Is the contract procurement system letting down our competent engineers?

by Sellakapu S. Upasiri de Silva

The lead feature article in the Internet Edition of the *'Daily News'* of March 14, titled *"Aren't our engineers competent enough"* drew my interest. As an academic engaged in teaching Building Economics and Construction Management to tertiary students, I thought of writing this to explain why our engineers as well as the Government has failed to prevent this foreign invasion.

To complete my doctoral thesis in "how procurement systems affect the construction management" I researched the management and the procurement system of the construction industry, for many years, in few countries, including Sri Lanka. This research proved that the Sri Lankan construction industry is in danger of collapse due to mismanagement. Use of a procurement system full of risks, inefficient contract administration, bad contract documentation and many more problems due to human errors.

In his feature article Mr. Chandrasena, accepts that engineers failed in their task to provide clear and proper guidelines to keep the construction industry as a revenue earner due to external forces. This revelation may be a good omen for our politicians and the non-technical administrators to stop undermining our own professionals for the sake of posterity.

I worked under Mr. Chandrasena when he was the Chief Engineer Bridges, in the Bridges Division of Public Works Department some 40 years ago. Mr. Chandrasena, (the former Secretary of the Ministry of Highways) was responsible for designing and construction of many large prestressed concrete bridges very successfully, (Since post colonial times) in most parts of the country. If Mr. Chandrasena sees the future of our engineers, construction industry and the procurement system in this respect, then it is time to take remedial action to stop this undue advantages bestowed on foreign consultants and contractors.

In order to promote an open economy, the Sri Lankan Government has since 1987, allowed, expatriate consultants and contractors to carry out all our development projects funded by International lending organisations, foreign countries and even by the Sri Lankan Government. Our senior Engineers and other consultants kept silent but others left the country in frustration, as they were pushed aside by the foreign consultants and contractors in this foreign invasion.

An open economy meant not to push the locals to a side but to allow locals to join hands with International lending organisation to bring the industry to sustain the economy of the country. Sri Lanka needs foreign expertise for some of the large construction works but not for each and every construction project. The self appointed experts and the custodians of the construction industry acted irresponsibly to bring the construction industry to its knees with changes to the procurement system. With the slow destruction of the construction industry, came the foreigners. The foreign consultants and contractors took hold of the construction industry and kept the Sri Lankan born engineers, other consultants, and contractors away from their legitimate roles.

Tender Evaluation Committees, non-technical persons and the politicians used this defective procurement system to award multi-million rupee (dollar) contracts, without thinking about the drastic economic consequences and the effect on the people who depend on the construction industry. It is a well-known fact that the construction industry acts as a 'barometer' in measuring the economy of a country. Until very recent times, the Sri Lankan construction industry consumed approximately 10% of the Gross Domestic Product (GDP). The Construction industry helps to keep many other service industries afloat, generates jobs, and keeps the economy of a country moving very fast. Many construction economists have proved that the first casualty of an economic downturn is the construction industry. That is why, the construction industry in Sri Lanka, is at the receiving end during this economic downturn.

Although the colonial Engineers left our shores in the late 1950s, the Sri Lankan construction industry still follows the old colonial methods and systems to run the construction industry. The old colonial system, which was designed to keep the engineer at the top, kept the engineer as such, and everything concerning the construction industry rotated around him. Mainly due to this reason, Engineers felt that they are superior to other colleagues in the industry, such as Architects, quantity surveyors, and refused to allow any changes to the construction industry to meet the economic changes that took the world by surprise.

Few years back, even the Chief Architect of the Public Works Department used to obtain permission from the engineer to visit a construction site. In many cases, the engineers forced their way into the domains controlled by architects and quantity surveyors and try to perform their roles very ineffectively. As the custodian of the industry, they seek very little assistance from their colleagues. Nevertheless, the construction management system worldwide has undergone many changes, and the industry now recognises the services of other consultants in line with that of the Engineers. In the construction process many countries use separate Condition of Contract to procure building works. The change, which replaced the Engineer as the main controlling authority in building works never, happened in Sri Lanka. However, in Sri Lanka, we still procure, building and civil construction works using the same FIDIC/ICE condition of contract.

Procurement of construction contracts

To form a construction contract under the Common Law, the parties should meet specific elements of a contract. In a construction contract, those documents that define the rights and obligation of the parties to a contract are included as contract documents. Usually the documents included are the specifications, the condition of contract, drawings, supplementary technical and commercial documents, bill of quantities and the tender. Contracts have been an essential tool of commerce for thousand of years and occur in every country of the world. The method of contract formation and administration vary considerably with commercial maturity, but lack of maturity is not a barrier to successful contract negotiation and completion.

In most developing countries, such as Sri Lanka, construction projects are executed through contract system. My experience in project execution in both public and private sector in developing countries, shows that large number of projects suffer time and cost overruns due to poor management of contracts, similar to what is happening now, in Sri Lanka. Lack of fairness and inadequate means of quick resolution of enormous contract disputes is one of the main contributory factors for time delays and cost overruns. Considerable time and effort get diverted from primary goals of construction tasks for defending claims in favour or against, dragging into dilatory tatics which result in long winded and costly solutions. This can be achieved by adopting equitable contract conditions and particularly more honest, trusting and open relationship between the parties to the contract.

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As experienced, FIDIC/ICE form of contract which is adopted for projects aided by World Bank, Asian Development Bank and other such funding agencies, for large civil engineering projects, is ideally equitable if the same is objectively implemented. Most developing countries now use the 16th edition of the FIDIC/ICE form of contract with no dilution to procure medium to large size civil contracts. However, most developing countries use separate condition of contract to procure building works.

During the last few years, tendency on the part of the employers to dilute FIDIC/ICE conditions and restricting the role and power of the engineer in many large civil engineering contracts were noticed. This dilution is not giving any benefit to the employers, rather the objectives of equatability and fairness embodied in these conditions for settlement of claims is getting lost, resulting in a large number of disputed claims, created by risks apart from delays in project completion.

Unfortunately, we in Sri Lanka still use the very early edition of FIDIC/ICE condition of contract (as adopted by the ICTAD), left behind by the colonial engineers to procure (obtain) all civil and building contracts. In 1987, Sri Lankan Government appointed a special committee under a Cabinet directive to re-draft and dilute the FIDIC/ICE condition. This committee diluted Clause 14 Clause 60 and few other clauses of this old FIDIC/ICE condition. Now the Clause 60 - include an advance payment of 20% + 5% + 5% of the contact sum, once the contractor provide a Bank Guarantee. (The bank guarantee is an instrument to safeguard the advance payment to the contractor but it is not an instrument to prevent the un-restrained chain of risks created by this advance payment). This dilution of the FIDIC/ICE conditions created unrestricted risks, disputes, and delays in project completion undermining Sri Lankan consultants and contractors.

The Ministry of Housing and Construction initiated this unique 'dilution' as a mean of helping the local contractors to undertake large World Bank, ADP and other agency contracts. But this "unique" (limited to Sri Lanka only, that is why its unique) advance payment of 20 to 30% of the total contact sum at the initial stages of the contract created un-restrained chain of 'Risks' and unprecedented end costs. Mainly due to this dilution the complementation cost of many projects overshoot by over 300% to 400%. These changes also diluted the powers of the engineers and the engineers' authority and the ability to control contracts during the contract administration phase.

John F. James (1995) contract Management in Australia, states that "The major reason advanced by those who have failed to see potential risks seriously affecting a contract outcome is that they were ignorant of the potential threat, or the occurrence was considered unlikely to occur. It is more likely that they failed to visualise the contract execution and did not think of the risk".

"It is well documented that, anytime a deposit is paid or an advance payment is made for an incomplete or partly completed asset, a risk is introduced".

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* Selection of indemnity, consequential damages, differing conditions and delay clauses inequitably allocate all risk to the contractor, positively impacts on overall project performances and the owner (client) contractor working relationship. The ICTAD approved FIDIC/ICE condition of contract does include such clauses but the risk allocated to the contractor (as employers normally do) are minimal. The advance payment clause may inequitably override the allocated risks and transfer all the risks to the employer, just creating a contractual nightmare for the employer.

This change to Clause 60 to advance a part of the contract sum at the inception of the contract has many side effects. First, side effect was most Engineers accepted this position without any complaint about the colossal waste of money by engaging foreign consultants and contractors, as they were afraid to speak and protest in the interest of the country. The second side effect was that it created greedy technical and non-technical members in the Sri Lankan government having powers to alter the decisions of the Tender Evaluation Committees to make a quick 'buck' in American Dollars. Third effect was that foreign consultants and contractors even without any proven experience and record of accomplishment flock to Sri Lanka to milk the "Holy Cow" as they can complete the contract without spending their own hard currency, with the help of corrupt politicians and others.

The fourth side effect can be attributed to inadequate knowledge in Contract Administration by our Sri Lankan counterparts. This inadequacy helped foreign consultants and contractors to twist the arms of the Sri Lankan counterparts to obtain undue advantages. The foreign consultants and contractors: used this inadequacy in the following projects (I researched) to their advantages e.g. Samanalawewa Dam Project, New Parliament House in Kotte and Kalutara two Bridges and many similar large projects. Risks created for the client/or the employer from the dilution of this Clause 60 is very colossal. The contractors or the consultants (in design works) can have a free run as they wish, and the risks once allocated to the employer allow them to manipulate the system from the very beginning.

As Mr. Chandrasena stated in his article, the engineers never took any sufficient interest in the development of the country. They devoted their energies to look after themselves and never use their expertise to develop the construction industry in Sri Lanka. (Very recently the Engineers got together and formulated a draft Construction Industry Authority Bill, but if the government implement this draft bill the construction industry will fall from the frying pan to the fire).

Sri Lankan Engineers are a talented lot but they lack practical application. The wealth of knowledge they have, if they used appropriately, they should have prevented this dilution of the FIDIC/ICE Condition.

Many engineers and contractors I spoke to praised this advance payment system. (Contractors will always praise any advance on a contract). They never had any inclination what a colossal damage it is doing to them and to the industry now they are trying to save from this foreign invasion. The instrument, set in place by the government to help the local contractors is now destroying their only livelihood. Engineers and contractors should take the full responsibility for this unfortunate situation, as they helped to crate this monster. They should hold themselves responsible for their own doings.

Recently, negotiations took place with two large firms of consulting engineers in Australia to submit tenders for the design work of Hambantota and Colombo Ports. They were happy to tender for the projects but were worried about two things; i.e. political situation with the LTTE problem in the country and how they can get their periodical payments for the works. After convincing them that, both projects are funded by world bodies and the proximity of the projects are away from the LTTE trouble spots, they wanted concrete evidence to prove that they will get their payments without any trouble.

As these Consultants are familiar with the FIDIC/ICE Conditions, providing them with the ICTAD sponsored FIDIC/ICE Conditions, (especial reference to Clause 60 of the Condition) was enough to convince that their payments are secure (as they get a advance payment in front). They were surprised to see such a close in the FIDIC/ICE Conditions and agreed to tender for the projects without any further hesitation. They further questioned why the Sri Lankan government provides an advance payment direct to the contactor and create unrestricted risks when they can use other means to satisfy the contractors. These two firms tendered for the works and were on the shortlist, but unfortunately not successful due to political lobbying. This clearly indicates that the attraction for any foreign consultant or contractor to tender for works in Sri Lanka is this Clause 60 of the FIDIC/ICE-ICTAD Condition - The Advance Payment.

Responsibility for many World Bank and ADB funded projects proved that only restriction or requirements imposed by these funding organizations are that member countries should be included in the tender list. There are no specific clauses to say that the receiving country should allow such and such (country or) company to be the consultants and contractors. Nevertheless, we in Sri Lanka allow greediness to overcome the national pride and select preferable consultants and contractors. UNEP and Habitat (UN) Head Quarters in Kenya was constructed using World Bank fund, and used Kenyan consultants and a Kenyan contractor (by default), for this K 'Sh 165 million project.

120 kilometer Packwach - Arua Road in Uganda was constructed during President Idi Amin's time using donor-funded money. At this period, Uganda was lacking good engineering capacity as most Ugandan has fled the country. However, the Ugandan government selected all the consultants and contractors from East African countries. Many African countries like Zambia, Uganda, Kenya, Malawi, Botswana, Zimbabwe and P.N.G. do not have the engineering capabilities as our beloved motherland Sri Lanka, but they contest every clause in the funding agreements to insists on local participation. Furthermore, these countries do not have silly clauses in their Condition of Contract as we do in Sri Lanka. They use FIDIC/ICE Conditions (without any dilution) for Civil Construction Works and separate JCT 80 type Condition of Contract for building works.

The two steel bridges that existed on the Colombo - Matara road at Kalutara as mentioned in Mr. Chandrasena's article comprises of six spans of 110 ft. and were in very good condition. As suggested these bridges should have used in any other part of the country to replace similar aging bridges, without cutting in to scrap metal. It is a wastage of taxpayer money and a display of the engineer's ignorance in contract administration, to allow this colossal waste and the damage to two (2) usable bridges after paying the contractor for removal for re-use. Government of Sri Lanka spend (excluding the extra money the contactor claim for safe removal) Rs. 1:22 billion over and above the contract sum to complete these two bridges. Original estimate was Rs. 380 million.

The present situation can only be salvaged by engineers along. Engineers control the construction industry under the present system. They should take a principal role in dismantling the present procurement system with the help of those who establish the system. Treasury officials, are aware that the present procurement system is not functioning properly but they are not technically qualified to correct the system without the help of senior engineers in the government and the Institute of engineers. Engineers should seek expert assistance from other consultants to dismantle this old age system and take charge of the construction industry with all other consultants for the good of the country. If they look around, they can identify these expert consultants, as they are readily available in their adopted countries.

If the engineers, architects, quantity surveyors and contractors are eager to get rid of these foreigners immediately, they should take few important professional decisions to rectify the system. The professional decisions are not included here to reduce the length of this article.

If the engineers like to accept their mistakes and take charge of the development work with other consultants, then they should follow the Clause 1 of their Code of Ethics as suggested.