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JOURNAL HIGHLIGHTS

Annual General Meeting IQSSL Theme Article for 2020 Messages from Distinguished Guests IQSSL Board Reports for 2019 Cost of Construction Swiss Challenge Method Growth Through Visionary Leadership New Associates of 2019

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IQSSL Annual Forum 2020

The world is rapidly evolving with the aid of technological innovations. From the first industrial revolution in 1784 with mechanisation, steam power, etc. we are at the 4th industrial revolution today with cyber physical systems, internet of things, artificial intelligence, augmented reality and so on. However, the local construction industry has been lagging towards adapting these technologies due to various reasons.

The local construction industry is going through challenging times at present. The shortages of basic resources for construction as well as the concurrent rise in the price levels combined with the adverse impacts due to the unfavourable macro-economic conditions of the country, has made the stakeholders in the construction industry to look for new avenues to survive in the market place. Simultaneously, the advance in new construction technologies worldwide, focus for ecofriendly construction and the continuous advent of Information Communication Technology to construction have further challenged the local construction industry.

It is critical for Sri Lanka to identify its strengths and weaknesses in its construction industry and to formulate effective strategies futuristically.

The Annual Forum organised by the Institute of Quantity Surveyors Sri Lanka under the theme of "Demystifying the Traits and Potentials of the Construction Industry. Economic Vagaries: Strategic Envision" is one of many such initiatives towards envisaging construction industry's future in the local context. The event will be held on 20th March 2020 from 6:00 PM onwards at the Grand Ballroom - Galle Face Hotel, Colombo 03, following the Annual General Meeting at the same venue from 2:00 PM to 5:00 PM.

Many decision makers and think tanks of the Sri Lankan construction industry will attend this much sought-after event annually organised by the Institute of Quantity Surveyors Sri Lanka. Prof. Roger Flanagan, a highly renowned academic and a practitioner from the UK, will grace the occasion as the Key Note Speaker.

Technical Sessions 2020 "Rethinking Construction Industry: Future Envision"

Human resource is becoming scarce. Absenteeism is high and output is low. Hence, mechanisation is the way forward. Technological advancements are conquering the world and construction industry is not an exception to it. In an era of augmented reality and artificial intelligence, rethinking construction and its methodologies is vital.

Procurement Methods such as Design & Build and Turnkey are on the rise compared to the Traditional Re-measurement contracts. New procurement methods are introduced and digitised working platforms such as BIM (Building Information Modelling) are in practice.

Mechanisation has turned out to be a key factor and investment in appropriate machinery is a necessity. Undergoing the Industrial revolution 4.0, the local construction industry is compelled to match international standards with the latest technology. At the same time, the industry needs to consider the adverse impacts to the environment due to the latest technological developments. Concurrently the external and internal environments of the Sri Lankan construction industry are volatile than ever before. Externalities such as Easter Attacks made a considerable impact to the construction projects in various ways during the last year and the latest Covid-19 epidemic too will have many unforeseen events. Due to the weak financial base, with no assurance of continuity of work, skilled operators leave the country for greener pastures and the younger generation isn't very eager in entering the construction industry due to the nature of it.

Considering all above and many other factors it has become quite pertinent to re-think about the local construction industry with an eye on gaining strategic advantage in future. The Annual Technical Session 2020 organized by the Institute of Quantity Surveyors Sri Lanka under the theme "Rethinking Construction Industry: Future Envision" is a small leap towards the above context and has been scheduled on 19th March 2020, 8.30am onwards at the BMICH, Colombo 07. Prof. Yasangika Sandanayake, Head, Department of Building Economics, University of Moratuwa is expected to deliver the Key Note Address at the event where over 400 participants are expected to attend.

Group Photograph of IQSSL Governing Council 2019/2020



Seated (Left to Right)

Ch. QS Mrs. Yasitha Bulathsinghala (Council Member), Ch. QS Mr. Indunil Seneviratne (Treasurer), Ch. QS Mr. Upul Shantha (Immediate Past President), Ch. QS Mr. Lalith Ratnayake (President), Ch. QS Prof. Mrs. Kanchana Perera (Vice President), Ch. QS Mr. Senerath Wetthasinghe (Secretary), Ch. QS Mrs. Champa Liyanage (Council Member)

Standing (Left to Right)

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Snapshots of the New Official Website of IQSSL



DEMYSTIFYING THE TRAITS AND POTENTIALS OF THE CONSTRUCTION INDUSTRY. ECONOMIC VAGARIES: STRATEGIC ENVISION

Traits

As human civilization progressed, social and cultural developments began to take place and natural environments began to transform into built environments. The simple built environments of the past have now been replaced with more technologically advanced and complex facilities that will meet the needs of the developing industries and growing populations. Construction industry is a major contributor to the Gross Domestic Product and is also a major generator of employment. A developing construction industry has a multiplier effect on national development because of its forward and backward linkages. However, the construction industry in Sri Lanka is still sluggish and largely informal. Thus, a National Policy on Construction with its focus on the sustainable growth of the construction industry through a holistic approach has become the need of the day.

Construction industry in Sri Lanka is plagued by a host of factors, such as frequent fluctuations in the construction demand ; shortage of skilled workers; high cost of construction; lack of natural materials and unfair competition in the industry. According to the business magazine LMD, the economic growth of Sri Lanka has slowed down over the last several years due to climate change impacts on agriculture, policy uncertainties, political gridlock and Easter Sunday terrorist attacks. In Sri Lanka too, like in other countries, construction industry performance is an indicator of the country's economic development.

World is moving forward rapidly with modern technological innovations, such as Artificial Intelligence (AI), Modern Methods of Construction (MMC), Building Information Modeling (BIM), Industrial Internet of Things (IIoT), big data analysis and automation. These modern technologies have led to Industry 4.0, which adopts automation and a combination of several major innovations in digital technology. However, the construction industry has been slow in shifting from its traditional practices to automation. This 'reluctance' on the part of the industry to move forward could be due to the specific nature of the industry. Unlike the products of other industries, such as those of the manufacturing industry, the design of a construction product is unique. On the other hand, construction industry requires human intervention more than the other industries, which are involved in the mass production of their products using repetitive tasks, which is usually uncommon in the construction industry.

Large on-site constructions, fragmentation, low productivity, highly cyclical demand, high competition, low innovation, migratory labor force and frequent policy changes experienced by the construction industry would require a paradigm shift in the thinking of the industry if the latter is to transform itself into a more productive digitalized industry and achieve sustainability goals.

Potentials and Barriers

Construction industry would be able to employ digital technology and contribute to the development of the country's economy, if the traits of the industry are clearly understood and utilized. The main challenge faced by the industry when using digital technology is the lack of knowledge and awareness of these traits and potentials; and modern technologies on the part of the parties dealing with digital technology.

If the people from the industry and those dealing with digital technology can talk to each other, the misconceptions that exist on merging technological advancements with construction industry traits could be cleared. This type of interaction will also help professionals adopt modern construction to technologies to improve industry performance. The integration of construction and technology can be effected by investing time, money and efforts on research and development (R&D) through a policy initiative. When there is a lack of R&D activities, understanding how the digital technology is used for the development of the construction industry and vice versa will be difficult.

Research and development can influence policies, analyze the problems associated with construction and technology critically and propose policy solutions after evaluating the benefits, challenges, costs and consequences of the policies concerned. The construction strategy adopted by the Government of UK , which requires all public projects to achieve at least a Level 2 maturity of BIM, has convinced the construction professionals in that country to adopt digital technology. Thus, R&D activities and policy decisions at the appropriate level will enable both construction professionals and technology experts to work together on a common platform with mutual understanding. Consequently, mutual benefits could be achieved for the betterment of the industry and the country as a whole.

Predictions for the new decade starting from 2020 indicate that government policies will be the key deterministic factor of the construction industry development in the next ten years. The traditional role of the government in construction will most probably change from being an investor and a regulator to become a facilitator. While these policies will make the private sector to participate actively in the development of infrastructure and industries in the country with the help of increased foreign participation, it will also pressurize the domestic construction industry to change.

The construction output of the country is increased only marginally in the recent past, mainly due to the difficulties the industry experienced in purchasing essential equipment because of high interest rates and the devaluation of the rupee against the US dollar. The prices of local building materials have also risen as a result of inflation and currency devaluation. The industry is concerned about the poor quality of the building materials sourced locally and the frequent shortages of those materials. The quality of some of the mostly used materials, such as cement and steel, has now improved because these materials are now either being imported or manufactured locally by the private sector. The prices of materials such as timber, sand and coarse aggregate have increased by more than 200% since 1990. The high cost of construction, increased inflation (a nearly 60% increase since 2000) together with the high cost of finance have hampered construction growth, and have even affected individual house developers and infrastructure investors badly.

The roles played by non-tradable sectors (construction, transport, utilities, trade, and other services) in driving construction growth, reflects the contribution made by major infrastructure development projects of the public-sector to the growth of the construction industry. During the next two years, the average growth rate of the construction industry might decline, confirming the unsustainability of the growth of a debt-driven industry.

Construction industry has a great potential and policy makers have failed to make the full use of that largely untapped potential. Hence, any construction policy must aim at creating an efficient construction industry capable of effectively meeting national development needs through a streamlined supply chain, standardization, capacity building and research. This policy will have to be an integral part of the economic policy of the country as such an economic policy would be the national benchmark for the strategic direction that the country's development takes.

Economic Vagaries

If the construction industry is to be viable, a sustainable demand for construction, based on the requirements of the people and other industries, would be necessary. When the population increases, the demand for housing and associated infrastructure also increases. Similarly when other industries begin to grow, the demand for built environments and related infrastructure will also increase. Thus, the demand for construction will depend on the market conditions and customer needs. In Sri Lanka, this demand for construction arose at a time when large housing programs became necessary to meet the needs of the communities. At the same time, the growing tourism and apparel industries also gave an impetus to the construction industry.

Construction industry not only creates the built environment but also sustains it. The industry is, however, in the secondary sector, which is a sector that first transforms raw material into processed material and then transform them into a final product. According to Andrew Foulkes and Les Ruddock of the Salford Centre for Research and Innovation, University of Salford, UK, during the process of transforming the raw materials into a finished product using professional services and then selling the product, the industry occupies all three sectors: primary, secondary and tertiary sectors. Since the value chain of the construction industry consists of mining raw materials, using the extracted raw materials to obtain the final product and maintaining the final product during its entire life span, the industry has been able to establish many linkages with the national economy. Therefore, the increased demand for construction will have many positive impacts on the economy and one such impact will be the significant contribution that the industry will make to the Gross National Product (GDP). On the other hand, the demand for construction will be cyclical, being dependent on the vagaries of the economy. The tourism industry in Sri Lanka is currently undergoing a difficult period as the tourist arrivals have declined as a result of the Easter Sunday terrorist attacks. The demand for apartments is also declining as the economy is slowing down. The government has, therefore, cut down the expenditure on construction to allow for its debt repayments. The demand for construction will continue to decrease. However, according to the World Economic Forum, global construction industry as a whole accounts for about 6% of the global GDP. In developed countries, this percentage is about 5% of the total GDP, whereas in developing countries, the percentage is more than 8%. The industry is expected to grow significantly in the coming years, and its revenue is expected to reach \$15 trillion by 2025.



Figure 1 - Construction value chain actors and interactions (Source: International Finance Corporation 2019)

According to the International Finance Corporation, a member of the World Bank Group (2018), construction industry is the world's largest consumer of raw materials, and construction activities account for 25 to 40 percent of the total carbon emissions in the world. The market value of the industry is expected to grow at an annual rate of 4.2 percent between 2018 and 2023, and the industry will have more opportunities to get involved in the construction of non-residential, residential, and infrastructure facilities. With increased population, urbanization, and almost 75 percent of the infrastructure of 2050 still non-existent, construction industry will have to expand invariably.

Construction industry is highly sensitive to the vagaries of local, regional and global market economies and

in the world like the economy of the United States is less than 2.5%, while the growth rate of the economies of China, India, Bangladesh, Vietnam, Cambodia and Philippines is around 6%. Investments, production, sales and consumption in a market economy with more input injections than leakages usually promote economic growth leading to construction industry growth. Sri Lanka being a country that imports fossil fuels, metal, steel, glass, gypsum products, timber, chemicals, electronic goods, cement, etc., the materials mostly required for construction , the price fluctuations of these imported products due to parity rate changes or market conditions will adversely affect the country's economy as well as construction cost. Consequent to the COVID 19 outbreak in China, fuel

governances. The world economy is currently growing very slowly; the growth rate of the major economies

consumption and fuel prices all over the world have declined, making the outbreak a blessing in disguise. The focus of the tourism sector has also now shifted to South Asia. However, because of the domestic issues that China faces as a result of the epidemic, Chinese investments in Sri Lanka will be delayed and Chinese labor and products will be in short supply, and the result will be a delay in the completion and delivery of construction projects in the country.

STRATEGIC ENVISION

Given the circumstances mentioned, a clear strategy has to be identified to sustain the growth of the construction industry, taking into consideration the specific traits and potentials of the industry and the vagaries of the economy. This strategy has to be based on a sound policy framework and could be adjusted from time to time depending on the situation.

Although the construction industry has a large scope, the industry is slow to innovate and adopt new technologies. Construction industry is the world's largest consumer of raw materials and other resources. It uses about 50% of the steel produced globally and more than 3 billion tons of raw materials available globally. Thus, an increase in the productivity and the successful adoption of modern processes will have positive consequences in the industry. For example, a 1% rise in the productivity worldwide could save \$100 billion a year, according to the World Economic Forum.

Streamlining the value chain and formulating policies conducive to the construction industry are two good strategies that will promote the development of the industry. The steps taken by other countries to develop their construction industries are evident from the following:

- South Africa Green Paper and white paper prepared in 1997 and 1999, and the enactment of legislation in 2000 to establish the Construction Industry Development Board (CIDB),
- The United kingdom Latham Report 1994, Egan Report 1998 and the paper on Construction 2025: Joint strategy from the Government and Industry for the Future of the UK Construction industry,

- Australia Australian Construction Industry Action Agenda - Building for Growth (1990 -2004),
- Singapore Performance improvement programs of the Building and Construction Authority (BCA) of Singapore, and
- Malaysia Initiatives taken by the Construction Industry Development Board (CIDB) of Malaysia.

Before preparing a policy framework for the construction industry in Sri Lanka, the risks faced in developing the Sri Lankan economy and construction industry have to be identified.

The top ten risks faced in conducting business in South Asia are given below.

- 1. Failure of national governance
- 2. Unmanageable inflation
- 3. Unemployment or underemployment
- 4. Failure of regional and global governance
- 5. Cyber-attacks
- 6. Failure of critical infrastructure
- 7. Energy price shock
- 8. Failure of financial mechanism or institution
- 9. Water crises
- 10. Large-scale involuntary migration

Source: World Economic Forum, Regional Risks for Doing Business (2018)

In the case of Sri Lanka, the climate changes may also have to be included in the list given above as global warming and forest cover reduction adversely impact the economy and infrastructure of the coastal areas. Floods and inundations have at times denied the public from accessing even newly built infrastructure facilities, such as the highways. The air quality in Colombo also goes down frequently. This may necessitate the relocation of the cities and infrastructure by 2050, to suit the climatic conditions.

The economic growth witnessed in Vietnam and Bangladesh in recent years was possible through global value chain integration using value chain fragmentation. Vietnam became the second largest smart phone exporter when Samsung began to produce 40% their phones in that country. LG, Panasonic, Intel and Microsoft also have operations in Vietnam. In 1988, the apparel and footwear industry in Bangladesh could meet only 1% of the global demand. Today, Bangladesh is the 3rd largest exporter of apparel and footwear and these exports account to 89% of the total exports of the country. This growth in the industrial sectors of Bangladesh and Vietnam has given a huge impetus to the construction industries of the two countries. Integration into the global value chain is not possible with short term thinking. The growth of the export industries in Bangladesh and Vietnam was a result of favorable regional trade agreements that minimised the trade deficits of the countries and made them globally competitive. Regional trade agreements; value added exports made from graphite, phosphate, limonite, gems. etc.; and research and development will be required for integrating into the global value chain

Sri Lanka is ranked 85th in the Global Competitiveness Index indicating that it still has potential to grow. According to Figure 2 below, health and skills are ranked 46th and 70^{th,} respectively, in the index. However, ICT adoption, macroeconomic stability, and product and labor markets are very poor indicating that Sri Lanka can improve these factors. Singapore has performed best in corporate governance, property rights (Quality of Land Administration), and public sector performance (Burden of Government Regulations, Legal Framework Efficiency, Future Orientation of Government). Sri Lanka is the worst performer with regard to the Quality of Land Administration.



Figure 2 - Global Competitive Index (Source: World Economic Forum 2018)

Initiative	Approach	Possible Mode of Funding
New cities and infrastructure	Forming disaster resilience cities as the remodeling of the existing cities will be costly and less yielding.	Grants and low interest funds from the organizations dealing with international disaster management
Land for development	Town planning using under- utilized and affordable commercial land	Through public private partnership programs and providing land free of charge or at low cost to the private parties
Upper middle class investments in the economy	Reforming education and housing sectors as rich families spend large amounts of their income on the education of their children through private tuition overseas universities, private travel (Av. Rs. 100K / Month / Family) and purchase of land and houses.	Providing housing facilities to upper middle class families and boosting private university education Arranging to purchase the small plots of land owned by rich families and scattered in urban areas to enable the families to invest the money obtained
Global value chain integration of agriculture, dairy, gem, graphite, phosphate and automobile industries; server farms; IT / other professional services, etc.	Making the effective use of a fairly good proportion of the human capital.	Through the engagement of the investors
Medium scale projects	Introducing a transparent mechanism to purchase land or shares	Public shares and equity
Polluter pays principle	By getting the party responsible for polluting the natural environment to pay for the damage caused to the environment.	Burden sharing

Regular monitoring and evaluation is considered essential by most of the other countries for the successful implementation of any strategy. During monitoring, performance improvements are measured at both macro and micro levels. Performance measurement criteria may include quality of life; environmental impact; employment generation; export volume; global value chain integration level; trade deficit; foreign direct investments and project level improvements, such as delivery time improvements; economical procurement systems; value management; whole life cost reduction; etc.

Message from the KEYNOTE SPEAKER

It is with great pleasure that I extend my warm wishes for the Forum 2020 of the Institute of Quantity Surveyors, Sri Lanka on the theme of "Demystifying Traits and Potential of the Construction Industry. Economic Vagaries: Strategic Envision".

I feel honored to be invited to speak to you at your Forum. My knowledge of Sri Lanka is very small, but I want to share some ideas with you about the future based upon a fast changing world. I am going to use the title:

"The power of now - get comfortable with feeling uncomfortable in a fast changing world".

Sri Lanka cannot exist in a bubble, it must change and focus on how it can build faster, cheaper and to a higher quality; surveyors are at the core of that change. The country has very bright innovative people and professionals who want to embrace change and to progress.

Endless change: People talk endlessly about the changing world of construction. Change is now a constant, what is needed is to have a vision, a strategy, and a plan and to make change happen, which benefits the people, the professions, the construction industry, and the public at large, but it needs to happen faster than is currently the case.

Fast Changing World: The digital revolution is affecting every aspect of design, planning, and the process of making a project shovel ready. Blockchain, immersive reality, cognitive technology, and a host of new digital technologies are fueling the digital revolution. Automation, artificial intelligence and machine learning, robotics, on and off-site construction with flying factories, unmanned aerial vehicle (drones), internet of things with the merging of the physical and digital world, and a host of other technologies are being used across many industry sectors. It is no longer an excuse to close our minds to such technologies on the grounds they are too expensive and too difficult. Sri Lankan companies must compete; Chinese companies have shown they will exploit technology to win work.

Prof. Roger Flanagan



The construction sector has been slow to respond to the change - often for good reason. Cost management, time management and production management processes and systems have not kept pace with the change. The new millennial generation are less tolerant and more impulsive, they want to use digital tools, and technology, and they want stimulation, not working on repetitive tasks that could be done by machines. Clients want more for less, they want better value, not more paperwork and excuses; they want more certainty.

Complexity and risk: Both are major issues on all construction projects in Sri Lanka. Competition has become more international as international companies seek to expand overseas. Consultant, construction companies, and material and component manufacturers have become larger, with the big getting bigger to cope with the risk and complexity.

Smart services: It is about delivering professional services in a smarter way, by embracing the digital age and changing the way design, off-site component manufacture and assembly, site production, and maintenance of the built environment is undertaken. The traditional ways of working has served the surveying profession very well, but digitization does not respect tradition. Its role is to improve the process and make it smarter.

Feeling More Comfortable with being Uncomfortable: The presentation to the IQSSL Forum will explore what is happening in the global construction sector, the drivers, issues, inhibitors, enablers, and actions that can change the process of designing and delivering projects in Sri Lanka. Not more rhetoric or more "could" – a reality check.

I hope the Forum will generate some lively discussion and ideas. I wish it great success and may Sri Lanka go forward to embrace an exciting future. I feel very privileged to be with you.

NEXT

Message from the CHIEF GUEST AJITH NIVARD CABRAAL

The past 5 years have been economically challenging for our country. Almost all economic indicators had turned adverse and that situation has been reflected in the serious down-turn of the well-being of our people and enterprises. However, after the change of government in November 2019, there is renewed hope in the minds of people for 2020 and beyond.

The new government of President Gotabaya Rajapaksa and Prime Minister Mahinda Rajapaksa is now taking steps to "kick-start" the ailing economy. Towards that end, the construction industry has to be supported by a healthy and continuous flow of investments by local and foreign investors. Over the next few months, the government will need to take the necessary steps to improve investor sentiment. In order to do so, many global and local constraints that confront the industry would have to be successfully resolved while it would also be vital that a stable government is elected by the people at the forthcoming General Election. It is only such a strong government that would be able to provide the framework for the revival of the economy in general, and the construction industry in particular.

I am pleased the Quantity Surveyors of Sri Lanka are preparing to meet this challenge by strategically positioning themselves for the future, and I offer my heartiest congratulations for their Forum 2020.

Message from the GUEST OF HONOUR PRIYATH BANDU WICKRAMA

As the apex body for the profession of Quantity Surveying in Sri Lanka, I note that Institute of Quantity Surveyors, Sri Lanka (IQSSL) has contributed for the betterment of the Quantity Surveying Profession as well as the Construction Industry in many ways. It is my honour and privilege to be invited as the Guest of Honour at the Annual Forum and AGM 2020 of the Institute of Quantity Surveyors Sri Lanka.

The construction industry in Sri Lanka is going through challenging times at present. The shortages of basic resources for construction as well as the concurrent rise in the price levels combined with the adverse impacts due to the unfavourable macroeconomic conditions of the country, has made the stakeholders in the construction industry to look for new avenues to survive in the market place. Simultaneously, the advance in new construction technologies worldwide, focus for eco-friendly construction and the continuous advent of Information Communication Technology to construction have further challenged the local construction industry. It is critical for Sri Lanka to identify its strengths and weaknesses in its construction industry and to formulate effective strategies futuristically. Therefore, I believe that the theme IQSSL has selected - "Demystifying the Traits and Potentials of the Construction Industry. Economic Vagaries : Strategic Envision" - is very pertinent to the current context.

I trust that this Annual Forum will be able to unearth valuable ideas for the advancement of local construction industry. Furthermore, it is my view that the IQSSL and the Quantity Surveyors will endeavor development of the Quantity Surveying Profession and the construction industry to greater heights.

I wish IQSSL all the very best!

Ajith Nivard Cabraal

Senior Advisor to the Prime Minister on Economic Affairs



Dr. Priyath Bandu Wickrama

Secretary, Ministry of Urban Development, Water Supply and Housing Facilities



Message from the IQSSL PRESIDENT

It is with great pleasure that I send this message as the President of IQSSL on the occasions of its AGM, annual forum and technical sessions of the term 2019/2020.

Stakeholders of the construction industry are often in a deliberation of finding solutions to multifaceted problems they confront with, persistently and in cyclical nature, in the engagement of respective value chain activities within the vagaries of local and global economies. The changing governances with such policies, fluctuating prices with global connectivity, evolving technologies and requirements for sustainable construction practices are some of the matters contributing to the apprehension in decision making and challenge of surviving competitively.

In looking at the evolution, during the process of human civilization, the habitation in natural environment transformed in to build environments with the social and cultural developments. The simple build environments have evolved in to more technologically advanced and complex facilities, in providing the needs of growing population and other industries with constructed assets. With this progression, as per the world economic forum findings, the construction industry has become the world's largest consumer of raw materials in circa of three billion tonnes per annum. It contributes to 25% to 40% of total carbon emission and consumes about 50% of global steel production. This industry has become a major contributor to waste generation while it contributes to about 6% of current world GDP.

Living, travelling, working, producing goods and providing services are taken place in a built environment. Hence, around 90% of life time of a human is spent in a built environment, touching the daily life of everyone necessitating caring built environments for their health, safety and wellbeing. That makes this industry exceptional and unique. Consequently, the construction industry makes strong impact on the quality of life of people, society as a whole, other industries and on environment. Therefore, it is imperative that this industry should be transformed into a more economically and ecologically efficient industry.

Published literature discloses, about 75% of the built environment in terms of infrastructure, which are required for the growing population, that will exist in 2050 are yet to be built. In fact, as the temperature has risen to 20 centigrade in north pole and with global warming, many infrastructures today will end their serviceable life in few decades time. One of the examples is the relocating of Jakarta city to Borneo. Sri Lanka being an island our coastal area infrastructure may get most affected requiring new build environments. There are predictions that a large majority of population in Sri Lanka is living in environmentally vulnerable hotspots. They will require new settlements, new cities, roads, high ways, utility infrastructures and the like.



Ch.QS. Lalith Ratnayake B.Sc. (QS) Hons, M.Sc. PM, F.I.Q.S.SL President Institute of Quantity Surveyors Sri Lanka

It would be necessary to research the benefits that would provide by making the industry more an assembling industry with standardization of components. Which may provide solutions to reduce; initial and whole life costs, adverse environment impacts, quality issues, interface problems, delays, waste generation and problems of digitalizing as the construction industry is contemplating with the fourth industrial revolution of digitalization. Research and development (R&D) is known as lifeblood of any industry. However, the benefits of same are realized later while costs of R & D arise in the present. With this mismatch the construction industry is mostly project driven in its habitual pattern than being holistically engrossed.

Stakeholders should get involved in essential R&D and collaborative effort to demystify the traits and potentials of the future construction industry and find solutions more rationally to the encountered and envisaged complications with a long-term vision, rather than attempting to find solutions in isolation.

The theme of this year's Annual Forum is "Demystifying the Traits and Potentials of the Construction Industry. Economic Vagaries: Strategic Envision" is chosen on the above backdrop.

I would like to take this opportunity to thank all Governing Council Members, Members of College of Past Presidents, Board Members, other members, IQSSL staff and the stakeholder organizations of the construction industry for their continuous and valuable support extended to IQSSL and wish them a very successful future.

NEXT

Message from the SECRETARY

Message from the IQSSL SECRETARY

It is with immense pleasure that I am sending this message on the occasion of the Annual General Meeting 2019/2020, the Annual Forum 2020 and the Annual Technical Session 2020 of Institute of Quantity Surveyors, Sri Lanka (IQSSL).

Considering the unpredictable changes in the local and global economy, it is high time to investigate and elucidate the peculiarities and opportunities in the construction industry to develop a systematic process of defining goals to overcome the economic maladies and steps that need to be developed to achieve such goals for the betterment of the construction industry.

In this context, the theme of the annual forum: "Demystifying Traits and Potentials of the Construction Industry. Economic Vagaries: Strategic Envision" is a very pertinent topic to discuss in a forum such as this, as Quantity Surveyors being advisors, controllers and auditors of costs of construction projects, can contribute immensely to find solutions to the economic ailments. Further, it is inevitable that many valuable ideas and suggestions would emerge in this forum as the participants will include practicing professionals in the construction industry in Sri Lanka, representatives from the Ministries, professional institutes, universities, consultants, contractors and corporate members of the IQSSL practicing in this country and overseas.

Being the regulating body of the Quantity Surveying profession in Sri Lanka, IQSSL has been regulating, promoting and maintaining highest level of professional and academic standards of the Quantity Surveyors in Sri Lanka. In particular, IQSSL has taken steps to disseminate and impart knowledge in Quantity Surveying and related subjects through courses of study conducted by the College of Quantity Surveying, the education arm of IQSSL, workshops, seminars and CPD programmes.

As an extension of such commitments, IQSSL has been conducting technical sessions annually alongside AGMs for the benefit of Quantity Surveying students and young Quantity Surveyors and to make them aware of current trends and needs of the profession and the construction industry. The topic of the Annual Technical Sessions 2020: "Rethinking Construction Industry: Future Envision" is quite an opportune topic for a thought provoking presentation to instigate the audience to think afresh of means of revitalising the construction industry in the country.

It is our fervent hope that all our current members, who support us in numerous ways, and prospective members will keep the momentum of growth and take IQSSL to greater heights.

I wish the members of IQSSL a successful Annual General Meeting 2019/2020, Annual Forum 2020 and Annual Technical Session 2020.



Ch.QS. Senerath Wetthasinghe

LL.M., F.I.Q.S.SL, MAIQS, FQSi, FCIArb

Hony. Secretary Institute of Quantity Surveyors Sri Lanka



Message from the **VICE PRESIDENT**

As the Vice President of the Institute of Quantity Surveyors, Sri Lanka (IQSSL), I am pleased to send this message on the occasion of the annual general meeting of IQSSL this year.

Our theme for 2020 is "Demystifying the Traits and Potentials of the Construction Industry. Economic Vagaries: Strategic Envision".

The world is moving forward rapidly with the help of technological innovations, which have led to Industry 4.0, which has adopted automation and several major innovations in the field of digital technology. Construction industry, however, has been slow in shifting to automation, probably because of its nature. Unlike the products of other industries like the manufacturing industry, each product of the construction industry has a unique design. Human intervention is essential for the construction products unless they are mass produced, which is rather uncommon. The industry, therefore, can contribute to the development of the economy by clearly understanding and properly employing digital technology.

At this stage, it is important for the regulators, academia, researchers, professionals and those in the construction supply chain to bear in mind that they need to work together and find lasting solutions to the challenges that the construction industry encounters. The public who have funded their education, expect professionals, academics and public officers to act responsibly and make our country a better place for living, by focusing on environmentally friendly construction projects.

Finally, I would like to take this opportunity to acknowledge the support we have received from our members, without which it would have been impossible for IQSSL and the quantity surveying profession to be what they are now.

I wish the annual general meeting, the technical sessions and annual forum all success.



Ch.QS. Prof. (Mrs) Kanchana Perera

Vice President Institute of Quantity Surveyors Sri Lanka

Message from the Chairman of the Board of Management, College of Quantity Surveying

I am pleased to report on the progress made by the Board of Quantity Surveying Education and Training (BQSET) in its activities during the Session 2019/2020.

BQSET is responsible for standardising and upgrading knowledge and skills of present and future members of IQSSL so that they can effectively progress through their Quantity Surveying career. Accordingly, as one major scope, it is entrusted to conduct Assessment of Professional Competence (APC) and to conduct professional level exams from Level 1 to 3. BQSET continued these activities successfully.

During the session, Two APC programmes were conducted as per regular timeline. Responding to the request from overseas members and considering the large number of applicants from the region, one additional APC was conducted in Dubai in October 2019. Well-structured Charter classes were conducted before each regular APC to guide candidates to appropriately prepare themselves to face APC. A total of 44 became full members of IQSSL during 2019/2020.

Quality improvements to professional level exams were also considered in high priority. Structured moderation process continued for all assessments. One important step introduced was to preview exam results for students' feedback before finalizing results, which further enhanced the accountability of professional levels results.

The other major scope is the standardization of Quantity Surveying education in the country. This primarily includes accreditation of degree programmes and conduct of Graduate Member Qualifying Examination (GMQE). GMQE had been introduced to open a pathway for graduates from recognized degrees not yet accredited by IQSSL. Identifying the practical challenges faced by candidates and based on their feedback, the BQSET restructured the GMQE process and rules to minimize such challenges without jeopardising quality standards. In this new scheme, GMQE candidates can carry forward their good marks to their repeat attempts.

BQSET appreciates the support from the President, Governing Council, members of other boards, members who served as examiners at professional levels and GMQE, panellists in APCs, panellists in professional levels selection and practice viva, the staff at IQSSL secretariat and the College of Quantity Surveying.

Valuable contribution by BQSET members, members of Accreditation, Quality Assurance, APC subcommittees, and the members of APC Practice Problem committee are also recognized with appreciation.

BQSET got heavily involved in streamlining IQSSL membership pathways, and currently working on revamping of APC process to further improve the process.

The Board is pleased with its achievements made during the Session 2019/2020, and will continue to make the best contribution towards progress of IQSSL.





Ch.QS. Hasitha Gunasekara

BSc (QS), M.Sc (PM), Dip (Arb), F.I.Q.S.SL, MAIQS.CQS, MRICS, MCIOB, ACIArb

Chairman Board of Management, College of Quantity Surveying IQSSL



Message from the Chairman of the Board of Quantity Surveying Education and Training

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Ch.QS. Suranga Jayasena

B.Sc.(QS)Hons., M.Sc.(Building), F.I.Q.S.SL, MCIOB

Chairman Board of Quantity Surveying Education and Training IQSSL



Message from the Chairman of the Board of Quantity Surveying Publications

I am hereby delighted to provide a brief report on the activities carried out by the Board of Quantity Surveying Publications (BQSP) during the last year that was quite eventful. With the objective of effectively communicating the IQSSL's information to the membership as well as to the public in an accurate and timely manner, several initiatives were taken by the BQSP during the start of the year. I am happy to inform you that, with the help of my dynamic board members and sub-committee members, we managed to successfully meet the targets set.

With the valuable input from the President of IQSSL, the BQSP managed to publish a comprehensive corporate profile for the Institute of Quantity Surveyors Sri Lanka. It was heartening to see that this profile was effectively used in many occasions to effectively communicate the services of the Institute to the government and private sector.

Further, the BQSP started the initiative of creating an innovative new Website for IQSSL with the aim of providing enhanced services to the membership. The new website now facilitates all the corporate and non-corporate members to pay the annual subscriptions online through the website. In addition, all the corporate members can record the Continuous Professional Development (CPD) through the web site using their own and innovative user profile. The new website also provides a user forum and a blog so that the members as well as the public can maintain a direct interaction with the IQSSL. We are delighted to launch this new website today (20th March 2020) during the Annual General Meeting.

The BQSP also continued the publication of quarterly e-journal "Focus" during the last year and we successfully issued four (04) publications as planned. We sincerely thank Ch. QS Prof. (Mrs) Kanchana Perera, Dr. (Mrs) Udayangani Kulathunga and Mr. Dharshaan Vijayanandha for their invaluable contribution as the Editorial Board of Focus Journal. I take this opportunity to invite all our readers to send your valuable articles to be published in our journal so that we can be a platform for you to disseminate your valuable knowledge and experience.

We highly appreciate the contributions from Ch. QS Suranga Jayasena and Ch. QS Majith Rasila for their assistance to disseminate IQSSL's notices and information in a timely manner through the website and Facebook. I personally thank my dynamic board members (namely, Ch. QS Mahinda Gunawardena, Ch. QS. Prasad Dissanayake, Ch. QS Buddhika Perera, Ch. QS Amali Perera, Ch. QS Dhamisha Sriyananda) and sub-committee members (namely, Dharshaan Vijayanandha, Eranda Mendis, Isuru de Alwis, Dinuka Maduraga, G.L.A. Buddhika) for their unstinting cooperation for the activities of the BQSP. Also I take this opportunity to thank Mr. Mahinda Gunathilake and the staff of the Secretariat for assisting the BQSP in numerous ways.



BQSP



Ch.QS. Duleesha Wijesiri

B.Sc. (QS) Hons, MBA (PIM-SJP), A.I.Q.S.SL, MRICS, Dip (Arb)

Chairman Board of Quantity Surveying Publications IQSSL



Message from the Chairman of the Financial Affairs Board

I consider myself privileged to provide this message on the occasion of Annual General Meeting 2019/2020 and Annual Forum 2020 to be held at the Grand Ballroom, Galle Face Hotel Colombo 3.

As the Chairman of Financial Affairs Board I have the pleasure to state that under the dedicated commitment of board members & governing council, IQSSL had succeeded in further strengthening the stability of our financial reserves during the financial year beginning 1st April 2018 to 31st March 2019. Although majority of our members were employed and residing in overseas, collection of membership subscription fees had been enhanced comparatively, during this financial year. Fixed financial reserves also had improved as a result of income generated from College of Quantity Surveying and annual subscription fees from the membership. We have also initiated a fund management process to enhance & improve the financial strengthening of the Institute which had continued during current 2019-2020 financial year with the concurrence of the new council which took office from April 1st 2019.

During the current 2019-2020 financial year, IQSSL has appointed an Internal Auditor, new Auditors Ernst & Young Sri Lanka, after getting the membership approval at the October 3rd 2019 EGM. Further, due to financial regulation changes enacted by the GOSL for 2018-2019 financial year, IQSSL had paid an income tax of Rs.2,665,562.00. In addition, IQSSL had also paid an amount of Rs.1,555,546.00 being the estimated tax amount for two quarters in the 2019/2020 financial year. During the same financial year, IQSSL has also rigorously pursued with Urban Development Authority for the allocation of 27 perches of land from Colombage Mawatha Kirulapoana on a 30-year lease period. Rs.500,000.00 has been paid to the UDA as the processing fee, which was inclusive of NBT and withholding taxes.

As a Chairperson of the Financial Affairs Board, I hereby appreciate all the work done and advices given by all FAB board members namely Ch.QS Rasila Majith Kodithuwakku (Assistant Treasurer), Ch. QS. Rajitha Dasanayake, Ch.QS. Jagath Basnayake, Ch.QS A N Jayadeva, , Ch.QS Shammi F. Hannan and Accounting & secretariat staff at IQSSL, The President IQSSL, The Honorary Secretary IQSSL and other members of Governing Council of IQSSL. They had given me remarkable assistance in performing my activities to achieve a successful financial year for IQSSL.

FAB



Ch.QS. Indunil Seneviratne

B.Sc (QS) Hons, M.Sc (Construction Management) USA, F.I.Q.S.SL.

Chairman Financial Affairs Board IQSSL



Message from the Chairman of the Membership Affairs Board

Membership Affairs Board (MAB) during the period 2018/2019 worked towards continuation of the institute's goal of congregating all Sri Lankan Quantity Surveyors under the national institute.

Primary function of the board is to advice the Governing Council on matters relating to the membership including granting new memberships and membership upgrades. During this period, MAB took action to update the details of memberships across all membership categories. In addition to soft copy advancements, hardcopies of membership registers have been updated as Fellow, Associate and Graduate.

As the Chairperson of MAB, I am pleased to note that there is a significant interest among non - member Sri Lankan Quantity Surveyors practicing in Sri Lanka as well as abroad to join the institute. Existing members have also shown keen interest in upgrading their membership to match their acquired qualifications and current experience on par with their professional development objectives.

Category	Updated Members 2017 December	Updated Members 2018 March	Updated Members 2019 December
Fellow	34	34	37
Associate	257	257	391
Graduate	507	532	593
Technical	298	312	378
Probationary	35	36	37
Students	2577	2583	2056
Registered	28	28	25
Total	3776	3782	3517

Our present membership strength as at 31st December 2019 is:

Underlying functions and tasks have been successfully undertaken and performed during the past period. Suspension notices have been sent to the associate members who have not paid membership subscription from the year 2009.Based on the updated lists, student members who have not paid their membership subscription fees from the year 2009 had been suspended.

Country representatives have been appointed as official representative from each country of Sri Lanka, Oman, Dubai, Qatar, Australia (Sydney, Perth and Melbourne separately) and New Zealand. During the period of review, the coordination process among country representatives were further streamlined.

Identity card issuance process for Fellow members were revived and necessary steps were taken to issue the identity cards for Associate members by March 2020. Membership route was updated to suit latest developments which took place during the last period. Drafting assistance was provided to other boards for Quantity Surveying Register Board Act.

A gathering of Associate and Technical members was successfully conducted at Organization of Professional Associations (OPA) and Waters Edge, Battaramulla.

I would also like to thank the members of Membership affairs Board, namely Ch.QS (Mrs.) Devika Liyanage, Ch.QS Indunil Seneviratne, Ch.QS Mahinda Gunawardena, Ch.QS. Sanjeewa Dasanayaka, Ch.QS (Ms.) Heshani Gamage and Ch.QS Nuwan Thilakaratne who worked tirelessly to make the board's affairs a success.



Ch.QS. Rajitha Dasanayake

B.Sc (QS) Honours, M.Sc (Project Management) SL, F.I.Q.S.SL, RICS, AAIQS

> Chairman Membership Affairs Board IQSSL

Message from the Chairman of the Professional Affairs Board

Among many others, PAB is primarily entrusted with tasks related to professional development of IQSSL members including their continuing professional development, adherence with professional ethics etc., and to advise the Governing Council on such matters.

PAB successfully completed implementational procedures of mandatory minimum CPD hours requirement relevant to Corporate members with descriptive guides, submission formats and adequate awareness programmes. This process is now ready to be implemented from year 2020/2021 and will be a key driver to enhance continuing professional development of Corporate members.

Eight CPD seminars were conducted during the year on current and much needed topics, with highly recognized resource persons drawn from construction industry as well as outside of it. Almost all such CPD seminars were well attended. Due to increased number of CPD seminars and related activities, a Sub Committee on CPD was formed comprising of 6 active members whose contributions were very valuable and much appreciated.

A few Roundtable Discussions were arranged among interested smaller groups of Corporate members to share practical knowledge, gain insights in to unique issues and facilitate common approaches on critical issues among practitioners across industry. Discussion Forums were also started to be conducted on various practical and current topics for the benefit of non-corporate members. Programme contents and syllabi have been finalized for a number of short courses on key topics related to QS profession, which will be launched soon for the benefit of all interested members.

With the advent of new regulatory regime for construction industry professionals through the Construction Industry Development Act of 2015, IQSSL is being tasked with an exclusive role related to the QS profession, of which most functions are within scope of PAB. They include definition of QS practitioner/qualified person categories with classification criteria and distinctive work scopes for both member and non-member categories which had successfully been completed within the year. PAB is closely interacting with government bodies and regulatory authorities towards establishment of professional and technical Service Minutes for QSs in the state sector.

Drafting of new legislation and other related documents for establishment and operation of proposed QS Registration Board and a company limited by Guarantee to conduct enhanced functions of College of Quantity Surveying as an independent body has also been successfully completed.

Initial development of an Estimating guide has been completed and is being evaluated on a test basis with the active assistance of a selected group of Corporate members. It will officially be published in due course. Discussions on reciprocity with the Canadian Institute of Quantity Surveyors (CIQS) is successfully proceeding with the active involvement of CIQS.

A process has also been initiated to revisit and revise if necessary, the Code of Professional Conduct and Ethics, with due consideration being paid to current developments, industry needs and practices of other industry professionals.

All of above activities have been effectively facilitated and made possible by a dedicated group of PAB Members to whom my heartfelt gratitude is extended. A special appreciation is also due to members of IQSSL staff for their support towards PAB activities.

PAB



Ch.QS. Nandun Fernando

BSc (QS) (Hons), F.I.Q.S.SL, Attorney at Law

> Chairman Professional Affairs Board IQSSL



Message from the Chairman of the Public Relations and Welfare Board

As the chairperson of the Public Relations and Welfare Board of the Institute of Quantity Surveyors Sri Lanka, I hereby place my report regarding activities and tasks achieved and completed during 2019/2020.

Welfare Board supported to successfully hold and conclude the Technical Session 2019 at BMICH followed by the AGM and Annual Forum 2018/2019 at Jaic Hilton, Union Place on 14th and 15th March 2019 respectively.

The committee members of the Public and Welfare Committee arranged an appreciation award ceremony on 08th November 2019 for the sponsors of AGM and annual session of 2018/2019 at Grand Monarch, Thalawathugoda. The event was successfully completed with coordination and cooperation of other boards. The IQSSL's presence was further established within the industry by this event. Welfare board managed to host an appreciation event for the organizing committee of Annual technical session 2019 on 20th July 2019 at Waters Edge Battaramulla.

Welfare Board held IQSSL's technical members' gathering on 17th August 2019 which is one of the long-awaited events for IQSSL. Special thanks goes to Ch. QS Yasitha Bulathsinghala for coordinating the event and participants. Event provided the council with an opportunity to express IQSSL's vision for the future. Similarly, Welfare Board coordinated Corporate members' gathering on 3rd October 2019.

Public Relations and Welfare Board decided in collaboration with other boards to host CPD events conducted by IQSSL. We also supported the Annual Gettogether of College of Quantity Surveying conducted during the year 2019 at Ape Gama premises.

After conducting three successful Speech Craft programmes, Welfare Board was able to formulate IQSSL Toastmasters club with the aim of improving leadership and communication skills for the members. Welfare Board facilitates to conduct their educational meetings on first and third Wednesdays of each month at IQSSL college of Quantity Surveying.

Welfare Board also facilitated several discussion forums to discuss various issues related to the industry and profession including a full day event organized at Pegasus Reef Hotel Wattala.

We, as members of this committee, are preparing to render our fullest support to this year's Technical Session, AGM and Annual Forum which are scheduled to be held at BMICH and Galle Face Hotel Colombo respectively.

I take this opportunity to appreciate all committee members namely, Ch.QS Rex Nicholopille, Ch.QS Tilanka Wijesinghe, Ch.QS (Mrs.) Nisha Thambugala, Ch.QS Harshan Amarasekara, Ch.QS Suranga Wickramarathne, Mr. Mahinda Gunathilake and Staff of IQSSL secretariat who contributed and extended their supported to achieve all the events completed during 2019/2020.

PRWB



Ch.QS. Majith Rasila

AIQS (SL), MRICS, B.Sc (Hons) QS, Dip. Arbitration, Dip. CLDR

Chairman Public Relations and Welfare Board IQSSL

COST OF CONSTRUCTION - POSITION OF COLOMBO, SRI LANKA WITHIN THE SOUTH ASIAN REGION

Ch. QS Subhashini Dasanayake

Ch. QS Lalith Ratnayake B.Sc. (QS) Hons, M.Sc. in Project Management, F.I.Q.S.SL

B.Sc. (QS) Hons, A.I.Q.S.SL





Recently, there were certain statements, unsubstantiated reports and speculations that the construction cost in Sri Lanka is substantially high and that it is very close to the construction cost of Singapore. This study is to provide more cognitive information on cost of construction in Sri Lanka.

The construction industry of a country is one of the main engines that drive the development of the country and it makes a considerable contribution to the Gross Domestic Product (GDP). Sri Lankan construction industry contributes around 7-8 percent to the Gross Domestic Product (GDP) of the country. Even though construction activities often act as a reliable bellwether for the economic performance of a country, they can get affected by several factors, such as demand that exists for construction, labor productivity, commodity prices and inflation. All such factors can have an impact on construction costs. (International Construction Cost Report, 2012).

Foreign investment in construction industry is vital to Sri Lanka as a developing country. In investment decision making process the associated construction cost of required built environment is an indispensable consideration and consequently a part of the feasibility assessments. Therefore, It is important to compare construction costs between countries to notify judgments. Such a study will facilitate efficiency assessments and highlight the different types of policies, practices and mechanisms, that can improve the industry. The opportunities to; improve the efficiency of the construction sector, enhance value and reduce the costs (initial and lifecycle), are also considerate prospects to accelerate economic development. Currently in Sri Lankan context, there is a demand for internationally comparable construction costs

and prices, for investment feasibility. The objective of this article is, therefore, to find out where the cost of construction of Sri Lanka stands among those of other countries in the South Asian region.

A comparative study will always have issues and the most common among them are "comparability and representativity, i.e., the comparability means comparing of like with like. But using data that is representative of typical practices in different places; in construction these problems are particularly severe as output are seldom and even if identical. (Rick Best, International Project - level Comparison of Construction Industry Performance)

When international comparisons are attempted these problems are aggravated, as there is no truly "standard" projects that can be used as a basis for comparison and costs depend on many factors, such as currency exchange rates, use of imported construction materials, contract management, professional inputs, economic instability, local material price fluctuations, poor planning, experience, sample size and number of projects, quality or type of materials used , type of construction method, type of building elements and materials, financial status of the owners, preferences of the owners/clients, project site accessibility, government taxes, policies, site conditions, tendering methods, procurement methods, social problems, site preliminaries, resource availability, environmental factors, climatic conditions etc.

However, comparisons are made and do produce some useful insights. (Rick Best, International Project - level Comparison of Construction Industry Performance.)

This article represents the data selected from the typical constructions of the below categories and convert to a single currency of US\$. Because, it is easy to understand and visualise. However, a change in the exchange rate makes a huge difference. if particular currency is strong compared to the base currency, the cost of construction will appear high.

- 1. Residential
 - a. Individual detached or terrace style house medium standard
 - b. Individual detached house prestige
 - c. Townhouses medium standard
- 2. Apartments
 - a. Apartments low-rise medium standard
 - b. Apartments high-rise
- 3. Aged care / affordable units
- 4. Warehouse / factory units Basic
- 5. Hotels
 - a. 3 Star travelers
 - b. 5 Star luxury
 - c. Resort style

Moreover, to make uniform basis for comparison, the following cost elements have been excluded from unit rate calculations.

- 1. External works,
- 2. Landscaping,
- 3. Demolition,
- 4. Loose furniture,
- 5. Fittings and equipment,
- 6. Professional fees,
- 7. Legal and finance fees, and
- 8. Soil investigations.

The costs of construction in different cities in the South Asian region except Colombo were obtained from the International Construction Market Survey 2018 published by "Turner & Townsend". The cost of construction in Colombo was prepared using the historical cost data available with the writer.

Tables 1, 2 and 3 below provide the cost of construction of various cities in Asia for the different building types to enable comparison, the construction costs of different cities have all been converted to US\$.

Table 1 Costs of construction (Residential) in US\$ per m² and their rankings in ascending order

City /Country	Individua detached terrace sty house med standarc	al or /le ium d	Individua detacheo house prestige	al d	Townhous medium standard	es	Apartmen low-rise medium standard	ts	Apartmen high-rise	ts
	Cost	Ranking	Cost	Ranking	Cost	Ranking	Cost	Ranking	Cost	Ranking
Bangalore	434.00	2	534.00	2	434.00	1	476.00	1	626.00	1
Ho Chi Minh City	430.00	1	480.00	1	614.00	5	740.00	5	800.00	3
Colombo	474.61	3	628.57	3	548.08	3	699.54	4	892.50	4
Jakarta	741.00	5	926.00	5	556.00	4	630.00	3	926.00	5
Kuala Lumpur	688.00	4	879.00	4	460.00	2	537.00	2	765.00	2
Seoul	1,384.00	6	2,047.00	6	1,637.00	6	1,324.00	6	1,685.00	6
Singapore	3,091.00	7	3,574.00	8	2,107.00	8	1,547.00	7	1,993.00	7
Tokyo	4,477.00	9	2,351.00	7	1,847.00	7	1,883.00	8	2,829.00	8
Hong Kong	4,360.00	8	8,333.00	9	3,865.00	9	3,197.00	9	3,488.00	9

Source: Turner & Townsend: International Construction Market Survey (2018)

Table 2 Costs of construction (Industrial/warehouses) in US\$ per m² and their rankings in ascending order

City /Country	Construction Cost	Ranking
Ho Chi Minh City	350.00	1
Bangalore	403.00	2
Colombo	467.13	3
Jakarta	481.00	4
Kuala Lumpur	557.00	5
Seoul	1,083.00	6
Tokyo	1,523.00	7
Singapore	1,666.00	8
Hong Kong	2,180.00	9

Source: Turner & Townsend: International Construction Market Survey 2018

Table 3 Cost of construction (Hotels and Resorts) in US\$ per m² and their rankings in ascending order

City /Country	3 Star trave	elers	5 Star luxury		Resort style 5 Star		
	Cost	Ranking	Cost	Ranking	Cost	Ranking	
Bangalore	736.00	1	1,628.00	3	1,279.00	1	
Colombo	850.00	2	1,435.00	1	1,540.00	2	
Jakarta	889.00	3	1,481.00	2	1,852.00	3	
Ho Chi Minh City	1,300.00	4	1,900.00	5			
Kuala Lumpur	1,439.00	5	1,755.00	4	2,743.00	5	
Seoul	1,805.00	6	3,853.00	7	2,468.00	4	
Singapore	2,560.00	7	3,364.00	6	4,019.00	7	
Токуо	3,432.00	8	5,153.00	9	2,901.00	6	
Hong Kong	4,069.00	9	4,941.00	8	5,522.00	8	

Source: Turner & Townsend: International Construction Market Survey 2018

Table 4 below shows the overall cost of construction of each city, which is the mean value of the costs of construction of the different categories of buildings

City (Country)	Construction Cost	Rank
Bangalore	631.24	1
Ho Chi Minh City	657.72	2
Colombo	695.62	3
Jakarta	860.80	4
Kuala Lumpur	1,033.52	5
Seoul	1,727.76	6
Singapore	2,171.48	7
Токуо	2,793.88	8
Hong Kong	3,766.16	9

Table 4 Overall cost of construction in US\$ per m² and their rankings in ascending order

Source: Turner & Townsend: International Construction Market Survey 2018

The construction cost in Colombo is the third lowest in the South Asian region (Table 4).

Labor, material, plant and preliminaries and the profit margins of the contractors can influence the construction costs directly and substantially.

Construction cost is sensitive to labor cost which depends mostly on the labor availability within the country, labor productivity and the labor wages, including additional expenses, such as travel costs, national health insurance costs, pensions and other employment benefits. In Sri Lanka, the labor available are internal migratory; they belong to various trades, such as agriculture, transport and fisheries. The labor is used in Sri Lanka generally on hire and fire basis and on piece work rates without pensions and usual employment benefits.

Young labor gangs are more common in Bangalore than in Ho Chi Minh City and Colombo. Hence the average labor rates in Bangalore is lower by 50% than in Colombo and it could possibly lead sustenance to derive the lower construction cost in Bangalore than in Colombo, However the average labor rates in Vietnam is higher by 50% than in Colombo while the overall construction costs of Vietnam appears lower and it could be due to several other factors as given below.

The availability of raw materials locally for construction can have a positive impact on the cost of construction in the country. The materials commonly used in construction, such as cement, reinforcements etc., are locally produced in both Bangalore and Ho Chi Minh City. The average prices of concrete and reinforcements in Bangalore and Ho Chi Minh City are lower than those in Colombo by about 20%.

Since Bangalore is located on granite rock strata, stone quarries are found everywhere around the city. Therefore, stone is easily and readily available in Bangalore. Materials like coarse and fine aggregate, paving blocks, kerb stones, tiles, and msand, a byproduct of aggregate production, are available locally in Bangalore and their prices are lower than those available in Colombo. Ho Chi Minh City also has many stone and mineral quarries. Thus, tiles, bricks and flooring materials are cheaper there as well. There are also craft villages and communities in the city, where people are trained in wood carving and detailing techniques that are typically used to produce wooden items, including doors, windows and floorings. Consequently, the cost of construction in Bangalore and Ho Chi Minh City are lower than the cost of construction in Colombo.

In Jakarta, the costs of materials, such as cement, iron, steel and aluminum, which are available locally, are also considerably lower and as such these materials are becoming increasingly popular as building materials. Besides, the amount of glass, cement, plastic and paints produced in the city is higher than in the other cities in the region. However, the average labor rates in Jakarta are much higher than those of Colombo, and accordingly the cost of construction in Jakarta is higher than that in Sri Lanka. Preliminaries and margins are the other two factors affecting the overall construction cost. The cost of preliminaries depends on job complexity, building regulations and other local factors. Construction in busier cities would require higher preliminaries. The preliminary costs will invariably be high when construction has to be carried out in limited spaces, when there is traffic to be managed and when the laydown area is small. Thus, the construction costs in busy cities in the South Asian region, such as Hong Kong, Singapore and Tokyo become the highest in the region.

Exchange rate changes can also have an impact on construction costs. If the exchange rate of a country weakened against US\$, its construction costs would rise, even when the costs in the national currency remains unchanged. Since Vietnam has a very strong national currency, its construction cost is found to be lower than the cost of any other city in the South Asian region.

According to the above findings, Colombo, Sri Lanka is in 3rd place in terms of costs of construction in South Asian region except for five-star hotels where construction cost of Colombo, Sri Lanka is the lowest and is very close to Jakarta and Bangalore. The tax and duty concessions enjoyed through Board of Investment approved projects and tourism promotion initiatives could be some of the reasons for such lower construction costs in fivestar hotels in Sri Lanka. This reveals that the cost of construction in Colombo, Sri Lanka is reasonably competitive and investment feasibilities may not be substantially affected by cost of construction. Returns on Investments, fostering investments and business feasibilities could be more sensitive to; governance, global and regional competitiveness and enabling environment. Sri Lanka is at 85th place among 140 countries in global competitiveness index and Sri Lanka is the worst performer in the quality of land administration while Singapore is the best performer as per the World Economic Forum Report, 2018.

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IS SWISS CHALLENGE METHOD AN ALTERNATIVE TO EMBRACE UNSOLICITED PROPOSALS IN A COMPETITIVE WAY



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1. INTRODUCTION

Governments all over the world have sought the involvement of private sector in the delivery of public services, which were traditionally within the domain of public authorities through Public Private Partnership (PPP). PPPs is an inventive approach used by the public sector to contract with the private sector, bringing their resources and their capacity to deliver projects in a timely and budgetary manner. There are two procurement processes for PPP that can take the form of an unsolicited proposal or bidding process. Unsolicited proposal is a private sector attempt to put forward a new idea or initiative in a way of without competition. There are a number of factors contributing to the success of PPP, among the significant one is competition amongst private parties. They insist that without competition in PPP like in unsolicited proposals, the procurement process will not achieve better value for money.

This paper attempts to discuss the way of embracing the unsolicited proposals in a competitive way to achieve better value for money in PPPs and review the possibly of implementation of PPPs through unsolicited proposals in Sri Lanka.

2. PPP CONCEPT

The progress of any nation depends on how associations can be built for a common growth of overall economy, between various clusters (Liu & Wilkinson, 2014). Investment in infrastructure is a key to economic growth, poverty reduction, quality of life and, access to healthcare and education, and helps in achieving many of the goals of a robust economy (Weisheng, Liu, Hongdi & Zhongbing, 2013; World Bank [WB], 2016). Tang, Shen and Cheng (2010) viewed that infrastructure development has been a very important element in any country that could lead the country's socio-economic standard to a higher level. Generally, all developing countries have been limited in the area of infrastructure development

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because of they are trying to uphold other core functions such as agriculture, industries and service (Roehrich, Lewis & George, 2014).

The ability of any government to effectively and efficiently acquire the resources for its social, economic and developmental goals is crucial and fundamental to its sustenance and development (Loosemore & Cheung, 2015). Thus, governments all over the world have sought the involvement of private sector in the delivery of public services, which were traditionally within the domain of public authorities. Recently, Public Private Partnerships (PPPs) have increasingly been of special interest to most developing countries as a strategy to underpin and reinforce the economic development (International Monetary Fund, 2006). Conceptually PPP can be defined as a corporate venture between the public sector and the private sector for the purpose of designing, planning, financing, and construction and operation of projects, which would be regarded has following within their remit of the public sector (Efficiency Unit, 2008).

3. UNSOLICITED PROPOSALS

Unsolicited proposal is one of the methods in implementing PPPs and it is an attempt by the private sector to submit a new idea or initiative, in return for an exclusive award behind closed doors from the contracting authority in PPPs (Efficiency Unit, 2008). Whereas, anti-competitive conduct and lack of transparency due to entertaining of unsolicited proposals, may lead to abuse of power, corruption and a diminution of the competitive nature of the entire PPP procedure (WB, 2016). Owing to that, some countries such as the United Kingdom do not permit unsolicited proposal (WB, 2016). Nevertheless, unsolicited proposal in PPP has been acknowledged and recognised in major international procurement frameworks, including the European Bank for Reconstruction and Development, the Asian Development Bank and the WB (Verma, 2010).

However, unsolicited proposals cannot be discarded due to incomparable returns and the practice of unsolicited proposal may not always be anticompetitive.

4. METHODOLOGY

A comprehensive study of secondary data was carried out by reviewing the government procurement guidelines, published technical reports by WB, central Bank of Sri Lanka and Asian Development Bank, newspapers and research articles. Based on the desk review method, findings from secondary data were analysed.

5. SWISS CHALLENGE APPROACH

Swiss Challenge Method (SCM) is a new procurement / bidding process which unsolicited proposals are entertained trough a competition (WB, 2016). European Investment Bank (2012) stated that in this method, a private-sector entity reaches out to the government with a proposal to develop an infrastructure project, without an explicit request from the government to do so and an unsolicited proposal is submitted by the private proponent to the government for development of an infrastructure project with exclusive intellectual property rights made by the original proponent to the government. Furthermore, it viewed that SCM allows third parties to make better offers for a project during a designated period with simple objective to discourage frivolous project, or to avoid exaggerated project development costs and then accordingly, the original proponent gets the right to counter-match any superior offers given by the third party. Additionally, it stated that in case the original project proponent fails to match the competing counter proposal, the project is awarded to the bidder with the best financial offer and the cost incurred by the original project proponent for preparation of the detailed project report is reimbursed by the authority.

6. SWISS CHALLENGE APPROACH IN SRI LANKAN CONTEXT

Central Bank Annual Report (2018) stated that the public investment to Gross Domestic Product ratio declined to 4.3% in 2018 from 4.9% in 2017, mainly in the areas of roads and bridges, railways, water supply, irrigation, health, education, regional and rural

infrastructure development. Further, it emphasised that, the expansion of the recurrent expenditure and the shortfall in the government revenue limiting the resource envelope for the public investment. Moreover, it stressed that last few years' budget speech is exceedingly focused on infrastructure development through PPPs. However, though PPPs in Sri Lanka did not last for many decades, as most of the countries around the world, Sri Lankan government has embraced PPPs as a one of the significant tools to address development issues and challenges.

Reference 237 (a) of Government Tender Procedure Part II (1998) stated "Line ministries, agencies and Broad of Investment receiving unsolicited proposals should have them processed according to the procedures applicable to solicited proposals" (Ministry of Finance and planning, 1998). Furthermore, reference 237(b) said guidelines suggested that a decision should not be made solely on the basis of unsolicited offers without inviting proposals through public advertisement. Pursuant to the provisions of the said Part II Guideline, solely unsolicited proposals were not entertained. Whereas, Ministry of Finance (2011) declared that in Supplement 23 to Government Tender Procedure Part II Reference: 237, it is allowed to deal with unsolicited offers without going through the normal procurement procedure subject to recommendations of Standing Cabinet Appointed Review Committee with assistant of supporting committee. Later, Ministry of Finance (2016) proclaimed that in Supplement 30 to Government Tender Procedure Part II Reference: 237 superseding the said Supplement 23, under the "Swiss Challenge" procurement process involving the government agency, unsolicited proposals should be dealt by publishing a Request for Proposal and inviting counter-proposals on development projects or services from interested parties. The procedure of Swiss challenge approach as stipulated in Supplement 30 to Part II Guideline, is shown in Figure 01.

Even though unsolicited proposals are entertained by the said Supplement 23 published in 2011, with the announcement of Supplement 30 in 2016, it was declared that an unsolicited proposal can be entertained only through SCM. According to current PPP law, PPPs can be launched through only solicitation and SCM.



Figure 01: Flow Chart of Processing Unsolicited PPP Proposals as per Supplement 30

Source: (Ministry of Finance, 2016)

Sunday Observer (2017) stated that the Ministry of Agriculture recently claimed that the recent waste to energy projects approved by the Cabinet to resolve the Western Province's garbage issues were the first successful Swiss Challenge bids that the government has awarded while The Island (2018) stated that the Ministry of Power and Energy on 05.11.2018 announced a Request for Proposals by following SCM for the establishment of an offshore floating storage and regasification unit and pipeline infrastructure for the supply of liquefied natural gas for Ceylon Electricity Board. With the declaration of execution of infrastructure development projects through PPPs by the budgetary speeches of last few years and introducing of SCM as an alternative making competitive basic for unsolicited proposals.

Daily Mirror (2018) stated that Cabinet Committee on Economic Management (CCEM) was established on September 23, 2015 through a Cabinet decision and it was empowered to make decisions on all economic matters, including military procurements. Further, it stressed that it was the central authority for all key economic policy decisions and all economic decisions first went to CCEM and thereafter to the Cabinet. Besides it states in March 2017, the CCEM was given the right to engage directly with line ministries and the Board of Investment to fast track investment projects and in March 2018 CCEM was scrapped by reverting the power to the Cabinet. According to Supplement 30 to Part II Guidelines, CCEM was the main regulatory body in the implementation of PPPs through SCM. Time to time powers vested with the CCEM was altered and finally scrapped. It reveals that though Swiss Challenge procurement method has been introduced to PPP procurement in 2016 in Sri Lanka, successful implementation of PPPs through SCM is quite questionable with unit ability of regulatory framework.

7. CONCLUSION

Most of the regimes around the world, has identified PPP as one of the significant tools to bridge infrastructure investment gap to underpin and reinforce for an economic development, and there is a vast trend for PPPs in future Sri Lanka to narrow the investment gap in particular. According to current PPP procurement of Sri Lanka, PPPs can be procured through only solicitation and SCM. SCM is a fresh experience to Sri Lanka and it is completely governed on Supplement 30 to Part II Guidelines.

While accepting that the SCM embraced unsolicited proposals in an alternative way and would encourage private players to bring innovation, technology and uniqueness in the development of projects, bringing in cost efficiencies, cut red tape and shorten project timelines, without a strong legal and regulatory framework, will be a big change and tremendous journey to implementing authority to achieve their objectives successfully.

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SUSTAINED BUSINESS GROWTH THROUGH VISIONARY LEADERSHIP



Thamasha Jayanetti

In the Sri Lankan construction sector, considering the local construction firms, only a limited number of firms have been able to keep a steady growth over a period of time. Whilst considering the volatile market landscape, it is inevitable that the firms find it unremittingly difficult to sustain their business growth. Several fundamental reasons like political and economic factors have always remained uncertain and have created a negative impact throughout.

The political system and the practices in Sri Lanka have never been conducive for the betterment of the construction industry considering the long run. Short sighted planning has always altered productive policies which in some cases contain comprehensive plans but never continued. Similarly, short-term strategies and policies targeting political gains have erupted the development of the construction industry as a whole. Therefore, political instability is a key factor that has been a disabler for developing sustainable construction companies.

On the other hand, economic parameters in Sri Lanka never looked prominent and favorable for the construction industry. As a country, the increasing inflation has always narrowed the thinking of business owners where their risk-taking capacity and innovation have always been under the check. More prominently, due to the scarcity of local investors, the majority of the mainstream projects are mostly construction foreign investments. Thus, foreign investors require foreign majority contractors for of their works. Consequently, that places the local companies under tremendous pressure where they have to compete with foreign construction companies.

Hence, most of the local companies find it difficult to remain viable in the long-run in the market.

Nevertheless, in spite of abovementioned complications, several local construction firms have emerged from the arduous task of growing their business portfolios and sustained a steady growth over a period of time. Analysing those businesses in-depth, a key success factor has been identified as Visionary Leadership which leads the originations to maintain sustained growth which will be discussed in the next section.

VISIONARY LEADERSHIP

Northhouse (2007) states, leadership is an influence process that assists groups of individuals towards sustained goal attainment it emphasises the fact that leadership is an influencing process or a way of providing direction. It is further observed that leadership is vast due to its attraction as a subject and the presence of many conceptions of leadership.

Moreover, leadership affects the performance of organisations. Thus, visionary leadership would be particularly important in achieving long term goals of an organisation and in evoking performance in subordinates. It is also widely believed that there is a critical link between organisational effectiveness and employee performance at a business level (Bass, 1990). Further, a leadership paradigm such as visionary and transactional styles, could affect performance immensely, depending on the context (Yukl, 2014). According to Zhu, Chew, & Spangler (2005), visionary leadership would lead to high levels of cohesion, commitment, trust, motivation, and hence performance. The unique feature that was found in every successful construction firm in Sri Lanka, is having a futuristic vision. Even though some firms started as basic labor suppliers, the entrepreneurs at that time had the prolonged vision to build an empire from a simple establishment. All of their actions were prioritised considering on building the future of the respective firms. Therefore, all of these firm's surplus, even sometimes the slightest, was invested back in the business rather than on unnecessary expenditure.

Moreover, the futuristic approach of leadership has always enabled the organisation's core to grow slowly but steadily. As the leaders of these firms dreamt about the ever so growing future, the firms were always benefited from new developments. For example, whenever a new construction method is introduced in the industry, a new material has been revealed or a whole new shift has taken place, these business leaders have been in forefront of investing in such new advances.

Furthermore, the characteristics of the leadership influence the systems, processors, and culture across the organisation. The influence of the leader and the leadership style would be felt across a vast area of the organisation. The Sri Lankan construction companies which have succeeded in the long run have always were gifted with visionary leadership but more significantly it was channeled down to the core of the organisation as well. When `the leadership becomes exemplarily, it is natural that the entire film follows the tracks of it. It was clear that due to the visionary leadership qualities of the leaders and the owners of the firms it entailed the business to expand but most importantly to grow the business successfully.

When further critically analysing the Sri Lankan prospective, most of the organisations which have

triumphed, has had several key enablers supporting the visionary cause. For example, certain construction companies were on the brink of bankruptcy but due to these enablers that firms have lingered through tough situation and eventually become successful. Ultimately, the dedication and the commitment of the visionary leaders have always been commendable as in some instances, leaders have sacrificed entirety they owned for the company in order to make sure their "dream" was never compromised.

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