

# Proceedings of webinar on: “Contribution of agro-forestry to achieve additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional tree cover in India by 2030”

**Date: Wednesday, 8<sup>th</sup> July, 2020**

**Time: 3:00 pm to 5:00 pm, IST**

Contribution of agro-forestry to achieve additional  
carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent  
through additional tree cover in India by 2030



**Date: 8 July 2020 | Time 3:00 pm - 5:00 pm (IST)**

## Panelists

Dr J V Sharma, Director, Land Resources Division, TERI

Dr Rekha Pai, Retired IFS

Mr Jitendra Sharma, PCCF & HoFF, Punjab

Dr H D Kulkarni, Former Vice President, ITC Limited (Bhadrachalam Area, India)

Prof M S Malik, Birsa Agriculture University, Ranchi

Dr Syed Arif, Senior Fellow, Land Resources Division, TERI

Dr Aparna Tyagi, Research Associate, Land Resources Division, TERI

## Moderator

Dr Yogesh Gokhale, Senior Fellow, Land Resources Division, TERI

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### For more information

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### Back Drop

As per the Paris Climate Agreement India is committed to achieve the NDC targets by creating additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover by 2030. Agro-forestry spearheaded by states such as Punjab, Haryana, Andhra Pradesh through systematic plantations of Poplar, Eucalyptus, etc. has played an important role in catering to more than 80% domestic timber demand for furniture. The defined harvesting cycle of various important agro-forestry tree species also provides a great opportunity



to lock the sequestered carbon in form of furniture and re-use the land for sequestering additional carbon through new plantations. The agro-forestry plantations have also played an important role in stabilizing the forest and tree cover of the country by not only adding to area under tree cover but also by providing substitute to the timber harvested from forests and hence, conserving the same for ecological functions.

Agro-forestry if managed in a climate smart manner then has a potential of achieving 2/3rd proportion of forestry sector NDC targets. Agro-forestry sector is facing several problems such as unregulated pricing regime, transit and felling regulations and lack of incentives for carbon sequestration. Agro-forestry sector needs a Minimum Support Price with inclusion of value of carbon sequestration.

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This webinar on “Contribution of agro-forestry to achieve additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional tree cover in India by 2030” held on **Wednesday, July 8th, 2020 from 3:00 pm to 5:00 pm, IST**, focused to motivate industry, policymakers and farmers to promote agro-forestry to achieve livelihood sustenance and tackle climate change.

The key panellists for the webinar were, **Dr J.V. Sharma, Director, Land Resources Division, TERI; Mr Jitendra Sharma, Principal Chief Conservator of Forests and Head of Forest Force, Punjab Forest Department; Dr Rekha Pai IFS (Retd.), Former PCCF (Van panchayat and Community participation), Uttarakhand Forest Department; Dr H D Kulkarni, Former Vice-President, ITC Limited (Bhadrachalam area); Dr Syed Arif Wali, Senior Fellow, Land Resources Division , TERI; Prof M S Malik, Birsa Agriculture University, Ranchi and Dr Aparna Tyagi, Research Associate, Land Resources Division, TERI.** The session was moderated by **Dr Yogesh Gokhale, Senior Fellow, Land Resources Division , TERI.** The webinar was attended by 200 participants from various organizations working in diversified fields. Annexures 1 present the detailed schedule for the webinar.

## **Discussion session**

**Dr. J.V. Sharma, Director, Land Resources Division, TERI,** started off by highlighting the importance of the agro-forestry sector and how agroforestry has the 2/3rd potential to contribute to India’s NDCs of forestry sector. He also mentioned about certain major challenges such as market failure, regulatory regime for felling and transit, low productivity, lack of quality planting material, lack of mechanism for payment of carbon sequestered and overlapping institutional mechanism which are to be urgently dealt in the agroforestry sector. Dr. Sharma also flagged the issues that lack of wood based industries and structured markets for Licensing as a major challenge. He also emphasized on the provisions of National Forest Policy, 1988 in which substitution of wood is still there while present policy view of MoEF&CC is grow more wood and use more wood that will help more sequestration of Carbon and highlighted the need for the phrase to get amended.



**Mr Jitendra Sharma, PCCF and HoFF, Punjab Forest Department,** in his key note address described agro-forestry as a typical win-win formula for all the challenges that India is facing in increasing tree cover and carbon sequestration obligations or rehabilitation of degraded land, crop diversification or supporting the MSME sector

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or providing livelihood to the people. He emphasised on the point that India has to take a quantum jump in practices such as quality planting stock improvement, coordinated trials, market improvements, incentivizing farmers through carbon credits and other practices



to promote agroforestry. He described the example from the State of Punjab, Mr. Sharma, where the green cover as forest areas are concerned in the state has almost doubled in past 30 years due to the various conservation efforts and contributions by the farmers, which is most heartening situation. Further he also added that in last 3-4 years more than 1 Cr trees have been planted by the farmers of Punjab which have been geo-referenced for each individual farmer field and exact survival rate has been monitored. Mr. Sharma also highlighted some major deficiencies in the agroforestry sector such as the transit rules for the transport of forest produce; need to produce structural wood for timber needs which require supply of long rotation species to the farmers; he also described about the lack of the database for the revenue records and the agriculture statistics of the state where agroforestry component is not accounted. Mr. Sharma highly acknowledged the role industries in the plywood, paper and pulp sector for providing the support, facilitation and handholding to the farmers encouraging agro-forestry practices. He also stated successful steps taken by the State government of Punjab such as the setting up of the industrial unit and parks, proper execution of '*maandi*' mechanisms to enable farmers to sell their agroforestry produce.

**Dr Rekha Pai IFS (Retd.), Former PCCF (Van panchayat and Community participation), Uttarakhand Forest Department** in her special remarks Dr. Pai, focused on how improving the status of degraded forests and creating more trees outside the forestry where agroforestry is a subset can contribute to achieve India's forestry NDCs. She also mentioned that as India is a net importer of wood and India's demand continues to grow, in this context agro-forestry can play an important role. Dr. Pai, highlighted that a highly cohesive approach between various sector and government department is required for the promoting agroforestry in the country. She flagged some issues in Guidelines of the Sub Mission on Agroforestry related to the



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incentivizing the states which have liberalized of transit and felling regimes, soil health card as a pre-condition for the launch of this scheme. She also emphasise that despite the various direct benefits, agroforestry also serves various in-direct benefits as well such as reducing the pressure on forests due to the sustainable fuel wood extraction. Later she highlighted some major issues like assessing the true potential and status of carbon from agroforestry resource, easy and enabling environment for the transport of the agroforestry produce, need to focus on increasing the demand side for the produce and there is a also need to relook at the EXIM policy of India for wood import which lead to huge foreign exchanges.

**Dr H D Kulkarni, Former Vice-President, ITC Limited (Bhadrachalam area)**, who is known for his successful implementation of agro-forestry based projects with ITC, in his opening remarks made a presentation on **“Agroforestry- Role in Carbon Sequestration”**. He started by saying that India’s NDC target to create additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent will provide an opportunity to increase the forest tree cover to 33% through forestry and agroforestry. Through is suggested to have clonal origin plantation which seeks to produce uniform growth, more survival rate, high wood wood yield, good quality wood with less land inputs. Dr. Kulkarni explained the success story of how ITC has relooked at the spacing and decided to allocate 75% for agricultural crop and 25% for trees plantation, which later became very popular among farmers in Telangana, Andhra Pradesh and Madhya Pradesh. For carbon neutrality, Dr Kulkarni mentioned the need to follow GHG protocol (Scope I, II and III) for emissions and offset accounting and it is must for the area to be annually audited and certified for C-sequestration. While closing his discussion, Dr Kulkarni highlighted some key takeaways, to name a few, (1) emissions from forestry/agroforestry is to be accounted, (2) high productive quality planting material is to be given preference for planting, (3) the “Fast wood forestry” experience may serve as an example for improving productivity and quality of the planting material.





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**Dr Syed Arif Wali, Senior Fellow, Land Resources Division , TERI and Prof M S Malik, Birsa Agricultureir University, Ranchi** started

their discussion with highlighting the challenges and issues w.r.t agroforestry in India and relates to the high population growth and available land area per capita. Prof Mallik, further highlighted the guidelines, advisories, policies and ordinances and pressed on the need to focus on the health



and nutrition, income and employment of the farmers through agroforestry activities. Sharing his experience, he claimed that in agroforestry activities, the use of wasteland, degraded land should be promotes as agroforestry practice shall also helps in improving the soil carbon, soil nutrients. Further, he highlighted and suggested on the practicability and implementability of silviculture, agrisilviculture,agrihorticulture and silvipasture for employment generation using agroforestry models. In the end, he made certain recommendations relating to (1) development of agroforestry technologies for arid and semi-arid zones and other fragile ecosystems, (2) focus on development and demonstration of agroforestry models linked with market for small holding farmers, (3) State agroforestry to be developed in consonance with the National Agroforestry Policy (2014), (4) enhancement of biomass productivity per unit area and time through agroforestry interventions etc.



**Dr Aparna Tyagi, Research Associate, Land Resources Division, TERI** made a presentation on “**Need of Minimum Support Price (MSP) and Carbon Incentive For Agroforestry**” and shared the understanding on how MSP could be provided for the agro-forestry species. She mentioned that due to the market failure, farmer has to bear the financial loses and further explained the reasons for market failure with the help of a case study in which the farmers, who were growing popular species, faced a serious crisis between 2001 and 2005. To overcome such variations in the market, she suggested that there is a need for the Government of India to come up with a Minimum Support Price Scheme. An explanation was made to the participants and panellists to understand the method for calculating MSP for a particular species. To elaborate further, she mentioned that agroforestry can supplement farm income by selling the Carbon credits in the various carbon markets, enable risk reduction and also contribute towards climare resilience. Under the carbon markets available for agroforestry, Dr Tyagi mentioned about the compliance markets and voluntary offset market. She further highlighted the standards available for voluntary markets which are VERRA, Plan Vivo, Gold Standard and Climate, Community & Biodiversity Standards (CCBS).

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Mr Jitendra Sharma delivered his concluding remarks for the webinar session and later the vote of thanks was proposed by Dr. Yogesh Gokhale from TERI.

### Key findings of the discussion and recommendations:

- Agro-forestry has a about 2/3<sup>rd</sup> potential to contribute toward achieving India's forestry NDC target, hence it should be promoted.
  - To increase agroforestry practice there is a need to provide Minimum Support Price (MSP) by incorporating carbon incentive for agroforestry timber species so as to safeguard the interests of the farmers from the possible financial loss.
  - There is need to build capacity of the farmers and also to spread awareness regarding the different schemes and policies with respect to agroforestry.
  - Regular timber markets should be established to ensure transparent timber trade and prevent exploitation of farmers
  - An accreditation system should be developed for nursery planting stock and working plans should be prepared for agroforestry.
  - Quality planting material should be made available. There is a need to produce high yielding varieties for promoting the agroforestry production
  - Need to develop innovative financial mechanism for obtaining forest based carbon finance by formulating carbon neutrality policy at national level.
  - Govt of India under its ministry MoEF & CC should start a National Carbon Registry to create a regulated carbon market for India. The persons / farmers / societies / industries who do plantation work will park their carbon credits for trade. Indian companies who require the carbon credit who would like to offset their emission can purchase it through the registry. This will also help the government to account for the CO<sub>2</sub> capture in order to keep the account upto 2030 to achieve agreed 2.5 to 3 bn NDC. With this action, farmers (agroforestry) and others who are looking for carbon benefit will have market mechanisms available to them .
  - Institutional strengthening and coordination between concerned Ministries of the Central and State Governments, Governmental agencies, NGOs, farmers and private sector should be strengthened.
  - The implementation of the National Agroforestry Policy, 2014 should be done with priority.
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- SEBI has mandated companies to declare their Environmental footprint and measures taken to reduce it. This will also help the government to gather the companies data on emission and offset for accounting for NDC.
- Provisions for harvesting and transportation of agroforestry produce should be made less stringent. Transit regulation is very important. Transit regulation is a key for chain of custody since more and more companies now purchase certified timber. This should not harass farmers and traders. Permission by DFO should be respected throughout the country and for the same the Government of India should come up with a notification.
- The government of India has signed the Paris agreement in 2016 and the year for accounting starts from the date of signing. Hence, MoEFCC should start collection of data year wise on how many hectare of plantations have come up, and how many units of CO<sub>2</sub>e are estimated to have been achieved. It is also recommended that the government should start collecting the data of carbon offset by other mechanisms.



## Annexure 1. Agenda of the webinar

**Webinar on:**  
**“Contribution of agro-forestry to achieve additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional tree cover in India by 2030”**

**Date: 8th July 2020**

**Time: 3.00 pm to 5.00 pm**

**Moderated by** Dr Yogesh Gokhale, Senior Fellow, Land Resources Division , TERI

**3.05 pm – 3.15 pm:** Welcome Address – Dr J V Sharma, Director, Land Resources Division, TERI

**3.15 pm – 3.30 pm:** Keynote address – Mr Jitendra Sharma, Principal Chief Conservator of Forests and Head of Forest Force, Punjab Forest Department

**3.30 pm - 3.40 pm:** Special Remarks by Dr Rekha Pai IFS (Retd.), Former PCCF (Van panchayat and Community participation), Uttarakhand Forest Department

**3.40 pm – 3.55 pm:** Experience sharing – Dr H D Kulkarni, Former Vice-President, ITC Limited (Bhadrachalam area)

**3.55 pm – 4.10 pm:** Issues and Challenges of agro-forestry in India – Dr Syed Arif Wali, Senior Fellow, Land Resources Division , TERI and Prof M S Malik, Birsa Agriculture University, Ranchi

**4.10 pm – 4.20 pm:** Need of minimum support price and carbon incentive for agro-forestry - Dr Aparna Tyagi, Research Associate, Land Resources Division, TERI

**Question & Answer**

**Concluding Remarks** – Mr Jitendra Sharma, Principal Chief Conservator of Forests and Head of Forest Force, Punjab Forest Department

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