

From

Ashok Khemka, IAS
Additional Chief Secretary to Government, Haryana,
Science & Technology Department.

To

The Chief Secretary to Government of Haryana,
Chandigarh.

No. ACSST/2022/1342
Chandigarh, dated the 24th May, 2022

**Subject: Proceedings of the 4th meeting of Steering Committee of
"State Compensatory Afforestation Fund Management & Planning
Authority (State Authority), Haryana".**

Sir,

Reference proceedings of the 4th meeting of Steering Committee of State Compensatory Afforestation Fund Management & Planning Authority (State Authority), Haryana circulated vide letter No. 151-162 dated 19.05.2022 by the CEO, CAMPA (State Authority), Haryana.

Certain observations were made by the undersigned and a copy thereof was placed on record during the Meeting, but have not been included in the Proceedings circulated. A copy of the observations/comments made by the undersigned is enclosed and may be included in the Proceedings of the Meeting.

Sincerely,



(Ashok Khemka)

CC: Chief Executive Officer, CAMPA (State Authority), Haryana,
Panchkula.

4th Steering Committee meeting of CAMPA, Haryana held on 12th April, 2022.

Observations/Comments of Ashok Khemka, ACS Science & Technology
- For inclusion in the Minutes of the Meeting.

CONTEXT

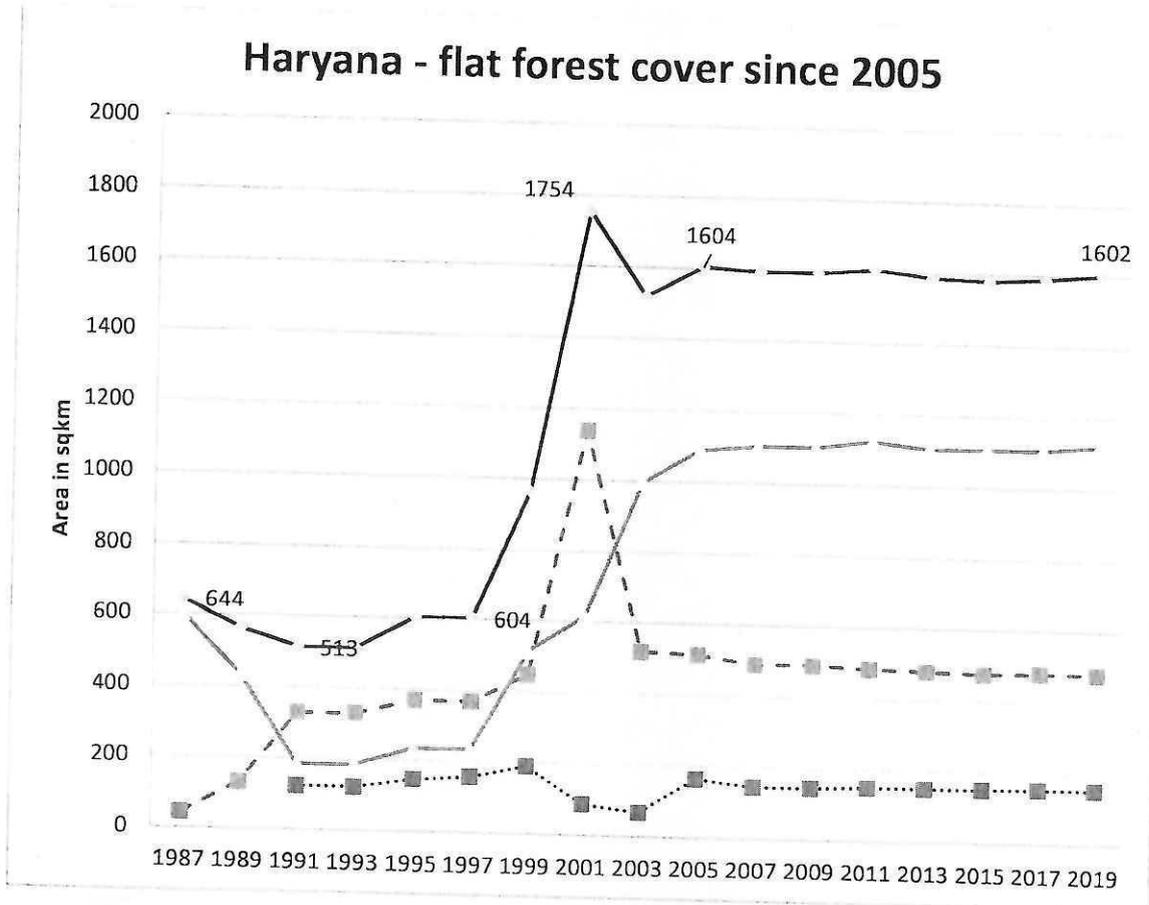
- 1. Forest cover weightage in fiscal devolution from Centre to State.** The XV Finance Commission formula for devolution of funds to the states gives a weightage of 10% for dense forest cover in the state, irrespective of ownership. Thus, it is in the financial and resource generation interest of the State to (a) identify and protect the existing dense forest cover (> 40%), and (b) increase the area under dense forest cover, by facilitating a transition from open forest (10-40%) to dense forest (>40%) and scrub forest (<10%) to open forest.
- 2. Despite large scale planting, there is no increase in forest cover in the last two decades.**

Despite large scale forest plantations in Haryana, the forest cover over the last two decades is flat as per the Forest Survey of India reports, with no increase.

There was a dramatic increase in the total forest cover between the State of Forest Report (SFR) of 1997 – 604 km² and the 2005 SFR – 1604 km². However, thereafter the total forest cover has remained flat between the 2005 SFR – 1604 km², and 1602 km² in the 2019 SFR, and 1603 km² in the latest 2021 SFR.

There is **no net increase in forest cover over the last two decades** (see graph below) despite all the investments made in forest plantations. The Forest Department may review its modus operandi before infusing large scale funds in business as usual planting.

Troublingly, the dense forest cover (>40%) has decreased from 520 km² in 2003 SFR, to 479 km² in 2019 SFR – suggesting that open forests are not transitioning to dense forests.



Black line - Total Forest Cover
 Grey Line - Open forest (10-40%)
 Dash line - Dense forest (40-100%)
 Dotted line - Scrub Forest

3. CAMPA funds not windfall gains - accumulated over 15+ years - should be spent in a judicious and measured manner over the next 15 years.

The CAMPA funds lumpsum payout of Rs 1282.65 received on 30.08.2019 reflects an amount accumulated over 15+ years since the early 2000s. The proposed rate of utilisation will lead to its exhaustion in 3-4 years itself. The CAMPA funds should not be treated as windfall gains, but its use should be staggered over the next 15 years at a rate of approximately Rs

80 crore per year. There are two reasons for staggering the spending of CAMPA fund transfers. One, given the flat forest cover, it seems that forest plantation model is not working over the last two decades. Second, as per section 4 (6), the funds are interest bearing under State public accounts and are non-lapsable.

OBSERVATIONS

4. Form-XII not complied with

- i) **Form-XII** of the Compensatory Afforestation Fund Rules, 2018 provides the format and elements of the Annual Plan of Operation that need to be included. Part-I: (d) – (g) are reproduced below:

(d) Year wise total forest area diverted in the various districts/ forest divisions of the State since 1980, in tabular form.

(e) Year wise total compensatory afforestation carried out in the State since 1980, in tabular form.

(f) Brief description and abstract of the monitoring work done by the Monitoring and Evaluation Wing of the State Forest Department.

(g) Brief description and abstract of the monitoring work done by the independent monitor (Third Party Monitoring) in the State

Similar directions are provided in Part-II and Part-III.

The directions in Part-I, II and III of the Form-XII have not been complied with while preparing the APO and its Annexures. In the absence of the long term monitoring information, it is hard to assess whether Compensatory Afforestation (CA) and Net Present Value (NPV) supported artificial plantations, ridge plantations and ANR etc. have been successful in the State. The APO be recast as per the directions of Parts-I, II and III of Form-XII provided in the Rules.

- ii) **Sub-section (c) of Part-IV of Form-XII** of the Rules provides for sharing details of third party monitoring including photographs, as follows:

c) Details of the concurrent monitoring and evaluation report including third party monitoring undertaken in past with photographs.

It is recommended that all the previous monitoring reports of say last 10 years are annexed to the APO and a summary is provided of the same, to meet the requirements of this section.

- iii) **Monitoring should be done at multiple time steps** including at the end of the maintenance period - in year 6, in year 10, year 15, year 20, to assess if the forest is actually surviving and to discern the reasons for survival or not.

- iv) **Effective GEO Tagging not done.** For some of the locations – only one GPS Lat Long coordinate is given – for others there are two coordinates, and for some there are 4 coordinates - varying across years. It is recommended 4 to 6 coordinates be provided for each location along with the boundary in KML format (google earth file format) for the last 10 year plantations. These need to be put up in a decision support system which has the latest and earlier forest cover FSI images available.

- Flag 'A' ✓ 5. **Miyawaki forest cost grossly inflated.** The Miyawaki forest cost at Rs. Rs. 91 lakhs for a one hectare area is inflated by almost 6.5 times. The Forest Research Division, Haldwani (Uttarakhand) has shared the financial statistics of Miyawaki forest at Rs. 14.16 lakhs/hectare for Plain Area and Rs. 15.44 lakhs/hectare for Hill Area (copy enclosed). The estimate of Rs. 7 lakhs for a 100 m² area works out to a mind boggling cost of Rs. 7 crores/effective ha.

6. **Railway scheme plantation cost of Rs. 1,068 per plant is excessively high.** The cost at Rs. 1,068 per plant is too high and includes a significant amount of padding. For example, the following cost elements seem out of sync:

- i) Nursery cost of Rs. 100 per plant (row 4)
- ii) Irrigation cost of Rs. 112,000 in year one (row 10) and around Rs. 90,000 in year 2.
- iii) Rs. 168 for digging one pit (row 3), the cost of digging holes with tractor augers is in the range of Rs. 15-20/hole.
- iv) Rs. 7,890 and Rs. 35,640 for weeding and hoeing in year 1 and Rs. 17,530 for chhapa binding around plants (rows 12-13 & 15) per 1,000 plants. This amounts to weeding and chhapa costs of Rs. 60,000/- per year per 1,000 plants.

Department may consider calling a bid for planting and maintenance and offering the work to the lowest bidder in a work performance contract. The work will be done at less than half the cost.

7. **High focus on artificial regeneration (creating plantations), which is a high cost model (>Rs 6 lakhs/ha), rather than Assisted Natural Regeneration (ANR) which is more cost effective and better suited to promote diverse forests.** The APO is heavily loaded in favour of artificial regeneration (creating plantations). This is a high cost approach that often leads to use of species that are not suited to the topography or the forest type. For example, over 118 crores are proposed for 1916 ha of CA plantation – which is an effective cost of over **Rs. 6 lakhs/hectare**. It is therefore recommended that the weightage of plantations (typically at the rate of 1000 trees per ha), should not be more than 1/3rd of the acreage for the CA component. The remaining 2/3rd of the area should be managed and restored under Assisted Natural Regeneration (ANR) with plantation in the range of 100-400 seedlings/ha.

8. **Ridge plantations.** There is a large component for ridge plantations at fairly high cost. This cost should also be reviewed. It is recommended that before undertaking any such plantation, a baseline assessment be made by a third party of the trees existing in the area proposed – so that only necessary gap filling is done. Guidelines for ridge plantation are also provided on the Forest Department website – these may be followed.
9. **Stone wall and eco-restoration in the Aravallis.** There was a provision in the APO 2021-22 for Eco restoration in the Aravalli hills of about 200 ha for a sum of Rs 380 lakhs. **This is a relatively low cost model at less than Rs. 2 lakhs /ha that focuses on regeneration of existing root stock rather than artificial planting.** The experience with this approach needs to be shared, and this activity needs to be continued and expanded, and intensive plantations avoided.

OTHER RECOMMENDATIONS

10. **Ecosystem Services**

The purpose of the Compensatory Afforestation Fund Act, 2016 is to create new forests and restore existing degraded forests, to protect forests, so as to compensate for diversion of forests. The purpose of the Act is to maintain and enhance the ecosystem services of the forest areas of the state. Section 2 (e) defines “environmental services” to include,

“— (i) provision of goods such as wood, non-timber forest products, fuel, fodder, water and provision of services such as grazing, tourism, wildlife protection and life support;

(ii) regulating services such as flood moderation, carbon sequestration and health of soil, air and water regimes;

(iii) supporting such other services necessary for the production of ecosystem services, biodiversity, nutrient cycling and primary production including pollination and seed dispersal;”

Assess ecosystem services as per forest type. A baseline assessment be done in each of the forest types in the state to identify the area under each forest type – whether standing or ‘degraded, denuded or cleared’ that identifies the types of ecosystem services currently provided, and quantifies the same. It should also assess the scope of enhancing the provision of ecosystem services and the steps required for the same.

11. Start protection in Year 0 or Year (-) 1 and first do a baseline of existing vegetation to assess need for incremental planting.

Protection is a necessary condition for the regeneration of forests and it may also be sufficient in many contexts where there is adequate root stock /seedbank in the soil to kick start forest regeneration. However, focus on intensive plantations (1000 seedlings/ha) negates the existing root stock and is counterproductive. Therefore, it is recommended for both CA and NPV that:

- i) before planting in Year 1, there is a period of 1-2 year which is incorporated into the year wise plan in which the focus should be on simple protection both by technological approaches - by building stone walls, or fencing (barbed wire, or chainlink etc), and social fencing in collaboration with communities that harnesses elements in the community that are in favour of protection that allows the forest to regenerate.
- ii) A baseline assessment be done, well before planning planting, that assesses the extent of root stock of tree species and shrubs etc on the site, so that the focus is only on filling the gaps by supplementary planting.

12. Audit existing nursery stock. There is no indication of the existing stock of seedlings and saplings/tall plants that are currently available in

the Departmental nurseries. The current stock for each nursery – number of seedlings/saplings/tall plants of each species should be annexed with the APO to ascertain whether there is sufficient stock of the appropriate species of the forest types for which planting or ANR is proposed.

13. There is a long list of activities that can be undertaken under the CAMPA Rules, for the **NPV component – Rule 5 (2)**. Given that most of the planting under the CA component is already intensive planting, it is suggested that:
- i) the **NPV monies are NOT used for “(b) Artificial regeneration”** which is a high-cost approach and instead NPV be redirected to Assisted Natural Regeneration which costs half or less.
 - ii) **Wildlife corridors** particularly in the Shiwaliks and Aravallis be identified and “(j) planting and rejuvenation of forest cover on non-forest land falling in wildlife corridors” be undertaken.
 - iii) There have been several instances of wildlife deaths in the wildlife corridors. Wildlife overbridges and under passes may be considered from the NPV funds.
 - iv) The pressure on forests be reduced by undertaking “(l) supply of **wood-saving cooking appliances** and other forest produce saving devices in forest fringe villages”, e.g. in the Aravallis foothills. These could be solar cookers, solar buckets, regular biogas, compressed biogas, low smoke, fuel efficient chulas etc. These may be explored at a pilot scale in the first year and scaled up thereafter.
 - v) Given the high and increasing price of LPG for cooking, **a subsidy on LPG** in Aravalli forest fringe villages would go a long way in reducing forest cutting and should be explored.
14. The Act/Rules provide for selection of **choice of species in consultation with local communities**. However, there is no such indication provided of any such consultation that has been undertaken by local communities either for block forest or for running road side/ canal side plantations. This needs to be done as trees planted in consultation

with communities are likely to be more useful to them and more likely to survive in the long term.

15. **Agro-forestry in Shamlat land** – first identify and support existing forest cover in shamlat lands which has taken 10s or 100s of years of protection effort.
16. **Managing forest cover outside official notified forest lands.** It is suggested that the APO commission a pilot study with the Forest Survey of India to assess the extent of forest cover in the state that is outside the notified forest and options for managing the same.
17. **PLPA Amendment Act 2019:** The CAMPA Act is very clear. Compensatory planting must be done in legally recognized forest areas. NPV planting too must be done in forest areas, with a few exceptions. Given that the Forest Department has moved the Supreme Court with a plea that PLPA notified areas not be treated as forest, it is therefore proposed that no further investments be made in the PLPA areas till the matter is decided.
18. **Identify land bank** with good forest cover/ biodiversity that has importance for ecosystem service provision for making it legal forest. There are several areas in the state that have forest cover as assessed by the FSI – whether scrub, open forest, or dense forest, but they are not treated as legal forest. One such example in the Mangar Bani sacred grove. The Forest Department may undertake an exercise to identify such areas and assess their ecosystem service provision importance – especially for ground water recharge, wildlife corridor, recreational potential, lake catchments. Such large blocks of forest cover may be identified for NPV forest restoration assisted natural regeneration / Compensatory Afforestation and procure lands in such areas, if needed.

19. **Sharing of timber and forest produce benefits with communities as per JFM guidelines.** Haryana is the home of community forestry and Joint Forest Management (JFM) having pioneered the Hill Resource Management Societies (HRMS) in the Shiwaliks around Chandigarh in the 1980s. Thereafter, village level JFM Committees were the mainstay of the Aravalli Project in the 1990s implemented in south Haryana Aravalli hills – over 35-40,000 hectares were restored. However, the current APO doesn't even pay lip service to the role of communities and community led forestry. It is recommended that the entire approach to forestry in the state is reviewed keeping in mind the importance of forests for ecosystem services – including wildlife habitat, carbon sequestration, improving air quality, ground water recharge etc, and how to keep communities in the centre of forest restoration, and as required by the CAMPA rules.

Ashok Khemka
12/4/2022

(Ashok Khemka)

Additional Chief Secretary, Science & Technology
Member, Steering Committee of State Authority

Chief Secretary

O/o ACS S&T

File No. 344

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