

Lessons from the First plan

Investments In River Valley Projects

Low Multiplier Effect and Its Causes

Sudhir Sen

Now that the are in the last year of the First Five-Year Plan, it is pertinent to ask how far the Plan has been a success, where we could and should have done better, and, more particularly, whether we could have booked a larger dividend, in terms of additional employment, income and wealth, from the investment of the vast sums of money that has already been made under the Plan.

These are by no means academic questions. For we can expect to improve our future performance only when we are ready to garner the lessons from past experience and turn them to full advantage.

TO sit in judgment over our own achievements and to assess them with unsparing objectivity is by no means an easy task. To do so we must look at things in the right perspective, see them as they are without colouring them with our own emotions, not make too much of our past mistakes nor lightly gloss them over. Even in the eighth year of our independence and in spite of the vastly improved atmosphere in the country we have still two deadly enemies to reckon with—cynicism and complacency. It is essential to steer clear of both.

For the five-year period, the Plan envisaged a total expenditure of Rs. 2,250 crores in the public sector. By the end of the third year only Rs. 885 crores, or about 40 per cent, were spent. Since then progress has gathered further momentum, which has been reflected in the accelerated tempo of expenditure. It is now authoritatively estimated that at the end of the Plan period the shortfall may be of the order of 10 per cent, and no more.

Greater Shortfall in Physical Targets

If this were the whole picture, we could certainly congratulate ourselves without reservation. Unfortunately it is not so. By March next we shall have realised 85 per cent of the expenditure target, but not of the physical targets as set forth in the Plan. In other words, the shortfall would be much more than 15 per cent if we consider the capital assets that were to be created in these five years, and even more so if we look at the benefits these assets are going to yield as compared with our original expectations.

These points can be best illustrated with reference to the irrigation and power projects on which the first Plan had laid the major accent—it will be recalled that no less than Rs. 617 crores, or 28 per cent, of the total public sector outlay were allocated to them. But

the costs of these projects have gone up quite considerably. The revised estimates of the six large projects—Bhakra-Nangal, Hirakud, Damodar Valley, Kosi, Chambal and Riband—now stand at Rs. 477 crores as compared with their original estimates of Rs. 324 crores. This represents an increase of 47 per cent. It is true that part of this increase had taken place before the Plan was prepared so that the Plan provisions were, to that extent, higher than the original estimates. It is also true that for some projects the scope has been extended, which is particularly true of the Damodar Scheme, and that this extended scope naturally pushed up the project costs. But even after making due allowance for these factors, we would still be left with a substantial rise in the costs of practically all the irrigation and power projects. This means that even if the entire amount provided for them is actually spent within the Plan period, in terms of the new capital assets created in the country our progress will be substantially less than what the Plan had aimed at. This is tantamount to saying that the progress of physical work has been lagging behind the original programmes by a fairly wide margin. In fact, we know that serious delays have occurred on most of the irrigation and power projects.

Causes of these Lags

What are the causes of these lags? The Progress Report issued by the Planning Commission for 1953-54 listed the following factors: late finalisation of the Plan, late commencement of some of the schemes; insufficient working of schemes in advance, partly also lack of essential equipment, shortage of technical personnel and the time needed for setting up the requisite administrative machinery.

So far as irrigation and power projects are concerned, these factors

can only partially explain the delays. Take, for example, our three giant multi-purpose river valley projects. They were all initiated at least three years before the first Plan came into operation. There was ample time to process the schemes in advance, to set up the organization, and to acquire the construction plant and machinery. But in actual fact all three suffered a good deal of lost motions and wastage of time. Most of this, however, happened before the initiation of the Plan. Otherwise the achievements on these projects during the Plan period would have been nowhere near what they are today.

Why Were Targets Lowered?

According to the Plan targets for these three projects, 2,217,000 acres were to be brought under irrigation and 338,000 K.W. installed for hydro and thermal power. The first point to be noted is that these targets were considerably lowered at the time the Plan was prepared because of the very low progress of work in the preceding years. As a result they were already much below the 1948 expectations. For example, the DVC will provide irrigation to 1,026,000 acres from the four dams—Tilaiya, Konar, Maithon and Panchet Hill—included in its First phase. In 1948 it was considered feasible to achieve this target in five or six years. Delays in starting on the construction of the dams necessitated a downward revision of the target at the time the Five-Year Plan was drawn up.

Shall we be able to attain even these lower targets by March next? It is now quite clear that on irrigation there is going to be a substantial shortfall, which may amount to as much as one-third. The redeeming feature is that it may be possible to wipe off this shortfall almost completely within the first 18 months or so of the second Plan. On power installation the lag will

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be about one-sixth, mainly due to the delayed construction of the Malton hydro power station with an Installed capacity of 60,000 kw. This leg, too, could probably be made good within the first year of the second Plan. We need not therefore taken an unduly gloomy view of these shortfalls.

No Feeding Back Yet

The Plan provided targets only in terms of the acres to be irrigated and the K.W. capacity of power to be Installed, but none for the additional crops to be produced and the kilowatts of power to be sold. The dams and power stations are, however, not an end in themselves, but a means to an end. Our real concern is with the additional wealth that they are going to produce. How much of their wealth-creating potential has been tapped so far, is it possible to speed up the rate of progress, and if so, how?

Let us consider these questions with reference to one of our major multi-purpose projects, namely, the DVC. A careful economic analysis of the wealth-creating capacity of the Damodar Scheme was carried out early in 1951. The conclusions reached were indeed impressive. As already mentioned, the First phase will give irrigation to 1,026,000 acres—this figure includes 185,000 acres partially irrigated in the kharif season from the existing Anderson canal system. Even on a most conservative view the extra output of rice from this area should amount to 5,600,000 mds. and of rabi crops to another 3,600,000 mds. per year, assuming that rabi will be grown on no more than 300,000 acres. The gross money value of the additional crops, inclusive of paddy straw, worked out to Rs. 19 crores at the then prevailing controlled prices.

In actual fact the extra yield of rice in the areas irrigated from the Anderson canal has in recent years been 50 per cent higher than what was assumed for the estimates given above; the Japanese methods of rice cultivation which have so far been introduced in the area only on an experimental basis, have shown some spectacular results—if applied on a large scale, they can almost double the post-irrigation acre-yield assumed in 1951 estimates; nor is there any inherent reason why the rabi area should be confined only to 300,000 acres, especially when the First Phase would provide enough water to irrigate 600,000 acres; the area also offers good scope for

cultivating non-food crops like cotton, tobacco and jute, which normally yield a much higher income per acre. If all these factors are taken into account, the output and gross value of the additional crops would be much higher, say, Rs. 30 to Rs. 35 crores per year.

Diversification of Agriculture

On a long-term view the prospects are even brighter. As Sir William Willcocks, the great Irrigation engineer, used to emphasize, the lower Damodar Valley has one of the richest soils in the world, comparable with Egypt and capable of bearing three crops a year. Besides, with the large and expanding market of Calcutta and Industrial areas lying almost next-door, also the markets in Bengal-Bihar coalfields and several other urban centres in and around the valley, this area could profitably develop a more diversified pattern of agriculture in the place of the present monoculture of rice in order to meet the urban demand for milk and milk products, eggs, fish, meat, potatoes and other vegetables, and fruits, which will yield a much higher income than the cultivation of cereals.

If properly planned, increased yield of rice per acre should go hand in hand with a diminishing acreage under rice and an increasing acreage under vegetables, fruits, fodder crops, sugarcane and various miscellaneous crops. For fish cultivation the newly-created DVC reservoirs, the river with a perennial flow, the canals and distributaries as well as the countless tanks in the lower valley offer enormous possibilities. With a planned drive fish production could be increased by leaps and bounds, which would go a long way to improve the common man's diet that is at present notoriously deficient in protein, reduce the per capita consumption of cereals, and add several crores worth of extra wealth to the national economy.

Benefits Not Reaped

As for power, the First Phase provided for a total Installed capacity of 274,000 K.W. covering the Bokaro thermal station with 150,000 K.W. and the Tilaiya, Konar, Maithon and Panchet Hill hydro power stations. To this is to be added the surplus capacity of Sindri. i.e. 22,500 K.W., which is taken over by the DVC and is distributed over its own grid. The kilowatt-hours of power to be sold from this installed capacity were estimated at 1,009 million per

year. According to the 1951 forecast. 425 million kwh were to be sold by 1953-54, 702 million kwh by 1955-56. and the full quantity by 1958-59; the gross revenue to be realised from the sale of power, at 0.66 of an anna per unit, in these three years was estimated at Rs. 1.75, Rs. 2.91 crores and Rs. 4.18 crores respectively.

To complete the picture let us briefly note the other economic benefits expected from the First Phase. All floods up to 650,000 cusecs, the highest on record so far, will be brought under control—the damages caused by the 1943 flood, the worst in the history of the Damodar, were assessed at Rs. 7.90 crores at 1951 prices; an 85-mile long Irrigation-cum-navigational canal will provide cheap water transport from Durgapur via Hooghly river to Calcutta; year-round supply of water, both for domestic and industrial use, will be assured; the man-made lakes will help build up a sizeable recreation industry; control of malaria that has long been endemic in the lower Valley can make a major contribution to the welfare of the people and add a good many crores of rupees to their income every year; the plentiful supply of low-cost power has opened up vast possibilities for new industries in this resource-rich area, ranging from heavy or basic Industries to small-scale ones.

Multiplier Effect

To all this should be added the benefit that would accrue to the upper Valley from comprehensive soil conservation measures including the regeneration of the extensive forest lands. If erosion can be brought under control, if a more scientific pattern of land-use is introduced in this region, if the potential forest wealth is properly developed and utilised, the income from the Valley will easily go up by several crores of rupees per year, while the silt-load now imported into the river will be cut down, which will automatically lengthen the life of the reservoirs.

Nor should we forget the multiplier effect of all this additional wealth in creating new jobs and new incomes, especially in the transportation and distribution of goods and in the various types of Industries than can and should be set up for processing the raw materials.

There are no doubt sceptics who will feel that the picture given above has been overdrawn. Yet it

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is not so. The wealth-job-and-income-creating potential that, lies dormant in our waters, soils, minerals and forests are enormous, far greater than most people are inclined to suspect. And it is this high potential that holds out the best hope for us, the hope to raise the living standards of the people much above its present low level and it also holds out the biggest challenge to us.

Economic Potential Not Exploited

Unfortunately, it cannot be denied that so far the DVC has not touched more than a fringe of the high wealth-creating potential of its project. The dams and power stations are coming up one after another, with delays and extra costs, some of which at least could have been avoided. But in the utilisation of water and power as well as in its general development activities, its performance leaves a great deal to be desired. The Durgapur barrage has just been completed. In the absence of the barrage, most of the Tilaiya and Konar water could give very little irrigation during the last two or three seasons. An attempt is now being made to give irrigation to one lakh acres in this kharif season. The growth of power load has been slow—since January 1952 till last April about 358 million kwh have been sold; the present rate of sale amounts to about 15 million kwh per month; the aggregate demand stands at about 50,000 W.W., that is one-third of the capacity installed at the large Bokaro Station. In soil conservation, forestry and fishery development, a beginning has been made, but the scale of operation is still insignificant.

These facts are mentioned here not by way of any criticism of the DVC, and certainly not of its present Board. In spite of all the shortcomings the sum-total of its achievements compare favourably with the results obtained on any other river valley projects in India. And if this sum-total is not bigger than what it is, if the vast sources of new wealth are still lying untapped, for the explanation we have to go back to decisions that were taken, inside and outside the DVC, much before the present Board was set up in April last year.

Departmental Construction

To explain the paucity of performance on the utilisation or development front one could list a number of facts, both of omission and commission, but I believe two of them

are fundamental and lie at the root of most others: First, the hasty decision in favour of departmental construction and, second, the lack of powers as well as of funds for development purposes.

Most of the construction work, barring Konar dam, the diversion tunnel and the excavation of the hydro-electric station at Maithon and some work on the irrigation barrage and canals, has been, or is being carried out departmentally, in spite of the unequivocal advice and warning that the Board had received at least from some, and in spite of the clear-cut decision the Board itself had taken, in the fourth month of its existence, against departmental construction. "Why should we concede the profits to contractors? Let us do the job departmentally and save the amount". This facile line of reasoning has been all too common in the country, and the DVC, like others, fell an easy victim to it. The result has been tragic.

Inefficient and Bureaucratic

It could not be otherwise. For departmental construction is seldom cheaper, in the majority of cases it is much more expensive. Just consider the problems involved in a departmental job: A large construction organisation has to be built up from nothing, which alone may take a couple of years; the improvised outfit which often contain a large proportion of raw men, can never equal a well-established construction firm in efficiency; the problem of maintaining morale is much harder because of the relatively short duration of the job and the inability to apply incentive bonus. The administrative clearances are far too slow because one must abide by set rules and regulations, whether for recruitment of personnel or for purchases of equipment or even of spares that may be suddenly required on the job. When the work is completed, the residual life of the plant and machinery may still be substantial, but there is no guarantee that it can be disposed of at a reasonable price. When these and other difficulties are put together, it is easy to see why, in the end, we spend far more money and take far more time on a departmental job than what is assumed at first, why the end-result turns out to be worse than that of a good contractor.

Opportunity Cost Too High

The game is not worth the candle, But it is far less so if we consider another aspect of the question. De-

partmental construction inevitably throws an enormous amount of cases back at the administration, which must be tackled on a priority basis in order to keep the job rolling. The construction problems eat up so much of its time and attention that very little is left to be devoted in other directions. This is exactly what has happened in the case of the DVC—the Board got itself entangled in the day-to-day details of construction to such an extent that it had little time left to tackle the vital issues relating to the prompt utilisation of water and power and to the programme of Valley development in general. If the money cost of departmental construction is high, its opportunity cost is almost staggering.

Tragic Illusion

The tragic illusion that departmental construction is cheaper has persisted too long. We have already paid a heavy price for it. At last there are welcome signs of a new realism in this field—for example, parts of Maithon, as already mentioned, have been let out on contract; Rihand, too, has been entrusted to a firm of contractors; construction of Hirakud has been largely farmed out to a number of sub-contractors.

Since the second Five-Year Plan will also contain a number of dams and other heavy construction projects, it is important to book this lesson from the past. The time for starting on the development work is not when the dam has been completed, but when the first sod is being turned at the dam-side so that we may be ready for the utmost possible utilisation of water and power as soon as the dam begins to produce them. This can be best ensured if construction is let out on suitable contracts and if the administrative authority right from the outset concentrates primarily on resource development and utilisation. Such a division of labour will enormously speed up the development of the country.

The DVC was launched as an autonomous public corporation. The Act gave it large responsibilities and commensurate powers also for the general development of the Valley. But this part of the Act has practically become a dead letter. Why should the DVC be given such unusual powers, and why should it encroach upon the jurisdiction of the State governments? These questions were at times prompted by no nobler motives than departmental rivalry

and jealousy. This Jurisdictional row has been the second most potent factor in holding up progress on the development front.

In all this dispute we have overlooked a few simple things—the go-slow tradition of government departments; the great advantages of unified handling of the resources by one single agency like the DVC; and the fact that it is infinitely more important to do these vital things than who does them. Instead of denying the DVC the opportunity to tackle the development problems, it should have been specifically saddled with the responsibility to deliver the final fruits of its own engineering activities, as was actually intended by the Act. And when tens of crores of rupees were being sanctioned for the construction of dams and power stations, barrage and canals and transmission lines, it should have been ungrudgingly allowed to spend the lakhs of rupees to expand its activities in the economic and social field so as to "firm up" the large Investments in engineering works and to multiply their dividend-yielding capacity.

This is the second dearly bought lesson from our past experience, and it applies not only to the DVC, but to all other undertakings of a similar nature. The administrations of all such projects must be continuously urged and prodded to unfold and

intensify their activities to reach the full development point for irrigation and power with the shortest possible time lag; they should be entrusted with adequate powers to launch on such activities; and they should be given the necessary funds for the purpose. If these conditions are satisfied, we can yet stage a real development blitz in the country. Much Supplementary Effort Needed

The second Five-Year Plan is now in the making. We are aiming at a 25 per cent increase in national income and the creation of 10 to 12 million jobs under the Second Plan. These are not fantastic targets, provided the investments are carefully correlated to the productivity or wealth-creating potential of individual projects and provided every effort is made to tap this potential with a minimum of time lag. The automatic effects of the investments in raising the national income will not be enough. As the brief survey of the DVC's wealth-creating capacity has shown, a good deal of supplementary effort will be needed in many directions and the numerous practical difficulties will have to be resolved by catalytic agents before we can expect to achieve the highest multiplier effect from the investments.

In such a context the present controversy between factory industry and cottage or hand Industry appears

largely unreal. To find employment for 10 to 12 million people we need hot straightaway decide in favour of jobs giving the lowest man-hour out-put and consequent sacrifice of national wealth. We have seen how a project like the DVC can rapidly increase wealth production and greatly widen economic opportunities. If full development is reached one year earlier, additional wealth worth Rs. 40 to Rs. 45 crores will be added directly to the pool of national income. Besides, countless jobs will be created in the process apart from giving fuller employment to the hundreds of thousands of rural people who are now under-employed.

It is not enough to reach the 10-12 million job target in five years; we must also attain maximum productivity compatible with it. This dual objective will not be achieved if millions of people are just dumped on hand industries which are already over-crowded and which are unable to yield even a subsistence level of income. Such a policy can give them only planned destitution.

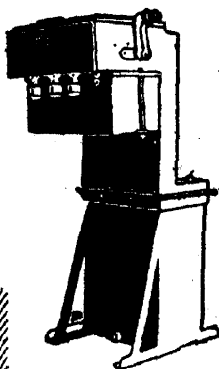
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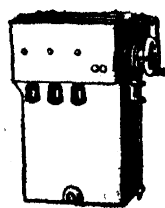
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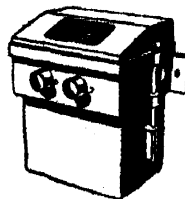
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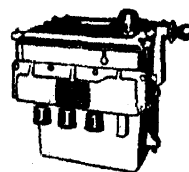
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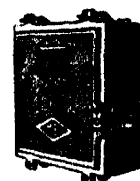
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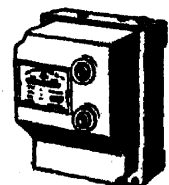
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