

# Working Paper

Working Paper 56

## ROLE OF NABARD IN FINANCING SOCIAL FORESTRY PROGRAMMES INCLUDING AFFORESTATION OF WASTELANDS IN INDIA

*Kulbhusan Balooni and Katar Singh*



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Kulbhushan Balooni and Katar Singh\*

Abstract

Afforestation of wastelands requires massive investment of funds that is beyond the reach of most of the owners of such lands. The budgetary allocations of the Government of India and State Governments also are not sufficient to meet the need. A lot of institutional credit is, therefore, needed for the purpose. Duly recognizing the need for institutional credit, the National Bank provides refinance facilities to individuals undertaking forestry activities. This is done under a number of different schemes. The number of social forestry schemes refinanced by the National Bank has been increasing at a very high rate. However, social forestry schemes constitute only 0.61 percent of the total number of schemes sanctioned and account for only 1.64 percent of the cumulative disbursements made by the National Bank up to 1992 under schematic lending. A number of factors have been identified as constraints. In particular, government policies are decelerating the progress of development programmes in the forestry sector. Unless these constraints are overcome, the National Bank cannot play any effective role in providing refinance to developmental programmes undertaken in the forestry sector in the Eighth Five Year Plan.

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\* The authors are respectively RBI Research Fellow and RBI Chair Professor, Institute of Rural Management, Anand-388001.

## 1. INTRODUCTION

The National Bank for Agriculture and Rural Development (NABARD), or the National Bank is an apex development bank in the country. It was set up on 12 July, 1982 for supporting and promoting agriculture and rural development. Prior to its inception, the policy, planning and operational aspects of rural credit were looked after by the Agricultural Refinance and Development Corporation (ARDC). NABARD provides through the financial and banking institutional system several lines of production and investment credit to agriculture, small scale industries, handicrafts and other allied economic activities.

India has vast tracts of wastelands extending over 100 million ha. These lands are mostly owned by government and village panchayats and are highly degraded. Tree plantation is the socially optimum and ecologically - sound use of such lands. But restoration and afforestation of such lands requires huge investment which is beyond the reach of owners of such lands and the budgetary resources of the government. Therefore, availability of external funds, preferably from institutional sources, is a prerequisite for afforestation of wastelands in India. The National Bank can play an important role in refinancing the wastelands afforestation schemes. The National Bank since its inception has laid emphasis on the need for increasing productivity and production in the forestry sector. However, of late, its lending priority in the forestry sector has shifted from support of activities leading to commercial exploitation of forest resources to schemes of tree plantation on private and community lands. In fact during the first year (1982-83) of its working, the National Bank decided to consider for refinancing farm forestry development schemes for private lands and planting of trees on degraded lands belonging to government and obtained on long-term lease by farmers or their groups (NABARD, 1983). However, among the different components of social forestry schemes as outlined by the Government of India, only farm forestry qualifies for refinance from the National Bank as other components are not always meant to generate sufficient income to repay the loans (Sharma, 1993).

The total area brought under afforestation during the Sixth Five Year Plan Period was only 4.65 million ha, but in the Seventh Five Year Plan Period it increased to 8.87 million ha registering an increase of about 91 percent (GOI, undated). In the Eighth Five Year Plan, the overall afforestation target is likely

to be of the order of 17 million ha and to achieve this it is estimated that about Rs.7,200 crores would need to be provided for under the afforestation schemes of various Departments and State Plans (Mission on Wastelands Development, undated). If this huge requirement is to be met, the flow of institutional credit will need to be stepped up markedly.

In India, out of the total culturable wastelands of about 32 million ha, the area available for social forestry is estimated to be about 16 million ha (RBI, 1989). The unit cost of developing one hectare area with tree plantation varies considerably in various agro-climatic regions. However, as a rough estimate of the investment required for afforestation of these lands, we assume the average unit cost at Rs. 12,000 per hectare (1993 prices) based on a study conducted by Balooni and Singh (1994). On this basis the investment required for afforestation of 16 million ha of culturable wastelands mostly under private ownership works out to Rs. 19,200 crores. About 50 percent of the total cost of tree plantation is accounted for by labour input, If we assume that this cost is met by the tree growers, an amount of Rs. 9,600 crores would be required by them for investment from external sources, Further, if we assume that 50 percent of this amount is provided by the government as subsidy from its own resources, the rest of the amount of Rs. 4,800 will have to be met through financial institutions on easy terms as the farmers who own these marginal lands are not well off to meet the expenditure on tree plantation from their own sources. If the afforestation of 16 million ha of culturable wastelands is spread over a period of 25 years, an amount of Rs. 192 crores per annum would be required to be refinanced by the National Bank. Thus, in coming years the National Bank and other financial institutions will have to play an important role in financing the afforestation of wastelands in our country.

## 2. NATIONAL BANK'S PRIORITY AREAS IN THE FORESTRY SECTOR

In order to give impetus to development of forestry and wastelands in the country, six priority areas have been identified by the National Bank as its thrust areas. They are as follows :

- (a) Wasteland development particularly the wastelands falling in the arid zone and mining wastelands;

- (b) **Enrichment plantations** in state-owned forests where forests are depleting fast;
- (c) Collection of tree borne oil seeds which are available in abundance in India but remain unexploited. Moreover, this activity also offers vast opportunities for creation of additional rural employment;
- (d) Development of tissue culture **technique** for mass propagation of tree species for the development and production of superior quality strains of plants; and
- (e) **Identification/development** of agro-forestry systems for different zones especially arid and semi-arid areas as agro-forestry can play an important role in bridging the gap between demand and supply of industrial timber as well as firewood for the rural people (Sharma, 1993).

Most of these activities have been directed towards development of wastelands including both the degraded forests and non-forest degraded lands.

### 3. NATIONAL BANK'S FINANCIAL ASSISTANCE TO SOCIAL FORESTRY SCHEMES SINCE ITS INCEPTION

As recommended by the National Commission on Agriculture (GOI, 1976), the National Bank provides refinance facility to cooperative and commercial banks in respect of the loans advanced by them to individuals and groups of individuals undertaking forestry activities. It has been regularly issuing circulars regarding refinance facilities for schemes of farm forestry/wastelands development programmes since September 1982. Moreover, guidelines are also published for information of farmers and bankers at the grassroots level.

Some of the innovative schemes sanctioned by the National Bank for afforestation of wastelands are : Scheme of 100 percent refinance by banks irrespective of the amount of loan for setting up of nurseries for raising seedlings of fodder, fuelwood and timber tree species; 100 percent refinance by banks in respect of the schemes formulated by individual farmers or groups of farmers for their own land or for the land obtained on lease from State Governments/Panchayats or under the tree patta scheme; Refinance up to 70

percent of loans issued by scheduled commercial banks for forestry programmes to corporate bodies including forest development corporations; refinancing of the Margin Money scheme initiated by the National Wastelands Development Board to the extent of 50 percent of the project cost whereas assistance up to 25 percent of total project cost will come from the implementing agency; Poplar plantation in U.P., Punjab and Haryana; Teak plantation on wastelands in the state of Mizoram; Mixed plantation project in Andaman and Nicobar Islands; Salvadora persica (Pilu) plantation Project in 275 villages in Bhal region of Gujarat; Afforestation of Coal Mines implemented by BCCL-Dhanbad; Kadamba plantation - an agro-forestry project implemented in the state of Assam; and Wastelands Development through Tree Growers' Cooperatives Societies in the State of Madhya Pradesh etc. (NARARD, 1985, 1986, 1987, 1988, 1991; Sharma, 1993). In all these programmes, the National Bank is involved right from the implementation stage to the evaluation stage. In addition, it also goes for detailed work study methods for various forestry operations to facilitate the costing of forestry projects.

The number of social forestry schemes financed by the National Bank increased at the annual compound growth rate of 21.66 percent during the period, 1983-84 to 1991-92. This compares very well with the overall average growth rate of 4.09 percent for all the categories of schemes refinanced by the National Bank over the same period of time. However, the average proportion of schemes refinanced in the forestry sector is only 0.61 percent of the total number of schemes sanctioned by the National Bank over the period, 1982-83 to 1991-92; the highest being 1.22 percent in 1986-87 (Table 1). Like-wise, the National Bank's actual financial assistance and its commitments to forestry have increased at the annual compound growth rates of 15.54 percent and 14.82 percent respectively over the period, 1982-83 to 1991-92 whereas its total financial assistance and total commitments to all the categories of schemes during the same period grew at the annual compound rates of 9.64 percent and 8.66 percent respectively. At the national level, the National Bank's cumulative disbursement of funds under schematic lending (including that of erstwhile ARDC) to the forestry sector at the end of March 1992 amounted to Rs. 13,439 lakhs which is 0.82 percent of the total cumulative disbursement of Rs. 16,36,400 lakhs under all the categories of schemes. Though the annual Compound growth rates of social forestry schemes (21.66 %) and of disbursement (21.95%) during various years have been higher as compared to those of all the schemes taken together, the share of social forestry schemes in

Table 1  
NABARD's financial assistance to forestry schemes in India during the period 1982-1992

(Rs. Lakhs)

Year	Number of schemes under forestry	Total number of schemes	% of 2 to 3	Financial assistance to forestry	Total financial assistance	% of 5 to 6	NABARD'S commitments to forestry	NABARD'S total commitments	% of 9 to 10	Disbursement during the year to forestry	Total disbursement during the year	% of 12 to 13
1	2	3	4	5	6	7	8	9	10	11	12	13
1982-83#	55	24410	0.23	7439	677171	1.10	5990	560274	1.07	988	349212	0.28
1983-84	15	4866	0.31	2578	141595	1.82	2060	115075	1.79	458	88411	0.52
1984-85	22	5446	0.40	2490	146918	1.69	2013	115518	1.74	235	105120	0.22
1985-86	49	7835	0.63	2364	176662	1.34	1980	142630	1.39	966	119165	0.81
1986-87	123	10063	1.22	2822	176519	1.60	2502	141412	1.77	918	133420	0.69
1987-88	73	9995	0.73	3899	256154	1.52	3232	203507	1.59	1913	148191	1.29
1988-89*	48	7037	0.68	2107	176003	1.20	1568	138076	1.14	1105	127015	0.87
1989-90	64	9211	0.69	1602	284609	0.56	1344	201578	0.67	1711	170213	1.01
1990-91	62	10650	0.58	9589	280742	3.42	6773	211870	3.20	2905	190217	1.53
1991-92	72	6706	1.07	8185	295748	2.77	6224	223615	2.78	2240	205436	1.09
Total	583	96219	0.61	43075	2612121	1.65	33686	2053555	1.64	13439	1636400	0.82
Annual compound growth rate (1983-84 to 1991-92)	21.66	4.09		15.54	9.64		14.82	8.66		21.95	11.11	

# Figures for 1982-83 are cumulative up to the year including ARDC sanctions.

\* For the year 1988-89, the figures relate to 9 months period (July-March).

Note : Columns 6, 9, 12 refer to NABARD's schematic lending.

Source: NABARD's Annual Reports for the respective years.

the total financial assistance is still less than 2 percent. Since the whole amount of funds disbursed to the forestry sector is not utilized for afforestation of wastelands, the National Bank's contribution to this important activity in India is paltry.

The Government of India's contribution to afforestation of wastelands over the period of three years, 1985-86 to 1987-88 was Rs, 1,41,188 lakhs (Ministry of Environment, undated). As against this the disbursements by the National Bank to the forestry sector during the same period amounted to only Rs. 3,797 lakhs which is only 2.69 percent of the former (Table 1). With the rising awareness among people about the role of social forestry, there is a need for financial institutions to play an effective role in speeding up the pace of afforestation programmes in the country. In particular, the National Bank will have to play a major role in greening of India.

#### 4. AGENCY-WISE NABARB'S CUMULATIVE FINANCIAL ASSISTANCE UP TO MARCH 1992

The National Bank provides refinance facility for afforestation of wastelands to state land development banks, scheduled commercial banks, state cooperative banks and regional rural banks. Of all these agencies, the share of scheduled commercial banks in the total number of forestry schemes sanctioned (70.67%) and the total disbursement of funds (93.20%) under schematic lending up to March 1992 including the share of the ARDC was highest (Table 2). The state land development banks ranked second with their shares in the forestry schemes sanctioned and the total credit disbursed being 25.04 percent and 6.28 percent respectively. The state cooperative banks and the regional rural banks have played not so significant a role in the financing of social forestry schemes. To involve them more effectively, specific targets should be assigned to each of them every year for financing afforestation programmes. There are 34,894 and 11,259 bank offices in rural and semi-urban areas respectively in the country (RBI, 1991). With this kind of wide-spread network of bank branches and adoption of the Service Area Approach, banks can play an important role in the development of forestry by financing afforestation programmes with funds provided by the National Bank.

Agency-wise NABARD's cumulative financial assistance to forestry, 1982 to 1992

(Rs. Lakhs)

Agency	Number of schemes under forestry	% of forestry schemes to total schemes	Financial assistance to forestry schemes	% of financial assistance to total financial assistance	NABARD's commitment to forestry schemes	% of NABARD's commitment to forestry schemes	Disbursement to forestry schemes	% of disbursement to forestry schemes to total disbursements
State Land Development Banks	146 (25.04)*	0.46	2745 (6.37)	0.33	2434 (7.23)	0.33	844 (6.28)	0.15
Scheduled Commercial Banks	412 (70.67)	0.73	40113 (93.12)	2.87	31070 (92.23)	3.14	12525 (93.20)	1.58
State Cooperative Banks	6 (1.03)	0.21	39 (0.09)	0.03	21 (0.06)	0.02	28 (0.21)	0.04
Regional Rural Banks	19 (3.26)	0.40	178 (0.41)	0.07	161 (0.48)	0.07	42 (0.31)	0.02
<b>Total</b>	<b>583 (100)</b>	<b>0.61</b>	<b>43075 (100)</b>	<b>1.65</b>	<b>33686 (100)</b>	<b>1.64</b>	<b>13439 (100)</b>	<b>0.82</b>

\* Figures in parenthesis are the percentages of the respective column totals.

Note: The figures are inclusive of the cumulative sactions of ARDC till 1982 and refer to schematic lending.

Source: NABARD's Annual Reports for the respective years.

There are two major problems encountered by banks in providing credit to tree growers. First, long gestation of afforestation projects engenders a lot of uncertainty about the recovery of loans. Second, most of revenue wastelands and degraded forests are in remote rural areas, far away from the area of the operation of rural branches of commercial banks and regional rural banks making it difficult for bank personnel to access the tree growers and the tree plantations.

#### 5. REGION-WISE DISTRIBUTION OF SCHEMES AND CREDIT DISBURSEMENTS TO FORESTRY (1987-92)

The National Bank has divided its area of operation into six Regions consisting of Northern Region including Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab and Rajasthan; North-Eastern Region including Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura; Eastern Region including Bihar, Orissa, Sikkim and West Bengal; Central Region including Madhya Pradesh and Uttar Pradesh; Western Region including Dadra & Nagar Haveli, Goa, Daman and Diu, Gujarat and Maharashtra; and Southern Region including Andhra Pradesh, Karnataka, Kerala, Pondicherry, Tamilnadu and Lakshadweep.

Among all the regions, the share of the Central Region was highest both in terms of number of forestry schemes sanctioned (35.42%) and the disbursement of funds (34.33%) under schematic lending (Table 3). The Southern Region ranked second with its share in the number of schemes sanctioned being 34.17% and in the disbursement of funds being 23.36%. When we compare region-wise number of social forestry schemes (in percentage) with region-wise total forest degraded land and non-forest degraded land (in percentage), we find that by and large National Bank's allocation of forestry schemes to different regions is commensurate with the total degraded lands available for afforestation in the regions. But when we compare National Bank's region-wise disbursement of credit for forestry schemes with the region-wise availability of total forest degraded land and non-forest degraded land, we find that the former is not commensurate with the latter except for the Central Region which has the highest disbursement of credit and the highest degraded land in the country. In all the regions, the number of schemes under forestry (accounting for 0.20% to 0.32%) and disbursement of credit for forestry schemes (accounting for 0.06%

Region-wise NABARD's cumulative financial assistance to forestry during 1987-88 to 1991-92

(Rs. Lakhs)

Region/Year	Number of schemes under forestry	Total number of schemes	% of 2 to 3	Financial assistance to forestry	Total financial assistance	% of 5 to 6	NABARD's commitment to forestry	Total NABARD's commitments	% of 8 to 9	Disbursements to forestry	Total disbursements	% of 11 to 12	Degraded area & non-forest degraded Area** (Lakh ha)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A. Northern	38 (11.91)*	5347	0.71	743 (2.93)	210534	0.35	659 (3.45)	150343	0.44	1768 (17.91)	135530	1.30	271.65 (21.56)
B. North-Eastern	4 (1.25)	486	0.82	5707 (22.50)	31632	18.04	4018 (21.00)	24634	16.31	12 (0.12)	18969	0.06	74.45 (5.91)
C. Eastern	26 (8.15)	2512	1.04	1198 (4.72)	149886	0.80	909 (4.75)	116968	0.78	113 (1.14)	101368	0.11	146.59 (11.64)
D. Central	113 (35.42)	4865	2.32	10444 (41.17)	291325	3.58	7725 (40.38)	215485	3.58	3390 (34.33)	200772	1.69	282.03 (22.39)
E. Western	29 (9.10)	14494	0.20	3918 (15.44)	218895	1.79	3255 (17.02)	163953	1.99	2284 (23.13)	134371	1.70	222.37 (17.65)
F. Southern	109 (34.17)	15895	0.69	3360 (13.24)	393539	0.85	2563 (13.40)	309822	0.83	2307 (23.36)	250062	0.92	262.61 (20.85)
Total	319 (100)	43599	0.73	25370 (100)	1295811	1.96	19129 (100)	981205	1.95	9874 (100)	841072	<b>1.17</b>	1259.76 (100)

\* Figures in parenthesis are the percentages of the respective columns total.

\*\* Total excluding Union Territories.

Note: Columns 6, 9, 12 refer to NABARD's schematic lending.

Sources: 1. NABARD's Annual Reports for the respective years. 2. Society for Promotion of Wastelands Development, New Delhi, 1984.

to 1,70%) are abysmally low as compared to the total number of schemes refinanced and total disbursements made by the National Bank during 1987-88 to 1991-92.

## 6. INSTITUTIONAL FINANCE FOR AFFORESTATION OF WASTELANDS IN THE EIGHTH PLAN

As we stated earlier, in the past, institutional finance has not played an effective role in financing the afforestation of wastelands and in the forestry sector as a whole. Out of 17 million ha of wastelands to be afforested during the Eighth Plan, about 6 million ha of private lands are expected to be developed. Of this, at least 1 million ha of private wastelands are to be developed with the institutional credit support (NABARD, undated). Thus the National Bank which has been providing refinance assistance to banks in respect of various schemes of development of wastelands will have to play an important role in the Eighth Five Year Plan. Given the past trends in the National Bank's financial assistance for social forestry schemes (See Table 1), this seems to be a herculean task and it will have to devise new mechanisms to overcome the problems hampering the financial allocation to the forestry sector. Moreover, the National Bank should widely publicise its up-dated guidelines for financing various afforestation schemes.

## 7. TREE GROWERS' COOPERATIVE SOCIETIES AND NATIONAL BANK

Tree Growers' Cooperative Societies (TGCS) are a relatively nascent organisation being promoted by the National Tree Growers Cooperative Federation (NTGCF) Limited, Anand in the states of Gujarat, Rajasthan, Uttar Pradesh, Orissa, Madhya Pradesh and Andhra Pradesh. They are becoming popular among the rural poor as is evident from their increasing number. As of March 1993, there were 218 TGCS organised under the auspices of NTGCF covering an area of 2,458 hectares of revenue wastelands in 10 districts in six states (NTGCF, 1993). Typically one TGCS is organised in one revenue village and an area of 30-40 hectares of revenue wasteland is acquired on long lease for tree plantation. The main objective of these societies is to meet the fuelwood, fodder and small wood needs of the local people and provide them income and

employment opportunities in an environment friendly manner. The NTGCF provides a grant of Rs. 4.58 lakhs to each TGCS for planting trees on 40 hectares of revenue wasteland under its pilot project funded by National Dairy Development Board (NDDB). The break up of grant is shown in Table 4. The NTGCF is involved in the affairs of TGCS right from the establishment of plantations to the final harvesting, procurement and marketing of plantation produce through its interaction with their management committees.

Table 4  
Break up of NTGCF's grant to TGCS

Item	Provision (Rs.lakhs)
1. Managerial Subsidy @ Rs.7000/Year for 5 Years	0.35
2. Equipment	0.05
3. Set of Records @ Rs.400/Year for 5 Years	0.02
4. Rent for TGCS office @ Rs.100/month for 5 Years	0.06
5. Land Development, Soil & Water Conservation @ Rs.4000/hectare for 40 hectare	1.60
6. Plantation of trees/grasses/legumes and after care @ Rs.6250/hectare for 40 hectares	2.50
All	4.58

Source : Official Records of NTGCF, Anand

The National Bank can play an important role in promoting TGCSs by providing finance through banks. The TGCS established under aegis of Panchayats, Non-Governmental Organisations (NGOs), Voluntary Organisations as well as State Forest Departments should be provided with needed refinance support. This will entail less risk and ensure higher rate of recovery. The National Bank has already sanctioned an innovative scheme for wasteland development through TGCS for the state of Madhya Pradesh. The scheme envisages rehabilitation of one lakh hectares of degraded forest areas by organising 500 TGCS under the auspices of the MP Rajya Van Vikas Nigam. Such programmes should also be taken up in other states of the country with the help of refinance from the National Bank by organisations working in the field of wastelands development.

## 8\* CONSTRAINTS AFFECTING THE WASTELAND DEVELOPMENT PROGRAMMES THROUGH INSTITUTIONAL FINANCE

The National Bank has identified many constraints which are thwarting the progress of social forestry development programmes through institutional finance. They are as follows:

### Technical/Physical Constraints

The information needed for assessing the potential of non-forest and cultivated lands, like ownership, extent and type of degradation, and present and future uses, has never been collected on a systematic basis for the entire country (Romm, 1981). This lack of ground-level data/information has dampened the progress of formulation and implementation of bankable plantation programmes. Recently some initiatives have been taken to improve the availability of grass-roots level data for this purpose. Now there are many NGOs and TGCS involved in providing institutional finance for afforestation of wastelands in India. But most of them face the problem of non-availability of degraded forest lands for afforestation programmes due to a variety of procedural and legal complications. Such complications need to be removed.

The financial institutions also face difficulty in identification of compact blocks of wastelands for sanctioning credit in case of private land-owners (Sreenivasan, 1992). The scattered land holdings impede project formulation and closer supervision by field staff of the financing institutions. There is a need to consolidate the scattered land holdings in rural India. This can be done by implementing the already existing land reforms laws to facilitate tree plantation with the help of institutional credit in the regions where there exists vast potential for tree cultivation. There is also a lack of adequate technical support to tree growers from the State Governments. There is a lot of information about the latest developments in the technical aspects of growing trees now available in India with various organisations. But the typical tree grower is still ignorant about many fast growing tree species (indigenous as well as exotic) and techniques of growing them. This information needs to be disseminated to potential tree growers using appropriate media (Singh and Balooni, 1993).

### Institutional, Organisational and Legal Constraints

There are no incentives provided by State Governments for promoting social forestry and wastelands development projects (Sharma, 1993). The Governments should take some concrete steps for the benefit of tree growers like provisions of fiscal incentives such as exemption from State and Central taxes (Shah, 1988); modifying legal provisions so that tree growers can freely harvest trees grown on their own farms; ensuring remunerative prices of tree produce on the lines of agricultural produce; and provision of institutional credit to tree growers (Singh and Balooni, 1993). In several States, provisions of the Forest Law discourage farm forestry by imposing restrictions on felling, transportation and sale of timber standing on private lands (Chambers et al., 1989). These restrictions erode the value of produce for the farmers and dissuade them from taking up plantations. This ultimately dampens tree growers' interest in approaching commercial banks for credit.

There are many other institutional, organisational and legal constraints which impede the development of afforestation of wastelands and they need to be rectified. They are : the present policy of the government of India that forest lands should not be leased out to private entrepreneurs for raising plantations to meet their raw material needs; distinct preferences of State Governments for social forestry schemes over farm forestry schemes resulting in very few viable farm forestry schemes being referred to the National Bank; and the problem with the tree patta scheme in which pattas have not been given for compact blocks and banks are reluctant to accept hypothecation of trees as security and moreover, patta holders being very poor, find it difficult to maintain these plantations unless they have other sources of income (Sreenivasan, 1992).

### Pricing and Marketing Constraints

Poor infrastructure and the lackadaisical approach to marketing of farm forestry produce followed in the past has led to tree growers receiving unremunerative prices for their produce. This has dampened the interest of present tree growers as well as potential tree growers in planting trees and approaching financial institutions for loans even when many schemes for plantation are available (Chambers et al., 1989; Saxena, 1992; Singh, 1991). There is *need* for the State Governments' intervention for provision of adequate extension support and for purchase, if necessary, of the harvested produce at a reasonable price.

## Financial Institutions-Related Constraints

The lack of adequate forestry expertise in financial institutions disbursing the credit which is refinanced by the National Bank, dissuades the banks from taking up afforestation projects. There is also a big time lag between the date of submission of application by the beneficiary and the final sanction of loan to him. Literally this time lag weans away the interest of the beneficiaries in tree plantation (Pethiya, 1991; Sharma, 1993). There is *need* for financing the forestry projects at differential rates of interest by the National Bank based on classification of farmers into small, medium and large farmers, and on the potential of land they possess (Pethiya, 1991; Shashikant and Saxena, 1991). The financial institutions too should try to rationalise the credit delivery and recovery systems for afforestation of wastelands considering that tree growing involves long gestation and consequently tree growers have to wait for many years for the returns from the capital invested (Singh and Balooni, 1993). Moreover, some institutional arrangements need to be made to provide adequate and assured income earning opportunities to tree growers during the long gestation.

Most of the constraints hampering the progress of disbursement of credit for wastelands development through afforestation are related to the State Governments and their respective Forest Departments one way or another. Most of these constraints are not new; but they have been in existence for about a decade or so but no concrete measures have been taken to resolve them. The government has laid down an enhanced role for the National Bank in refinancing the wastelands development programmes in the Eighth Five Year Plan. But it is quite evident from our study that its own rigid policies have thwarted such programmes and are likely to jeopardise the Margin Money Scheme unless some meticulous steps are taken by the government. It is quite evident from the aforesaid discussion that there are not very many problems at the end of tree growers, and if there are any, they can be resolved by an effective use of the extension machinery of the State Governments. If the aforesaid constraints are not overcome, it is hard to believe that the National Bank would be successful in achieving its mandated targets of disbursement of credit for wasteland development programmes.

## CONCLUDING REMARKS

India has vast tracts of wastelands extending over 100 million ha, These lands are mostly owned by government and village panchayats and are highly degraded. Tree plantation is the socially optimum and ecologically-sound use of such lands. But restoration and afforestation of such lands requires huge investment which is beyond the reach of owners of such lands and the budgetary resources of the government. Therefore, availability of external funds, preferably from institutional sources, is a prerequisite for afforestation of wastelands in India. The National Bank can play an important role in refinancing the wastelands afforestation-schemes. It has already accepted this role and provides refinance facility to state land development banks, scheduled commercial banks, state cooperative banks and regional rural banks for the purpose. Its contribution so far has, however, been meagre - less than two percent. There are many physical, technical, financial and institutional constraints on refinancing of wastelands afforestation schemes by the National Bank. But many of these constraints can be removed/relaxed and the National Bank could and should play a bigger role in future.

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