Check	Remarks
a. Inspection of Building Works (New & Special Repair)		
CF/CCF (T&WL)	50% of all works with total estimated cost above Rs. 20 lac & 10% of works below Rs. 20 lac	<ul style="list-style-type: none">• Inspections must be carried out during various stages of construction/ special repair.• Check whether the work is as per the approved design, and specifications.• Check the quality of work, including workmanship.
DFO (T&WL)	100% of all works with total estimated cost above Rs. 20 lac & 50% of works below Rs. 20 lac	
ACF o/o DFO (T&WL)	100% of all works	
Range Officer	100% of all works	
b. Inspection of Building Works (Maintenance)		
CF/CCF (T&WL)	10% of works with estimated cost of >Rs. 5 lac & 2% of other works	<ul style="list-style-type: none">• Inspections must be carried out during various stages of maintenance work.• Check the quality of work, including workmanship.
DFO (T&WL)	20% of works with estimated cost of >Rs. 5 lac & 10% of other works	



ACF o/o DFO (T&WL)	20% of works with estimated cost of >Rs. 5 lac & 10% of other works	
Range Officer	100%	
c. Inspection of Road & Paths (New and Maintenance)		
CF/CCF (T&WL)	5% of new work & 2% of maintenance works	<ul style="list-style-type: none">• Inspections may be carried out during various stages of road and path works.• It is expected that different level of supervisory officers will inspect different works to have better coverage of the works.
DFO (T&WL)	20% of new works & 10% of maintenance works	
ACF o/o DFO (T&WL)	50% of new works & 20% of maintenance works	
Range Officer	100%	
d. Inspection of Soil & Water Conservation Works (Check Dams, Check Walls/ Retaining Walls, Water Harvesting Structures)		
CF/CCF (T&WL)	10% of structures with estimated cost of >Rs. 5 lac & 2% of the remaining works	<ul style="list-style-type: none">• 100% checking, if number of such structures is less than 5 in respective jurisdictions.• Check and record appropriateness of location, design, quality and quantum of work.• Check the work register and its completeness.• Small works viz. gully plugs may be checked on random basis.
DFO (T&WL)	50% of structures with estimated cost of >Rs. 5 lac & 10% of the remaining works	
Range Officer	100%	

Notes:

- The time- line for the mandatory inspections laid down under 3.1.6 shall be one year.
- XEN (N) and XEN (S) shall undertake 100% checking of all works executed directly by them and works executed by field officers in their respective jurisdiction with regard to (a) enforcement of technical parameters, and (b) quality of works, in respect of all works with approved estimates of Rs.10 lac and above.

3.1.7. Inspection of LPA Cases and Forest Industries:

The State has many forest based industries and timber depots. Similarly, permissions are granted for removal of trees from private land under LPA. Monitoring of the forest based industries, timber depots and tree felling under LPA is an important activity to ensure that the forest wealth is protected and no unauthorised removals are made from the forests.

Field Official	Prescribed Mandatory Check	Remarks
a. Inspection of Forest Based Industries & Timber Depots		
CF/CCF (T&WL)	2% of all registered units/ depots in each Division	<ul style="list-style-type: none">• Units/ depots shall be selected on random sampling design basis.• Units/ depots selected for checking by CFs/ DFOs/ ACFs shall not be the same.• Checking of registration and records shall be ensured during inspection.
DFO (T&WL)	10% of all registered units/ depots in each Range	
ACF o/o DFO (T&WL)	10% of all registered units/ depots in each Range	
Range Officer	50% of all registered units/ depots in the Range	
Block Officer	100% of all registered units/ depots in the Block	
b. Inspection of Tree Felling under LPA		
CF/CCF (T&WL)	2% of number of cases approved/ in operation in Circle	<ul style="list-style-type: none">• Areas shall be selected on random sampling design basis.• Areas taken up for monitoring by CFs/ DFOs shall not be the same.• Specific checking of demarcation and integrity of adjoining forest areas shall be ensured during inspection in selected areas.
DFO (T&WL)	10% of number of cases approved/ in operation in Division	
ACF o/o DFO (T&WL)	10% of number of cases approved/ in operation in Division	
Range Officer	50% of number of cases approved/ in operation in the Range	
Block Officer	100% of number of cases approved/ in operation in the Block	

Note:

- The time line for the mandatory inspections laid down under 3.1.7 shall be one year.



3.1.8 Miscellaneous Instructions:

- a. The First Tier Monitoring targets as set out above to be fulfilled through Mandatory Inspection are the MINIMUM that the field officials are expected to achieve. Higher qualitative/ quantitative achievement or under-achievement shall find mention in the Annual Appraisal Reports of the officers.
- b. The selection of works for mandatory inspections shall be based on stratified random sampling design, with Ranges and distance from the motorable road taken as different strata to ensure that the works located away from roads are also adequately covered. The random sampling may be drawn/ determined by an officer one step higher in rank in the existing forest hierarchy.
- c. The Inspecting Officers shall work out their mandatory inspection targets for various activities/ works at the beginning of the year and shall ensure to achieve these in uniformly phased manner during the year.
- d. In case an Inspecting Officer gets transferred during the year, he/ she shall suitably inform the successor about the annual Mandatory Field Inspection Targets and status of achievements by including these in the Charge Note.
- e. The Inspecting Officers shall submit copies of the Mandatory Inspection Notes on prescribed formats along with their monthly Tour Diaries to their controlling officers.
- f. To make the exercise more worthwhile and useful, it is emphasized that both the quantitative and qualitative parameters along with concrete recommendations for improvement in field working be included in the inspection reports. It is also desired to include some photographs of the works inspected.
- g. The Inspecting Officers shall prepare quarterly abstracts of the achievements against the targets set and shall submit these abstracts to the APCCF/ CCF (M&E) by 31 July, 31 October, 31 January and 30 April for the quarters ending 30 June, 30 September, 31 December and 31 March respectively.
- h. The quarterly abstracts of mandatory inspections shall be critically reviewed during the course of annual Circle/ Division reviews as and when under taken by the higher authorities.
- i. The aforementioned Mandatory Field Inspection Protocol shall be applicable to all works under the State Plan, CSSs, CAT Plans/CAMPA, and EAPs.
- j. The PDs/CPDs of the EAPs shall be considered equivalent to the CF/ CCF of Forest Circles and shall be obliged to submit their Mandatory Field Inspection reports to APCCF/ CCF (M&E) as per schedule given above. Similarly, the other equivalent staff of EAPs (i.e. equivalent to DFOs/ ACFs/ RFOs) shall carry out

mandatory field inspections as per the above protocol and shall submit their reports to their immediate supervisory officers.

- k. A mechanism of Group Patrolling at Block and Beat levels has been institutionalized to instill confidence in field teams and to enable them comprehensively inspect sensitive beats to check and report forest offences (*Annexure-IX*). The senior field officers need to put this mechanism to effective use.

3.2. SECOND-TIER MONITORING

The second-tier monitoring involves independent monitoring of all departmental works carried out under State Plan Schemes, Centrally Sponsored Schemes, CAMPA and EAPs by specially constituted in-house teams. The department has put in place the following mechanism to operationalize the second-tier monitoring:

3.2.1. Department's Monitoring and Evaluation Set Up

The department has a Monitoring and Evaluation Wing, located at the Forest headquarters at Shimla. This wing is headed by an officer of the rank of APCCF/ CCF. The major responsibilities of the Monitoring and Evaluation Wing include -

- a. Ensuring effective implementation of first-tier monitoring protocols by time to time reminding the field officers of their progress,
- b. Planning schedule of and undertaking second-tier monitoring of field works.
- c. Evaluation of the Mandatory Field Inspection reports received from the field officers, and those compiled by its own teams as part of second-tier monitoring, and
- d. Providing inputs for improvement in the planning of works.

The Monitoring and Evaluation Wing is supported by two M&E Circles, each headed by Conservator of Forests and supported by DFO (Hdqs). The M&E Circle (North), with headquarters at Hamirpur, has jurisdiction over Bilaspur, Chamba, Mandi, Dharamshala and Hamirpur Territorial Circles and Wildlife Circle (N) at Dharamshala. The M&E Circle (South) has headquarters at Shimla with jurisdiction over Kullu, Mandi, Nahan, Rampur, Shimla and Solan Territorial Circles, Wildlife Circle (South) at Shimla and the GHNP, Shamshi.

3.2.2. Second-Tier Monitoring Methodology

The second-stage monitoring is based on a totally objective sampling design. This design involves multi-stage random sampling, also known as cluster sampling, in which random samples are drawn from the primary, intermediate and the final units i.e. Forest Ranges,



Forest Blocks and Field Activities. The basic unit for second-tier monitoring will be Forest Block.

Entire population is divided into clusters (Ranges) and a random sample of cluster is selected using computer generated random numbers. Each cluster is exclusive and no unit from non-selected clusters is included in the sample. Once the clusters are selected then all units within the cluster (Blocks) are considered for second stage random selection. In final stage, all the works from among the selected Blocks are considered for actual monitoring in the field.

The Inspecting Officers shall, in addition to the quantitative parameters, pay special attention to quality of the works implemented in the Forest Block. The information shall be supported with photographs of the works.

3.2.3. Monitoring & Evaluation by Teams of M&E Wing

The teams from the M & E Circles shall inspect the field works for which annual schedule shall be prepared by the end of April every year. The Forest Blocks for such monitoring shall be randomly selected through a computer based multi-stage random sampling method described above. The sampling intensity shall be one Forest Block per Division. In cases where the Division boundaries are co-terminus with the district boundaries, two Forest Blocks shall be selected. The inspection reports shall be submitted on the prescribed formats (Formats-I to VI). A monthly abstract of the progress of M&E activities shall be prepared for onward transmission to AD.

3.2.4. Monitoring & Evaluation by Senior Forest Officers

The Senior Forest Officers forming part of the Forest Headquarters located at Shimla and outside Shimla shall be involved in the second-tier monitoring and evaluation of field works. It is believed that the experience available with the senior officers will be of great help in improving the implementation of field works. The schedule for monitoring of field works by the Senior Forest Officers shall be prepared and circulated by 30 June every year by the Head, M & E Wing. The Forest Blocks for such monitoring shall be randomly selected through a computer based multi-stage random sampling method. The inspection reports shall be submitted on the prescribed formats (Formats-III to VIII).

It will be highly desirable that the Senior Forest Officers bring out some good case studies of success and failure based on the monitoring exercise.

3.3. THIRD TIER MONITORING

The third-tier monitoring involves independent monitoring of all departmental works carried out under State Plan Schemes, Centrally Sponsored Schemes, CAMPA and EAPs by independent monitors from outside the organization. The department, at present, does not have any institutional mechanism or protocol for third-tier monitoring, with third-tier monitoring by independent monitors limited to evaluation of works carried out under Centrally Sponsored Schemes, Externally Aided Projects, and State CAMPA. No provision for third-tier monitoring of works carried out under State Plan is available.

3.3.1. Third-Tier Monitoring & Evaluation - Need and Objectives

It is an independent monitoring of forest plantations and other forestry works by a designated independent third party with a view to provide information to the State Government on the quality and impact of these works in the field. Third party monitoring is widely recognized as an important tool in bringing about greater responsibility and transparency in the project implementation. In addition, the third-party monitoring and evaluation brings about issues and bottlenecks in implementation of field works towards improvement in planning process.

The major objectives of Third-Tier Monitoring and Evaluation by Independent Agency include -

- a. Physical verification and quality check of plantations and other forestry works in the field,
- b. Assessment of the impact of these works towards achievement of larger goals of these works.
- c. Providing inputs for improving the planning and implementation process.

The third-tier monitoring, presently limited to evaluation of works carried out under Centrally Sponsored Schemes, Externally aided Projects, and state CAMPA, shall be made applicable to all plantations and forestry works under State Plan budget.

3.3.2. Third-Tier Monitoring & Evaluation – Methodology

The methodology of monitoring and evaluation by independent agency shall be based on comprehensive sampling design. A stratified multi-stage random sampling with >90% confidence level would be followed. Whereas the third-tier monitoring shall continue in respect of works carried out under Centrally Sponsored Schemes, Externally aided Projects, and State CAMPA, its application to works carried out under the State Plan



budget shall be, in the first phase, limited to 4 and 7 year old plantations. Since the number of such plantations runs into thousands with an average cumulative area of more than 10,000 ha for 4 year old and 7 year old plantations, a sampling intensity of 5% both by number of plantations and by area of such plantations shall be adopted. The field unit for defining strata would be Forest Block and all plantations in the selected Forest Block shall be checked. The Forest Blocks shall be proportionally allocated in each Forest Division to have requisite geographical coverage. Sampling shall be done separately for every scheme under which plantations have been carried out.

The independent agency shall check the given plantation site with the record in the concerned plantation journal; measure the plantation area; check the protection measures including status of fencing; check the species composition and survival percentage, with special reference to growth parameters of different species and their establishment status.

3.3.3. Third-Tier Monitoring & Evaluation – Selection of Independent Agency

The task of evaluating the plantations and other works by an independent agency for a particular year shall be through institutions/ organizations/ entities of repute in the state like universities, research institutes, that shall be duly empanelled for the purpose. Some of such institutions/ organizations with potential for empanelment include UHF, Nauni, State Agriculture University, Palampur, Agro-economic Centre of HP University, Shimla, and HFRI, Shimla. Empanelment shall be valid for an initial period of five years, and thereafter, it would need to be extended with consent of the parties.

4. Mandatory Field Touring by Forest Officers

4.1. Field Touring by Field Forest Officers

The first-tier mandatory field inspections as detailed under 3.1 above require adequate, systematic, effective and intensive touring by the Field Forest Officers at various levels. Concerns have been raised about inadequate and ineffective field touring by Forest Officers in the past and various instructions issued/ reiterated on the subject by the Department (PCCF's No. Ft. 3-17/66(PA)-II dated 31.01.1981; Ft. 3-17/66(PA) dated 04.05.1994; Ft. 3-17/66(PA)-II dated 15.02.2007) as well as by the Government (FC-cum-Secretary (Forest)'s No. FTS.-I (B) (15)-20/87-II dated 25.04.2001).

It is imperative that field touring is done in a way so as to ensure protection of forests and timely implementation of developmental works. Improvement in the road network has

made touring to many of the hitherto, inaccessible areas very easy and the field officers tend to return to their headquarters the same day. This tendency, however, deprives the field officers from getting to know the nuances of forest working and the issues related to such working. It is desirable that the field officers spend adequate number of nights out in the field, interact with field staff and the local communities at time when they are free, to understand field problems and gather information for improvement in working.

The mandatory field touring by field forest officers, based on various earlier instructions on the subject, henceforth shall be as under:

S. No.	Level of Field Officer	Minimum No. of Touring Days & Nights/ Month
i	CF/ CCF (T&WL)	7
ii	DFO (T&WL)	8
iii	ACF o/o DFO (T&WL)	10
iv	RFO (T&WL)	12

Notes:

- The above mandatory field touring is exclusive of the days, if any, spent on touring with senior officers, VIPs and for attending meetings.
- The field touring by CCFs/ CFs shall include touring of interior areas of the selected Division in the Circle for 2-3 days at a stretch. Similarly, the DFOs shall undertake intensive touring of the selected Range in their Divisions for 2-3 days at a stretch. The field officers shall have night halts in the FRHs/ IHs/ Tents while on such field tours.
- The practice of forestry and achieving the mandatory field inspection targets requires intensive walking through the forests. Inspection of forests and forestry works on foot shall be appreciated.

4.2. Field Touring by Forest Officers Posted at Headquarters and Functional Posts

The forest officers posted in the Forest Headquarters and on various Functional Posts are encouraged to undertake mandatory field inspections as part of second-tier monitoring of field works. They are also encouraged to visit Department's Forest Training Institutes and deliver course modules. These officers shall undertake the mandatory field touring as under:



Sr. No.	Level of Field Officer	Minimum No. of Touring Days & Nights/ Month
i	PCCF/ APCCF	5
ii	CCF/ CF	5
iii	DFO	7

Notes:

- The field visits for undertaking second-tier monitoring in the allocated Forest Blocks shall count towards mandatory field touring. Similarly, visits to Forest Training Schools at Chail and Sundernagar for delivering course modules shall be part of the mandatory field touring.
- Inspection of forests and works and night halts in the FRH/ IH/ Tents in interior areas of the selected Division for 2-3 days at a stretch will be highly desirable during mandatory field tours.

4.3. Monthly Tour Report Format

Both the field forest officers and the other forest officers shall submit abstract of field touring in the following format:

S. No.	Detail	Monthly Tour Abstract		
		Till Last Month	During the Month	Total
1	Total number of days spent on tour			
2	Number of days spent on checking forests/ field works			
3	Number of days spent in interior away from motorable road			
4	Number of nights spent on tour			
5	Number of nights spent in FRH/ IH for checking forests/ works			
6	Distance Travelled (in km) - By Jeep/ Car - On Foot - Other Means			

5. Reporting Mechanism

5.1. Present Reporting Mechanism

At present, the reports of first-tier monitoring through Mandatory Field Inspections, and that of second-tier monitoring are prepared manually on the prescribed formats (**Format-I to VI**). Compilation of these reports requires deployment of large manpower and is a time drawn exercise, when separate reports are required to be prepared for each scheme. The manual reporting mechanism also makes it difficult to collate information for quick evaluation.

5.2. Online Report Submission Software

In view of the multiplicity of schemes and the works, the need to collate separate reports for every scheme and to put the information for public scrutiny, the department has been mulling developing a comprehensive software to enable online submission of reports of mandatory field inspections. An integrated software, iFMS, has been consequently developed and operationalized w.e.f. 01.04.2017 after its security auditing by the NIC. The formats for online reporting of monitoring have also been included in this software. The URL of site is www.hpforests.nic.in. Provisions for uploading photographs of works is also being added in the software. The software will be made fully operational from 01 June 2018.

5.3. Mobile-App

To further facilitate the reporting/viewing of monitoring of works executed in the field, a mobile-app is also being designed/developed through IT wing of the department by the M&E Wing. This mobile-app is likely to be launched shortly. With the help of this mobile-app, the Inspecting Officers will be able to load the report on site and the supervisory authorities will be able to monitor the same instantly.

6. Way Forward

The emerging technologies have thrown up many possibilities of improving the Monitoring and Evaluation protocols to make the exercise more effective and purposeful. Some of the emerging technologies in the field include:

- Surveillance through helicopter/drones
- Integration of the process on GIS Platform
- Application of Remote Sensing and Satellite Imagery
- Use of web-based software/ technologies for online reporting

The use of technology would need to strengthen infrastructure and procurement of compatible gadgets for use by the field staff. It would also need building capacity of the human resource, especially at the field level.



ANNEXURE - I

Himachal Pradesh Forest Department

Guidelines for Assessment of Survival Percentage through Random Sampling

- i. Areas for inspection shall be selected through computer generated random sample using different strata to ensure that sampling is evenly spread and representative.
- ii. While undertaking the field inspection in the areas selected through random sampling, the process given below shall be followed:
 - Ascertain that the area is the same as intended to be inspected. This will be done by taking the help of Plantation Journal/ GPS coordinates/ Map/ CHF, etc.
 - The sampling intensity for random physical checking in the selected plot shall be 2%, subject to checking of a minimum of 200 plants/ site.
 - Physical checking will be carried out in circular clusters of at least 100 plants;
 - The clusters will be selected randomly starting from the NE corner of the plantation and proceeding in anti-clockwise direction.
 - The physical verification will include counting of pits, checking pit size, and status of plants (green and growing/ dead) species-wise. Survival percentage will be calculated based on this field data.

ANNEXURE - II

Protocol for *Lantana* Eradication and Rehabilitation of Areas

Survey for *Lantana* infestation carried out during 2011 and 2015 reveals that about an estimated 2, 35,491 Ha. forest land in the State is infested with *Lantana*, a noxious exotic weed (invasive alien species). These *Lantana* infested areas in the State have been classified into four infestation categories i.e. upto 25%, 25-50%, 50-75%, and >75%. The large-scale infestation, and the speed of spread of this weed, is a cause of serious concern due to its ramifications on the native biodiversity and adverse impact on the local socio-economy in the form of reduced pasturage and reduced availability of other usufructs.

The Himachal Pradesh Forest Department, in order to reclaim and rehabilitate the *Lantana* infested areas, has started a scheme entitled “**Rehabilitation of Forest Areas infested with Invasive Alien Species**” from the year 2009-10 with major fund support under State CAMPA budget. Attempt is also being made to tap additional fund sources viz. under MNREGA and Externally Aided Projects, to tackle and rehabilitate more areas.

Methodology:

- The method of *Lantana* removal shall be Cut Root Stock (CRS) method, using appropriate prescribed tools.
- *Lantana* removal shall be carried out during autumn months, when ground flora dries up making it easier to identify the base of the *Lantana* bushes.
- The *Lantana* removal shall be carried out under supervision of the skilled field staff.
- Care shall be taken to ensure that ONLY *Lantana* bushes are cut and NO DAMAGE is caused to any native tree or shrub species. Special care shall be taken to protect the regeneration of native tree species.

Monitoring and Evaluation Protocol:

STAGE-I: (By Supervisory Officers)

- The proposed *Lantana* infested areas shall be duly inspected by the ACFs



and the DFOs as to the infestation percentage category before submitting the APO.

- *Lantana* eradication shall ideally be carried out micro-watershed wise.
- *Lantana* infested areas taken up for rehabilitation shall be geo-referenced in the form of polygon, and linked to the Departmental GIS platform along with time series photographs, i.e. photographs taken before treatment of area, during treatment, and after rehabilitation.
- The DFOs shall inspect the rehabilitated areas during the work as per prescribed mandatory inspection protocol, and at three years and five years as to the status of rehabilitation, and shall recommend further action, if any needed.
- A compartment-wise register shall be maintained at the Beat, Range and Division level to record the weed infestation status and progress made to rehabilitate weed infested areas.

STAGE-II: (Monitoring and Evaluation by M & E Team from Headquarters)

- The M & E Team from the headquarters shall monitor & evaluate areas taken up for *Lantana* eradication and rehabilitation on random sample basis.
- The M & E Team shall conduct physical verification of the selected areas to check the status of rehabilitation of forest, and shall make recommendations about further action, if any needed.

STAGE-III: (Third Party Monitoring)

- The major objective of the third-party monitoring shall be to assess the quantum of positive impact of the *Lantana* eradication and forest rehabilitation programme.
- The third-party monitoring shall be conducted by an external independent agency that shall be specially engaged for the purpose after following due selection process.

ANNEXURE - III

Format-I: General Forest Status Monitoring Sheet

1a	Name of Circle/ Division	
1b	Name of Range/ Block/ Beat	
2. Checking of Forest Boundary Pillars		
2a	Name of the RF/ DPF and Compartment taken up for 100% checking of boundary pillars	
2b	Number of boundary pillars in the compartment	
2c	Status of Boundary Pillars (<i>check with boundary pillar register/ topographic sheet, etc.. Record any variations, damage, and maintenance status</i>)	
2d	Condition of Boundary Pillar Register, Topographic Sheets, CH File, etc.	
3. Status of Forest/ Regeneration		
3a	Status of forest (<i>Canopy opening, Under - storey, Litter, Humus, other biomass, etc.</i>)	
3b	Status of regeneration (<i>Main species</i>)	
3c	Status of regeneration (<i>Associate species, main NTFPs</i>)	
4. Disease/ Insect Pests		
4a	Instances of disease, if any, noticed (<i>Record the spread of disease</i>)	
4b	Instances of Insect-pest attack, if any, noticed (<i>Record the spread of insect attack</i>)	
5. Forest Offences		
5a	Instances of encroachments, if any, noticed/ status of eviction of encroachments.	
5b	Instances, if any, of illicit felling noticed	



5c	Instances, if any, of un-authorized collection of NTFP	
5d	Instances, if any, of poaching noticed	
6. Exotic Weeds (Invasive Alien Species)		
6a	Name of the Exotic Weed (Local/ Botanical) [<i>Lantana</i> , <i>Eupatorium</i> , <i>Parthenium</i> , <i>Bidens</i> , <i>Ageratum</i> , etc.]	
6b	Status of Spread [<25%; 26-50%; 51-75%; >75%]	
6c	Measures, if any, taken in the past for removal of exotic weeds, and impact.	
7. Timber Distribution		
7a	Number of trees (species -wise) sanctioned from the compartment over the last three years	
7b	Random check, if any, carried out about use of TD sanctioned from the compartment (<i>Record results of such inspection</i>)	

8. Miscellaneous Observations and Recommendations:

(Kindly record any specific observations/ comments about the area visited)

--

Date of Monitoring:

Signature:

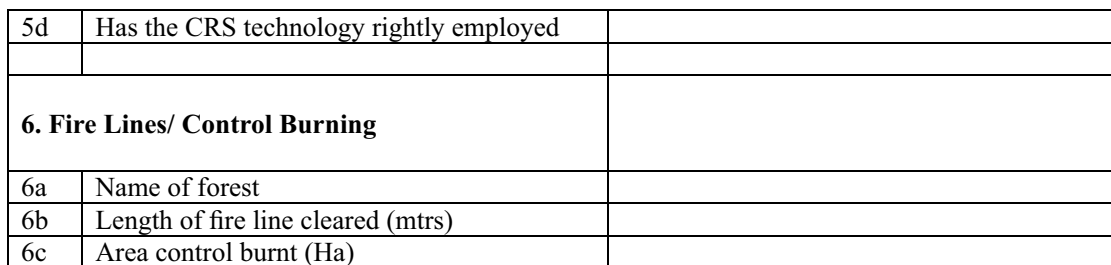
Name of Inspecting Officer: _____

Designation: _____

ANNEXURE - IV

Format-II: Forest Operations Monitoring Sheet

1a	Name of Circle/ Division	
1b	Name of Range/ Block/ Beat	
2. Periodic Block Areas		
2a	Name of the RF/ DPF and Compartment	
2b	Observations related to status of forest, regeneration, weeds, silvicultural operations, etc.	
3. Timber Lots		
3a	Name of forest	
3b	No. of trees marked for conversion , and status of marking/ khudan	
3c	Correctness of trees marked as per guidelines	
3d	Whether conversion is as per guidelines	
3e	Any damage to forest noticed	
4. Resin Lots		
4a	Name of forest	
4b	No. of trees enumerated for resin tapping	
4c	Correctness of trees enumerated as per guidelines	
4d	Whether crop setting/ tapping is as per guidelines	
4e	No. of sections checked	
5. Lantana Eradication		
5a	Name of the forest	
5b	Recorded status of incidence of Invasive Alien Species viz. Lantana, Eupatorium, Parthenium, Ageratum, etc (<25%; 26-50%; 51-75%; >75%) before eradication	
5c	Impact of eradication exercise – the weed status (in %) at the time of inspection	



(Kindly record any specific observations/ comments about the area visited)

--

Signature:

Name of Inspecting Officer: _____

Designation:

ANNEXURE - V

Format-III: Plantation Monitoring Sheet

1a	Name of Circle/ Division	
1b	Name of Range/ Block/ Beat	
1c	Name of Plantation Area	
1d	Extent of Area (in Ha.)	
1e	GPS Coordinates (Middle of the Plantation)	
1f	Month and Year of Plantation	
1g	Name of Scheme	
1h	Name and designation of the officer who selected the site	
Description of Plantation		
2.1	Short narrative with regard to Working Plan prescriptions	
2.2	Status of Plantation Journal (<i>Kindly also check whether basic information about site; and GPS Coordinates/ Polygons, and photographs of the site before and after plantation have been incorporated</i>)	
2.3	Was the area ever taken up for plantation before current plantation? If yes, reasons for failure of previous plantation	
2.4	Status and condition of plantation sign-board	
2.5	Condition of fencing (<i>Kindly also record the type and design of fencing</i>)	
2.6	Species-wise detail of plants planted	



2.7	Suitability of species with site (<i>If non-native species have been used, name of officer authorizing such plantation</i>)	
2.8	Pit Size (<i>whether as per the work estimates</i>)	
2.9	Species-wise size of seedlings	
2.10	Grazing (<i>Record incidence of grazing noticed/ protection measures against grazing</i>)	
2.11	Sensitivity to Fire (<i>Record fire protection measures in place</i>)	
2.12	Soil Erosion (<i>Record incidence of soil erosion noticed/ Soil conservation measures taken, if any</i>)	
2.13	Status of Inspection Path (<i>Record total path length and maintenance status</i>)	
2.14	Expenditure incurred (in Rs.)	
2.15	Survival percentage (<i>Record species-wise general health and growth status/ reasons for failure of plants</i>)	
2.16	Status of natural regeneration (<i>Record species-wise incidence of natural regeneration, especially after fencing</i>)	
2.17	Status of incidence of Invasive Alien Species viz. Lantana, Eupatorium, Parthenium, Ageratum, etc (<25%; 26 - 50%; 51 -75%; >75%)	
2.18	Status of involvement of local communities (<i>Record pre -plantation parleys with local communities/ community-based plantation management regimes developed</i>)	
2.19	Status of first stage monitoring by RFO/ ACF/ DFO/ CF (<i>Record dates of such monitoring</i>)	



3. General Observations and Recommendations:

(Kindly record pen-picture in about 100 words about the plantation site, choice of species, quality of planting stock used, quality of work, etc. with recommendations for improvement)

Date of Monitoring:

Signature:

Name of Inspecting Officer: _____

Designation: _____



ANNEXURE - VI

Format-IV: Nursery Monitoring Sheet

1a	Name of Circle/Division	
1b	Name of Range/ Block/ Beat	
1c	Name of Nursery	
1d	Year of Establishment	
1e	Extent of Area (in Ha.)	
1f	GPS Coordinates	
1g	Whether permanent or temporary	
1h	Ordinary/ Model nursery	
Description of Nursery		
2.1	Short narrative with regard to suitability of site and species raised in Nursery	
2.2	Status of Nursery Journal (<i>Kindly check whether basic information about site; and GPS Coordinates/ Polygons, and details of works has been incorporated</i>)	
2.3	Nursery Sign-board & its Condition	
2.4	Fencing (<i>Kindly record the type of fencing, its effectiveness and maintenance status</i>)	
2.5	Inspection/ nursery Path - its appropriateness and condition	
2.6	Irrigation facility (<i>type of water source, adequacy of water availability, water storage capacity and its type, irrigation method</i>)	
2.7	Nursery Store (<i>adequacy, general condition</i>)	

2.8	Other Nursery Infrastructure (<i>Poly house with size, shade house with size; pot mixture shed; nursery office, FGd Hut/ Chowkidar hut, etc.</i>)	
2.9	Composting/ vermi-composting Unit (<i>Its type and functioning status –with total compost made (Kgs) during the past year</i>)	
2.10	Source of seed/ propagules (<i>if purchased – from where/ if collected – from where</i>) Species-wise information.	
2.11	Road connectivity for carriage of plants	
2.12	Species-wise detail of plants raised (Normal – with size and age)	
2.13	Species-wise detail of plants raised (Tall plants – with size and age) (Kindly record the size of polybags)	
2.14	Quality of Potting Mix used in polybags (<i>open 2-3 polybags and check quality</i>)	
2.15	Foliage colour of nursery stock (dark green/ green/ yellowish green) indicative of nutrient deficiency	
2.16	Evenness of nursery stock (<i>indicative of following the standard protocols in the nursery</i>)	
2.17	Expenditure incurred (in Rs.) during the last two financial years	
2.18	Total no. of seedlings supplied for planting over the past two financial years	



3. General Observations and Recommendations:

(Kindly record pen-picture in about 100 words about the nursery site, choice of species raised, quality of nursery stock, quality of work, etc. with recommendations for improvement)

Date of Monitoring:

Signature:

Name of Inspecting Officer: _____

Designation: _____

ANNEXURE - VII

Format-V: Soil Conservation Works Monitoring Sheet

1a	Name of Circle/ Division	
1b	Name of Range/ Block/ Beat	
1c	Type of Soil Conservation Work (<i>check walls, spurs, check dam, WHS, water ponds, bio-engineering, etc.</i>)	
1d	Location of the Soil Conservation work	
1e	GPS Coordinates	
1f	Extent of Area (in Ha.)	
1g	Name of Scheme	
1h	Year of execution	
1i	Expenditure incurred (in Rs.)	
1j	Name and Designation of the officer who selected the site/ type of structures constructed	
Description of Soil Conservation works:		
2.1	Appropriateness of selection of site and type and design of structure vis-a-vis requirement	
2.2	Completeness of treatment (<i>is it as per site requirement – no. of structures constructed</i>)	
2.3	Quality of work and condition on the day of monitoring	
2.4	Appropriateness of choice of species in case of bio-engineering works	
2.5	Status of Soil Conservation Works Register (<i>Kindly check whether photographic documentation of the site before and after treatment has been placed in the register</i>)	



2.6	Whether Soil Conservation work fulfills the objective for which the work was undertaken	
2.7	Status of first stage monitoring by RFO/ ACF/ DFO/ CF (<i>Record dates of such monitoring</i>)	

3. General Observations and Recommendations:

(Kindly record pen-picture in about 100 words about the soil conservation work, choice of species raised, quality of nursery stock, quality of work, etc. with recommendations for improvement)

--

Date of Monitoring:

Signature:

Name of Inspecting Officer: _____

Designation: _____

ANNEXURE - VIII

Format-VI: Abstract of Mandatory Inspections

S. No.	Items	Targets (nos./ area in ha/ length in km, etc)	Achievements				
			First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
1.	General Checking of Forests						
2.	Checking of Forest Working						
3.	Checking of Plantations						
4.	Checking of Nurseries						
5.	Checking of Soil Conservation Works						

Date of Monitoring:

Signature:

Name of Inspecting Officer: _____

Designation: _____



ANNEXURE - IX

Office Order No. 73/2018

Dated : 05.02.2018

OFFICE ORDER

Instructions were issued on 17 July 2017 for identification of sensitive Forest Beats and for putting in place a mechanism of 'Group Patrolling' to assist the Forest Guards in checking forest offences in the sensitive Beats. To make the mechanism of 'Group Patrolling' more systematic and robust, the following institutional arrangement is put in place:

- The 'Group Patrolling' shall be a regular feature for all Forest Beats and shall not be limited to only sensitive Beats. It may, however, be noted that 'Group Patrolling' mechanism is to assist the concerned Forest Guard and to reinforce his hands in thorough checking of his Beat and is NOT to replace his assigned responsibilities with respect to his Beat.
- The Group Patrol Team shall consist of at least five members i.e. (a) concerned Deputy Ranger/ Block Officer as team leader, (b) Forest Guard of the concerned Beat, (c) at least one more Forest Guards from other Beat of the concerned Forest Block, and (d) at least two Forest Workers. The concerned Range Officer shall constitute these teams by name for every Forest Beat in the concerned Forest Block.
- The main functions of the Group Patrol Team shall include, but not limited to, the following:
 - To patrol and undertake thorough checking of all the Forest Beats in the concerned Forest Block at least once every six months as to the incidence of any forest offence viz. illicit felling, encroachments, poaching, mining etc., take cognizance of the forest offence if any noticed, immediately report the same to the concerned Range Officer, and initiate lawful action to deal with the forest offence. The six month blocks for such thorough checking shall be April to September and October to March.
 - To organize manpower, preferably comprising of the local

- communities, and assist the local Forest Guard in managing forest fire.
- To undertake immediate inquiry into forest offences coming to the knowledge of any of the members of the Group Patrol Team or conveyed to the party by the senior officers.
 - To assist the Range Officer in patrolling and setting up 'nakas' at different places to check forest offences.
- The concerned Range Officer shall prepare roster for quarterly checking of Forest Beats, starting with sensitive Beats in the Range, keeping a time span of 20 days for checking of one beat. Depending upon the size of the Beat, checking of one Forest Beat is likely to take 5-7 days. Time span of twenty days is to provide flexibility to the Team to carry out and complete Beat inspection in more than one round within the given time slot so as to enable the Team members to attend to their regular duties in between and to build-in an element of surprise in the checking process.
 - The Group Patrol Team shall keep the concerned Range Officer informed about the progress during the specific operations. The Range Officer shall also continuously monitor the activities of the Group Patrol Team.
 - The Range Officer shall keep backup support ready and make it available in case it is required by the Group Patrol Team.
 - The Range Officer shall join each of the Group Patrol Teams under his jurisdiction at least once every month and shall conduct Beat inspection with each team for at least one full day.
 - The Divisional Forest Officer shall exercise surprise check on at least one Group Patrol Team per Range under his jurisdiction every month.
 - The Group Patrolling team shall submit inspection report about checking of the concerned beat to the Range Officer.

The Divisional Forest Officer shall ensure that this Group Patrolling mechanism is made operational in letter and spirit.

Sd/-
(Dr. G.S.Goraya) IFS
Pr. Chief Conservator of Forests (HoFF)
Himachal Pradesh



ANNEXURE - X

TECHNICAL STANDING ORDER

No: 01/2018

Dated: 24 March, 2018

1. Monitoring and Evaluation of plantations and other forestry field works is crucial to assess the outcome of these works. Various instructions on the subject have been issued in the past towards 'Mandatory Field Inspections' and 'Mandatory Field Touring'. These instructions have been compiled and consolidated in the form of an 'Instructions Manual for Monitoring and Evaluation of Plantations and other Field Works'.
2. The Instructions Manual shall supersede the previous instructions on Mandatory Field Inspections as issued vide PCCF HP's Standing Order No. 1/1992-93 dated 11.03.1993, PCCF HP's Technical Standing Order No.1/93-94 dated 05.03.1994, revised and updated vide PCCF's No. Ft. (Pro.)/ dated 14.01.2004, PCCF's No. Ft. 112-2/71(S) (B) dated 17.07.2004, PCCF (HoFF) HP's letter no. APCCF (M&E) dated 02.12.2014, PCCF (HoFF) HP's letter No. APCCF (M&E) MFI/2015 Main File Vol.-II dated 19.09.2015, PCCF (HoFF) HP's letter No. APCCF (M&E) MFI/2015 dated 14.12.2015 and PCCF (HoFF) HP's letter no. APCCF (M&E) MFI/2015 Main File Vol.II dated 01.04.2017.
3. The Mandatory Field Touring regime by the field officers prescribed in the Instructions Manual is based on the PCCF, HP's letter No. Ft. 3-17/66 (PA) dated 04.05.1994, FC-cum-Secretary (Fts)'s No. Fts.-I (B) (15)-20/87-II dated 25.04.2001 and PCCF HP's No. FT.3-17/66(PA)-II dated 15.02.2007 with some changes in the reporting formats.
4. This Instructions Manual shall come into force with immediate effect.

Sd/-

(Dr. G.S.Goraya) IFS

Pr. Chief Conservator of Forests (HoFF)
Himachal Pradesh



Calendar for Forestry Activities

TYPE OF OPERATION

ANNUAL SPREAD OF ACTIVITIES

1. NURSERY OPERATIONS

- I) PROCUREMENT OF MATERIAL & HIGH HILLS
- II) PREPARATION OF BEDS, FILLING OF P.BAGS AND APPLICATION OF F.Y.M.
- III) SEED SOWING
- IV) IRRIGATION WEEDING, HOEING & FERTILIZER APPLICATION

2. PLANTING OPERATIONS

- I) AREA SELECTION & CHOICE OF SPECIES
- II) PREPARATION OF CLOSURE CASES
- III) ADVANCE EARTH-WORK
- IV) FENCING: B/WIRE, STONE WALL, FENCING, LIVE HEDGE
- V) PLANTING (A) B/L SPECIES
- (A) CONIFER SPECIES
- VI) SEED COLLECTION

3. ROAD AND BUILDING WORKS

- I) REPAIR OF ROADS & BUILDINGS
- II) SUBMISSION OF BUILDING PROGRAMME
- III) PREPARATION OF ESTIMATE AT DIVISION LEVEL
- IV) SUBMISSION OF ESTIMATE TO P.C.C.F OFFICE
- V) APPROVAL OF ESTIMATE AT P.C.C.F OFFICE/GOVT. LEVEL
- VI) DIGGING OF BUILDING FOUNDATION AND CONSTRUCTION UPTO PLINTH LEVEL
- VII) EXECUTION (COMPLETION)

4. SOIL CONSERVATION WORKS

- I) SELECTION OF SITE & PREPARATION OF ESTIMATES
- II) PROCUREMENT OF MATERIAL (INTER LINK CHAIN & G.I. WIRE)
- III) EXECUTION

5. MARKING OF LOTS TO HPSFDC

- I) MARKING OF LOTS: CHIL, KHAIR & B.L. Spp. HIGH CONIFER Spp.
- II) RESIN BLAZES ENUMERATION
- III) FUEL WOOD SUPPLY TO TRIBAL AREA

6. PROTECTION WORKS

- I) FIRE PROTECTION/FIRE LINE FORMATION

	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
I) PROCUREMENT OF MATERIAL & HIGH HILLS							✓	✓	✓		✓	✓
II) PREPARATION OF BEDS, FILLING OF P.BAGS AND APPLICATION OF F.Y.M.							✓	✓		✓	✓	✓
III) SEED SOWING	✓								✓		✓	✓
IV) IRRIGATION WEEDING, HOEING & FERTILIZER APPLICATION	REGULARLY AT SUITABLE INTERVAL EXCEPT RAINY SEASON											
I) AREA SELECTION & CHOICE OF SPECIES	✓								✓			
II) PREPARATION OF CLOSURE CASES	✓	✓								✓	✓	✓
III) ADVANCE EARTH-WORK	✓									✓	✓	✓
IV) FENCING: B/WIRE, STONE WALL, FENCING, LIVE HEDGE	✓									✓	✓	✓
V) PLANTING (A) B/L SPECIES											✓	✓
(A) CONIFER SPECIES						✓	✓					
VI) SEED COLLECTION		✓	✓									
I) REPAIR OF ROADS & BUILDINGS		✓	✓									
II) SUBMISSION OF BUILDING PROGRAMME							✓			FOR NEXT YEAR		
III) PREPARATION OF ESTIMATE AT DIVISION LEVEL	✓										✓	
IV) SUBMISSION OF ESTIMATE TO P.C.C.F OFFICE		✓	✓									
V) APPROVAL OF ESTIMATE AT P.C.C.F OFFICE/GOVT. LEVEL		✓	✓									
VI) DIGGING OF BUILDING FOUNDATION AND CONSTRUCTION UPTO PLINTH LEVEL		✓	✓							✓		
VII) EXECUTION (COMPLETION)											✓	✓
I) SELECTION OF SITE & PREPARATION OF ESTIMATES		✓	✓									
II) PROCUREMENT OF MATERIAL (INTER LINK CHAIN & G.I. WIRE)		✓	✓						✓	✓		
III) EXECUTION		✓	✓						✓	✓		
I) MARKING OF LOTS: CHIL, KHAIR & B.L. Spp. HIGH CONIFER Spp.							✓	✓	✓	✓		
II) RESIN BLAZES ENUMERATION							✓	✓	✓			
III) FUEL WOOD SUPPLY TO TRIBAL AREA	✓											
I) FIRE PROTECTION/FIRE LINE FORMATION								✓				