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by

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SOME METHODOLOGICAL AND PRACTICAL ASPECTS OF ACCOUNTING THE RETURNS FROM CLEARFELLING NATURAL FORESTS IN THE EVALUATION OF INTENSIVE FOREST DEVELOPMENT PROJECTS

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I. Introduction and Objectives

Appearance of the Interim Report of the National Commission on Agriculture (NCA) on Production Forestry: Man-Made Forests, in the year 1972, may be characterised as one of the major land marks in the history of Indian forestry. Subsequehtly, the final report of the NCA has also appeared. One fact to which the NCA drew attention is that the contribution of the forestry sector to the national product in India has been extremely low compared to the proportion of the land resource under its management and control. The forests cover about 22.7 per cent of the total geographical area and a little over 50 per cent of the cultivated area. But, the contribution of forestry and logging to the Net Domestic Product in India, at 1960-61 prices, was 1.3 and 1.5 per cent in 1960-61 and 1972-73, respectively (Government of India. 1976.p.8). The average gross revenue per hectare from India's "productive" forests in the year 1971 stood at Rs.21.50and the forestry and logging activities in the country accounted for the employment of only 0.2 per cent of the rural work force compared to 70 per cent in agriculture and ancillary activities (Government of India. 1972. p.12). It is, however, believed that the forestry sector does have a much greater potential for productive employment. This potential can be harnessed through intensive management and considerably higher investments per unit of area against the average of Rs.2 per hectare per year for the period 1951-78 (Gupta. 1978. p. 6).

To encourage the flow of investible resources towards the forestry sector and to introduce a certain degree of autonomy in its management, the NCA recommended the formation of Forest Development Corporations (FDCs) at State levels. These organizations were to be in the public sector as fully owned State Corporations and were conceived as the main agencies for formulating and executing man-made forestry projects. The NCA further recommended that selected areas considered fit for commercial production should be transferred by the State Governments to these corporations and the values of (i) forest land, thus transferred, and (ii) its standing timber should together form the basis of equity capital against which the corporations could borrow from institutions (Government of India. 1972.pp.50-51). In return for the land transferred to a corporation, it may be required to pay during the first fifteen years, a contribution equivalent only to the average felling revenue of that area for the previous three years. The dividend after fifteen years can be fixed on the basis of the programme undertaken and the funds that will be necessary for the programmes (Ibid. p. 51).

Following these recommendations, Forest Development Corporations have been formed in 16 out of the 22 States of the Indian Union. Most of these corporations are only 2-3 years of age. A perusal of the Memorandums and Articles of Association of these bodies indicated that they may undertake almost any activity related to the forestry system. In actual practice, however, most of the corporations have so far been engaged in (i) selective harvesting or clearfelling the forest areas transferred to

them and (ii) replanting the clearfelled areas with fast maturing species e.g., eucalyptus, pines, rubber as well as the conventional hard woods e.g., teak, sal[1]. These were, of course, the most important considerations with the NCA in recommending the formation of the FDCs.

If the FDCs wish to (i) run in a business spirit and (ii) utilise institutional finance for their developmental activities they must formulate systematic project proposals and present the same for review by the lending institutions. Since the FDCs operate on the existing forest lands, it is important to decide on the manner in which the returns from clearfelling the natural stands be handled in the economic evaluation of man-made forestry projects. This issue has been debated in the past. Some forest development projects prepared under the State Planning Programme have included the net income from clearfelling the standing forests in the project area(s) in the benefit streams of the man-made forestry project(s)[2]. The NCA also agreed with this procedure and it appears to have been accepted by the FDCs. With this background, the main objectives of this paper are to:

(i) summarise the logic behind the argument that the net returns from clearfelling the natural forests be included in the stream of benefits of the man-made forestry projects that follows

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1. The FDCs in Gujarat and Uttar Pradesh provide examples of exceptions to the most common activities undertaken by other corporations. The former undertakes harvesting of only the non-wood forest products while the latter only harvests timber and fuelwood from specific areas.

2. The State Planning Programme was started in 1969 as a co-operative effort of the Planning Commission and the Ford Foundation. It aimed at improving the planning capabilities at the State level. Some projects for selected areas were also formulated under the programme.

(ii) assess the validity of the argument in the light of the accepted concepts of benefit-cost analysis, and some specific features of the intensive forestry development projects;

(iii) examine some implications of the acceptance of the methodology of including the net returns from clearfelling the natural forests in the stream of benefits from intensive forestry development projects; and

(iv) suggest an alternative procedure for handling the returns from the natural forests in the project areas.

II. Arguments for including the Net Income from Clearfelling the Natural Forests in the Benefit Streams of Intensive Forest Development Projects

Eladio Susaeta, a Ford Foundation Consultant in India, expressed the view that the benefit streams of the man-made forestry projects must include, inter-alia, (i) the net income of the initial clearfelling operations, and (ii) the benefits expected to accrue from the ensuing plantations. It was further added that, in the interest of consistency, the cost streams must include (i) the income foregone when exploiting the "God-given" stands, and (ii) the costs of formation of man-made forests (Agarwala.1973). Three reasons were advanced in support of this procedure.

Firstly, it has been argued that the growing stock in the natural forests would not be converted into an income for the relevant Forest Department or the FDC or the society as a whole, without the project. In other words, the income materialises because of the project and would not occur without it. Secondly, the cost of replacement of the stands and the revenue foregone are going to be included in the cost stream, so that no growth potential is lost and no former income goes unaccounted.

Thirdly, the resources needed to build up the existing volumes, essentially time and land use, have no accountable economic cost that may be legitimately (or practically) imputed to the growing stock. It was added that this conceptual difficulty did not exist for the income originating in the new plantations since both their costs and benefits are to be imputed in the standard fashion (Sathe and Susaeta. 1973. pp.101-102).

These arguments have been further explained. The fact of costs attached to clearfelling the natural forests has been accepted. One element of these costs is the income foregone from the original growing stock. But it was added that, "fortunately for the project economics, this cost is very low". By and large, the forests are either over mature, poorly stocked, or both. This was evident from a negligible net annual growth of the natural forests and was further aggrevated by the high exploitation costs resulting from the disperse selective cutting operations prevalent before the area could be placed under the project. It was, thus, concluded that, without the project, these forests would carry on the current, languid low (physical and economic) productivity. With the project, the natural forests can be replaced by high yielding plantations at a small cost. Contrary to the case with non-renewable resources e.g. minerals, this exploitation will not only avoid depletion, but will also replace the original asset favourably (Agarwala. 1973).

It has already been stated that the NCA which recommended the formation of the FDCs as the authorities for formulation and execution of man-made forestry projects, has agreed with the

logic of accounting the net returns from clearfelling the natural forests with the benefit streams of man-made forests and suggested that this procedure be followed in the formulation of future projects (Government of India. 1976. p. 71). A number of other foresters and economists have also agreed with the same (Ganguli. 1976, Mathur.1975, and Sathe.1975). Perusal of some of the intensive forest development projects formulated in the recent past indicated that this procedure is being practiced.

III. An Assessment of the Arguments to Include the Net Returns from Clearfelling the Natural Forests in the Benefit Streams of Man-Made Forests

The arguments summarised in section II may be examined in the context of certain conceptual and practical aspects relating to economic evaluation of the intensive forest development project(s). Firstly, if the time horizon of the consciously formulated project is visualised to extend from the time of taking over the area to the time of harvesting the man-made crop, the benefits of the project may include net returns from clearfelling the natural crop. This vision, however, appears to be faulty. To start with, it raises the question regarding the evaluation of one or more coppice crops from the man-made plantations. If the natural crop is considered as a part of the project, the coppice crops have a much stronger claim to be so treated. This, in turn, creates practical and conceptual problems. From the practical angle, the time horizon of the project will get extended too far into the future (250-300 years in case of teak if four coppice crops are visualised). Any economic analysis which goes into the distant future is apt to

loose its significance. From the conceptual angle, an enterprise is supposed to have the choice of altering the crop mix at the end of the initial crop and this choice need not necessarily be exercised 80-100 years in advance when the market situation is not known.

Secondly, and more importantly, though the concepts of "with" and "without" benefits and costs are almost universally accepted in project evaluation, yet the argument that the benefits from clearfelling the natural forests "materialise because of the project and would not occur without it" appears to be misplaced. A more logical way to look at the issue may be that the standing crop has a capital value and this value is mostly independent of the project. The best that can be said to partly support the arguments summarised in section II is that this capital value may appreciate due to the infrastructure provided as a result of the project (Mishra.1975). There is also the possibility of the market value of the capital (in the form of the standing crop) being lowered because of the project. This may happen if large areas are simultaneously clearfelled in different parts of the country and the prices of the forest products get depressed, at least temporarily. An appropriate use of the "with" and "without" concepts, therefore, appears to be to accommodate only the net difference in the capital value of the natural stands (distinguished from the net returns from clearfelling) as a project benefit or cost. The fact that the proponents of the arguments summarised in section II would like the "income foregone" from exploiting the natural forests to be

included as a project cost implies that they accept the concept of capital value of that crop. The "income foregone" could be nothing but the return on this capital. This "income foregone" may be "very low" but that cannot be a sufficient reason to ignore the fact that the natural forests represent capital with the society as a whole.

Thirdly, the forest areas transferred to the FDCs do not constitute outright sales. These have been transferred in the hope of improving upon their productivity through more efficient management and winning the necessary institutional finance which cannot be availed of by a Government Department. It is, therefore, logical to expect that, on the expiry of the agreement with the concerned Forest Department(s), the FDC(s) would hand over the capital asset with, atleast, the same value as it had at the time of taking over. In essence, therefore, the concerned FDC or the project authority is only to manage the assets transferred to it by a State Forest Department or the society as whole. The former does not have a right to exhaust the same. Once again, there is a case for treating the net returns from the natural drop(s) as "capital" rather than "benefits of the man-made forestry project(s)".

Fourthly, while recommending the formation of the FDCs, the NCA also recommended that the forest land and its standing timber transferred to a Corporation would be valued and these two values together will form the basis of equity capital against which it could borrow from institutions. It was further observed that where these values were not adequate to generate sufficient funds to meet the needs of the production programme drawn by a FDC, the concerned

State Governments may have to subscribe additional equity funds to the corporations. Such an eventuality was expected to "arise only in poor areas where the standing timber may not be very valuable" (Government of India.1972. p.51, and 1976. p.72). At the same time, the NCA agreed with the procedure of accounting the net returns from clearfelling the natural forests in the benefit streams of man-made forestry projects. By no stretch of imagination can "capital" for a project be synonimous with the "benefits" flowing from it. Capital is something employed in a project or economic activity for the production of more wealth while profits from that activity constitute the benefits. Furthermore, whole or a portion of the profits (benefits) can be consumed by the enterprise but it would be a bad day for a business when it starts eating into its capital. It is, thus, feared that the NCA contradicted itself while justifying that the net returns from clearfelling the natural forests be included in the benefit streams of man-made forestry projects.

Furthermore, it may not be difficult to visualise that, atleast a portion of the lease rental payable annually by the FDCs to the respective State Forest Departments is in the nature of "interest" on capital assets transferred to the former. The NCA implicitly accepted this when it suggested that the "corporations may be required to pay during the first fifteen years a contribution equivalent only to the average felling revenue of that area for the previous three years (Government of India.1972.p.51). It is another matter that the interest payable on the capital transferred to the project authority is very low and is usually agreed upon

even before the exact value of the asset is known. This happens when the FDC enters into a lease agreement with the concerned State or its Forest Department. The value of the standing timber is rarely known or assessed by that time. That, however, need not mean a fundamental change in the nature of that value. The value will be known on clearfelling, if not earlier.

Fifthly, it may be important to realise that the issue at stake does not pertain to making the "existing forest stands" more valuable or more productive. On the contrary, the thurst of the consciously formulated forestry development project(s) is to improve upon the productivity of the "forest lands" through scientific plantation and care of appropriate species with high economic values. In other words, the choice is not between forestry and non-forestry uses of the land resource but between (i) keeping a piece of land under natural stands of timber and (ii) putting the same piece of land under man-made forests. This distinction also seems to be implied in the arguments summarised in section II as it was stated that clearfelling the natural forests and replanting the area will not only avoid depletion of the resource but will also replace the asset with a far more productive one (Agarwala. 1973). Once it is agreed that land is a common resource between the natural and man-made forests, the desirability of separate economic analyses of the two may call for no emphasis. Let it be recalled that the objective of economic analysis is not only to judge the viability of "a" project but also to compare the expected outputs and costs of different projects so that the best one(s) may be chosen within the given

resource constraints. Once again, the logic for including the net returns from clearfelling the natural stands with the benefit streams of intensive forestry projects does not appear to be tenable.

IV. Some Implications of Including the Net Returns from Clearfelling the Natural Forests in the Benefit Streams of Man-Made Forests

Current practice with the FDCs appears to be to account the net returns from clearfelling the natural forests as benefits of the man-made forestry projects. A seemingly positive aspect of this procedure has been that the projects have passed the tests of their economic viability with much better grades compared to the results expected if separate analyses were done for the natural and the man-made crops or if the standing crop was treated as a capital asset. In other words, since forest areas "considered fit for commercial production" have been transferred to the FDCs, it may not be difficult to visualise that the procedure in use pushes up the expected benefit-cost ratios, net present worths, internal rates of return, cash flows, etc., of the intensive forest development projects. This implies that the requests for finances needed for the implementation of the projects may meet much better treatment with the lending institutions than would be the case otherwise. This is good to the extent the forestry sector in India has been starved of investible resources in the past. At the same time, it is possible that certain man-made forestry projects which may be "unbankable" by themselves become "bankable" propositions when their costs and returns are pooled with those of clearfelling the natural forests on the project areas.[3]

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3 The necessary data to test this apprehension were not available. But, it may be important to note that the institutional finances become available to the FDCs only for those projects which show the capacity to repay the loan within 15 years and where the expected financial rate of return is not less than 14 per cent.

Another consequence of the current procedure has been a concern on the part of atleast one FDC to check the flow of its funds to the Government of India by way of corporate taxes. The problem arose with the Madhya Pradesh State Forest Development Corporation Limited (MPSFDC) as its gross surpluses were expected to increase considerably over the next ten years and a substantial portion of these surpluses could go towards the payment of corporate taxes. It is not surprising that the MPSFDC considered it necessary to save the flow of large funds out of the State. The Corporation, therefore, willingly decided to substantially step up the lease rental payable to the State Government. Contrary to the principle enunciated by the NCA for determining the amount of lease rental, the MPSFDC has developed a flexible system which links its lease rent liability with gross income and gross surplus. This is something new for a business organisation to agree to when its gross incomes and gross surpluses were expected to increase considerably in the future. The net result is that the Corporation has agreed to pay to the State Government a lease rental of nearly Rs.50/- per hectare per year against the original agreement of Rs.15.25 (Seth. et. al. 1978). The case of another FDC in a forest rich State which decided to work as an agent of the State Government to be able to avoid heavy corporate taxes is well known. Needless to say that these problems would not have arisen if the net returns from clearfelling the natural forests were treated as capital with the corporations.

V. An Alternative for Handling the Net Returns from the Natural Forests in the Intensive Forest Development Project Areas

One of the stated objectives of this paper was to suggest

an alternaative to the current practice or procedure of including the net returns from natural forests with the benefit streams of man-made forests. This objective seems to have already been achieved through discussions in the last two sections. It may, therefore, suffice to say that a standing crop of timber on the project areas, irrespective of its quality, may be treated as a part of the assets owned by the society as a whole and transferred to the project authority. The value of this asset is not likely to be known at the time of the agreement between the concerned State or the Forest Department and the FDC. It may, however, be agreed that the State will keep subscribing to the equity capital of the corporation in amounts equivalent to the net returns from clearfelling the standing crop. This procedure appears to be conceptually valid and in line with the spirit of the NCA's recommendations pertaining to the structure of the FDCs. The fact that the NCA also agreed with the procedure of accounting the net returns from the standing crop with the benefit streams of intensive forest development projects may be ignored as a slip.

Summary

The Forest Development Corporations (FDCs) in India have the responsibility of formulating and implementing intensive forest development projects for their respective areas. Since the FDCs operate on the lands currently under natural forests, it is important to decide on the procedure for handling the net returns from clearfelling the natural stands in the project area. The forest development projects prepared under the State Planning

programme included the net returns from clearfelling the natural forests with the benefit streams of man-made forestry. The National Commission on Agriculture, a number of foresters and economists have agreed with this procedure.

The paper has summarised the arguments behind this procedure. These arguments have been examined and found inconsistent with the generally accepted practices of economic analysis. More importantly, the NCA appears to have contradicted itself while accepting the procedure used in the projects formulated under the State Planning Programme. Some real life problems that have arisen due to this procedure have also been discussed.

As an alternative, it is suggested that the returns from natural forests on the project areas be treated as capital assets with the FDCs. The concerned State Government(s) may be deemed to have subscribed to the equity capital of the corporation(s) as and when the natural stands are clearfelled and the returns received. This procedure is considered to be conceptually consistent and is expected to save some embarrassment to the FDCs.

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