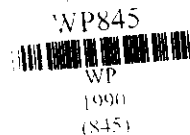


**FORESTRY DEVELOPMENT PROJECTS
IN INDIA : FINANCE AND
BANKABILITY**

By

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FORESTRY DEVELOPMENT PROJECTS IN INDIA : FINANCE AND BANKABILITY

Tirath Gupta

A variety of afforestation and reforestation projects have been and are being implemented by the forest departments and forest development corporations (FDCs) in India. Most of them aim at enhanced timber and wood production, but may also generate numerous indirect and intangible benefits such as restoring or improving environmental quality, generating gainful employment opportunities for the poor in remote rural areas, adding to or improving infrastructural facilities such as roads, providing recreation opportunities, conserving soils and water[1/].

Like other developmental activities, forestry projects vary in size, gestation periods, methods of implementation, input mix including the degree of mechanisation and use of trained manpower. Such variations may be due not only to differences in site quality but also, and more importantly, due to differences in projects' objectives which must govern the choice amongst tree species, choice between planting and seed sowing, extent of protection and the choice amongst protection devices, etc.

In spite of the fact that forestry has been looked upon as a revenue generating activity for the state governments, it has not been adequately recognized that enhanced inputs and intensive management may substantially enhance net returns per unit of forest land. The forest departments have to compete with the other government departments for finances out of the general budgets, but their competitive power has been low due to lower

1. Some forestry projects may be undertaken primarily for soil and water conservation, or for producing social goods such as firewood and fodder. Such cases are not covered in this study.

visibility of reforestation activities. There has been no correlation between revenues earned by the forestry system and financial resources available for forest development.

During the last one decade or so, however, the flow of financial resources to the forest departments has been substantially enhanced due to social forestry projects funded by multilateral and international developmental organizations. In such cases, the lending/aid agency is approached through the concerned state government and the Government of India. But, a major portion of such resources is utilized for afforestation on common property land and is not available for reforestation, i.e., for regeneration of the land resource classified as forests [2/].

The need for enhanced flow of investible funds for improved management of the forest land has, of course, been recognized, particularly since the early 1970s when an interim report of the National Commission on Agriculture appeared [GOI, 1972]. As a result, FDCs were set-up in most states and union territories to attract institutional finance through specific project based loans. A major advantage of institutional finance was also visualized to be systematic preparation of project proposals; and objective appraisals of the technical, financial, managerial, and economic feasibilities.

Problems in obtaining institutional finance can, however, arise due to the very nature of forestry projects which enhance the risk and uncertainty associated with them. Bankers may not be

2. Portion of social forestry project funds are also released through other developmental schemes such as National Rural Employment Programme and Rural Labour Employment Guarantee Programme.

enthusiastic to finance long duration projects, and may also like to charge higher interest rates [3/]. These are some of the important reasons for a national policy on such matters, and for the involvement of organizations like the National Bank for Agriculture and Rural Development (NABARD) to refinance forestry development projects.

The main objectives of this study are :

- i) to assess the procedures and problems of institutional finance for forestry development projects,
- ii) to discuss the steps to enhance bankability of forestry development projects, and
- iii) to present some thoughts for future policies and practices for forest land development.

I. Procedures and Problems of Acquiring Institutional Finance

To be able to avail of institutional finance for production/commercial forestry, a project authority, i.e., a FDC must draw a detailed project proposal including

- specification of the proposed project area and its current productivity status;
- specification of the project goals and objectives;
- description of alternatives to meet the goals, and the likely direct and indirect impacts of each alternative with the project;
- valuation of all possible costs and benefits, i.e., the negative and positive impacts with each of the identified alternatives;
- comparisons of costs and benefits, with and without risk and uncertainty, of each alternative;
- selection of a package of activities which may best meet the specified objectives;
- discussion of qualitative variables which may have influenced the selection of the project components;

3. The bankers' expectations of interest rates chargeable to long duration projects may also be enhanced due to perceptions of higher inflation rates.

- schedule of activities, concurrent and sequential;
- likely problems in executing the project;
- summary and recommendations; and
- itemized annual costs of and returns from each project component, and a cash flow chart.

Some specific issues at the project formulation and/or the appraisal stage could be the proposals regarding construction of different types of roads, machinery to be purchased, facilities at the nurseries and their location, area to be planted or replanted with each of the chosen tree species, estimates of various outputs at different points of time per unit of land under each of the chosen species, additional office and residential accommodation, organization of marketing depots, etc.

NABARD, formerly Agricultural Refinance and Development Corporation (ARDC), has been refinancing the banking institutions which finance agricultural development including forestry. The interest rates on the refinance assistance have varied from 6.5 to 9 per cent per annum, depending upon the nature and purpose of development. The lending banks are allowed a 3 per cent margin on the refinance interest rate. Thus, the interest rates for farm forestry and for large forestry projects executed by FDCs/companies have varied from 10 to 12.5 per cent a year.

A "bankable" project must satisfy at least two conditions:

1. The expected/estimated financial rate of returns (FIRR) on the investment must be at least 3 per cent higher than the interest rate charged by the banking institutions. Thus, the FIRR on projects proposed by the FDCs should be a minimum 15 per cent.

This is considered necessary to account for the risks and uncertainties associated with even well conceived projects.

2. A project must generate adequate revenues/cash flows to enable repayment of the total loan and the interest within a period of 15 years from the first instalment of the loan [4/].

Once a project is assessed as bankable, NABARD seeks the guarantee of the concerned state government against the borrowings by its FDC. It is also ensured that the proposed project area is leased to the FDC and the lease rental is fixed. On the completion of such administrative arrangements, commercial banks are identified and authorised to provide credit for the project. Since the loan amounts have usually been high, NABARD has been making multiple banking arrangements with refinance facilities upto 90 per cent of the loans advanced by them [5/]. NABARD also provides the necessary technical support to the banking institutions [6/].

The participating banks and the NABARD jointly place supervision teams consisting technical, financial, and management expertise.

To meet the cost on supervision teams, the financing banks and

4. Unless a special deferment is agreed upon, interest must be paid every year. However, interest is capitalized in almost all forestry projects till they start earning subject to a maximum of 15 years.

5. The financing banks have to meet 10 per cent of the total loan from their own resources. Thus, if three banks finance a project loan of Rs.1,000,000 each will provide Rs.100,000 from its own resources and the refinance would be Rs.700,000. But if there are two banks, the refinance would be Rs.800,000.

In the cases of FDC/Company projects, the sponsors are expected to invest at least 20 per cent of the project costs.

6. This was considered necessary in the initial stages when the banks had little experience of forestry activities.

NABARD contribute 0.5 per cent and 0.25 per cent of the loan and the refinance amounts, respectively [7/].

The objective for FDCs' is to i) ensure that the commitments made by the concerned state governments in terms of adequate protection of the project area, transfer of the required land to the project authority on lease basis, iii) provision of adequately trained manpower, etc. are fulfilled; ii) the project work is on schedule; and iii) the physical achievements are in accordance with the stipulated technical standards.

2. Some Procedural Problems in Financing Forestry Projects

Discussion in the preceding section may show that problems in financing even bankable projects may arise due to administrative delays like obtaining the state governments' guarantees of the loans, legal transfer (lease) of the project areas to the FDCs, fixing the lease rent [8/].

More important, procedures for formulating and appraising bankable projects to enhance the productivity of natural forests have not been laid down. The task is, of course, difficult but important. There are substantial variations in the productive status of at least 40 million hectares classified as natural forests, and it may be difficult for the FDCs to demonstrate that improved management of that resource can be financially viable.

The origin of this problem has been the extraordinary emphasis placed on manmade plantations during the 1970s. The problem has,

7. A participating bank may undertake more detailed supervision on its own.

8. Such problems have been observed at least in a few cases, but their extent and impact on the FDCs functioning have not been assessed.

however, been compounded by the forestry system, the bankers, the administrators, and all those who believed (or propagated without belief) that manmade plantations were the panacea for almost all the ills on the forest management front [8/].

Even if one continues to believe in manmade plantations, and even if one chooses to ignore the perceived environmental costs of such plantations, reality of the situation is that the management of a much larger portion of the forest land than can possibly be handled through clearfelling and replanting needs to be improved within the next 5 to 10 years. This necessitates much more reliance on better management of the existing vegetation than has been the case in the last two decades or so [10/]. The FDCs should not only be excluded from but should rather be induced to formulate projects for forest wasteland development.

It must also be noted that the logic and the expectations of the 1970s in terms of investment requirements (not necessarily demand) for raising manmade plantations have not materialized. For instance, one estimate was that around 100,000 hectares would have to be clearfelled and planted annually, and the investment requirements during 1972-80, and 1981-90 would be Rs.2,420 million and Rs.3,060 million, respectively [GOI, 1972, p.32]. Another such estimate was that, to meet the demand for industrial wood alone,

9. It was also seen as an unprecedented opportunity to boost the morale of the forestry system through enhanced flow of investible resources, prospects of accelerated promotions, changing the organizational culture, etc.

10. Better management of existing vegetation need not involve clearfelling and monoculture. Even in cases where improved management involves total replacement of existing crops, the new cover need not consist of single species. Mixed crops also imply different maturity and harvesting periods, and hence spreading the returns.

at least 15 million hectares of the forest land would have to be placed under intensive management between 1976 and 1990, and the investment requirements at a cost of merely Rs.1,200 per hectare would Rs.18,000 million [Thapar, 1975, p.6; and GOI, 1976, p.65].

The logic, appeared to be not only that manmade plantations were the best answer to most forestry problems but also, and more important, that i) the demand for timber and firewood/pulpwood was almost unsatiable, and ii) the forestry system had almost unlimited capital absorption capacity. In that context, it was even thought that there should be a separate apex institution to directly finance forestry projects and that may be named as the "Forest Credit Corporation of India" or the "National Forest Fund". Further suggestions in this context were that the Government of India should contribute the necessary share capital to the new organization, and a portion of the revenues from excise duties on forest based industrial outputs should also be placed in a special account in favour of the proposed institution. The idea was further supported by drawing a parallel with the Rural Electrification Corporation set-up in 1969 to finance rural electrification schemes through the state electricity boards [Agarwala, 1971, p.395].

But the FDCs' demand for investible funds has been no where near the expectations. During 1975 and 1978, for instance, the then ARDC approved Rs.345 million loans for commercial forestry projects proposed by 10 FDCs [11/]. ARDC also geared itself to refinance Rs.625 million forestry project loans during 1978-83.

11. The 18 projects included two for tea and one for coffee plantations.

This should, however, not mean that the institutions were ready to meet only about 25-30 per cent of the FDCs demand for investment funds. On the contrary, less than five per cent of the available funds were utilized during that period.

More importantly, a perusal of Table 1 can show that during the 1970s and 1980s, the ARDC and NABARD approved Rs.780 million to be disbursed as loans to 10 FDCs on the basis of 16 projects proposed by them. These data, however, are not all inclusive and the loans sanctioned may total over Rs.1,000 million. But, even that is less than 20 per cent of the lowest of estimated requirements during 1972 and 1990. It can also be observed that utilization of the sanctioned loans varied substantially amongst the FDCs and amongst the projects. On the whole, about one-third of the sanctioned loans are utilized.

This could possibly not be attributed to the interest rate structure or procedural problems in drawing the sanctioned amounts [12/]. The reasons for this situation need to be studied. In the meantime, it can be said that either i) the projects were not designed and executed with the expected rigour, or/and ii) the FDCs had access to substantial financial resources from the sale of outputs from clearfelling. The latter was also facilitated by the myth, at least in the 1970s, whereby net returns from

12. There has been a demand for differential rates of interest in favour of the forestry projects within the NABARD set-up. The reasoning is that there are economies of scale in administering the loans to the FDCs compared with the projects involving a large number of widely spread clients.

The bankers, however, reason that forestry projects carry higher business risks, and the waiting period for loan repayment is also longer than in most alternatives available to them.

Table 1 : Loans Sanctioned by the Erstwhile ARDC and NABARD to FDCs and Amounts Utilized by Them : 1975-1988

(Rs. million)

State/ Corporation	Proposed project area (ha)	Starting year	Loan sanctioned	Loan availed during the years					Remarks	
				First three	4-6	7-9	10-12	13-15		Total
Andhra Pradesh	23500 11200	1976 to 83 1984 to 88	7.6 49.6	- -	- -	- -	- -	- -		
Sub total			57.2	Break up not available.					37.6 (66)*	
Arunachal Pradesh	NA	1987	6.1	4.7 (77)	-	-	-	-	4.7	
Bihar	51600	1976	11.6	2.3 (20)	-	-	-	-	2.3 (20)	The project closed in May 1983
Gujarat	12375	1982	3.9	14.4 (37)	22.8 (58)	-	-	-	37.8 (96)	
Maharashtra	NA	1983	232.0	105.2 (45)	80.4 (35)	-	-	-	185.6 (80)	
Madhya Pradesh	73170 56770	1977 1986 1988	47.9 12.2 107.6	8.6 (18)	16.7 (35)	20.0 (42)	-	-	45.2 (94)	
Karnataka	12000 15000 10000 10000	1977 1982 1986 1987	11.0 114.4 63.0 92.7	5.0 (45) 33.1 (29) 21.6 (34) 2.7 (3)	3.4 (31) 43.0 (38)	-	-	-	8.4 (76) 76.1 (67) 21.6 2.7	Eucalyptus plantations " Casurina plantations Fuelwood plantations
Kerala	NA	1989	0.3	-	-	-	-	-	-	
West Bengal	3740 6670	1979 1988	6.5 16.2	4.5 (69)	2.0 (31)	-	-	-	6.5 (100)	Phase I Phase II
Total			782.6	202.1	168.3	20.0			390.4	

* Figures in the parentheses are percentages to the loan amount sanctioned.

Source : NABARD, Bombay.

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clearfelling natural forests were accounted as returns with the FDCs' projects [Gupta, 1979].

This calls for a fresh thinking. But, even without a recourse to the past experiences, it can be reasoned that improved management of natural forests may be generally preferred to reduce capital and trained manpower requirements per unit of land; to minimize the felt and perceived adverse environmental and ecological consequences due to large scale clearfelling and monoculture; to avoid hardships to and win the cooperation of the local people who depend on the forests for meeting their consumptive, social, and cultural needs; to enhance the quantity and quality of non-timber products of forest origin; etc. Institutional finance for such projects should also be necessary if the adhoc grants-in-aid by the GOI and the state governments are to be kept within limits, and if the culture of viewing forest development as an economic, not necessarily financial, activity is to grow.

3. Some Steps to Enhance Bankability of Forestry Projects

A number of measures can be taken to enhance the social relevance and financial feasibility of projects aimed at improved management of forest wasteland with or without clearfelling/raising manmade plantations. A few of such measures are discussed in this section.

1. All possible attempts should be made to enhance the outputs of a variety of goods including, but not confined to, timber and fuelwood. Some site and objective specific steps may be to

- Raise understorey crops, i.e., the crops which can tolerate shade or can grow in conjunction with the main tree species during the initial few years. Even some unconventional activities such as mesta/spices/valuable grasses in association with long gestation tree species may be relevant [13/].
- Raise some fast growing species on a portion of the project area in cases where long gestation timber species such as teak and sal are chosen to meet the project objectives.
- Raise fast growing fuelwood species on a portion of the project area to, once again, enhance the cash flows within four to five years of the project.

The fuelwood may be supplied to the local people at subsidised prices or even free of cost to enhance social acceptability of the project. But the quantities so supplied must be recorded and appropriately valued in a benefit-cost frame to make a case that the concerned governments should reimburse the project authority equivalent to the estimated social value of such materials.

2. Necessary steps to save on the project costs should be taken.

These may include

- minimizing the technical and non-technical regular staff,
- minimizing the expenditure on office and residential accommodation,
- minimizing road construction,
- minimizing the purchase of heavy machinery and equipment, etc.

It must, however, be noted that cost saving is a complicated matter. For example, in choosing between roads with metalled and unmetalled surface i) differences in maintenance costs and wear and tear of vehicles, ii) differences in use efficiency of the vehicles, iii) differences in maintenance costs and depreciation of the road itself, etc. must be assessed.

 13. Some experiences in this regard have not been encouraging, but the reasons for inadequate success have not been analysed. It may be that the problems arose more on the marketing than on the production front.

Another important issue may be the practice of budgeting the road construction costs. It is rare that forest roads are used only for moving the forest related inputs and outputs. While situation specific arrangements should be sought and found, a general thumb rule may be that

- most forest roads be metalled but the forestry development projects may account for a portion of the cost equivalent to all-weather kacha roads, and the difference be reimbursed by an appropriate authority/organizations, or
- the forestry system should pay full cost of the roads which form part of their developmental projects, but be authorized to collect toll taxes on them.

3. The intangible benefits "stemming from" and "induced by" a project must be carefully identified and evaluated [14/]. Little data are available at present. But the data can and must be collected to develop a reasoning that the concerned governments and/or other societal organizations should subsidise the project to the extent of such benefits, i.e., to the extent of the difference between economic benefits and financial returns from some of the project components or the project as a whole. The subsidies thus received would be accounted as returns with the projects to enhance their financial feasibility/bankability. More important, this should dispense with the practice of adhoc grants.

The task of assessing the intangibles is, of course, difficult. Besides lack of data, subjective judgements may also become predominant. All possible care must, therefore, be exercised. It may be better to entrust the task to independent organizations/individuals with expertise in this field. The cost may be as low

14. Bankers may be considering such benefits for prioritizing between two financially sound projects, but not while applying the test of financial viability.

as one-tenth of 1 per cent of the project costs. The will to do the job or to get it done is more important.

It has also been reasoned that forestry development projects be accorded positive differential treatment as they accelerate socio-economic regeneration of relatively backward or remote areas. A specific argument in this context has been that assessments of forestry projects must not consider only the stumpage value of timber [Seth and Rao, 1970, p.448]. The logic has, however, not been and is not likely to be appreciated till i) adequate efforts are made to quantify the intangibles and to place money values on them, and ii) a case is made that societal benefits of forestry development projects be honoured. Not only the banking institutions but also the policy makers understand and appreciate the language of Rupees and Paise much better than abstract logic.

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