

Brief Write-up on Afforestation Schemes in India

Central Government Schemes

National Afforestation Program (NAP)

The National Afforestation Program (NAP) is a flagship scheme of National Afforestation and Ecodevelopment Board (NAEB), launched with the objective to increase and/ or improve Forest and Tree Cover (FTC) through the rehabilitation of degraded forests and other areas by institutionalizing decentralized/participatory forest management and supplementing livelihoods improvement processes. The Program seeks to achieve the Sustainable development and management of the national forest resources through providing support, both in physical and capacity building terms, to the Forest Development Agencies (FDAs) in the states, being conceived and established as a federation of Joint Forest Management Committees (JFMCs) at the Forest Division level to undertake holistic development in the forestry sector with people's participation. The Program promotes and strengthens the decentralized institutional structure that allows a proactive and an enhanced participation of the community, both in planning and implementation, to improve forests and livelihoods of the people living in and around forest areas.

The village is reckoned as a unit of planning and implementation and all activities under the programme are conceptualized at the village level. The two-tier approach comprising of Forest Development Agencies and the Joint Forest Management Committees (JFMCs) helps in building capacities at the grassroots level, and significantly empowers the local people to participate in the decision-making process. The Program also supports the component of Entry Point Activities, under which community assets are created with a 'care and share' concept.

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THE COMPENSATORY AFFORESTATION FUND ACT, 2016 ACT NO. 38 OF 2016 [3rd August, 2016.] provided for the constitution of Compensatory Afforestation Fund Management and Planning Authorities both at the National and at the respective State level to oversee the establishment and the management of the funds received from the user agencies towards compensatory afforestation, additional compensatory afforestation, penal compensatory afforestation, net present value and all other amounts recovered from such agencies under the Forest (Conservation) Act, 1980. The money received from the user agencies in cases where forest land diverted falls within protected areas (areas notified under the Wild Life (Protection) Act, 1972 (35 of 1972) for undertaking activities related to protection of biodiversity or wildlife also forms a part of the Fund.

The funds are established under the under the public accounts of India and the public accounts of each State and shall be used for undertaking artificial regeneration (plantations), assisted natural regeneration, protection of forests, forest related infrastructure development, Green India Programme, wildlife protection and other related activities and matters. The Hon'ble Supreme Court in its judgment dated 26th September, 2005 further observed that the Fund generated for protecting ecology and providing regeneration should not be treated as a Fund under article 266 and article 283 of the Constitution

National Bamboo Mission (NBM)

The National Bamboo Mission (NBM) was launched as a Centrally Sponsored Scheme in 2006-07 and was subsumed under Mission for Integrated Development of Horticulture (MIDH) during 2014-15 and continued till 2015-16. Though the original NBM contributed significantly towards enhancing bamboo areas both in forest and non-forest areas, yet the implementation of the scheme demonstrated the shortfall of the scheme is being able to establish, maintain and strengthen the value chain linkages between the producers (farmers) and the industry and a strong value addition component. The

Scheme also fell short of institutionalizing bamboo farmers in groups such as cooperatives, SHGs, JLGs etc for facilitating their access to incentives and effective market linkages. The Scheme was thence revised in June 2019, and is now being implemented under the Ministry of Agriculture and Farmers Welfare.

The Revised Mission now focusses on the propagation of quality plantations of bamboo of the commercially required species, product development and value addition including primary processing and treatment; micro, small & medium enterprises as well as high value products; markets, and skill development, thus ensuring a complete value chain for growth of the bamboo sector to boost bamboo based industry which would also have a ripple effect on rural economy.

The main objective of the Mission would be to increase the net area under bamboo plantation in non-forest Government and private lands including predominantly in farmers' fields, homesteads, community lands, arable wastelands, and along irrigation canals, water bodies etc. to supplement farm income and contribute towards resilience to climate change as well as availability of quality raw material requirement of industries. The Mission also seeks to promote efficient primary processing, primary treatment and seasoning plants, preservation technologies and market infrastructure, besides ensuring the provision of effective skill development, capacity building, awareness generation for development of bamboo sector from production to market demand.

Green India Mission (GIM)

The National Mission for Green India (GIM) is one of the eight Missions outlined under the National Action Plan on Climate Change (NAPCC). It aims at protecting; restoring and enhancing India's diminishing forest cover and responding to climate change by a combination of adaptation and mitigation measures. It envisages a holistic view of greening and focuses on multiple ecosystem services, especially, biodiversity, water, biomass, preserving mangroves, wetlands, critical habitats etc. along with carbon sequestration as a co-benefit. This mission has adopted an integrated cross-sectoral approach as it will be implemented on both public as well as private lands with a key role of the local communities in planning, decision making, implementation and monitoring.

The Goals of the Mission are to increase forest/tree cover to the extent of 5 million hectares (mha) and improve quality of forest/tree cover on another 5 mha of forest/non-forest lands; to improve/enhance eco-system services like carbon sequestration and storage (in forests and other ecosystems), hydrological services and biodiversity; along with provisioning services like fuel, fodder, and timber and non-timber forest produces (NTFPs); and to increase forest based livelihood income of about 3 million households.

Green India Mission hinges upon convergence with related Missions of the National Action Plan on Climate Change, other complementary National Mission Programmes and schemes for better coordination in developing forests and their fringe areas in a holistic and sustainable manner.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

Mahatma Gandhi Employment Guarantee Act 2005 (or, NREGA No 42, later renamed as the "Mahatma Gandhi National Rural Employment Guarantee Act" or MGNREGA), is an Indian labour law and social security measure that aims to guarantee the 'right to work'. This act was passed in September 2005 with the objective of enhancing livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year, to every household whose adult members volunteer to do unskilled manual work. The Act also provides for the creation of durable assets (such as roads, canals, ponds and wells), besides listing other permissible works like water conservation and water harvesting, drought proofing including afforestation, irrigation works, restoration of traditional water bodies, land development, flood control, rural connectivity, and works notified by the government. MGNREGA is to be implemented mainly by gram panchayats (GPs). The

involvement of contractors is banned under the law. However, the convergence of NREGA with other programmes and schemes is allowed under the law.

Employment is to be provided within 5 km of an applicant's residence, and minimum wages are to be paid. If work is not provided within 15 days of applying, applicants are entitled to an unemployment allowance. That is, if the government fails to provide employment, it has to provide certain unemployment allowances to those people. Thus, employment under MGNREGA is a legal entitlement. The law also provides many safeguards to promote its effective management and implementation. The act explicitly mentions the principles and agencies for implementation, list of allowed works, financing pattern, monitoring and evaluation, and most importantly the detailed measures to ensure transparency and accountability.

Apart from providing economic security and creating rural assets, NREGA can help in protecting the environment, empowering rural women, reducing rural-urban migration and fostering social equity, among others."

The statute is hailed by the government as "the largest and most ambitious social security and public works programme in the world". In its World Development Report 2014, the World Bank termed it a "stellar example of rural development".

Rural Infrastructure Development Fund (RIDF)

Government of India created the Rural Infrastructure Development Fund under NABARD in 1995-96, with an initial corpus of Rs.2,000 crore. With the allocation of Rs.29,848 crore for 2020-21 under RIDF XXVI, the cumulative allocation has reached Rs.3,78,348 crore, including Rs. 18,500 crores under Bharat Nirman.

At present, there are 37 eligible activities under RIDF as approved by the Government of India, which can be classified under three broad categories

1. Agriculture and related sector, including Minor Irrigation Projects/ Micro Irrigation 2. Soil Conservation 3. Flood Protection 4. Watershed Development/ Reclamation of waterlogged areas 5. Drainage 6. Forest Development
2. Social sector
3. Rural connectivity

The State Governments / Union Territories, State Owned Corporations / State Govt. Undertakings, State Govt. Sponsored / Supported Organisations, Panchayat Raj Institutions/Self Help Groups (SHGs)/ NGOs are listed as eligible institutions to receive the loans under the RIDF. NABARD releases the sanctioned amount on reimbursement basis except for the initial mobilisation advance @30% to North Eastern & Hilly States and 20% for other states.

The project for rural connectivity, social and agri-related sector, are eligible for loans from 80 to 95% of project cost.

NABARD, also lays a considerable emphasis on systematic and sustained monitoring of the projects sanctioned under RIDF. During the year 2016-17, a total of 2866 projects were field monitored by various functionaries of the Regional Offices. Field monitoring is supplemented with desk reviews and periodic returns.

National Highways Authority of India (NHAI)

The Ministry of Road Transport & Highways has promulgated Green Highways (Plantation, Transplantation, Beautification & Maintenance) Policy-2015, under which plantations have been initiated in collaboration with Forest Departments and other agencies. 1% of the total project cost of all highway's projects will be kept aside for the highway plantation and its maintenance under the Policy. The objective of the Policy is to develop eco-friendly National Highways with participation of the community, farmers, NGOs, private sector, institutions, government agencies and the Forest Department for economic growth and development in a sustainable manner. Under the Policy, green belts shall be developed along the highways through outsourcing of Plantation work to expert and

experienced agencies/organizations.

Under the Policy Guidelines, the entire Highways network would be divided into two categories based on the legal status of the existing road-side plantations.

1. In areas, where existing plantations along the Highways have been notified as protected forests as plantation is either done by the forest department for management purpose or naturally grown trees. For these areas, permission for tree cutting is required to be taken from the forest department under the Forest Conservation Act, 1980. While granting the permission, the forest department to stipulate the conditions not only for compensatory afforestation but also for avenue plantations.
2. In other areas, the roadside plantations may be taken up either through the contractor, forest department and department dealing the Watershed Development in the State, Watershed Cell cum-Data Centre [WCDC] at district level and the Watershed Committee [WC] at local level with local communities/local self-government/Women Self Help Groups (WSHGs)/Self Help Groups (SHGs)/Joint Forest Management Committees (JFMC), or through open bidding by empanelled agencies.

For undertaking plantations, emphasis will be on transplantation and the protection of the trees instead of cutting the trees. The planting agency will have the responsibility to ensure that the condition of the site is good enough for the successful establishment of plants. Help of local experts from the Forest department and Horticulture department would be taken for region-wise specific choices for the species. The selection of species will be strictly done as per the guidelines or as per the recommendation of adjoining forest department with site specific native species.

Before starting any plantation, the local forest department will be consulted for ensuring compliance to any regulation in force that may affect raising, maintenance, and harvesting of the raised plantation. The guidelines mandate the survival to be 90% after raising the plantation of age one year at any stage during contractual period with normal shape and size. The planting agency would need to be required to observe strict compliance of the technical specification, species, maintenance schedule, survival, payment terms and conditions and on the legal right of the land as well as forest produce. It will however, have no right whatsoever on the land under plantation.

Intensification of Forest Management Scheme (IFMS)

The National Forest Policy 1988 aims for 33% of the country's geographical area under the forest cover for ecological and environmental security. While aiming to expand the forest cover in the country, it is equally important to improve the state and quality of existing forests and protect them against various threats and drivers of degradation. The threats to forests include encroachments, forest fires, illicit felling for timber and firewood, grazing, diseases and incursion of weeds and other invasive species, etc. The staffs also face threats of illegal felling of trees from organized forest smugglers / timber mafia and encroachments form land mafia.

With a view to minimizing fire hazards and controlling forest fires a Centrally Sponsored Scheme "Integrated Forest Protection Scheme" was launched during the 10th plan period. In 2009, the Integrated Forest protection Scheme (IFPS) has been revised and renamed "Intensification of Forest Management Scheme" (IFMS). The components of the scheme included forest fire control and management, survey, demarcation and preparation of working plans, strengthening of infrastructure such as roads, camp offices, watch towers, improved mobility, providing fire arms and use of modern information and communication technology etc.

Main components of Intensification of Forest Management Scheme (IFMS) are:

- Forest Fire Control and Management
- Strengthening of Infrastructure for forest protection
- Working Plan Preparation/ Survey and Demarcation

- Protection and conservation of Sacred Groves
- Conservation and Restoration of Unique Vegetation and Ecosystems
- Control and Eradication of Forest Invasive Species
- Preparedness for Meeting Challenges of bamboo Flowering and Improving Management of Bamboo Forests

National Medicinal Plants Board

Central Sector Scheme on Conservation, Development and Sustainable Management of Medicinal Plants

The Central Sector Scheme for Conservation, Development and Sustainable Management of Medicinal Plants was initially approved by the cabinet vide no. CCEA/21/2008 dated 26.06.2008, to emphasise on both ex-situ cultivation of medicinal plants as well as in-situ conservation efforts to meet increasing demand for medicinal plants from both the domestic and from overseas markets. This is envisaged to be achieved through systematic surveys, and augmenting local medicinal plants and aromatic species of medicinal significance through afforestation as per silvicultural principles and management prescriptions.

The scheme also focusses on quality R&D, capacity building through trainings, and raising awareness through promotional activities like creation of Home/School Herbal Gardens. The scheme also seeks to support programs for quality assurance and standardization through development of Good Agriculture and Collection Practices (GACPs); development of monographs laying down standards of quality, safety and efficacy; development of agro-techniques and a credible institutional mechanism for certification of quality of raw drugs, seeds and planting material.

Some of the main objectives of the Scheme are to

1. Promote in-situ conservation of medicinal plants which are important to the AYUSH and Folk systems of medicine.
2. Promote ex-situ conservation by supporting such programs in rural/ degraded forest/public/non-public/institutional lands/urban & peri-urban lands and waste lands.
3. Engage the Eco-Task Force mechanism for reversing habitat degradation of medicinal plants. Conservation & development of eco-systems with medicinal plants bio-diversity.
4. Promote R&D in all aspects of medicinal plants, development of agro-techniques, post-harvest management, storage and processing, developing molecular characterization tools etc. and promotion of IT.
5. Enhance community mobilization and facilitate sustainable livelihood systems based on medicinal plants for farmers, collectors and other stake holders especially in forest fringe areas.
6. Quality standardization, Good Collection Practices and Good Agricultural Practices for Medicinal Plants, and
7. Information, Education and Communication - through seminars, trainings and exposure visits promote capacity building and human resource development through appropriate inter-state and international exposure. Promote publication of documents, monographs, technical bulletins, documentaries, brochures, posters, other publicity materials, etc.

Forest Fire Prevention and Management Scheme

The Forest Fire Prevention and Management Scheme (FPM) is the only centrally funded program specifically dedicated to assist the states in dealing with forest fires.

The FPM replaced the Intensification of Forest Management Scheme (IFMS) in 2017. By revamping the IFMS, the FPM has increased the amount dedicated for forest fire work.

Funds allocated under the FPM are according to a center-state cost-sharing formula, with a 90:10 ratio of central to state funding in the Northeast and Western Himalayan regions and a 60:40 ratio for all other states.

It also provides the states to have the flexibility to direct a portion of the National Afforestation Programme (NAP) and Mission for Green India (GIM) funding toward forest fire work.

Ministry of Agriculture and Farmers Welfare

Sub-Mission on Agro Forestry

The Sub-Mission on Agro-forestry is being implemented under the National Mission on Sustainable Agriculture, with a backup of National Agroforestry Policy, 2014 to expand the tree coverage on farmland in complementary with agricultural crops. The Sub-Mission is focused to achieve the quantifiable benefits such as increase tree cover to enhance carbon sequestration, enrichment of soil organic matter, availability of quality planting material, improvement in livelihood, productivity enhancement of crop and cropping systems, development of an information system etc.

The Sub-Mission on Agroforestry has the following objectives-

1. To encourage and expand tree plantation in complementary and integrated manner with crops and livestock to improve productivity, employment opportunities, income generation and livelihoods of rural households, especially the small farmers.
2. To ensure availability of quality planting material like seeds, seedlings, clones, hybrids, improved varieties, etc.
3. To popularise various Agroforestry practices/models suitable to different agro ecological regions and land use conditions.
4. To create database, information and knowledge support in the area of agroforestry, and
5. To provide extension and capacity building support to agroforestry sector

The Mission seeks to achieve the above objectives through Nursery development for Quality Planting Material, Undertaking Peripheral and Boundary Plantation on the farms, undertaking Low density plantation on Farm lands, High Density block plantations, Capacity building and Trainings and establishing demonstrative and replicable Agroforestry models.

The State Forest Department, if they are not implementing department, will be actively associated in planning & implementation of the programme. Additional area taken up under plantation would be periodically intimated to State Forest Department to appropriately accommodate in their Wood Development Plan for issue of licenses to processing industries.

Integrated Watershed Management Program

The participatory watershed management for conserving rain water and other valuable natural resources is quite promising for potential use of these untapped & under tapped resources to bring about changes in agricultural production and to improve rural livelihood in the rainfed ecosystem. To bring all the watershed in to a single umbrella, the National Rainfed Area authority (NRAA) under the aegis of Planning Commission of India has developed Common Guidelines for Watershed Development Projects in the year 2008 (which has been revised during 2011) and various schemes related to watersheds have been in operation at different points of time which have now been brought under the single umbrella of Integrated Watershed Management Programme (IWMP), which comes under Prandha Mantri Krisi Sinchayee Yojna (PMKSY) at present.

The main objective of watershed development programme are

1. Conservation, development and sustainable management of natural resources (arable & non arable lands, water, animals, vegetation and social) including their use.
2. Enhancement of agricultural productivity and production in a sustainable manner.
3. Restoration of ecological balance in the degraded and fragile rainfed ecosystem.
4. High water use efficiency. (v) Livestock, Pisciculture, other household production /development.
5. Development / conversion of wasteland.
6. Reduction in regional disparity between irrigated and rainfed areas, and
7. Creation of sustained employment opportunities for the rural community including the landless.

The Department of Land Resources, MORD, GOI is the funding agency for implementation of IWMP in India and the funding patterns involves cost sharing between the Central and State Governments on a 90: 10 ratio.