

THE PROBLEMS OF THE CONSTRUCTION INDUSTRY IN SRI LANKA

(Report prepared by the Council of the Institution of Engineers, Sri Lanka)

1. Introduction

At a Seminar held on 17th October, 1980 during the Annual Sessions 1980 of the Institution of Engineers, Sri Lanka, the above subject was discussed in detail when over 25 members with wide experience in their fields of work, contributed to the discussions. The Council of the Institution presents this summary report for study and action by Policy Makers and other interested organizations. It was unanimously agreed that the Construction Industry is now called upon to play a vital role in the development of Sri Lanka. Some matters discussed pertain to policy making. On matters where the Institution can play a vital role, it is intended to initiate action on the suggestions made at this Seminar.

2. Status of the Construction Industry in the National Economy

The Annual Report for 1979 of the Central Bank of Sri Lanka analysing the position of the Construction Sector states as follows :—

“The most significant feature of the Sectoral Composition of G.N.P. was the increased importance of the mining, construction and trading sectors. This trend, the beginning of which was evident in 1978, continued through 1979. Available data on projected investment in manufacturing and construction indicate that they will continue to be major growth sectors in the future. Of special significance in this connection were the public sector investment programme in the Accelerated Mahaweli Project and in residential and non-residential Construction.

The higher level of investment in Construction and manufacturing had its concomitant in the high level of economic activity in these sectors. Output of the Construction Sector is estimated to have increased by 18% in 1979. A large part of this increase came from the public sector construction, particularly under the Accelerated Mahaweli Project. It appears that within the Construction Sector, there was competition for limited resources in which the private house builder came out second best. Thus, while domestic availability of building materials, particularly cement and hardware items, has been very much higher than in previous years, there were market shortages and priority in distribution has been accorded to public sector building programmes. For the same reason, skilled and semi-skilled labour has been attracted to the larger construction projects, because of the prospects of semi-permanent employment. Thus, there appears to have been a dampening of private sector construction activity in house building”.

The report further states that the “high level of production in construction and manufacturing as well as in construction related industries created a large demand for products of the Building Materials Industry”.

The contribution and the growth of the Construction can be gauged from the following data obtained from the same Report of the Central Bank :

Contribution of Construction Sector to G.N.P. at 1970 Prices

	Value Added	Percentage Increase Over Previous Year	Percentage Share in GNP
1977	619	9.6	3.9
1978	794	26.3	4.6
1979	960	20.9	5.2

Major construction contracts that were awarded during late 1979 and in 1980, will have an impact on the construction activity during 1980 and thereafter.

3. Problems Faced by Local Construction Organizations

Construction activity today, can be identified as being carried out by three groups, i.e. Foreign Construction Organizations, local State and Private Sector Organizations.

It is evident today, that an estimated 90% of the work is in the hands of foreign contractors. While accepting the need to have foreign organizations carry out a large part of this vast construction programme, it is in the overall interest of the country to take measures to expand, make more efficient and viable the local construction organizations.

3.1 Joint Participation with Expatriate Contractors

With the intention of developing a country's construction industry, most developing countries encourage and require foreign contractors to form Joint Ventures with local construction organizations. Recent experience has shown that local construction organizations do not participate in work with foreign contractors in a way that would make a tangible impact on the volume of work executed and on the upliftment of the local industry, except in a very minor way. It is desirable that contract conditions provide and motivate for the sharing of work, whereby, the local contractor would execute in Joint Ventures or Sub-contracts about 25% of the work awarded to foreign contractors.

The State and the Private Sector Organizations should operate in free and fair competition.

Some conditions for the development of the construction industry, such as provisions for obtaining equipment, material and spares, have been liberalised and is conducive to work.

There are welcome signs of qualified Engineers entering the field of construction, more in building activity than in water resources development. When compared to the response of Engineers to consulting practice, those venturing out into construction is very small. This is primarily due to the problems of financing, continuity of work and methods of procuring work.

With the prevailing high rates of interest, entrepreneurs venturing into construction would expect a much greater return for risks in a difficult industry.

3.2 Safeguards Against Price Escalation

There is a misconception that, due to escalation of prices, contractors may be making large profits. With problems associated in keeping with escalating costs this assumption need not necessarily be true, except in cases where rates have been negotiated in favour of the contractor. Inflation and high demand has increased cost of construction work.

It has also been the experience of some local contractors that, they would get a better deal in open competition than in negotiated contract, which is a contrast to some contracts, where the foreign contractor has been able to obtain much higher rates than would be permitted to the local contractor. There does not seem to be a justification for such a situation. Though there are price escalation clauses operating on the contracts, these clauses cover only costs of certain specified materials and grades of labour. In order to safeguard the local contractor, the contract clauses for price escalation should be based on cost indices, which will reflect all items of costs of the project.

3.3 Preference to Local Contractors in Tender Evaluation

In some instances, foreign contractors have definite advantages over local contractors in tax concessions and duties and also export incentives in their countries of origin. They have also benefits of borrowing abroad for cash flow deficiencies at interest rates much lower than would be available to a local contractor. It is, therefore, necessary that other factors being equal, local contractors be given a 7½% to 10% preference in the evaluation of tenders. This has been accepted by several countries, even in World Bank financed schemes.

3.4 Tax Concessions

Tax benefits on investment and profits that have been extended to work in the Mahaweli and in Urban Development Authority Projects, apply only to new Companies and does not apply to existing Companies. As prequalifications and past experience is required for participating to some extent, such concessions are not effective.

3.5 Advance Recoveries and "Cash Flow" Problems

Though mobilization advances are paid to commence work, these advances are recovered too early during the period of the contract. This affects the contractors "Cash Flow". The problem is further aggravated by the withholding of 10% retention money on every progress payment. Local contractors also find that progress payments are not made regularly and promptly. The cash flow problem could be eased by spreading the period of recovery of the mobilization advance, substitution of bank guarantee for the retention money and the client making payments promptly and regularly.

4. Factors Affecting Construction Costs Investigation of Design

It has often been repeated that costs of projects on completion are found to be well above, sometimes several times, the initially (at the time of project formulation) reported cost.

There are cases, where the implementing agency is in such a hurry that project construction is undertaken even without a basic cost estimate. Experience has shown that time and money spent on proper investigations, designs and planning a project would have saved unnecessary increases in cost during implementation.

It is also reported that in several cases, specially in the building sector, designs are carried out by unqualified persons. In order to be safe, these unqualified designers often provide structures which are overdesigned, thereby increasing the cost to the client and to the national economy.

4.1 Approach to Planning

It is necessary to consider prevailing infra-structure, social and environmental conditions in arriving at technical feasibility. In the case of buildings for instance, multi-storey and high-rise buildings, cost more per unit area made available, than that provided by single storey buildings. It is therefore, not prudent to specify multi-storey buildings in rural areas where sufficient land is generally available. In cities, decisions on provision of multi-storey or high-rise buildings have to be made after analysing several factors. Transport costs are generally very high and therefore, it may be more economical to provide housing for those residents who have to work in the city as close as possible to the work office. However, it may not be possible to provide common amenities (like lifts, water supply) at our present stage of social development so that high-rise buildings may not be a practical solution. High-rise buildings may be permitted if environmental problems do not arise, where the building is for non-residential purposes and if a single authority is responsible for the upkeep of the building.

Provision of costly features, specifying luxury timber and similar extravagant decisions are usually responsible for high costs.

4.2 Consultancy

In the building sector, Consultancy Fees are at present determined as a percentage of the cost of the building. However it is desirable that the percentage charge should be graded. In the Water Resources and some other Sectors, they are based on the man-hour input.

4.3 Time Schedules

The implementation period of projects have to be chosen carefully in order to keep costs to the minimum. In order to complete a project in too short a time, it may be necessary to make heavy outlays in equipment and sometimes arrange work in shifts, which may prove costly. On the other hand, if period of construction is too long drawn out, there will be additional costs arising from large overhead expenditure and also from inflation. Optimum schedules, considering benefits of early completion, should be adopted.

4.4 Escalation of Basic Costs

Inflation (specially in our own country) has increased the cost of construction work. The price indices for basic construction requirements given below, based on an index of 100 for 1977 prices, indicate the steep inflationary tendencies :—

Reinforcement Steel	..	186
Cement	..	342
Sand	..	267
Aggregate	..	312
Bricks	..	195
Fuel	..	399
Wire Nails	..	145
Timber	..	700
Skilled Wages	..	300

These increases can be traced to the high cost of fuel and increase in prices of imported goods and due to high demand. The escalation of fuel costs is a global problem for which there has to be a national strategy. However, encouraging more production in the manufacture of local building materials could reduce the impact on costs arising out of high demand.

5. Action to be Taken by Government

The Government which is concerned with rising costs of development should consider implementing some of the suggestions outlined here.

- (i) Provide sufficient time and money to carry out investigations, formulate plans and prepare basic cost estimates before taking up projects for implementation.
- (ii) Adopt competitive bidding procedures, in order to obtain the best acceptable bid among prequalified contractors, for award of construction contracts, evaluate stipulated conditions for financial implications. Eliminate corruption of any form in the award of the contracts. This could primarily be achieved by prohibiting agents and agency houses and other intermediaries from associating and lobbying in tenders.

- (iii) Prepare a uniform set of Contract Conditions applicable to construction in Sri Lanka. (The Institution of Engineers can undertake this assignment with some assistance from the Government).
- (iv) Enforce conditions, whereby foreign contractors will be required to allocate at least 25% of the work to National Construction Organizations. The percentages may vary from job to job to build up local construction capacity.
- (v) Preference, upto about 10% of cost, should be given to local Contractors in the evaluation of tenders.
- (vi) Introduce provisions in Contract Conditions permitting Contractors to suggest modifications including design changes, without effecting the factors of safety and thereby entitle them to a share of resultant cost savings in cases where such changes are accepted.
- (vii) Initiate action to prepare appropriate standards for local construction materials and for design. (The Institution of Engineers, Bureau of Standards, Building Research Institute and other Research Organizations to be commissioned to undertake this important work).
- (viii) Improve and increase the facilities in Universities and Technical Training Institutions to enable them to educate and train a larger number of technically trained personnel.
- (ix) Amend the Industrial Training Act in order to require large contracting organizations, both local and foreign, to train skilled workers.
- (x) Provide better salaries and work incentives to Engineers, Technicians and skilled workers.
- (xi) Ensure that payment due to contractors is paid without delay.
- (xii) Introduce incentives to local contractors undertaking construction work by authorising banks to permit overdraft facilities at specially reduced rates of interest as in the case of housing loans.
- (xiii) Introduce legislation whereby Local Authorities will be required to ensure that buildings over 2,000 sq. ft. in area are designed and supervised by qualified Engineers.
- (xiv) To make provision for quality control of local construction materials, particularly in the manufacture of Clay Bricks.
- (xv) Encourage cultivation of bamboo along stream reservations in order to have an adequate supply to the building industry.
- (xvi) Set up, either in the State Sector or assisted Private Sector or in both, an organization to hire out plant and equipment for use by Local Contractors.

- (xvii) Set up Management Consultancy Units in the various Ministries undertaking construction activities.

6. Action to be Taken by the Institution of Engineers

In order to assist the Construction Industry and the National Economy, the Institution should immediately engage itself in the following :—

- (i) Draft and publish a set of "Conditions of Contract" that would be applicable uniformly. This draft should take into consideration the various suggestions put forward at the Seminar.
- (ii) Associate with other organizations like the Bureau of Standards, Building Research Institute etc. in preparing design standards for local building industry. Consider the setting up of a standing Committee on "Research and Development".
- (iii) Organize lectures and seminars for Engineers and others engaged in the construction industry.

- (iv) Encourage members to participate with local contractors in construction work in Water Resources Development Projects.

- (v) Assist the Government in preparation of regulations to enforce conditions requiring qualified Engineers to be made responsible for building work over 2,000 sq. ft.

7. Action to be Taken by Construction Organizations

- (i) Form an Association of Civil Engineering Contractors.
- (ii) Improve standards of planning and executing construction. Cost consciousness among contractors should be introduced.
- (iii) Take responsibility for training skills at work-sites.

8. Conclusion

The Seminar brought out several useful suggestions for implementation in order to place the Local Construction Industry on a sound footing. The Institute of Engineers, Sri Lanka, will be prepared to play an important role in the implementation of a programme to achieve the objectives outlined in the report.