Financing the Sustainable Forest Management in India

R.K. Singh*, V.K. Sinha* and R. Kumar⊗

Introduction

The forest policy of India is based on the faith that sustainability is not an option but an imperative (Planning Commission 2001a). While maintenance of ecological balance remains the pre-eminent objective of the forest management, contributions of forests to the subsistence and livelihood needs of millions of rural poor especially the tribal communities is one of the primary considerations (MOEF 1988). The forest management in India must meet the livelihood needs of poor and tribal population living in 164,063 forest fringe villages (Bahuguna *et al.* 2004) along with increasing the forest cover and forest productivity in accordance with the national and international commitments. Shrinking common property resource base, rapidly increasing human and livestock population, and poverty are all responsible for the tremendous degradation pressure on the existing forest cover (Kumar *et al.* 2000). The unavailability of adequate resources is one of the major constraints in mitigating these degradation pressures.

Mobilizing adequate financial resources for the Sustainable Forest Management (SFM) in developing countries continues to be one of the major challenges of the sector. India has been trying to bridge the budgetary gap by adopting various policy instruments however it has not succeeded in meeting the financial needs of the sector. The current average investment in forestry sector is around Rs. 16 billion from all sources as against the average annual requirement of Rs. 52.85 billion per annum as per the National Forestry Action Program (MOEF 1999). The unevenly distributed flows from the international financial sources have also not been able to bridge this gap. There is a need to intensify efforts to mobilize resources from all sources and increase efficiency and effectiveness of the available resources and processes. To do that successfully, one needs to identify the underlying causes that inhibit investments in sustainable forestry from domestic and external public as well as private sources. Lack of reliable data on financial inflow and outflow from the forestry sector continues to be a serious limitation in understanding the causes of insufficient financing and in developing a strategy for resource mobilization. The recent developments have thrown new opportunities to create and develop new financing mechanism at local national and international levels.

This Paper is intended to provide an overview of the approaches of resource mobilization in forestry sector in India. The paper provides the backdrop, against which the strategies and issues relating to resource

---

Presented in the South Asian Workshop on "Accelerating Implementation of National Forest Program: Strategies and New Direction", organised by the FAO from 10 to 12 March 2004 at New Delhi.

* Indian Institute of Forest Management, Bhopal (contact: rksingh@iifm.org)

⊗ Uttar Pradesh Forest Department, Lucknow

mobilization for implementation of the National Forestry action Plan (NFAP) may be discussed at the New Delhi workshop. Its purpose is to provide an analysis of the current status and trends and identify future options to facilitate a constructive dialogue at this workshop. The Paper raises issues and discusses options rather than providing definitive answers or solutions.

The Paper is divided into the five parts. After the introductory section, part II provides a brief perspective of the changes in forestry sector in India. Part III provides an overview and analysis of the resource flow situation in forestry sector in the context of changing development priorities. Part IV outlines the resources required for implementation of the NFAP and strategic options. Part V pulls together the main conclusions as a basis for the Workshop discussions.

Part II: Brief perspective of changes in the forestry sector in India

There have been remarkable changes in the social values and stakeholders expectation from the forests in the recent past. The forest service has often been criticised for focussing too much on the management of timber and for insufficient attention on non-timber forest product (NTFP) and ecological functions. There has been greater recognition of role of forests in alleviating poverty in India. The financial requirements of the forestry sector are increasing because of the rising realisation of its potential to contribute to socio-economic development of the rural poor and also in resolving conflicts that are arising because of environmental scarcities. These societies are, in fact, already suffering acute hardship from shortages of water, forests, and especially fertile land (Homer-Dixon 1994).

As a result of globalisation, external factors have become critical in determining the success or failure of developing countries in their national efforts. At international level, efforts are being made 'to promote the integration of the three components of sustainable development — economic development, social development and environmental protection — as interdependent and mutually reinforcing pillars. There is greater realisation that poverty eradication, changing unsustainable patterns of production and consumption, and protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development' (WSSD 2002). The increasing concerns for climate change and eagerness of the world community to contribute towards mitigation options have thrown up new financing opportunities for the forestry sector.

Changing thrust of the forestry sector

Based on volume and economic value, the forest products can be broadly classified into four categories: low volume-low value, high volume-low value, high volume-high value and low volume-low value (Table 1).

Table 1: Value and volume based classification of the forest products

		Volume of the Product	
		High	**Low**
Value of Products	**High**	Valuable timber species, e.g. Teak, Rosewood	Value added products of medicinal plants and other NWFPs
	Low	Low value timber species, Fuel wood, fodder and grass	Raw and unprocessed medicinal plants and other NWFPs

The changes in the thrust area of the forestry sector can be broadly captured in three phases using this classification (Table 2). Independent India inherited the European model of forest administration, together with an environment of hostility between foresters and forest dwellers (Shah 1996). The Forest Policy of 1952 represented an initial attempt to adapt forest administration to the new realities of independent India. National integration and economic development were two cornerstones of government policies in the years following independence (Sageriya 1978). The public forests of the country were managed on the principles of sustained yield of timber and the timber that could be marketed at a higher price were favored by the management. During early 1980s, social Forestry projects were launched to create institutional capacity within government and in the community to enable villagers to manage both community and private lands for increased production of wood and fodder (MPFD 1985). However, most of the private plantations raised during this period were used for industrial purposes instead of meeting the fuel wood demand of the villages. Thus the thrust of both public and private forests has been on producing “high value” timber for industrial use.

During this period forestry had to compete with all other sectors of development that were trying to address the issues of poverty. The 'Grow more food campaign' and other development activities initiated in the 1950s resulted in the diversion of forestland for non-forestry purposes. Between 1956 and 1981, about 1.87 million ha of forest land was diverted for non-forest use, out of which 1.6 million ha were transferred to the Revenue Department, mainly for allotment to encroachers (Buch 1991). The Forest Conservation Act, 1980 helped in halting this process of diversion of land but the encroachments continued largely due to failure to eradicate poverty and to promote social and human development.

Table 2: Changing thrust of the forestry sector

Initial thrust	Low value & high volume products to High value & high volume products - to support industrial development of the country
Current thrust	High value & high volume products to High value & low volume products- to support local livelihoods
Future thrust	High value & low volume products to Non-consumptive use of forest - to ensure environmental security, carbon sequestration, availability of gene pool for biotechnology and recreation opportunity for urbanites with disposable income.

Current Thrust

The National Forest Policy of 1952 was reviewed and revised in 1988 to articulate a new strategy of forest conservation, including preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment. The policy envisages people's participation in the management of forests as a means of achieving these goals. In the early 1990s, there was a growing realisation in the Forest Departments that poverty is the single most important cause of degradation of forests in the state. Foresters realised that unless there is an improvement in the socio-economic condition of the people living in and around forests, the biotic pressure on forests cannot be brought within manageable limits. The recent decision of the Government of India to regularise forestland encroached till 1993 clearly indicates that sustainable forest management will remain unattainable goal without ensuring livelihood security to the people living in and around forest. Direct dependency of a large rural population on forests combined with increasing pressures on an already depleted resource base is the central challenge in the sector (World Bank 2002). There are 164063 forest fringe villages in the country (Bahuguna *et al.* 2004). The estimates of direct dependency of rural people on forests vary widely which creates problem in assessing financial resources required for supporting them. The definition of direct dependency also needs to be clarified.

Both Central and State governments have created various agencies to support livelihoods of the rural poor and their role cannot be completely taken over by the State Forest Departments (SFD). The successful JFM experiences in many states suggest that SFD require additional financial resources to support economic development of the forest dependent communities who may not fall in the priority of the other development departments. These departments also often feel handicapped in achieving their sector’s targets because of the lack of adequate 'field presence' in the forest fringe villages. There is also need to estimate the requirement of additional financial resources needed to support the community. Without reliable data on the financial requirements, it would difficult to support the claim for additional financial resources for the sector in a competitive environment. Financing sustainable forestry in developing countries like India means providing adequate resources for the forestry sector as well as additional resources to ensure livelihood security to the community directly depending on forests. The current thrust is likely to continue for at least next 15-20 years.

Supporting cultivation, sustainable harvest, value addition and trade of NTFP on public and private forests will go a long way in ensuring livelihood security of the community. The Central and the State Governments have initiated several schemes aimed at conserving and improving NTFP including medicinal plants as well as increasing their production for providing additional income to the tribal and the rural poor living in and around forests. State Forest Departments (SFD) are changing the emphasis of its management practices by placing less priority on the traditional high level of timber output but the

changes are not taking place at a desired speed. Various studies on institutional reform supported by the donors in different states highlight the inability of current work practices, structures, and culture to readily address the emerging complex issues of the sector and rapidly changing public demands (Om Consultants 2000).

Future Thrust

The future socio-economic scenario of the country and international conventions would mainly decide the future thrust of the forestry sector. The impact of international conventions on the planning process in the forestry sector of the country has increased significantly in the recent past. Pettenella (1997) argues that the process of globalisation of policies and institutions can be attributed to the international community's growing concern for the state of natural resources. The international initiatives aimed at monitoring, co-ordinating and solving problems associated with the natural resources could be one possible reason for this trend. India has prepared the National Forestry Action Programme (NFAP) in 1999 to translate the Tropical Forestry Action Plan adopted by the World Forestry Congress in 1985 consistent with the national priorities. A National Action Programme to Combat Desertification has also been prepared in 2001 that is consistent with the UNCCD, and will be implemented over the next twenty years (MOEF 2001). In response to CBD a National Policy and Macro-level Action Strategy for conservation and sustainable use of Biodiversity has been formulated (MOEF 2002). In response to UNFCCC, several initiatives have been taken that include improvement in the efficiency of conventional energy generation and use, development of major renewable energy programmes, promotion of clean coal and bio-mass energy technologies as well as conservation of forests (Planning Commission 2002). Financial resources required for the activities envisaged in all these plans are of massive nature.

New opportunities

The international conventions and treaties create significant opportunities for investment in the forestry sector. India is signatory to the following important international conventions affecting the forest management:

- Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), 1973
- Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 1971
- United Nations Framework Convention on Climate Change (UNFCCC), 1992
- Convention on Biological Diversity (CBD), 1992
- United Nations Convention to Combat Desertification (UNCCD), 1994
- Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 1979
- Convention for the Protection of the World Cultural and Natural Heritage, 1972

In addition, India is committed to the implementation of Chapter XI of Agenda 21 and the non-binding Forestry Principles evolved at UNCED in 1992. The World Trade Organisation (WTO) Agreement has trade provisions significantly affecting the forestry sector. These conventions provide additional rationale and focus for a variety of forestry activities warranting mobilisation of funding support. The carbon sequestration and greenhouse gas mitigation provisions under the United Nations Framework Convention on Climate Change (UNFCCC), 1992 and subsequent Kyoto Protocol has created new financing provisions for afforestation activities, which may be carried out on the public as well as private areas. The Global Environment Fund (GEF) has also emerged as potential source of large funding for activities in the forestry and wildlife sector.

Rising price of forest produce, growing interests in medicinal and nutritional values of non-timber forest produce and emerging trade scenario under the WTO regime are also creating significant investment opportunities for private organisations.

Factors of Resource mobilisation

The planning, budgeting and approval system of the sector has undergone considerable change in the recent past and is likely to change in future (Table 3). The funds for the sector used to flow through the SFDs and the budgeting system provided opportunity to the foresters to implement working plan prescriptions. There was an implicit, if not explicit, link between the planning and budgeting system at the state level. The thrust areas of the five-year plans of the Center have changed over the years and they never intended to establish such relationship. This link was broken in 1970s with the increase in funds tied with employment generation schemes. With the introduction of JFM and PRI, the planning system has changed considerably along with budgeting and approval system. Establishing linkage among various national, landscape and district level plan with the local plans would be challenging for the sector. Changes in planning system and funding sources entail sharing of resource mobilization responsibility among various new actors who were earlier not involved in such activity. A massive capacity building effort would be required in order to enable them to prepare and implement plan to the satisfaction of the funding agencies.

These institutions need to demonstrate that they are participatory, transparent and accountable so that funding agencies could repose their faith in them.

Table 3: Key changes in factors related to resource mobilization

Phases	*1947 to early 1970s*	*Late 1970s to 1980s*	*Since late 1980s*	*Future trend*
Major funding Sources	Public Sources	Domestic Public & Private Sources & International public sources	Domestic Public & Private Sources & International public sources	Domestic Public & Private Sources & International public & private sources
Mode of budget Allocation	Sectoral	Sectoral	Sectoral & regional	More complex
Planning system	Working Plan	Working plan & Beneficiary Schemes	Working plan, Micro-plan and other local level plans	More complex planning
Responsibility of resource mobilization	Top management	Top management & District level Officials	Primarily all levels of FD	All levels of FD, PRI, NGOS & Community

The relationship between the extent of funding and sustainable forest management needs to be clearly understood. There is no doubt that the higher levels of funding would help in speedy recovery of the degradation, extension of forest area and increase in productivity. However, high levels of investment without developing appropriate institutional arrangement and capacities might generate a variety of persistent problems jeopardizing the long-term growth of the sector. Many practitioners fear that with the present institutional arrangement the sector cannot absorb funds beyond certain limits. Sudden increase in the level of funding might result in less efficient use of resources and corruption. A long-term strategy is needed to deal with the challenges associated with the improving governance, accountability and transparency in all spheres of central and local government, the corporate sector and community levels.

Role of Judiciary

In the past few years, India has witnessed judicial activism resulting in a wide range of judicial interpretations, legislations and policies on forests, their management, use etc. The primacy of forest sustainability and forest and wildlife protection has been established in a series of court orders. Various lawsuits against the Union of India exemplify major judicial interventions in the national forestry administration (Upadhyay and Upadhyay 2002). TN Godavarman Thirumulkpad, etc., vs. Union of India and others represents the single biggest judicial intervention in the forest administration of the country. A series of orders were passed in this case, which have long-term implications for forest management. The court in its order dated 22-9-2000 in I.A. No. 424 observed that the necessary prescriptions, which ensure regeneration, have not been implemented, perhaps, due to non-availability of sufficient funds in Madhya Pradesh and further directed the Central Government to ensure that the regeneration is commensurate with the felling of trees. This order has

restored the connection between planning and budgeting, which was lost during 1970s. The state governments will have to earmark for investment in the forest sector as prescribed by the Working Plan. The Supreme Court has constituted the Central Empowered Committee by its order on 09.05.2002 in the Writ Petitions (Civil) 202/95 & 171/96. This Committee monitors implementation of the orders passed by the Supreme Court of India and place before it all the cases of non-compliance in respect of encroachment removal, implementation of Working Plans, compensatory afforestation, plantations and other conservation issues. Compliance of this order in letter and spirit should secure enough resources for the forestry sector particularly for the SFM.

The Government of Madhya Pradesh filed a petition in the year 2000 to the Supreme Court seeking direction for compensating the state Government for conserving the catchment areas of the five-river systems, which benefits the adjoining states. The forest rich states feel that they are forced to sacrifice developmental opportunities in order to conserve forests without adequate compensation. The courts can play an important role in addressing this sense of discrimination, which is allegedly giving rise to Naxalite movements in some states. In its order dated 22-9-2000 in I.A. No. 424, the Court has advised the Central Government to consider whether the forest deficient states should be asked to contribute towards the preservation of the existing forest cover and compensation/ incentive given to the forest rich states to preserve and regenerate forests. It was further observed that there should be partnership of all the states to ensure the maintenance and improvement of forest cover. This 'compensatory' principle can be decided for international, interstate; and inter and intra district level redistribution of financial resources. This arrangement would also help in building harmony between the developmental projects and conservation efforts, which presently lacks clear linkages. Many countries including Japan, USA and Colombia have developed mechanism for charging for environmental services provided by the forests. In USA, a part of revenue generated from water supply is transferred for managing forests. Learning from such worldwide experiences can be used for developing compensatory principles.

Part III: Overview of resource flow to the forestry sector

Allocation to the forestry sector

Allocation of plan funds to the forestry sector has been less than 1% of the total plan outlay of the country except seventh five-year plan in which it was 1.03 percent. The allocation to the forestry sector has not shown increase in real terms. Flow of funds from Employment Generation Schemes of Ministry of Rural Development to afforestation activities has also reduced significantly from Rs.2400 million in 1989-90 to Rs. 340 million in 1995-96 (Planning Commission 2001a). Although the contribution of the forestry sector varies widely in different parts of the country, the contribution of the forestry sector at the national level to the GDP has been assessed to be around 1% by the Central Statistical organisation. However, the recent studies shows that the sector contributes about 2.37% of GDP at the market prices (Chopra *et al.* 2001). Inadequate recognition and underestimation of the values of the total goods

and services provided by the forests has been a concern in forestry for a long time at local, regional, national and global level (Kengen 1997). Lack of estimates of valuation based on verified data and inability of the forestry professionals to convince the decision makers and society at large appear to be the two major reasons for low investment of public fund in the forestry sector. The decision-makers are not able to appreciate the connection between the SFM and sustainable development. There is a need to aggressively market the value of forests on moral, health and safety grounds in order to create appreciative environment for investment in forestry sector.

Forest Fund

Although the contribution of the forestry sector in the non tax revenue have declined over the years the revenue earned from the sale of timber and NTFP continue to be the major source of earning for the forest rich states like MP and Chhattisgarh. State's income from forests usually comprises of proceeds from the sale of timber and NTFP, grazing fees, fines, seizures, etc. Such revenues are deposited in the general treasury.

Table 4: Revenue and Expenditure of the State Forest Departments (1997-2001)

Year	Revenue (INR in million)	Expenditure (INR in million)	Revenue as % of expenditure
1997-98	15,936.42	25,612.27	62
1998-99	14,081.51	31,041.72	45
1999-00	14,866.80	33,790.96	44
2000-01	15,482.18	34,357.43	45
2001-02	15,591.92	35,948.46	43

Source: State Forest Departments

The revenue as percentage of the expenditure of the state forest departments (SFDs) has declined in the recent past largely because of the increased establishment cost after implementation of the recommendation of the fifth pay commission (Table 4). however, it has not gone down below forty percent. This figure varies across the states. In forest rich states, the revenue is usually more than the expenditure. If the SFDs are allowed to retain the revenue, it can meet more than forty percent of its current expenditure. The budget allocated to SFDs for the ongoing forestry activities are made available from the general treasury therefore they are uncertain and prone to fluctuations as the size of the fund largely depends on the priority attached to the sector by the government. 'Forest Fund' has been created in developed and developing countries to overcome this problem using a variety of approaches. It refers to constellation of approaches through which a portion of the State revenue is set aside for forestry purposes (Rosenbaum & Lindsay 2001). The percentage of forest fund in the overall budget of the forestry sector in some countries is fairly high. Nearly a third of the United States Forest Service's budget flows through special accounts and trust funds (Gorte & Corn 1997). The share of forest fund in India in the overall budget of SFD is very low. The common arguments in

favour and against of forest fund as well as the future roles have been described below (Table 5):

Table 5: Main arguments *for* and *against* national forest funds

For	Against	Future roles
Funds can help meet needs for long-term investment	Funds can trap capital in the forest sector	Funds can support forestry research
Funds can shield the forestry sector against the fluctuations and unpredictability of budgets	Funds can prevent ideal allocation of government budgets	Funds can be a tool for decentralisation and devolution of management.
Funds can stimulate more effective forest management by government agencies	Funds can transmit misleading economic signals to bureaucrats.	Funds can encourage private sector initiatives.
Funds can allow for greater oversight of forest spending.	Funds may invite corruption	Funds can locally increase accountability and transparency.
		Funds can promote production of the environmental goods and services.

Source: Rosenbaum and Lindsay 2001

A variety of legislation has been explored in different states of India to create forest funds. However, they have not been studied to assess the suitability of adoption in other states. The characteristics of the forest fund available in the state of Madhya Pradesh is described below (Table 6):

Table 6: Origin, source, user and uses of forest funds in Madhya Pradesh

Origin	*Source*	*User*	*Uses*
International			
World Food Program	Benevolent fund (portion of wages)	SFD	Creation of village asset & Employment
World Bank & other public donors	Protection fund (revenue generated by the activities supported by donor)	JFM Committees	
NGOs	Grant, donation	MP Tiger Foundation Society through SFD	Infrastructure of PAs
National			
NAEB	Grant-in-aid	FDA & JFM Committees	Forest development & Creation of village asset
State			
Forest Development Cess	Cess on sale of Forest produce	SFD	Forestry activities
Revolving Fund	Sale proceeds of seedlings	SFD	Self financing nurseries in cities

Origin	*Source*	*User*	*Uses*
MFP Federation	20% of the net profit from sale of NTFP	SFD & JFM Committees	Development of People's Protected area
Compensatory Afforestation	User of diverted Forest land	SFD	Compensatory Afforestation
Protected Area Development fund	Gate fee, Guest House rent etc.	Protected Area Management	Development of Protected Areas
Local			
Fines	Fines for petty offences	JFM Committees	Village asset creation

In the year 1999, a revolving forest fund was created for plantation of teak and pulpwood species in the state of Kerala. The fund comprises of 5% and 50% of the total amount credited from the sale of teak and pulpwood species respectively. The fund is utilised for nursery development and maintenance, plantation and maintenance, research and development, civil works and operational expenses.

There is need to learn from the experiences of different states so that the size of the forest fund could be increased through analogous adoption of legislation. The emerging legal framework should encourage creation of forest fund from local sources and their use by local bodies. This would go a long way in building capacity of the local bodies to generate and effectively utilise funds. PRIs can also explore possibilities of creating Forest Fund by levying taxes on uses of forests and environment.

Self-sustaining Models

Forestry operations require long term planning. Sustained silvicultural operations are required for resource creation. This requires availability of adequate resources at appropriate time on sustainable basis. The sole dependence of forestry activities for funds on government or on international agencies proves to be barrier for development of forestry. Financing forestry development in the developing countries is constrained by general economic situation and low priority attached to the sector. Due to fiscal deficit (Revenue from forestry is less then expenditures) and different priorities forestry activities are not receiving adequate funds. This requires development of self-sustaining models for various forestry activities. Self-sustaining means that any activity of forestry (say nursery) in a particular area (say community area or range or division) must be able to generate enough cash inflow for the required cash outflow on a sustainable basis. Here two parameters namely activity and area have been identified. Both are important from self-sustaining point of view .For example when we talk about SAL ANR model[1] of Uttar Pradesh and Uttaranchal these both aspects have been taken care. Same is the case with the strip plantation model of Uttar Pradesh.

[1] See Annex 1 for brief description of the models

Has the meaning changed over the year?

Traditionally the concept of sustainability was associated with the sustained yield of timber from a piece of forestland. The concept was to cut annually only the increment. From financial point of view the concept was that the total revenue received from forestry operations must be greater than the total expenditures incurred in forestry sector of the state. Only tangible transactions of forest were taken into account. There was hardly any appreciation for the intangible benefits like conservation of Water and Soil, Biodiversity, Oxygen, Carbon sequestering etc. These intangible benefits have never been accounted. The appreciation for these intangible benefits is gradually increasing and time has come to focus and quantify these benefits. Now the concept of self-sustaining is activity and area specific.

Classification of Self-sustaining models:

They can be broadly classified in three classes in the following manner:

Model	***Characteristics***	***Example***
Financially self-sustaining	Net cash inflow is always positive	The Sal ANR programme of Uttar Pradesh and Uttaranchal
Sustained financial flow	Continuous flow of cash benefits to different stakeholders	Strip plantations of the Uttar Pradesh Forest Department Successful JFM model
Financially self-sustaining with compensation for intangible benefits	Not self-sustaining in strict financial terms, but become self-sustaining with addition of monetary values for the intangible benefits of forestry activities	Regeneration of Degraded Forests

Causes for failure or success of such models

A self-sustainable model is likely to fail if it is linked to a project activity for the project period. In such a case normally once the project is over the activity is not sustained. Tree Co-operative project of Madhya Pradesh primarily failed because the project ended abruptly and could not yield stipulated benefits to its members. It was not possible for the weaker sections of the society to sustain their interest towards protection and maintenance of the planted area without continuous benefits. The next important aspect is flow of continuous benefits from the activity for the community involved in the activity. Benefits only for limited period or of distant future may not create interest among weaker sections of the society.

Learning for future

(i) Where ever the weaker sections contribution is required in any form the model must be developed in such a fashion so that the flow of benefits for weaker sections is continuous.

(ii) The institutional arrangements must be activity based irrespective of source of financing. For example SAL ANR government order of Uttar Pradesh and Uttaranchal is activity based rather than project based. Though now World Bank project is over but the government order is still in operation.

(iii) The self-financing mechanism for the activity must be forest division based rather than for the department as a whole. In Uttar Pradesh and Uttaranchal the money generated by Sal ANR programme is ploughed back only to that division. If it is adjusted at the state level there are chances of decreasing the existing financial outlay of the department as a whole. This will jeopardise the whole concept of self-sustaining.

Activities likely to be self-sustaining in forestry

The following forestry activities are likely to be managed as self-sustaining activities:

(A) Self-sustaining in strict financial terms
- Raising plants in the nurseries
- Eco-tourism
- Planting of fast growing industrial tree species such as poplar, Bamboo and Eucalyptus
- Maintenance of forest rest houses
- Cultivation of medicinal plants.

(B) Self-sustaining due to continuous cash flow to the stakeholders
- Strip Plantation
- Joint Forest Management
- Community Forestry

(C) Self-sustaining, if compensated for intangible benefits of forestry activities
- Biodiversity Conservation
- Preservation and management of natural forest
- Plantation on degraded land
- Soil and water conservation.

Institutional Finance

Features like long gestation periods, high initial investment and uneven flow of benefits are some of the unique characteristics, which makes institutional financing for forestry sector more challenging than the other sectors. The practice of free cattle grazing and absence of insurance to guard against the loss due to various natural calamities make investment in the forestry a risky exercise for both producers and banks. In spite of such constraints forestry projects have been found to be financially feasible and bankable in various studies (Balooni and Singh 2003). However, the experience in the last 10-15 years shows that the flow of institutional finance into forestry program has been minimal (Planning Commission 2001a). National Bank for Agriculture and Rural Development (NABARD) is a statutory organization responsible for refinancing farm forestry schemes for private lands. The proportion of the forestry schemes refinanced by the NABARD of the total disbursement of the refinance has shown almost a continuous decline

after reaching the peak of Rs.290.50 m during the year 1990-91 (Table 7). The ground level credit to the sector would be about 10 to 20% more than the refinance amount (Planning Commission 2001a).

Table 7: Disbursement of Refinance by NABARD from 1982 to 2003

Year	Disbursement of Refinance (INR million)		% of forestry sector
1982-83	098.90	34921.20	0.28
1991-92	224.00	20543.60	1.09
2001-02	160.90	66829.10	0.20
2002-03	124.00	74187.70	0.20

Source: Annual reports of NABARD

In 1972, the National Commission on Agriculture recommended that "the future production program should concentrate on clear felling of valuable mixed quality forest and inaccessible hardwood forests and planting these areas with suitable fast growing species yielding higher returns per unit area". Forest Development Corporations (FDC) were established in different states for converting "low value" mixed government forests in to "high value" plantations through institutional finance. The environmentalists and local people opposed clear felling and government had to restrict it. Introductions of fast growing exotic species were also restricted on similar opposition. The corporations in some states diversified their activities by engaging in harvesting timber from government forests and forest based industry. These corporations in most of the states have managed to repay loans and earn profit. It may not be out of place to point out that they are not required to pay the land price. FDCs are finding difficulty in allotment of forests land after introduction of the JFM. However, they can increase their plantation activities by taking leased land along railway track, roads and canals, and compensatory plantations.

NABARD has also supported a central sector capital subsidy scheme for development of the privately owned non-forest wasteland since 1998. The scheme provides for subsidy up to 25% of the bank loan with a ceiling of Rs. 2.5 m. Till 31 March 2003, around 1058 ha spread mostly in Andhra Pradesh, Maharashtra and Tamil Nadu has been planted with a bank loan of Rs. 80.7 million (NABARD 2003).

NABARD under the Rural Infrastructure Development Fund (RIDF-V) has provided Rs. 650 m for assisting 1366 ‘Van Samrakshana Samithis’ (VSS) for planting an area of 136000 ha spread over 14 districts of Andhra Pradesh. The future volume of such credit would depend on the capacity of the JFM committees in the country. Support of NGOs and extension services of the banks would be equally important.

The performance of financial institutions in subsidized credit as well as directed credit has been dismal (Balooni and Singh 2003). The major reasons for dismal performance include dearth of technical and economic data on different farm forestry models, lack of adequate capability in the lending banks to assist in formulation and appraisal of projects and lack of appropriate insurance system to safeguard the interest of banks and the producers (Planning Commission 2001a).

Private Sector

Investment in the private sector mainly comprises of industries and Plantation Companies, tree co-operatives and individuals. Paper and pulp wood industries such as WIMCO, ITC Bhadrachalam, Kitply Industries, J K Paper Mill, Harihar Fibre, West Coast Paper Mills, Star Paper Mills, etc., other have promoted plantation mainly of Eucalyptus and Poplars on private land. This partnership between the industrial houses and the farmers are working well since late eighties. Some industries like Kitply have also raised captive plantation on large parcels of land in Chhattisgarh taking advantage of land ceiling amendments. Land ceiling Acts have also been amended in a few other states like Tamil Nadu and Madhya Pradesh. The perverse incentives in the form of concessions in pricing and long term-committed supply to the forest based industries have not been abolished in all states. Abolition of such incentives would promote more active engagement of the industries in plantations. Paper and other large forest based industries consume just a fraction of forest products. About 90% of forest raw material are processed by 41119 private sawmills and a large number of cottage units (ICFRE 2000, Planning Commission 1998). Co-operatives consisting of members of these units can enter into partnership with farmers and undertake plantations. *Aurvedic* drug manufacturers can also promote contract farming of medicinal plants.

Last decade witnessed spurt of plantation companies that collected sizeable funds from individuals with the promise of raising plantations mainly of teak and paying rich dividends thereof. According to SEBI the amount raised by such 50 selected plantations companies was of the order of Rs.20100 m (Planning Commission 2001a). However, the plantations through these mopped-up funds from public were not commensurate to the funds collected and many companies disappeared causing long term damage to the climate of investment in the sector.

Tree Co-operatives are mainly operating in the States of Gujarat and Maharashtra on a large scale. Other states have not been able to promote such co-operatives. Madhya Pradesh under Lok Vaniki Programme is trying to promote tree co-operatives with limited success. The level of investment in such co-operatives is not known precisely.

Public Private Partnership (PPP)

The forest-based industries have shown keen interests in participating in the wood resource development. However, the debate has remained polarised on account of the appropriate role for the industry and control over the public forestland. New approaches are being defined to create win-win situation while addressing the concerns and apprehensions of stakeholders.

The state of Chhattisgarh initiated PPP as a viable mechanism to reclaim degraded forests through plantation of fast growing and short rotation forest species for commercial and industrial purpose with forward and backward linkages. Around 540 ha were planted in the year 2003-04 with loan from industrial houses which was around 16 percent of the project cost. JFM

committees and the DRDA shared 43 and 41percent of the project cost respectively. It is envisaged to plant species as per prescriptions of the micro plan, which could meet the needs of the industries as well as of local people who pledge to protect these plantations.

Civil Society

Institutional Landscape of the Rural India has changed substantially in the recent past. Presence of a number of user groups supported by the various government agencies and NGO with a mandate to manage natural resources is not uncommon in the villages. The 73rd constitutional Amendment Act has mandatory provisions for the creation of a three-tier local government (Panchayat Raj Institutions) structure at the district, block and village levels in rural India. These institutions have been vested with powers to decide on a wide ranging subjects listed in the eleventh schedule of the constitution that includes 'social forestry and farm forestry', 'minor forest produce[2]' and 'fuel and fodder'. The 73rd constitutional amendment excluded the tribal people (except for reservations) and Scheduled Areas from the Act. Panchayats (Extension to the Scheduled Areas) Act, 1996 (PESA) authorises the tribal *Gram Sabha* (Village Assembly) to control all non-timber forest resources in the Fifth Schedule area. Panchayat has powers to levy taxes, which has not been used to create funds for forestry, as forestry is usually low in their priority.

These civil society organisations on the one hand can drastically cut down the cost of management of natural resources and on the other hand mobilise resources locally for management of natural resource. There is lack of co-ordination among such agencies.

JFM and Watershed committees in some states have been able to save cost of protection of forests through social fencing. They have also mobilised resources locally in the form of cash, kind and labour to create village assets like stop dams, lift irrigation etc., which has helped in reducing the pressure of direct dependent community on forests. However, such initiatives have not been properly documented. They have been able to mobilize very limited resources from external sources due to lack of capacity to prepare projects for various agencies. Only a handful NGOs have been able to mobilize resources locally or globally for forestry.

International Investments

Rapid pace of forest loss and forest degradation during 1970s attracted attention of international community, and donor agencies identified creating wood producing buffers outside traditional forests as a viable strategy to arrest the forest loss. This suggestion was consistent with recommendations of the National Commission on Agriculture (1978) regarding bridging the demand-supply gap by producing wood fuel, fodder and small timber on non-forest land under community and private ownership under the social forestry program. The state was unable to meet the fund requirement for the social forestry. The

[2] Certain identified NTFP

World Bank-assisted Social Forestry project in Uttar Pradesh was started in 1979-80, and a few other projects followed in succession. About 2.57 million hectares of community land and farmland were treated under 14 projects spread over in Uttar Pradesh, Gujarat, West Bengal, Jammu and Kashmir, Haryana, Karnataka, Kerala, Himachal Pradesh and Rajasthan (Table 8).

Table 8. Externally-aided Social Forestry Projects in India

Name of the Project	State	Aid Agency	Period	Project Cost (million Rs.)	Expenditure (million Rs.)	Treatment area (ha.)
Social Forestry Project	Uttar Pradesh	World Bank	1979-80 to 1983-84	400.0	500.0	76,000
Gujarat Community Forestry Project	Gujarat	World Bank	1980-81 to 1984-85	666.5	676.4	108,355
Social Forestry Project (Phase I)	Tamil Nadu	SIDA[3]	1981-82 to 1988-89	656.8	569.6	140,363
Social Forestry Project	West Bengal	World Bank	1981-82 to 1990-91	347.5	640.0	242,578
Social Forestry Project	Maharashtra	USAID[4]	1982-83 to 1990-91	564.0	728.0	75,726
Social Forestry Project	J&K[5] and Haryana	World Bank	1982-83 to 1990-91	570.7	1,061.9	186,281
Social Forestry Project (phase I)	Orissa	SIDA	1983-84 to 1987 -88	281.7	270.6	33,592
Social Forestry Project	Andhra Pradesh	CIDA[6]	1983-84 to 1990-91	383.8	427.6	45,217
Social Forestry Project	Karnataka	World Bank/ ODA[7]	1983-84 to 1991-92	1,245.5	852.1	53,351
Social Forestry Project	Kerala	World Bank	1984-85 to 1992-93	595.1	896.8	131,000
Social Forestry Project	Bihar	SIDA	1985-86 to 1991-92	538.5	486.0	53,375
National Social Forestry Project	Uttar Pradesh, Himachal Pradesh, Rajasthan, Gujarat	World Bank/ USAID	1985-86 to 1992-93	3,872.9	6,981.8	1,198,742
Social Forestry Project (Phase II)	Orissa	SIDA	1988-89 to 1995-96	783.4	1,368.0	119,450
Social Forestry Project (Phase II)	Tamil Nadu	SIDA	1988-89 to 1995-96	854.0	1,548.6	108,176
Total				11,760.4	17,007.4	2,572,206

Source: Planning Commission 2001b

[3] Swedish International Development Agency: Bilateral aid agency of Sweden

[4] United States Aid for International Development: Bilateral aid agency of the United States of America

[5] Jammu and Kashmir

[6] Canadian International Development Agency: Bilateral aid agency of Canada

[7] Overseas Development Agency: Bilateral aid agency of the United Kingdom; currently DFID

In its 1978 report on forestry prospects in India, the World Bank (1978) had identified two major tasks: (a) improving forest productivity for meeting wood requirements of the industry, and (b) develop farm forestry to be able to meet the fuelwood, fodder and farm timber requirements of the rural areas. However, social forestry received greater attention, and the World Bank extended support to seven social forestry projects with total expenditure of Rs. 11,609 million. The Uttar Pradesh and Gujarat had second phase of funding under the National Social Forestry Projects (1985-86 to 1992-93), which was jointly funded by the World Bank and USAID. The USAID also supported the Maharashtra Social Forestry Project. SIDA supported five projects during the period in Tamil Nadu, Orissa and Bihar treating around 0.42 million hectares with an expenditure of Rs. 4242.8 million. All the social forestry projects were over by the mid-nineties, but the social forestry continued as a significant component of the integrated forest projects in 1990s.

A decade of the social forestry projects revealed its limitations and the institutional weaknesses in addressing broader issues of forest conservation and development in the country. Large-scale plantations generally failed to meet the expectations, and management of traditional forests again moved to the central stage. The social forestry, nevertheless, provided learning opportunities for decentralised working with local communities. Further, experiments like Arabari and Sukhomajri highlighted positive role of people's participation, and demonstrated ability of local communities in rehabilitating degraded forests. Livelihood dependence of people living in and around forests on local forest resources gained focus in the "livelihood-versus-conservation" debate particularly in the context of expanding protected area network. Simultaneously, participation of local communities outside the electoral politics of representation gradually received acceptance as desirable democratic process under changing public administration scenario. Consequently, the National Forest Policy of 1988 brought a new perspective in its endorsement to people's participation and pre-eminence of local needs with reiterated emphasis on conservation of biological diversity in the forest management. There was a reversal in commitments to the forest industries, and the natural forests were not to supply industrial raw material. Appropriate restructuring of forest administration and institutions were also logical aspects of the new policies and fast changing contexts.

Resource-centric approach for biological conservation were criticised for neglect to the livelihood needs of the poor and stifling aspirations of forest dwelling communities in the developing countries. A series of international deliberations culminated in the 1992 UNCED summit and endorsement to the sustainable development concept as embodied in the Agenda 21. Convention on Biological Diversity and the non-binding agreement on Forestry Principles were two major associated outcomes directly affecting the forest funding.

Since early 1990's, poverty reduction in developing country and promotion of sustainable use of natural resources emerged as two basic elements of donors' agenda. Concurrently, institutional and social aspects attained prominence over the science-based technical problem solving approaches.

Problematic fiscal situations effectively reduce the state investment in sustaining the public management particularly so in sectors like forestry, which does not have high political priorities. Yet, urgency of transition to new institutional regime was difficult to miss for ensuring long-term survival for forests vital for global to local communities. The position is well articulated in the World Bank (1991) policy, which identified four strategies for development of the forestry sector in India: (a) Protecting the forests, (b) Policies to meet basic needs for forest products and services, (c) Strengthening forest institutions, and (d) Role of international communities. There is a "considerable congruence" between the World Bank's 1991 forest strategy in India and the National Forest Policy, 1988 (Kumar *et al.* 2000). Similarly, India's rural development Program matches well with the poverty reduction and the sustainable livelihood approaches of bilateral aid agencies from the United Kingdom and other European countries.

During 1990's, the external assistance projects in forestry were largely focused on capacity building and strengthening the forestry institutions involving various aspects of forest and wildlife management in the integrated projects (Table 9). The World Bank supported six such integrated projects in Maharashtra, West Bengal, Andhra Pradesh, Madhya Pradesh, Kerala and Uttar Pradesh. The Japanese bilateral assistance supported similar projects in Punjab, Gujarat and Rajasthan.

Table 9. Externally-aided Forestry Projects in India started since 1990

Name of the Project	State	Aid Agency	Period	Project Cost (million Rs.)	Assistance in million
Rehabilitation of Common lands in Aravallis	Haryana	EEC[8]	1990-91 to 1999-00	481.5	NA
Afforestation and Pasture Development Project along Indira Gandhi Canal Area	Rajasthan	Japan-JBIC[9]	1990-91 to 2000-01	1,075.0	¥ 7869.00
Western Ghats Forestry Project	Karnataka	UK-ODA	1992-93 to 1998-99	842.0	£ 97.19
Afforestation Project in Aravalli Hills	Rajasthan	Japan-OECF[10]	1992-93 to 1999-00	2,598.0	¥ 8095.00
Maharashtra Forestry Project	Maharashtra	World Bank	1992-93 to 1999-00	4,310.0	US$ 186.94
West Bengal Forestry Project	West Bengal	World Bank	1992-93 to 1997-98	1,140.0	¥ 136.79
Forestry and Eco-Development Project for Changer Area of Palampur	Himachal Pradesh	GTZ[11]	1994-95 to 1999-00	187.0	NA
Andhra Pradesh Forestry Project	Andhra Pradesh	World Bank	1994-95 to 1999-00	3,539.2	US$ 71.60

[8] European Economic Commission of the European Union

[9] Japanese Bank of International Cooperation: Bilateral aid agency of Japan; formerly OECF

[10] Organisation for Economic Cooperation Fund: Bilateral aid agency of Japan; currently known as JBIC

[11] (**GTZ**): Bilateral aid agency of Germany

Name of the Project	State	Aid Agency	Period	Project Cost (million Rs.)	Assistance in million
Forestry research, education and extension project (FREEP)	MoEF, ICFRE, HP, TN[12]	World Bank	1994-95 to 2000-01	1,924.7	US$ 47.00
Rajasthan Forestry Development Project	Rajasthan	Japan-JBIC	1995-96 to 1999-00	1,391.8	¥ 4219.00
Madhya Pradesh Forestry Project	Madhya Pradesh	World Bank	1995-96 to 1999-00	2,459.4	US$ 131.12
Capacity Building Project for Participatory Management of Forests	Orissa	SIDA	1997-98 to 1998-99	85.0	SEK 13.50
Punjab Afforestation Project	Punjab	Japan-JBIC	1997-98 to 2001-02	4,420.0	¥ 6193.00
Uttar Pradesh Forestry Project	Uttar Pradesh	World Bank	1997-98 to 2000-01	2720.0	US$ 52.00
Kerala Forestry Project	Kerala	World Bank	1998-99 to 2001-02	1,830.0	$ 39.00
Himachal Pradesh Forestry Project, Kullu and Mandi	Himachal Pradesh	UK-DFID	1994-95 to 2001-02	139.2	£ 3.00
Gujarat Afforestation and Development Project	Gujarat	Japan-JBIC	25.1.1996/ 26.3.2004 (**ongoing**)	6085.0	¥ 15,760.00
Tamil Nadu Afforestation Project	Tamil Nadu	Japan-JBIC	29.5.1997/ 29.5.2005 (**ongoing**)	4992.0	¥ 13,324.00
Eastern Kamataka Afforestation Project	Karnataka	Japan-JBIC	29.5.1997/ 29.5.2005 (**ongoing**)	5655.4	¥ 15,968.00
Punjab Afforestation Project (Phase II)	Punjab	Japan-JBIC	31.3.2003 (**ongoing**)	2010.0	¥ 5,054.00
Rajasthan Forestry and Biodiversity Conservation Project	Rajasthan	Japan-JBIC	31.3.2003 (**ongoing**)	3590.0	¥ 9,054.00
Eco-Development Project	MoEF	World Bank	05.09.96 (**Ongoing**)	2949.3	US$ 28.00
Andhra Pradesh Community Forest Management Project	Andhra Pradesh	World Bank	16.7.2002 (**Ongoing**)	6530.0	US$ 109.00
Indo-German Ecodevelopment Project	Himachal Pradesh	GTZ		300.0	DM 20.00
Total				61,254.5	

Source: Planning Commission 2001b

Some projects addressed needs of the specific areas as Western Ghats, Palampur, Kullu and Mandi. A few other projects addressed special afforestation needs such as in the Aravalli Hills and along the Indira Gandhi Canal Area. The "Forestry Research, Education and Extension Project" of the Ministry focused on infrastructure development and capacity building of newly created Indian Council of Forestry Research and Education.

[12] Ministry of Environment and Forests (Government of India), Indian Council of Forest Research and Education, Dehradun, Himachal Pradesh and Tamil Nadu

In the last half-decades, there has been a distinct shift away from the integrated large projects and preference for the focused projects with emphais on community participation and livelihood issues. The World Bank continued as the largest donor agency, and the Japanese bilateral agency is the second largest donor providing assistance to the forestry projects in India. Kumar *et al.* (2000) have shown that the World Bank's lending commitments to India accounted for 13.3% of the commitments to all the forestry projects during 1984-91 and substantially went up to 26.7% during 1991-99. Only China received consistently higher assistance for the forestry projects during the period (Table 10).

Table 10. World Bank forestry Project lending during 1984 – 1999

Items	India 1984-91	India 1991-99	China 1984-91	China 1991-99
Number of forestry projects	3 (07.3%)	8 (23.5%)	3 (07.3%)	3 (08.8%)
Commitments for the forestry projects in US$ million	223.8 (13.3%)	460.0 (26.7%)	404.2 (24.0%)	550.0 (31.9%)
Number of projects with forestry components	3 (09.4%)	3 (3.2%)	2 (06.3%)	15 (16.0%)
Commitments for the forestry components in US$ million.	16.9 (05.8%)	179.0 (10.0%)	6.0 (02.0%)	304.9 (17.0%)
Commitments for projects with forestry components in US$ million	857.8 (44.1%)	196.7 (03.2%)	152.0 (07.8%)	2556.5 (41.2%)

Source: Kumar *et al.* 2000

Part IV: Resources requirement for implementing NFAP and other strategic options

The NFAP is a comprehensive long-term strategic plan for the next 20 years. It identifies the issues and programs for achieving sustainable forestry development in India by harmonising the activities of different stakeholders. The NFAP evolved through co-ordinated centre-state strategic planning with inputs from many national and international consultants. It identifies five programs: (1) protect existing forest resources, (2) improve forest productivity, (3) reduce total demand, (4) strengthen the policy and institutional framework and (5) expand the forest area. The resources available for these programs are inadequate. Efforts are being made to mobilise resources both from external and internal sources for implementing the NFAP. The MOEF, with FAO and UNDP, organised a conference of international donors for this purpose. Some funds have been mobilised through discussions with interested donor agencies of developed countries.

The Protect Existing Forest Resources program encompasses forest protection, soil and water conservation, and conservation of protected areas and biodiversity. The proposed activities include forest boundary management, settlement of tenurial issues, JFM, ecodevelopment, ecotourism, watershed protection, control of desertification and strengthening working plans.

The Improve Forest Productivity program consists of four items, (i) rehabilitation of degraded forests, (ii) research and technology development, (iii) development of NWFPs and (iv) assisting private initiatives with community

participation. Integrated management for wood and NWFPs and other forms of multiple-use management and forest development through technology improvement are considered important.

The Reduce Total Demand program focuses on reducing the demand for forest products – fuelwood and fodder, timber, and NWFPs – through technological interventions and other measures that increase the efficiency of forest products use. Superior cook stoves, improved cooking practices and alternative fuels, rotational grazing, stall feeding, value-added downstream processing, market manipulation and pricing mechanisms are some of the approaches.

The Strengthen Policy and Institutional Framework program aims at strengthening the central and the state forestry administrations and institutions. It also covers forest policy and legislation, research, safeguarding intellectual property rights, development of information systems, extension and public education, and dissemination of information.

Tree plantations on forest- and non-forestlands with people's participation are envisaged under the Expand Forest Area program.

Table 11(a): Investment estimates of NFAP and shortfall (INR million)

Item	Amount in INR million[13]	Shortfall as %
Annual Investment required as per NFAP	66,951	
Expenditure in the forestry sector during 1998-99	13,937	79.2
Expenditure in the forestry sector during 1999-00	15,271	77.2
Expenditure in the forestry sector during 2000-01	15,426	77.0
Expenditure in the forestry sector during 2001-02	16,139	75.9

Based on aggregate expenditure of all states

Table 11(b): Component-wise expenditure in Madhya Pradesh during 2002-03

Program	Investment per year in NFAP (INR million)	Distribution envisaged in NFAP in %	Distribution of Expenditure in %	Shortfall in %
Forest protection	10,719	16.0	9.3	6.7
Improve forest productivity	20,646	30.8	29.1	1.7
Reduce total demand	1,387	2.1	0.3	1.8
Strengthen the policy and institutional framework	13,614	20.3	0.4	19.9
Expand the forest area	20,586	30.8	4.9	25.9
Establishment			56.0	
Total	66,952	100.0	100.0	56.0

Expenditure on the establishment consumes around 56% of total expenditure. The current expenditure on programs identified in the NFAP is around 16 billion as against required amount of around 67 billion (Table 11). The case study of Madhya Pradesh reveals that there is greater distortion in

[13] Roughly 55% of total expenditure during the year

the distribution among the components. Expansion of the forest areas and strengthening the policy and institutional framework are two key components facing the largest gap in the funding mechanism. The National Afforestation and Ecodevelopment Board through its Forest Development Agency Program is making an attempt to address the issues, but its ability to bridge the gaps appears limited in light of the plan funding for the purpose.

There is need for intensifying efforts for mobilizing additional resources. The underlying constraints behind the poor performance of domestic financial and capital market as well as international sources need to be identified and removed. The constraints of financing mechanism that need to be removed has been described in the given below (Table 12):

Table 12: Matrix of Constraints of financing mechanism

Financing Source	Sector	
	Public	**Private**
Local	• Forestry low in priority of Panchayat • Absence of forest fund legislation • Absence of right over CPR • Capacity to prepare project	• Lack of technical knowledge • Lack of Marketing information & infrastructure • Easy access to credit • High protection cost due to open grazing • Weak infrastructure • Capacity to prepare project
District	• Forestry low in priority	• Absence of federation of tree growers • Weak incentive for forest based industries
State	• Forestry low in priority • Traditionally revenue earning sector • Limited forest fund legislation	• Sale of forest produce at below market price • Cumbersome Transit & Felling rules • Unsuitable land policies, laws & practices • Unfavorable Mandi Act • Unfavorable Saw Mill Acts • No Provision of support price
National	• Forestry low in priority • Low contribution to the GDP due to incomplete valuation of multiple forestry benefits • Absence of Environmental fund legislation	• Unattractive tax breaks • Unfavorable tariff on import of timber and wood products • Absence of appropriate insurance cover • SEBI's failure to regulate plantation companies
Regional (SARC)	• Forestry low in priority • Absence of regional forums	• Lack of policy to promote regional trade in forestry

International	• Declining Official development assistance (ODA) • Rigidity of donors for policy reforms • Long project cycles • Weak Project formulation & implementation capacity of recipient country	• Lack of institutional arrangement

Based on Planning Commission 2001a & 1998, World Bank 2002 & 1995

The additional resources required for supporting livelihoods of the community that directly depend on the forests has not been included in the investment estimates of the NFAP. The NFAP should have detailed out the resource mobilization strategy and the planning should have been done on achievable level of funding. Each funding source prefers to invest in a particular set of activities of the SFM, which needs to be kept in mind while developing strategy for mobilizing resources (Table 13).

Table 13: Preferred area of funding sources and trend

Source	***Preferred area of investment***	***Level of investment***	***Trend***
Domestic Sources			
Government of India			
Ministry of Environment & Forests	FDA, JFM, Biodiversity conservation, Research, education & Extension	Low	Increasing
Ministry of Tribal development	Tribal development, NTFP, livelihood security	Low	Increasing
Ministry of Rural Development	Watershed development, Livelihood security	Low	Decreasing
State Government			
Forest Department	Production and Plantation	Medium	Increasing
Rural Development dept.	Watershed development, Livelihood security	Low	Decreasing
PRI	Livelihood security	low	Increasing
Institutional Finance	Commercial Plantation	Low	Decreasing
Private Sector			
Corporate bodies	Plantation	Low	Increasing
Co-operatives	Nursery, NTFP, Plantation	Low	Static
Individual farmers	Plantation and nursery	Medium	Increasing
Community	Plantation and protection	Low	Static
NGO	Capacity Building	Low	Increasing
International Assistance			
World Bank	Institutional Development and poverty alleviation through forestry	Low	Declining
FAO & other UN agencies	Capacity Building	Low	Static
Bilateral donors-JBIC, DFID, CIDA, SIDA etc.	Poverty alleviation through forestry	Low	Increasing
NGO-WWF, TRAFFIC etc.	Conservation of biodiversity	Low	Increasing
Corporate bodies	Carbon Trading	Negligible	Increasing

The recent developments have opened up new opportunities to create and develop new financing mechanism that needs to be tapped. The strategy for financing SFM should be built keeping in mind the potential of public and private sources at both domestic and international levels.

Part V: Main conclusions for the discussions

The conclusions have been drawn mainly to stimulate discussions among the workshop participants:

1. There is a greater realization for providing livelihood security to the communities directly dependent on the forests for SFM. However, it does not find a place in the programs identified in the NFAP. There should be a deliberation on need to redefine the priorities and programs of the NFAP.

2. The changes in the planning, budgeting and approval systems have changed the roles and responsibilities of various stakeholders in the financing of SFM, which need to be clarified. The linkages among various sectoral and interface planning are also unclear making the gap analysis a challenging task. There is also a need to clearly set out responsibilities for mobilizing resources. The 'compensatory principles' advised by the Supreme Court need to be further elaborated and clearly defined.

3. Various states have made attempt to remove funding related constraints and develop innovative financing mechanisms. The new opportunities still remain largely untapped. The percentage of the 'Forest Fund' in the overall of the forestry sector is negligible. There is need to learn from the mixed experiences of both success and failure of 'Self Financing Models'. There is a need for learning platform and other facilitation mechanisms to promote learning from national and international experiences for financing SFM.

4. The recent efforts of more realistic assessment of contribution of the forestry sector to the GDP have not paid dividends. There is need to aggressively market the value of forest on moral, health and safety grounds in order to built appreciative climate for investment in the sector.

5. Improving efficiency in the use of available resources is an issue for concern. There is a need to build capacity and improve transparency and accountability of the forestry institutions.
6. The interest of the developed countries in the management of natural resources of the developing countries has shown rising trend however, the international assistance has shown a declining trend. The developed countries need to demonstrate their commitment to the sustainable development by increasing contribution to the ODA.

7. SARC countries need to assign importance to the SFM in their development co-operation framework. They can build synergy between region's poverty

alleviation efforts and SFM, and assist each other to support direct and indirect interventions at the level of policy and programs for SFM.

Acknowledgements

The authors express sincere gratitude to Suhas Kumar and Jitendra Agarwal for the support, guidance and stimulation provided during the preparation of this paper. The authors wish to thank Atanu Rakshit for providing the estimates of expenditure on various components of the NFAP.

Reference cited

Bahuguna, V.K., K. Mitra, D. Capstrano and S. Saigal (Eds.), 2004. Root to Canopy: Regenrating forests through community-state partnerships. Winrock International and the Commonwealth Forestry Association-India Chapter, New Delhi

Buch, M.N., 1991. The Forests of Madhya Pradesh, Madhyam, Bhopal.

Chopra, Kanchan B. B. Bhattacharya and Pushpam Kumar. 2001. Contribution of Forestry Sector to Gross Domestic Product (GDP) in India. Institute of Economic Growth, Delhi

Gorte, Ross W. and M. Lynne Corn, 1997. The Forest Service budget: Trust Fund and Special Accounts. Congressional Research Service Report for Congress (Jan. 3, 1997). Library of Congress (USA), Washington in: Rosenbaum, Kenneth L. and Jonathan M. Lindsay, 2001. An Overview of National Forest Funds: Current Approaches and Future Opportunities FAO, Italy

Kengen, S., 1997. Linking Forest Valuation and Financing, Unasylva 188, vol. 48.

Kumar, Nalini, Naresh Saxena, Yoginder Alagh and Kinsuk Mitra. 2000. India: Alleviating Poverty through Forest Development. Evaluation Country Case Study Series. World Bank, Washington D.C.

MOEF (Ministry of Environment and Forests). 1988. The National Forest Policy, 1988. Government of India, New Delhi

MOEF. 1999. National Forestry Action Programme – India. Government of India, New Delhi

MOEF. 2001. India – National Action Programme to combat desertification in the context of UNCCD, Volume –I: Status of desertification. New Delhi, Government of India.

MOEF. 2002. National Biodiversity Strategy and Action Plan, 2002

MPFD, 1985. Madhya Pradesh Social Forestry Project, Second Mid term Evaluation, Madhya Pradesh Forest Department, Bhopal.

NABARD, 2003. Annual Report 2002-03, National Bank for Agriculture and Rural Development, Mumbai

Om Consultants. 2000. Forest Sector Institutional Framework Study for the World Bank: Paper for the Workshop on Policy & Institutional study, Om Consultants (I) Pvt. Ltd.

Pettenella, D., 1997, New trends in public forestry administration, Paper presented in XI World Forestry Congress, Antalya, Turkey.

Planning Commission. 1998. Leasing of Degraded Forest Lands. Working Group's Report on the Prospects of Making Degraded Forests Available to Private Entrepreneurs. New Delhi: Government of India

Planning Commission. 2001a. Report of the Task Force on Greening India for Livelihood Security and Sustainable Development. Government of India, New Delhi

Planning Commission. 2001b. Report of the Working Group on Forestry Sector, 10th Five-Year Plan. Planning Commission, Government of India, New Delhi

Planning Commission. 2002. Report of the steering committee on environment, forest and wildlife for the Tenth Five-Year Plan (2002–2007). New Delhi, Government of India.

Rosenbaum, Kenneth L. and Jonathan M. Lindsay, 2001. An Overview of National Forest Funds: Current Approaches and Future Opportunities FAO - Italy

Sageriya, K.P., 1978. Revision of the National Forest Policy, Indian Forester, 104(1), P.2-5.

Shah, S. A., 1996. Status of Indian Forestry, Wasteland News, Nov.1995 - January 1996, pp. 14-31.

Thomas F. Homer-Dixon, 1994. Peace and Conflict Studies Program, University of Toronto, International Security, Vol. 19, No. I (Summer 1994), pp. 5-40

World Bank, 1995. Staff Appraisal Report, Staff Appraisal Report, Madhya Pradesh Forestry Project, 1818 H Street, N.W. Washington, DC 20433

World Bank, 2002. Staff Appraisal Report, Staff Appraisal Report, Andhra Pradesh Community Forest Management Project, 1818 H Street, N.W. Washington, DC 20433

World Summit on Sustainable Development (WSSD), 2002. Plan of implementation

Annex 1: Examples of self-sustaining models

(1) Sal Assisted Natural Regeneration

The state governments in Uttar Pradesh and Uttaranchal had issued orders for ensuring financial sustainability and for establishment of revolving fund for the ANR Programme in the Sal Forests. The orders provide that one third of the royalty generated from the sal forests will be deposited in forest deposit and this money will be utilized for natural regeneration and development of the sal forests of the concerned forest divisions. For this purpose separate marking list will be prepared for Sal ANR area and enumeration of volume and royalty of timber will be computed species-wise. The concerned Divisional Forest Officer will prepare two *challans* for the total royalty. One *challan* will be for one third of the total royalty and will be deposited in Forest Deposit and the remaining two third royalties will be deposited in the Forest Revenue. It is also directed that only such ANR site will be selected for this purpose where standing volume of the selected site is greater than 100 Cubic Meter and at least 6.5 Cum of timber per ha should come from the felling. Marking of Sal ANR areas will be done by the forest officer of the rank of Assistant Conservator of Forest and above. Natural regeneration work in Sal areas will be done as per the prescription of working plans and the deviation, if any, will be sought for approval by competent authority. Also the site species plans for sal ANR area will be implemented after the approval of Principal Chief Conservator of Forests.

(2) Strip plantation

The Government order in Uttar Pradesh ensures the financial sustainability and establishment of revolving fund through stakeholders' involvement for strip plantation programme. The salient features of the order are as under:

(i) In the case of multiple row strip plantations, ownership of trees of the last rows (towards the field), lies with the owner of the adjacent field in existing plantation as well as in the plantation to be carried out in the future. In the lieu of this, the farmers adjacent to the last row will look after and protect the trees of the first row and for this purpose and agreement will be made between the DFO and owner of the field.

"In the case that agreement is not possible with farmer by any reason regarding the trees situated in last row (towards the field), then agreement will be made with Village Panchayat just like middle rows for managing the trees of last row with consent of Gram Pradhan (village head). In the case if agreement is not possible with Village Panchayat also regarding the management of trees situated in last row, then management and disposal will be done by Forest Department as was being done earlier."

The disposal of the tree of the last row (towards the field) shall be made by the Forest Corporation or by the Forest Department and the revenue received, after deducting 10% of operational expenses (marking, felling, logging & transportation up to the Depot, stacking and auction expenses) shall be deposited in the "forest deposits" firstly. Thereafter, this money will be paid to relate agreement holder in two instalments rather than paying in one instalment. In place of disposed tree of the last row 60% amount

necessary for plantation, beating up and protection as per provision of above GO will be reserved and 40% amount will be paid to the related agreement holder as first instalment. The remaining 60% amount shall be paid as second instalment only after a period of three year and on satisfactory completion of plantation, beating up and protection work.

(ii) The income to be received from the disposal of the middle rows of the existing plantation will be shared 50:50 between DFO and Gram Panchayat concerned. In lieu of this the concern village Panchayat will look after and protect the trees of the remaining rows other than last row. For this purpose agreement will be made between DFO and Panchayat concerned.

In case due to any reason, if it is not possible to make a agreement with concerned village Panchayat for managing the trees of middle rows, a report in this regard shall be put up by the concerned Divisional forest officer to the controlling conservator of forest mentioning reasons for this .The fact of the report will be confirmed by the concerned Conservator of forest after inquiring into the matter and in such situation the management of the trees of the middle rows shall be done by forest department as usual.

The said 50% amount will be deposited in the Head "Forest Deposit" at the first stage. Then after this amount shall be deposited in two instalments rather than depositing into the integrated fund of Gram Sabha as a whole. Out of 50% amount as per provision of above GO, the 60% amount necessary for plantation beating up and protection will be kept reserved and the remaining 40% amount will be deposited in the integrated fund of Gram Sabha as a first instalment. Remaining 60% amount reserved out of the 50% amount will be deposited into integrated fund of Gram Sabha after a period of three years and after successful completion of plantation.

(iii) In the case of single row in plantation the ownership of the trees lies with forest department and the forest department will manage such plantation.