

Chhattisgarh Forest Policy at the Crossroads: An Institutional Interpretation

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ABSTRACT

After the formation of the new state, Government of Chhattisgarh (GOCG) has prepared *Chhattisgarh Forest Policy 2001 –Unlocking Forests for People*, within broad framework of 1988 Forest Policy. This paper makes an attempt to provide an institutional interpretation on the various components of Chhattisgarh Forest Policy (CFP) and governance structure designed to achieve the goal of sustainable management of forests. Chhattisgarh is the first state in the country which formulated its forest policy within the broad framework of National Forest Policy-1988. Distributed governance or shared management or joint management has primarily been the main approach to design the institutional mechanisms and to implement various programmes. After the formation of the state JFMCs have been nurtured to provide desired momentum. The JFMCs are practically involved in all the programmes initiated under CFP. Forest Department plays the role of a facilitator for these JFMCs and helps them in establishing market linkages. As a result forest committees of the State have accumulated Rs. 90 million savings in their accounts. The committee members are utilizing this money for themselves and the community on sustainable basis. This clearly demonstrates that the Joint Forest Management holds to the overall economic development of the people living in the vicinity of the forests. However, it is high time for JFMCs and FDA to design financial planning for utilizing the available fund for value addition activities associated with NTFPs and medicinal and herbal plants. It is important to realize that the institutional innovations being used for implementation of various programmes have reasonable potentiality of adjustments in long run and may not likely to involve high transaction costs, if a few attributes of existing programmes are to be altered. There are a few gray areas in CFP which need to be addressed in the coming years. For example policy related to protected areas and wildlife sanctuaries need to be developed keeping in view co-existence of human population and wildlife and biodiversity resources. The state has prepared a well informed document on Biodiversity Strategy and Action Plan with the technical support from several research organizations, government departments and public representatives and NGOs. The GOCG may use this valuable input to implement biodiversity action plan. This is important in view of IPR and TRIP rights structures and WTO framework (Marothia, 1997). The state may also think to establish an umbrella organization (preferably Forest Policy Institute with research, extension and policy wings) to address the domestic and international contemporary issues in the forestry and interrelated sectors.

Key Words: Chhattisgarh Forest Policy, Distributed Governance, Joint Forest Management, Non-timber Forest Products, Biodiversity

INTRODUCTION

India's forests constitute about 2% of the global forest area, supporting 16% and 18% of global human and cattle population respectively, and out of the total estimated fodder requirement, more than half is met from forests. Besides these forests are also a perennial

source for meeting requirements of a number of other products like medicinal plants, food and other sources of livelihood. The forest cover of India is 19.39% of its total geographical area and it is the second largest land use after agriculture. Forests exhibit a unique diversity across agro-ecological zones of the country and are rich in faunal and floral diversity and harbor around

thousands of animal and plant species. India is regarded as sixth among the twelve-mega biodiversity countries of the world having eastern Himalayas and Western Ghats as biodiversity hotspots. Forests and associated ecosystems provide support to the livelihood and food security of about 20 million tribal and disadvantageous population living in and around them. Burgeoning population accompanied by an intensive dependence pattern of forest dwelling and rural communities on forests, escalating industrial raw material demand, incessant competition for land use and resultant changes in landscapes, and a series of changes in the complexity and nature of interdependence between society and forest resources have imposed immense pressures on forest resources and therefore forestry sector in India needs reorientation in governance structure. For years together, forests have been managed under state property regime for the production of timber and other forest products and local people had a little say over usufruct rights. Since 1988 Forest Policy, the management focus of India has shifted from production to conservation. In the 1990 joint forest management resolution the government of India laid further stress on conservation and management of forests jointly by state forest department and local communities. Following broad outlines of 1988 Forest Policy, the Government of Chhattisgarh (GOCG) has prepared *Chhattisgarh Forest Policy 2001 – Unlocking Forests for People*, just after the formation of the new state. This paper makes an attempt to provide an institutional interpretation of the various components of CFP and governance structure designed to achieve the goal of sustainable management of forests.

PROFILE OF FOREST RESOURCES IN CHHATTISGARH

The new state of Chhattisgarh, carved out of Madhya Pradesh, situated in the central part of India, lies between 17°46'N to 24°6' N latitude and 80° 15' E to 84°51' E longitude. It has about 44% of its geographical area (135,224 sq. km) under forests cover. Details of the recorded forest area, forest, tree cover and forest and tree cover are given in Table 1 and Figure 1. Forests of the state provide catchments to at least four main river systems, i. e. Mahanadi, Godavari, Narmada and Ganges. Major rivers of the state are Mahanadi, Indravati, Hasdeo, Sheonath Arpa and Ib. The climate of the state is generally sub-humid with an annual rainfall ranging from 1200 to 1500 mm.

Table: 1. Recorded forest area, forest and tree cover in Chhattisgarh

	Recorded Forest Area
Reserved Forest (RF)	23,966 km ²
Protected Forest (PF)	31,107 km ²
Unclassed Forest (UF)	4,212 km ²
Total	59,285 km ²
% of State's Geographic Area	43. 9
% of Country's Forest Area	7. 7
Forest Cover	
Dense forest	37,880 km ²
Open forest	18,568 km ²
Total	56,448 km ²
% of State's Geographic Area	41. 8
% of Country's Forest cover	8. 4
Tree Cover	
Culturable Non-Forest Area (CNFA)	73,464 km ²
No. Of trees per ha. of CNFA	8. 8
Tree cover	3,535 km ²
% f State's Geographic Area	2. 6%
% of CNFA	4. 8%
Forest & Tree Cover	
Total Forest & Tree cover	59,983 km ²
% of State's Geographic Area	44. 4
% of country's Forest & Tree Cover	7. 9
Per capita forest & tree cover	0. 29 ha

Source: State of Forest Report 2001, Forest Survey of India (MoEF)

The forests of the state fall under two major forest types i. e. Tropical Moist deciduous forest and the Tropical Dry deciduous forest. Sal (*Shorea robusta*) and Teak (*Tactona grandis*) are the two major tree species in the state. Other notable overwood species are Bija (*Pterocarpus marsupium*), Saja (*Terminalia tomentosa*), Dhawra (*Anogeissus latifolia*), Mahua (*Madhuca indica*). Tendu (*Diospyros melanoxylon*), etc. Amla (*Embilica officinalis*), Karra (*Cleistanthus collinus*) and bamboo (*Dendrocalamus strictus*) constitute a significant chunk of middle canopy of the state's forests. (see Figure 2).

Biogeographically, the state falls in Deccan bio-region comprising representative fauna of central India like the tiger (*Panthera tigris*), leopard (*Panthera pardus*), gaur (*Bos gaurus*), sambhar (*Cervus unicolor*), chital (*Axis axis*), nilgai (*Boselaphus tragocamelus*) and wild boar (*Sus scrofa*). The state is a proud possessor of rare wildlife like the wild buffalo (*Bubalus bubalis*) and myna

(*Gracula religiosa*), which have been declared as the state animal and bird respectively. The state of CG has extensive Protected Area (PA) and wildlife sanctuaries network. The list of Protected (PAs) in the state along with the areas is given in Table 2. The State also houses rich and unique biological diversity in form of rich endemic fauna and flora especially, herbal plants of medicinal and aromatic importance. In view of the importance of biodiversity conservation 15% of the state's total managed forest area has been reserved for the management of biodiversity conservation (Figure 3). The remaining areas of forest are allocated to different management objectives like protection, production, and rehabilitation and miscellaneous. These allocations are based on capacity of forest and societal needs (Figure 3). The management priorities have been decided on the basis of working plans developed by the Chhattisgarh State Forest Department. The state is richly endowed with mineral resources like the coal, iron, bauxite, limestone, corundum, diamond, gold, tin, etc. which fall mainly within the forests of the state.

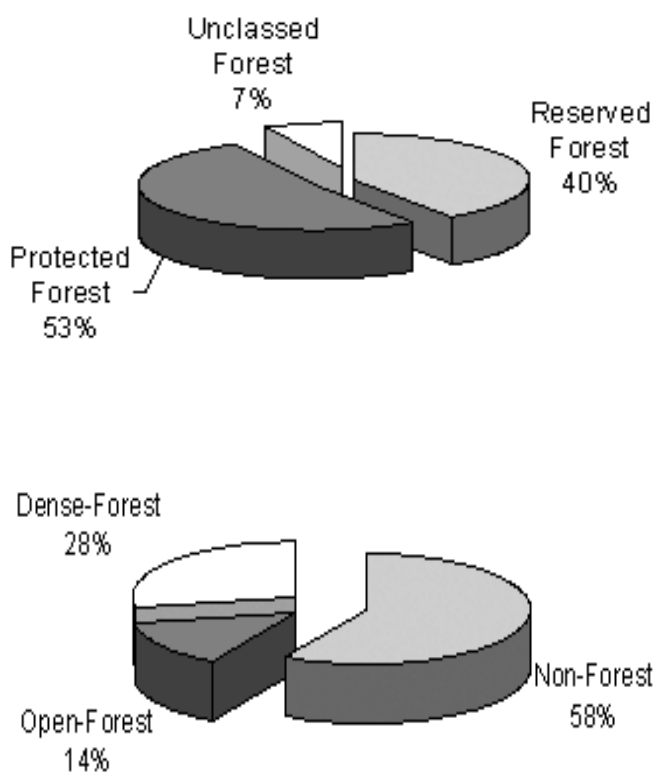


Figure 1. Forest Resources in Chhattisgarh

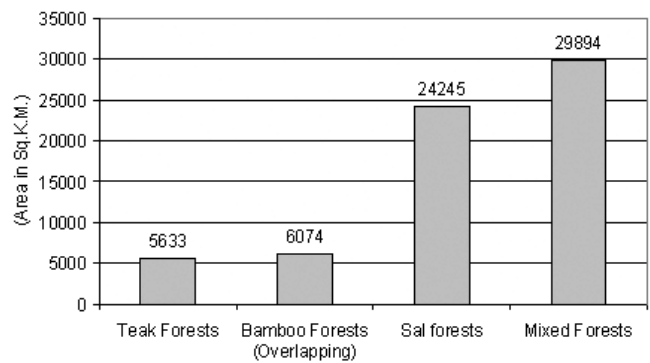


Figure 2. Types of Forests in Chhattisgarh

The population of the state is predominantly scheduled tribe (32.4%) and scheduled caste (12.2%), who have significant economic and cultural dependence on the forests of the state. More than 50% of the villages (about 9000 villages) of the state are within 5 km. from the boundary of forests and a large population of non tribal landless, marginal farmers and economically backward communities derive livelihood support from the forests of the state. Over the years, the forests in the state have suffered serious depletion due to, relentless pressures arising from ever-increasing demand for fuel wood, fodder and timber, inadequacy of protection measures; diversion of forest lands to non-forest uses without ensuring compensatory afforestation and essential environmental safe-guards and the tendency to look upon forests as revenue earning resources (upto 31 Oct 2002 about 15929 ha. forest land has been formally diverted to non forest uses in Chhattisgarh state).

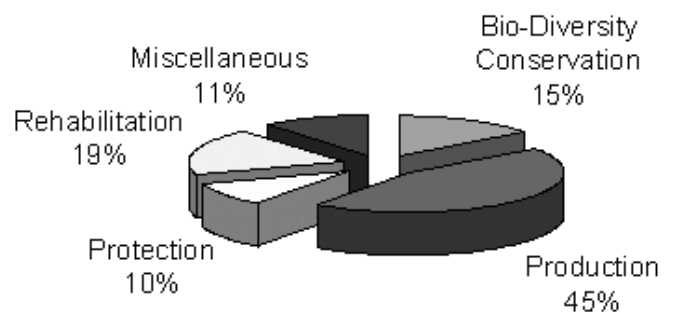


Figure 3. Allocation of Managed Forests on the Basis of Management Objectives

Table: 2. Protected Areas of Chhattisgarh

S. No.	Protected Area	Location	Area (km ²)*
(a) National Parks			
1.	Indravati	Dantewada	1258
2.	Kanger Ghati	Bastar	200
3.	Guru Ghasidas	Sarguja/Korea	1441
(b) Wildlife Sanctuaries			
1.	Achanakmar	Bilaspur	552
2.	Badalkhol	Jashpur	105
3.	Bhairamgarh	Dantewara	139
4.	Barnawapara	Raipur	245
5.	Gomarda	Raigarh	278
6.	Pamed	Dantewara	262
7.	Semarsot	Sarguja	430
8.	Sitandi	Dhamtari	559
9.	Tomarplingla	Sarguja	430
10.	Udanti	Raipur	231
11.	Bhoramdeo	Kawardha	164

* Figures rounded up

Source: Chhattisgarh Biodiversity Strategy and Action Plan, (2002), Chhattisgarh Forest Department, Government of Chhattisgarh

CHHATTISGARH FOREST POLICY

The Government of India enunciated a National Forest Policy-1988 to provide a national perspective on forest management. However, considering the fact that the national canvass is too large and with the creation of the new state of Chhattisgarh on 1st November 2000, it became imperative to review the situation and to evolve for the future, a new strategy of forest management, which encompass bio-physical, agro-climatic, socio-economic and cultural characteristics of the state. To meet this end, the State Government enunciated a State Forest Policy Resolution in November 2001. Chhattisgarh is the pioneer state in the country to frame its own forest policy. The basic objectives of the State Forest Policy are:

- (a) Unlocking of the vast array of forest resources on sustainable basis for enhanced well-being of local people by converting these open access resources (OAR) into community controlled, prioritized, protected and managed resources,
- (b) A shift in accent from major to minor forest produces, from crown to multi tier forestry and from flagship species to smaller denizens of the forests,
- (c) Maintenance of environmental stability through preservation and where necessary, restoration of ecological balance that has been adversely disturbed by serious depletion of forests in the state,
- (d) Conserving the Bio-cultural heritage of the state by preserving the biologically rich natural forests that provide the essential cultural milieu to the tribals of the state,
- (e) Checking the denudation of forests and soil erosion in the catchment area of the rivers, and reservoirs for soil and water conservation; mitigating the floods and droughts; recharging of water bodies, aquifers and for the retardation of siltation of the reservoirs,
- (f) Increasing the forest / tree cover in forest deficient districts through afforestation and agro forestry/ farm forestry programmes, especially on all denuded, degraded and unproductive lands,
- (g) Meeting the requirements of fuel wood, fodder, minor forest produce and small timber of the rural and tribal population with due regard to the carrying capacity of the forests,
- (h) The derivation of direct economic benefit from the forests of the state shall be subordinated to the requirements of the environmental stability and maintenance of ecological balance in the state, and
- (i) Creating appropriate policy and legal framework for the achievement of these objectives.

While the State Forest Policy has retained the essentials of forest management listed out in the National Forest Policy – 1988 of Government of India, it has prioritized the attributes of forest management in view of state's emphasis on putting the tribal and other disadvantageous population in the center of forest management planning. The essentials of forest management in the state of Chhattisgarh include

- (i) Existing forests and forestlands should be fully protected and their productivity increased. It is necessary to promote efficient methods of harvest of timber and utilization to maximize economic returns from the forests.
- (ii) The network of national parks, sanctuaries, biosphere reserves and other protected areas should be strengthened and extended adequately for the conservation of total bio cultural diversity in the state.
- (iii) Targeting on broad range of goods and services in terms of physical, material, human, social, cultural and environmental assets in conjunction with appropriate entitlement regime. People's Protected Area (PA) envisions a proactive and people's friendly framework to ensure long term protection

- and maintenance of biological diversity and providing at the same time a sustainable flow of natural products and services to meet local community needs. Therefore, a network of PPAs should be established as poor people's pool of assets for strengthening livelihood security of forest dwellers.
- (iv) Provision of sufficient fodder, fuel and small timber to local people, especially in areas adjoining forests, is necessary to prevent further depletion of forests beyond their sustainable capacity. As fuel wood continues to be the predominant source of domestic energy in rural areas, the programme of afforestation should be intensi-fied with special emphasis on augmenting fuel wood production to meet the requirements of the people. Furthermore, to reduce the pressure on forests due to increasing demand for fuel wood, its substitution by alternative sources of energy should be promoted. (v) Minor Forest Produce (MFP) including medicinal plants provide sustenance to the tribal population and to other communities residing in and around the forests. Such produce should be protected, improved and their non-destructive harvesting methods enhanced with due regard to providing employment and income generation opportunities to the dependent people. MFP is the major source of livelihood of tribals and other forest-based rural communities. Therefore, rather than export-ing MFP in raw form, efforts should be made, as far as possible, to promote processing and value addition of the same, at the local level.
- (vi) Supply of timber and poles to urban centers from non-forest sources is necessary to ' - pressure on natural forests. Therefore, state government should encourage agro-forestry, forestry and on-farm cultivation of timber trees.
- (vii) Establishment of appropriate instruments including policy and legislative measures to protect the rich bio -cultural heritage of the state in view of increasing threats of bio piracy infringement of IPR (Intellectual Property Rights) from within and outside the state.

To carry out new initiatives and strengthen the ongoing programmes, the state has adequate organizational and administrative set up. Inter Departmental Committee (IDC) is responsible for decision making related to forest trades in the forestry sector at state level. The IDC at the apex level is headed by the Minister for forests and the other members are secretaries of the departments of forest, finance, tribal and industry, PCCF and CCF (Production). The office of

the Principal Chief Conservator of Forests (PCCF) is responsible to carry out administrative and technical functions of SDF. The PCCF is head of SDF and assisted by three additional PCCF and five chief conservator of forests who head different divisions. The organizational structure at field level is by and large in tune with national norms. In order to improve the productivity of forest, Chhattisgarh Forest Development Corporation (CFDC) is responsible for rehabilitation of degraded forest, degraded bamboo forest, by undertaking bulk plantation, enriching planting in rainfed ecosystem and promoting high tech plantation. The CFDC is headed by the chairman (nominated by ruling political party), and administratively governed by the managing director (PCCF rank). Most of the CFDC Plantation Programmes are implemented by the divisions of the corporation and of late the corporation has also started involving JFM committees in their areas. The Chhattisgarh State MFP (trade and development) Cooperative Federation Ltd. is responsible for sustainable utilization and long-term conservation of NTFPs found within the forest of the state. The federation is largely involved in managing the nationalized NTFPs (tendu leaves, sal seeds, harra and gums). The Federation is headed by the chairman (nominated by ruling political party), and working under three tier system (at apex level federation, secondary level district unions and primary level primary cooperative societies) with provision of state advisory committee, district advisory committee and primary advisory committee at apex, secondary and primary levels respectively. For effective implementation of cooperative management of NTFPs at federation, district union and primary levels, bye-laws are clearly spelt out for the working zones, objectives, functions, responsibilities, organization, administrative and financial setup duties and rights of members of the governing bodies operating at apex secondary and primary levels (see for cooperative management structure of NTFPs, Marothia 1996, 1997). In order to provide enabling environment for the promotion of conservation of medicinal and herbal plant resources Chhattisgarh State Medicinal Plant Board (CSMPB) has recently been constituted (Chhattisgarh Government Notification 2004). The CSMPB has two-tier administrative set up. The state level committee is headed by Chief Minister and comprises of ministers and secretaries of forest, finance, agriculture, tribal, public health, industries, panchayat and rural development, representatives of institutions of alternative medicines, NGO and pharmaceutical companies,

subject matter specialists, and progressive medicinal plant growers. The Chief executive officer of the rank of the chief conservator of forest (retired/in-service) is the member secretary. At the second level of organization a coordination and monitoring committee has been constituted under the chairmanship of the chief secretary. The other members of the committee includes Agricultural Production Commissioner and Secretaries from finance, forest, health, rural development and tribal departments, PCCF, and managing director (CSMFP-FED). The chief executive officer of CSMPB is the member secretary. The CSMPB has started functioning and currently in the process of developing plans for sustainable development conservation and utilization of potential medicinal plants with the active participation of local communities and traditional vaidyas.

PROGRAMMES AND INSTITUTIONAL MECHANISM

The institutional mechanisms adopted in CFP to implement various programmes are analyzed herein using concept of property right regimes, entitlements systems, and authority structures for allocation of forest resources among different stakeholders. Shared forest management or joint forest management (JFM) is the prime driving force to achieve the objectives of forest policy of the state. Under the CFP several new initiatives/ programmes have been initiated and the ongoing programmes have further been strengthened in the state. Details of the major initiatives/ programmes along with institutional mechanisms are given in Table 3. To this end, a brief institutional interpretation is required to understand the strength or weakness of a particular policy intervention and potentiality of the institutional mechanism to sustain the interventions/programmes.

The Forest Policy of the state underlines the importance of JFM and has laid further emphasis that JFM should form the basis of forest management. JFM deals with the sharing of products, responsibilities, control and decision making authority over forest land between forest department and local users groups based on formal agreement. The primary purpose of JFM is to create conditions at the local level, which enable improvement in forest condition and productivity so that the forest based needs of the communities are met comfortably. Another goal of JFM is to facilitate development of institutions at the grassroots level and for usufructs right and mechanism thereof to ensure an

equitable distribution of forest products. Necessary provisions should be made for the adequate participation at all levels of decision making by the landless, marginal farmers and women in all JFM bodies. The abundant potential of people living in rural and forest areas should be tapped for sound participatory forest management. Efforts should be made to facilitate assistance from financial institutions to engage the forest dwellers in forest based economic activity for furthering participatory forest management in the state. To translate the policy in to action, the Government of Chhattisgarh has passed a Resolution October 2001 on JFM which has following important features:

- (i) Every family of the JFM committees will be entitled to avail forest produces (Nistar) subject to their availability.
- (ii) All the forest committees shall be eligible to get 100% of the forest produces obtained from time to time, from mechanical thinning & cleaning of rehabilitated area and cleaning of bamboo clumps in degraded forests as per the prescriptions of micro-plan/working plan, on payment of expenditure incurred on harvesting.
- (iii) Forest produces equivalent to 15% value of the amount calculated by (of timber/bamboo) deducting the expenditure (of timber/bamboo) incurred on harvesting from the total value of forest produce or cash equivalent to that shall be given to F. P. C.
- (iv) Forest produces equivalent to 30% value, calculated by deducting the expenditure incurred on harvesting (of timber/bamboo) from the total value of timber/bamboo obtained on final felling in plantation/ rehabilitation of degraded forests, as equivalent to that value, shall be given to village forest committee (VFC), and
- (v) An appeal can be made against forest officer's order to the union constituted or in the absence of union to territorial with in one month from date of passing of such an order.

Though the JFM movement began in early nineties, but after the formation of the state it has received well desired momentum. By the end of Dec. 2001, 3190 Village Forest committees and 3222 Forest Protection Committee have been constituted covering 33.91 lakh ha. forest area. The JFM has so far involved more than 1.05 lakh families spread over 7115 villages across the state. It is the endeavor of the Forest Department to cover all the 9000 villages situated within 5 km. radius of forests under JFM. The Forest Department plays the role of a facilitator for these JFM committees and helps them in establishing marketing linkages. Last year the

Table: 3. Institutional Interventions Initiated/ strengthened under Chhattisgarh Forest Policy

Programmes	Governance Structure	Major activities	Institutional mechanism
Joint Forest Management	SDF(FDA) JFMCs, and local users. FDA is the apex body of JFMCs at the district level.	JFM form the basis of forest management, community based initiatives executing forest schemes/ programmes.	Sharing of products, responsibilities, control and decision making authority over forest land between SDF and JFM committees (FPC and VFC), new JFM resolution, specifying clear guidelines regarding formation of JFM committees, allocation of rights and duties among the communities and sharing of benefits. FDA does conflict resolution among JFMCs. Clear-cut guidelines to utilize the funds accumulated with JFMCs need to be evolved.
Integrated Resource Development Project (Special Project sanctioned under SGSY)	Forest Department is the nodal agency with representatives of rural development, panchayat, agriculture, animal husbandry, water resources, Gramsabha, VFC/FPC	To build up resource base of forest, water, land and value addition.	In order to promote sustainable development in areas within 5 km. from the forest an institutional setup is functioning at district level that ensures proportionate allocation of funds for rural development on the basis of number of villages and timely completion of development work in those areas. DFO works as ex-officio additional chief executive officer of the DRDA. District Dhamtari has been selected for this institutional arrangement.
People's Protected Areas (PPAs)	Network of PPAs as Poor Peoples Pool of assets for sustainable livelihood through integrated ecosystem approach jointly managed by SDF and local community	PPA has been established in all 32 forest divisions to work for protection of gene pool, regeneration, and nondestructive harvesting of forest produce including medicinal herbal plants collaboration with the local people. Biodiversity rich forest areas have been identified for implementation of PPA –annually 1000 ha. of forest is being taken up for intensive forest management under PPA	Entitlement of forest resources to people to eliminate hunger, poverty, unemployment, resource backwardness, and health problems with the following institutional mechanism : (i) community based participatory mapping and management plan (ii) Appropriate resource assessment methodologies (iii) non destructive harvesting (iv) In-situ /ex-situ conservation and propagation (v) grading, processing, value addition and marketing, (vi) eco tourism (vii) biodiversity prospecting and bio-partnership (viii) entrepreneurship development (ix) revolving fund facility (x) gender sensitivity (xi) equitable benefit sharing (xii) improved food security and health cover, and (xiii) enhancement of social capital. The PPA will serve as a supporting network for Chhattisgarh State Medicinal Plant Board.
PPP	SDF, FPC, and Mangalam Timber	Use of non productive degraded forest land, planning of good quality potted seedlings, technical guidance by the company, sustainable job opportunities ,nearly 250 mandays per ha. buyback guarantee of produce ,assured selling price as per current market rate, Company also purchase twigs up to 2 inch diameter besides timber	Two sets of MOUs are signed-(1)SDF and FPC – empowering PPP planting (2) Mangalam Timber and FPC-rights and buyback guarantee. 100%of income from harvesting will be used for the beneficiaries (as GOCC notification of Oct 22, 2001 and corrected on Oct. 31,2002 in accordance with GOI, MOEF, order of Dec. 24. 2002) Share holding on investment in total project cost (contribution from DRDA 40. 88% , FPC through its own resource 43. 20%, loan from Manglam timber 15. 92%) yield of timber and other complementary products are calculated by SDF, DFO has been empowered to execute all statutory powers to ensure smooth implementation of terms and conditions of MOUs. In PPP Fund flow is not assured and depends on the priority of DRDA, The PPP at present is furcating much on personal relationship parameters between officials of SDF and DRDA.

Table 3. Continued

Programmes	Governance Structure	Major activities	Institutional mechanism
<p>Conservation and Sustainable Utilization of NTFPs</p>	<p>A three tier structure of NTFPs management with Chhattisgarh State Minor Forest Produce (trading and Development) Coop, federation Ltd. at apex level (State), District Unions at secondary level (district) and primary minor forest products cooperative societies at village level.</p>	<p>To eliminate middlemen and provide proper wages to NTFPs collectors, members of PMFPCs collect nationalized NTFPs (tendu leaves, harra, sal seeds, gums, and mahua) and sale green tendu leaves to the government designated purchaser at prices fixed by CGSMFPFED, the other nationalized NTFPs are sold by PMFPCs. The CSMFPFED also occasionally involved in trade of other non-nationalized NTFPs through PMFPCs and JEMCs</p>	<p>MFPFED and MPPDUs provide organizational support under three tier organization set up. Technical training regarding different operations related to collection and processing of NTFPs are arranged by DUs for PMFPCs members and managers. MFPFED provides capital support to PMFPCs to carry out NTFPs collection operations, under the supervisions of MPPDUs. All collection of NTFPs are registered, members hold identity cards. Every PMEPCs must have 20 NTFPs collectors with at least 20% women representatives. The management committee has government nominated and elected members. President is being elected by members. Elections are held after every three years. Only members have rights to collect NTFPs, others are not allowed and collection by outsiders is not purchased by PMEPCs. While CGSMFPFED manages the trade of nationalized NTFPs, recently FED has appointed purchaser through open tender process to collect the green leaves from the society on the collection centers. The treatment, transport and godowning etc. of delivered tendu leaves will be done by the purchaser at his own expense. The new system for tendu leaves trade has substantially reduced the overhead and transaction cost of the FED. For non-nationalized NTFPs the State Government has endowed ownership rights to Panchayat Raj institutions as per the provision of panchayat Upbandh Adhiniyam 1996. Even after 10 years of working the CSMFPFED has inadequate knowledge of the market. For example delayed disposal of sal seed resulted in loss of Rs 309 million in 2003. Federation should ensure non-division of fund to other sector (Sugar factory) etc. fund should be utilized for development /strengthening the co-operative structure.</p>

Table 3. Continued

Programmes	Governance Structure	Major activities	Institutional mechanism
Management of Medicinal and Herbal Plants	Chhattisgarh State Medicinal Plant Board	CGSMEF Federation has prepared a comprehensive project for sustainable development, conservation and utilization of medicinal plants with active participation of locals including traditional vaidyas. A medicinal Plant Board has been constituted to formulate policy for medicinal plant resource conservation, processing and value addition in the state.	Looking at the rich medicinal and herbal plants in the state, the forests department has developed a mechanism for in-situ and ex-situ conservation, domestication and non-destructive harvesting practices with the active support from the local people including traditional healers and vaidhyas. This mechanism has been christened as Peoples Protected Area (PPA). In order to provide an enabling environment for the promotion and conservation of medicinal plant resources, Chhattisgarh has been declared as 'Herbal State'. The PPA mechanisms have been shaped into distinct programme of action. Such programmes had been launched in nine forest divisions of the state in the first phase. In the second phase, the programme has been launched in rest of the forest divisions. The said programme envisages that the socio-cultural, spiritual and medicinal arena of the rural populace particularly the tribal should form the backbone of community based conservation and utilization of medicinal and herbal plants. Herbal state programme includes establishing herbal dispensary and other health activities etc. and linking with leading pharmaceutical and drug industries
Trees outside forest Extension Forestry Indira Hareli-Saheli/Kashav Kunj	Social Forestry Division Panchayat & Rural Development Department.	To provide quality planting material to farmers for plantation outside forest areas. Cover degraded revenue areas(village common land) by fruit trees and allocate the areas to poor families.	<p>Constraints:- Three forest division of research & extension</p> <p>Under Indira Hareli Saheli ownership of IHA DEGRADED COMMON LAND WITH fruit plantation was given to the individual beneficiaries but sustainability was not ensured. In many cases crated biomass was not protected. The scheme was renamed as "Kashav-kunj" and the ownership of plantation is with the Gram Panchayats/group of stakeholders.</p>

Forest Department has distributed around Rs 170 million to the FPC as their share from the revenue earned from timber/Bamboo trade. Apart from this the forest committees of the State have accumulated Rs. 90 million savings in their accounts. The committee members are utilizing this money for themselves and the community on sustainable basis. This clearly demonstrates that the Joint Forest Management holds to the overall economic development of the people living in the vicinity of the forests.

Keeping in view the success of the JFM movement in the State, recently the GOCG has taken a decision to designate Forest Department as the Nodal Agency for all the development works to be taken up in the villages located within 5 km. from the boundary of the forest and a pilot project was started in Dhamtari District (see Table 3). Similarly, keeping in view the relevance of JFM, the Govt. of India has issued directions to all States to constitute Forest Development Authority (FDA) on the line of DRDA, in every forest division.

The JFMCs in the state have started Grain Banks under the Joint Forest management. During the lean period, poor people used to go to moneylenders for taking loan to buy food and who in turn would charge very high interest on such lending. Due to this, the rural poor used to remain under debt throughout their lifetime. In order to liberate these poor people from the clutches of moneylenders and to ensure food security and increase food affordability to the needy rural people it was decided to start grain banks under the control of JFM committees. In Bilaspur Circle around 202 grain banks were established by different forest committees with 320 MT of food grain. The JFM Committee members voluntarily contributed food grains as their share to start the bank. These grains were stored at safe places and proper accounts were maintained. When any needy person required the food grain, the Executive Body of the JFM Committee used to sanction the same. The committee had fixed the terms and conditions for the repayment and it was 1.25 times the actual loan. On the basis of the experience gained in Bilaspur, 144 forest committees of Raipur circle have also established their grain banks and are having a stock of 380 MT of food grain.

Normally, a JFM committee covers one or two villages each consisting of about 100 families. Assuming that 20% of the families need food during the pinch period i.e. four months in a year and keeping the monthly requirement of food for each family at about 100 kg, the quantity of food grain required to be kept

in a village level bank is about 8-10 metric tonnes. The JFM committees of the state have experience of 10 years behind them and can very effectively handle such a grain bank. All the forestry works in Chhattisgarh are being carried out through the JFM committees and the target families are invariably employed in such activities. Therefore, repayment of the loan in terms of either food grains or cash by the borrowers will not be difficult. However the individual committees may decide the terms and conditions of repayment. It is proposed that initially the World Food Programme should provide food grains to these banks as per the requirement of JFM committees. At places where there are no forestry works, developmental works providing employment to local population should also be funded through the generated fund of WFP. The present scheme of the WFP should be extended to all the 16 districts of the State. Thus it is needless to say that JFM, which is a movement of the people and by the people, can play a very important role in ensuring sustainable livelihood and food security to the people of Chhattisgarh.

Network of people's protected area (PPAs) as poor people's pool of assets for sustainable livelihood security and bio-cultural diversity conservation has been established in the State of Chhattisgarh with the special emphasis to utilize traditional ecological knowledge of the people, capacity building of the stakeholders and upgradation of local technology with appropriate information technology. The institutional mechanism to achieve these objectives is given in table 3. Chhattisgarh is the first State of the country which has initiated private, public partnership for the utilization of non-productive degraded forest lands with well designed property rights structures, external and internal institutional arrangements and distributive authority system among the different stakeholders (Table 3).

The State of Chhattisgarh has inherited the organizational and administrative structure to manage the NTFPs under three tier structure. The Chhattisgarh State Minor Forest Produce (Trading and Development) Cooperative Federation Ltd (CSMFPFED) has traditionally been responsible to manage the nationalized NTFPs (tendu leaves, sal seeds, harra and gums) under cooperative structure with distributed governance mechanism (Marothia 1996a, b and 2001, Marothia and Gauraha 1996). The non-nationalized products are still traded under the imperfect market situations (Marothia and Gauraha 1992). However, under the Chhattisgarh Forest Policy the ownership

rights of non-nationalized NTFPs have been assigned to the Panchayat Raj Institution (village level institutions) in consonance with the following (a) harvesting of minor forest produce will be on non-destructive basis (b) the members of the Gram Sabhas will be free to collect minor forest produce for their own consumption, and (c) the manner, frequency and intensity of minor forest produce collection for any use other than bona-fide domestic use by the members of the Gram Sabhas will be in accordance with the prescription of a management plan prepared by Zila Panchayat in conformity with the guidelines as may be notified from time to time (CFP 2001). While under the CFP the organizational, administrative and functional structures of CSMFPFED remain unchanged for collection, processing and marketing of nationalized NTFPs, the processing storage and marketing operations for tendu leaves are now being carried out by the purchaser appointed by SDF (see Table 3 for institutional mechanism structures designed for private – public – community based local resource management body- e. g. primary minor forest produce cooperative societies). Under this arrangement the members of the primary NTFPs societies only harvest the green leaves and the purchaser carries out remaining operations. The society members get their wages from the PMFPCS. Chhattisgarh is the first herbal state in the country established with well designed institutional mechanism. The state has constituted a Medicinal Plant Board to formulate policy for medicinal plant resources conservation in the state and to link up with drug and pharmaceutical companies (see table 3 for institutional mechanism adopted for functioning of the Board). Though the state has the rare distinction of having more than one third of its geographical area under forest, there are few districts where the forest area is less than the norms, and where there is need to expand the forest cover in addition to preserving the existing cover. Further, there is necessary to preserve the existing tree cover on hill slopes, and landscapes providing catchment to rivers originating or flowing through the state. Special measures to extend the forest cover outside the forest area are taken in such districts through social and farm forestry. Indira Hareli – Saheli programmes by state department of rural development and panchayats. (see table 3 for activities carried out under the programme and institutional mechanism associated therein).

In addition to above interventions, the SDF has also taken a few initiatives in tune with National Policy. For example forests of the state are worked

strictly according to working plans duly approved by Government of India. National parks and wildlife sanctuaries are also worked in accordance with duly approved wildlife management plan. Chhattisgarh Forest Department, in association with IIFM, Bhopal, evolved and adopted the criteria and indicators framework to develop work plans for sustainable forest management. There are two gray areas in the CFP. There is hardly any policy intervention included in the CFP for managing protected areas and wildlife sanctuaries with the participation of local communities and co-existence of wildlife and human population. Similarly R&D component has not received its due attention. In fact a separate institution is needed to be established to carry out research on production (both in-situ and ex-situ cultivation of forest products), marketing, processing and value addition besides providing policy input to the state regarding changing reforms taking place at national and international levels in all sub-sectors of forestry. The state has formed a State Bio-diversity Strategy and Action Plan. It is expected that state may implement at least some of its recommendations particularly legislative framework to manage rich bio-diversity resources.

CONCLUSIONS

Chhattisgarh is the first state in the country which formulated its forest policy within the broad framework of National Forest Policy-1988. Distributed governance or shared management or joint management has primarily been the main approach to design the institutional mechanisms and to implement various programmes. After the formation of the state JFMCs have been nurtured to provide desired momentum. The JFMCs are practically involved in all the programmes initiated under CFP. Forest Department plays the role of a facilitator for these JFMCs and helps them in establishing market linkages. As a result, forest committees of the State have accumulated Rs. 90 million savings in their accounts. The committee members are utilizing this money for themselves and the community on sustainable basis. This clearly demonstrates that the Joint Forest Management holds to the overall economic development of the people living in the vicinity of the forests. However, it is high time for JFMCs and FDA to design financial planning for utilizing the available fund for value addition activities associated with NTFPs and medicinal and herbal plants. It is important to realize that the

institutional innovations being used for implementation of various programmes have reasonable potentiality of adjustments in long run and may not likely to involve high transaction costs, if a few attributes of existing programmes are to be altered. There are a few gray areas in CFP which need to be addressed in the coming years. For example policy related to protected areas and wildlife sanctuaries need to be developed keeping in view co-existence of human population and wildlife and biodiversity resources. The state has prepared a well informed document on Biodiversity Strategy and Action Plan with the technical support from several research organizations, government departments and public representatives and NGOs. The GOCC may use this valuable input to implement biodiversity action plan. This is important in view of IPR and TRIP rights structures and WTO framework (Marothia, 1997). The state may also think to establish an umbrella organization (preferably Forest Policy Institute with research, extension and policy wings) to address the domestic and international contemporary issues in the forestry and interrelated sectors.

ACKNOWLEDGEMENTS

This paper is a revised version of an invited paper presented at the Institute of Rural Management, Anand Silver Jubilee Symposium on Governance in Development Issues, Challenges and Strategies, (December 14-19, 2004), at IRMA, Anand. P.C. Mishra, Special Secretary, Department of Rural Development, Government of Chhattisgarh and B.L. Saran, General Manager, Chhattisgarh State Minor Forest Products Cooperative Federation offered valuable comments on the draft version of this paper. While I am grateful to them, I alone am responsible for the views expressed herein. Thanks are due to S.V. Nair and Gangadeen for secretarial assistance.

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