The Mahaweli Project - a look back and into the future

Shortly after the Government assumed office in 1977 it outlined three major public investments - the Free Trade Zone, the Accelerated Mahaweli project, and the Housing and Urban Development Programme - aimed at reducing chronic unemployment, increasing agricultural and industrial productivity, and creating the right conditions for an export oriented and foreign investment supported expansion of the economy. The Mahaweli project was regarded the most ambitious of the lead projects being undertaken and was the keystone of the entire development programme. From 1978 massive capital expenditures were carried out, largely with foreign assistance as there was an eagerness on the part of many foreign donors to support the Government's new economic policies and these lead projects seemed a natural choice into which this aid could be channeled.

Reviewing the economic benefits of these large investments a multilateral donor agency has raised the issue whether such massive capital expenditures could have contributed to the balance of payments problems the country is experiencing, since they have increased Sri Lanka's debt without increasing its capacity to service these loans. The question is how far could this criticism be applied to the investment in the Accelerated Mahaweli Programme. The Mahaweli Authorities have accepted that over 60 percent of the total costs of the programme were met from foreign aid; but " a substantial part of foreign aid received was in the form of outright grants, while the balance was obtained as extremely concessionary loans. Hence the burden on the domestic economy for financing the project was significantly low, "according to the Mahaweli authorities.

The annual review of the Mahaweli Projects and Programme, released recently, reveals that the total expenditure incurred on the Mahaweli Development Programme upto the end of 1986 amounted to Rs 38 billion (bn) at current prices. The review states that costs incurred on the Accelerated Programme alone between 1979-1986 amounted to Rs 30 bn of which over Rs 25 bn has been on the four head works projects completed. On the three main headowrks projects - Kotmale, Victoria and Randenigala - expenditure is estimated a Rs 24.3 bn; with the largest sum, namely Rs 10,240 million being incurred on the Kotmale project. Of this amount Rs 5,487 million will be received in the form of outright grants and low interest loans from Sweden. The total cost of the Victoria project was Rs 8,897 million, comprising an outright grant of £ 113 million and a loan from Hannover Trust of £ 20 million; which amounts to less than half the total cost. The total expenditure on the Randenigala project, (the last and the largest of the reservoirs built) is about Rs 6,000 million of which Rs 5,500 million had been spent upto the end of October 1987. A major part of these costs are being met from a concessionary loan of DM 400 from West Germany. A major cause of concern has been the escalation in costs which according to the Mahaweli Ministry review, were due to factors such as inflation and deterioration of the exchange rate of the Sri Lanka currency. This same source noted that over 60 percent of the total costs of the programme were met from foreign aid

International funding agencies, however, indicated that public capital expenditure were "not being used efficiently". Drawing attention to the fact that between 1974 and 1978, the Mahaweli Project "absorbed about half of all capital expenditures". this agency states in this context that "both because it was carried out on a crash basis and because cost escalation was high in large projects, by 1985 the 1977 estimate of Rs 11 - 12 billion for a full Mahaweli Programme had become Rs 40 billion for a reduced programme irrigating 120,000 ha. of land that were originally planned. Rapid inflation explains a third of this increase in costs, while the other two-thirds refers to real cost increases above the initial estimates that took place inspite of the reduction in the scope of the programme". This same agency goes on to state that the Accelerated Programme was "a risky propostion", and voices fears that "a large volume of resources has been allocated to a scheme that may now have limited economic returns".

Other significant points made in the annual Mahaweli Ministry review are that: (a) By the end of 1986 more than 20 percent of the total expenditure in the development of the downstream areas for the Accelerated Mahaweli Programme had been spent on social infrastructure such as large regional development activities.(b) Upto the end of September 1987 a total of nearly 56,000 families had moved in and settled in the newly developed Mahaweli Settlement areas.

Other achievements listed for the project in a note by the Secretary of the Mahaweli Ministry are that the "project area is producing 20 percent of total paddy production; 53 percent of total dried chillies; and about 20 percent of subsidiary foods in the country. The average paddy yield in the area has exceeded 5 tons per hectare".

The Director General of Mahaweli Authority notes, however, "by the end of 1986 that 5.9 percent of the total land area under paddy in Sri Lanka fell within the Mahaweli Project. This area contributed 8.4 percent of the total national paddy production during that year".

It is also noted that although the gross income of the Mahaweli farmer has already been raised to an unprecedented level of over Rs 20,000 per annum on the average, "this is considered inadequate to raise the farmers level much above subsistence level".

Meanwhile, a study of settlers in the Left Bank area of system 'H' based on an in-depth farm record book survey, showed that the farm incomes of the settlers were nearly two and a half times of the incomes of the pre-project inhabitants of the area. According to this study, more than 60 percent of the settlers had incomes exceeding those earned by 98 percent of the rural population in Sri Lanka".

The most significant achievement of the project, according to the Mahaweli Ministry is that the electricity supply in the country has benefitted by a hundred percent increase over what was available before the Mahaweli Programme. An additional 469 megwatts of installed hydropower capacity to the island's grid of electricity has already generated 2,300 kilowatt hours of energy, resulting in a saving of valuable foreign exchange to the equivalent of nearly Rs 3,250 million, which was the cost of imported fuel for the generation of thermal back-up energy upto the middle of 1987. In 1986 the Mahaweli Programme had supplied more than 40 percent of the total amount of power available in the country.

Judging in strictly monetary terms the international agency has commented that returns on massive capital expenditure had been "modest" and has raised the issues whether such expenditure has contributed to the balance of payments problems: of the country by increasing Sri Lanka's debt without increasing the country's capacity to service it; and also whether this programme would have provided the economic benefits commensurate with resources they have absorbed.Over the period 1987 - 1991, according to the Public Investment Programme, a further Rs 19.4 billion is to be incurred as expenditure on the Mahaweli project. Of this about Rs 10.9 billion will be on downstream development in Systems 'B' and 'C'.

Although the Accelerated Programme is in its concluding stages feasibility studies are being actively pursued on other projects which are available in the Mahaweli Master Plan.

Resource constraints have compelled rephasing of the settlement programmes under downstream development. Investments on Mahaweli which reached a peak of about 40 percent of total capital expenditure allocations in 1983 and 1984 have since been progressively declining and stood at 16 percent in 1987.

Moragahakanda

For instance, though Moragahakanda was one of the five headworks shelved in the Accelerated Programme it has been taken up once again. This is a multi-purpose project situated on the Ambanganga just above the existing Elahera diversion weir and below the Bowatenna Reservoir. The Japan International Co-operation Agency (JICA) started feasibility studies in October 1987 to update an earlier feasibility study done by JICA in 1979 and to (i) formulate an overall agricultural development plan in the Ambanganga basin and its adjacent areas to maximise the use of land and water resources (ii) increase the crop intensity in the existing irrigation systems and (iii) prepare a proper implementation programme of these projects.

An earlier UNDP and JICA proposal is being reviewed that the dam should be a total length of 5,050 feet, composed partly of concrete gravity of 223 ft. high and 1660 ft. long, partly rock-fill dam of 167 ft. maximum height and 1,350 ft. long across the Left Bank deep saddle, and balance earth fill 70 ft. maximum height and 2,060 ft.long across the depresion on the extreme Left Bank. The spillway will be provided in the concerete dam, equipped with 3 radial gates to discharge a maximum flood of 87,000 cusecs.

The reservoir will have a capacity of 692,000 ac.ft. with an active storage of 470 thousand ac. ft. and an annual regulated flow of 1,396 thousand ac. ft. (augmented by Kotmale through Polgolla diversion). Bydropower generation will be with an installed capacity of 40 MW.

The geology of the dam site is of a complex nature which requires careful investigation. This reservoir will initially provide additional irrigation supplies to about 73,000 acres of existing lands in System DI, G and D2 and benefit about 37,000 acresa of new lands in existing systems under Minneriya, Parakrama Samudra, Kaudulla and Kantale.

In the final phase of development water from Moragahakanda will be taken to the North Central parts through a NCP Canal to augment Systems I,J,K,L, & M.

System 'A' — Downstream Development

Another project being persued is the downstream development of System 'A' which has now received pledges of Soviet assistance. This System is situated in the deltaic region of the Mahaweli Ganga consisting of a gross area of about 45,300 ha. of which 22,600 ha. is the commandable irrigable extent, including 6,300 ha. of already existing area irrigated under Allai scheme. A project formulation report was prepared in June 1980 by International Consultants "Joint Venture Randenigala" (Saltzgitter Consult GMBH, Agrar Hydrotechnik & Electrowatt Engineering Services) with financial asistance from the World Bank. The same consultants submitted a Final Feasibility Report in 7 Volumes an Atlas of maps in March 1982.

The final feasibility report is based on a decision that the project area should be confined to the Mahaweli Right Bank lands, which are divided into three units. Flood protection bunds will be provided to protect the right bank from flooding.