# Proceedings of the Inception Workshop on DPR preparation for Rejuvenation of Mahanadi River through Forestry Interventions

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At Raipur, Chhattisgarh

October 04, 2019







## Organized by Institute of Forest Productivity Ranchi

in collaboration withDepartment of Forest and Environment,Govt. of Chhattisgarh

## Proceedings of the Inception Workshop on DPR preparation for Rejuvenation of Mahanadi river through Forestry Interventions Raipur, Chhattisgarh. October 4, 2019

One day State level Inception Workshop on DPR preparation for Rejuvenation of Mahanadi River through Forestry Interventions was organized by the Institute of Forest Productivity, Ranchi in collaboration with the Department of Forest and Environment, Govt. of Chhattisgarh at Raipur, Chhattisgarh on 4<sup>th</sup> October, 2019.

The workshop was graced by the Chief Guest, **Sh. Rakesh Chaturvedi**, *IFS*, PCCF & HoFF, Department of Forest and Environment, Govt. of Chhattisgarh, distinguished guest, **Sh. A.K.Shukla**, *IFS*, PCCF (Wildlife), Department of Forest and Environment, Govt. of Chhattisgarh, **Sh. Naved Shujauddin**, *IFS*, CF (Development & Planning) and State Nodal Officer for Chattisgarh, Department of Forest and Environment, Govt. of Chhattisgarh, **Dr. Nitin Kulkarni**, Director, Institute of Forest Productivity, Ranchi, **Dr. Ratnakar Joheri**, *IFS*, Conservator of Forests, Institute of Forest Biodiversity, Hyderabad, **Dr. Sharad Tiwari**, Scientist-F, Institute of Forest Productivity, Ranchi, **Sh. Sanjeev Kumar**, Scientist-D, Institute of Forest Productivity, Ranchi and delegates from the Forest Department, Horticulture Department, Soil Conservation Department, Water Resources Department, NGOs and NABARD.

In his welcome address, Dr. Nitin Kulkarni, Director, Institute of Forest Productivity, Ranchi welcomed the guests and explained the importance and the need for conducting the inception workshop on DPR preparation for Rejuvenation of Mahanadi river through Forestry Interventions. He talked about the importance of rivers in our lives and the role they play in water table recharge, act as drainage channels for surface water, maintain fertile soils, source of hydropower generation etc. Citing reasons about the factors affecting the river ecosystem, he stressed on the urgent need for rejuvenation of river system. In his address Dr. Kulkarni emphasized on importance of field specific data to be incorporated for promising sites for interventions and expressed on support from the State Forest Department. He introduced the objectives of the workshop to the house and called for detailed deliberations from all departments of the Govt. and other stakeholders who would play a vital role in preparation of a holistically formulated and implementable DPR. He talked about the GIS component including ground validation of data and collection of attribute data from various participating agencies including the WII, space application and GIS agencies, ICAR institutes, FSI etc. He said that integration of spatial data and attribute data would help to identify the promising sites for interventions. He highlighted that modeling and analysis of best forestry interventions would be carried out with due consultation with the agencies and monitoring of implementations would be done after execution of the project starts.

**Sh. A. K. Shukla**, *IFS*, PCCF (Wildlife), Department of Forest and Environment, Govt. of Chhattisgarh in his address praised the "Narwa Garwa Ghurwa Badi scheme" started by the Chief Minister of the State. He said that it was remarkable to see the efforts being made by different organizations to rejuvenate rivers, but the specialization and experience for the most inexpensive and durable way of rejuvenation of rivers, i.e., plantation and afforestation lies only with the Forest Department. So, the role of the Forest Department in river rejuvenation is most important.

The Chief Guest for the occasion Sh. Rakesh Chaturvedi, IFS, PCCF, Department of Forest and Environment, Govt. of Chhattisgarh in his address stated that destruction of our environment is the destruction of us all. He praised the "Narwa Garwa Ghurwa Badi scheme" started by Chief Minister of the State to make villages self-supportive. He talked about how our ancestors always cared about the environment by proper disposal of waste and planting trees. Praising the efforts of the State Forest Department for successful preparation of the DPR for Narwa scheme, he informed that the work was carried out with a scientific approach. He said that it was important to have a proper plan to enable easy execution of the work. He informed the house about the mandates received by MoEF&CC from the PMO that involve: (i) digitization of forest boundaries, (ii) river rejuvenation and (iii) wood stock outside forest area. He said that most of the timber in the country is imported so it has been mandated that we grow more and more trees outside the forest area. He shared that in the current year; the forest department under different schemes has planted trees in 500 m buffer zones after much deliberation, on both sides of 4 rivers (Arpa, Indrvati, Kharun and Sabari). He said that the farmers have been motivated to plant trees in their fields too under the Hariyali Prasar Yojana and Phal-udyan Vikas Yojana in collaboration with the Horticulture Department. He called for all to coordinate in formulation of an integrated DPR considering the importance of trees in river rejuvenation and taking into account the "Narwa Garwa Ghurwa Badi scheme" so that it can lead to development of self-sufficient villages.

The Vote of Thanks for the inaugural session was proposed by Sh. S. N. Mishra, Chief Technical Officer, Institute of Forest Productivity, Ranchi.

#### **Technical Session I**

The inception workshop was divided into two sessions. The first technical session was chaired by Sh. P. C. Pandey, IFS, APCCF (Protection), Department of Forest and

Environment, Govt. of Chhattisgarh and co-chaired by Sh. Yunus Ali, *IFS*, APCCF (HRD & IT), Department of Forest and Environment, Govt. of Chhattisgarh.

## Presentation - 1: Mahanadi Basin: Facts, Figures and Data Requirement by Dr. Sharad Tiwari, Scientist - F & and GIS Coordinator, DPR Mahanadi Project, IFP, Ranchi

The first presentation was made by Dr. Sharad Tiwari, Scientist – F, IFP, Ranchi on "Mahanadi River Basin: Facts, Figures and Data Requirement". During his presentation he stressed that for successful implementation of a project it was necessary to consult and interact with all the stakeholders to get their ideas and to gather relevant information which could be of paramount importance. In his presentation he talked in detail about the facts and figures and the data required to be acquired from the State Forest Department regarding Mahanadi river basin in Chhattisgarh for generation of thematic maps. Dr. Tiwari discussed about the selection of buffer zone of 5 Km for main river and 2 Km for major tributaries adding that this buffer was being taken beyond the highest floodplain of the river. He talked about careful selection of buffer zones along the river as per the hydro geomorphological zones and the floodplains. He also added that it was important to take into consideration the inculcation of sense of ownership among the stakeholders.

One of the query arised on use of Landsat data instead of IRS dataset or Cartosat and other data. It was told to the house that at 1:50000 scale even LISS III data with 23 meter resolution was sufficient. The Landsat is having better panchromatic camera with 15 meters resolution. And on query on Landsat data being old, it was told that latest dataset for 2019 was being used.

## Presentation - 2: GIS Approach: Rejuvenation of Mahanadi through Forestry Interventions by Sh. Prabir Dey, GIS Consultant, DPR Mahanadi Project

The second presentation was done by Sh. Prabir Dey, GIS Consultant for Mahanadi River. His presentation involved the progress of the work using the GIS approach that included GIS datasets and layers that are being used in the project. The multi-criteria analysis to be used in the project was explained in detail. He was suggested to collate information based on watershed because the work may sometimes extend beyond the riverscapes.

He was queried on prioritization of areas for forestry interventions based on the criteria for interventions. Citing an example he replied that suppose the intervention was to be done for an agricultural area, then those areas could be demarcated where landuse pattern is agriculture, slope is less than 50 and erosion is high. Then these areas could be identified and after ground validation intervention sites could be suggested. Similar procedure could be followed for demarcating all sites for forestry interventions.

Queries were raised on how to deal with interventions on non-forestry areas because four types of lands were identified during other surveys. They were forest land, revenue wasteland, encroached land and farmer's land. A miscellaneous section could be added to address the land occupied by industries beside the river. It was again reiterated that motivation of farmers was necessary for successful implementation of the project.

The Director, IFP, Ranchi discussed on the scientific interventions and models to be proposed. The sites would be prioritized based on slopes, soil conditions etc and the most deteriorated area would be the priority site to intervene. He urged the house to suggest the native species for grasses, shrubs, trees etc so that it is conducive for ground water recharge.

## Presentation - 3: Formats for information to be generated under different land uses by Sh. Sanjeev Kumar, Scientist - D, IFP, Ranchi

The third presentation was made by Sh. Sanjeev Kumar, Scientist-D, IFP, Ranchi. He discussed the formats for information to be generated under different land use systems. Describing the objectives for data collection in the formats he said that the formats refer to the collection of data from the past and present river management and other interventions done by different agencies. He informed that preliminary data was to be collected regarding forestry activities with regards to river management programme. He talked about the attribute datasets that would be required to be gathered as per the formats devised for gathering of detailed activity wise information. The second objective referred to identify and prioritize critical areas for implementation of plan, choice of appropriate species and development of site profile models based on multiple criteria in different landscapes. The formats constituted of information to be gathered regarding proposed sites for implementation of plan and existing interventions that have already been carried out. Data collection on natural landscape, agriculture landscape, urban landscape, wetlands, riparian wildlife management, soil & water conservation and other activities relating to civil society involvement and their participation along with capacity building is included in the formats.

Queries were raised regarding funding for deploying outsourced staff by the SFD. The Director, IFP, Ranchi made it clear that no such funds were available.

## Presentation – 4: Godavari and its Tributaries in Chhattisgarh by Sh. Ratnaker Joheri, Conservator of Forests, IFB, Hyderabad

The fourth presentation was made by Sh. R. Joheri, CF, IFB, Hyderabad. He presented in brief about the Godavari river Basin and its tributaries in Chhattisgarh and emphasizing on the data formats to be completed for Indravati and Sabari rivers. He endorsed the participatory and consultative approach to be taken up for DPR preparation.

Presentation – 5: DPR on Rejuvenation of river Godavari through Forestry Interventions – ecological perspective by Sh. S. Z. Siddiqui, Consultant for Godavari DPR

Sh. S. Z. Siddiqui, Consultant, Godavari River talked about the DPR preparation for rejuvenation of Godavari River through forestry interventions in an ecological perspective and called out for an organized approach to restore the rivers.

Presentation – 6: Preparation of DPR on Rejuvenation of river Narmada through Forestry Interventions by Dr. Dheeraj Gupta, Scientist-C, TFRI, Jabalpur

The last presentation in Session I was made by Dr. Dheeraj Gupta, Scientist-C, TFRI, Jabalpur on rejuvenation of Narmada River through forestry interventions. Through his presentation he discussed about the environmental issues concerning the degradation of the area of origin of the river at Amarkantak. He talked about a holistic river basin management through forestry interventions, habitat management, catchment treatment and soil conservation measures. He urged the house for suggestions and technical inputs for preparation of the DPR for river Narmada.

#### **Technical Session II and Interactive Session**

The second technical session and interactive session was chaired by Sh. Murugan, *IFS*, APCCF (JFM & Policy Analysis), Department of Forest and Environment, Govt. of Chhattisgarh.

Presentation – 7: Experiences with Forestry Intervention in River Basin in Chhattisgarh by Sh. V. Srinivas Rao, *IFS*, CEO, CAMPA, Department of Forest and Environment, Govt. of Chhattisgarh.

The session started with a presentation by Sh. V Srinivas Rao, *IFS*, CEO, CAMPA, Department of Forest and Environment, Govt. of Chhattisgarh. He presented the work being carried out in Chhattisgarh related to conservation of river basins, protection of soil ans conservation of soil moisture etc. He informed that forestry interventions including catchment area treatment, plantations as per working plan, soil and moisture conservation inside forest areas and construction of water harvesting structures have been done for some of the rivers of the State. He further deliberated on the flagship schemes of the Chhattisgarh Forest Department like the Narwa Vikas Yojana, Hariyali Prasar Yojana and River Bank Plantation.

A presentation was made by a representative of the SFD, Govt. of Chhattisgarh. He informed that 137 DPRs for narwa's for the year 2019-20 were already prepared and for

the year 2020-21, approximately 150 DPRs were to be made. He also informed that GIS based methodology was adopted to prepare the DPRs in which the treatment would be from the ridge to the valley. The main tools used by the NGO to accomplish the tasks were Google Earth Pro, Bhuvan and Global Mapper.

## Presentation - 8: Hi Impact Mega Watershed Project (Bharat Rural Livelihood Foundation) by Sh. Saroj Mahapatra, Representative from NGO Pradan

Sh. Saroj Mahapatra, representative from the NGO Pradan shared his experience about the work regarding soil conservation measure works being carried out in Chhattisgarh. He shared his experiences and the approach regarding a watershed project that had been initiated in collaboration with the Govt. of Chhattisgarh. He informed that they were working in four districts of the State. Their main focus involved grass root mobilization, promoting livelihoods and capacity building of people. He talked about the various forestry and agricultural activities and interventions undertaken by their institution in the upland and lowland fields.

Technical sessions were followed by interactive session with a view to get submission from the representatives participating from different organizations with respect to preparation of DPR for Mahanadi, Godavari and Narmada rivers. The representatives from various organizations and departments shared their experiences related to the forestry interventions or river rejuvenation and related problems, prospects and ways ahead.

#### Recommendations:

- Data and information obtained from the State Forest Department for different landscapes and land uses should be geotagged and validated on ground, on the basis of sample ground truthing.
- The buffer zone of 5 Km and 2 Km for the Main River and major tributaries respectively from the high flood level zone to be adopted for forestry interventions beyond the floodplain.
- Forward linkages for farmers should be taken into account for agricultural landscapes.
- Reclamation of the floodplains and District Resource Plans to be taken into consideration while preparation of the DPR.
- It was suggested to hold division level meetings to demonstrate the filling up of the data formats, wherever required to complete the task in time.

The formal Vote of Thanks for the workshop was proposed by Sh. Naved Shujauddin, IFS, CCF and State Nodal Officer for Chhattisgarh, Department of Forest and Environment,

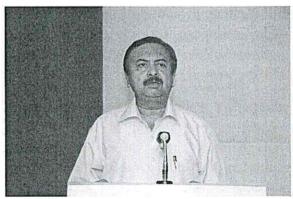
Govt. of Chhattisgarh who thanked all the dignitaries and delegates from varied government departments by their active participation and deliberations.

**Acknowledgement** — Institute of Forest Productivity, Ranchi thanks Sh. Naved Shujauddin, *IFS*, CCF and State Nodal Officer for Chhattisgarh, Department of Forest and Environment, Govt. of Chhattisgarh for all sorts of cooperation in planning and organizing the workshop successfully and showing keen interest in generating the information required for the project.

#### Glimpses of the workshop



Dr. N. Kulkarni, Director, IFP, Ranchi introducing the workshop to the participants



Sh. A. K. Shukla, *IFS*, PCCF (Wildlife) addressing the workshop



Chief Guest, Sh. Rakesh Chaturvedi, IFS, PCCF & HoFF addressing the workshop

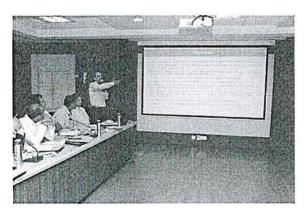


Delegates and Participants at the workshop

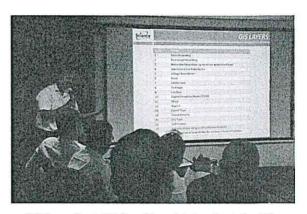




Delegates and Participants at the workshop



Dr. S. Tiwari, Scientist-F, IFP, Ranchi presenting about Mahanadi Basin: Facts, Figures and Data Requirement



GIS Consultant, IFP, Ranchi explaining about the GIS approach being carried out



The dignitaries deliberating in the workshop



Delegates and Participants at the workshop



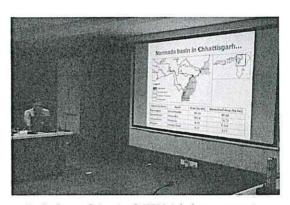
Sh. Sanjeev Kumar, Scientist-D, IFP, Ranchi presenting formats for information to be generated under different land uses



Delegates and Participants at the workshop



Sh. R. Joheri, IFS, CF, IFB, Hyderabad presenting about the Godavari river basin



Dr. D. Gupta, Scientist-C, TFRI, Jabalpur presenting about the Narmada river basin



Sh. V. Srinivas Rao, IFS, CEO, CAMPA presenting the experiences with forestry intervention in river basin in Chhattisgarh



Dignitaries and delegates at the workshop

## Inception Workshop on DPR Preparation for Rejuvenation of Mahanadi, Narmada and Godavari Rivers through Forestry Interventions

Date: 04th October 2019 Venue: TCH Hall, Aranya Bhawan, Nava Raipur (Chhattisgarh)

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### Inception Workshop on DPR Preparation for Rejuvenation of Mahanadi, Narmada and Godavari Rivers through Forestry Interventions

Date: 04th October 2019 Venue: TCH Hall, Aranya Bhawan, Nava Raipur (Chhattisgarh)

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### Inception Workshop on DPR Preparation for Rejuvenation of Mahanadi, Narmada and Godavari Rivers through Forestry Interventions

Date: 04th October 2019

Venue: TCH Hall, Aranya Bhawan, Nava Raipur (Chhattisgarh)

List of Participants / Delegates

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