

**CHALLENGES FACED BY
FOREIGN PROFESSIONALS WORKING
IN SRI LANKAN CONSTRUCTION INDUSTRY**

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Dissertation submitted in partial fulfilment of the requirements for the degree of
Master of Science in Project Management

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Sri Lanka

July 2017

DECLARATION

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ABSTRACT

Construction industry plays the key role in economic expansion of each country. During past few years, Sri Lankan construction industry has been a considerable factor in the rapid economic development.

Many foreign investors and contractors are involved in Sri Lankan construction industry in past few years. These companies have entered in to Sri Lankan construction industry with a lot of professionals along, in various fields. This study aims to investigate the challenges faced by foreign professionals work in Sri Lankan construction industry, during the construction phase and propose a mechanism to overcome those identified challenges.

The study carried out a comprehensive literature review followed by qualitative research approach for data collection. Eight foreign professionals working in the Sri Lankan construction industry were interviewed to identify challenges faced by them and mechanisms to overcome those challenges. Code based content analysis using NVivo was used for data analysis.

To overcome the challenges of the cross-cultural work environment and complete the project successfully, project leaders should identify and analyses the major challenges of foreign professionals in the construction industry. Lack of the requirements of the construction projects and non-development condition of the country was the most important concern of foreign professionals which affected the entire construction projects process in Sri Lanka.

This research identified challenges under language, culture, construction safety, project management, construction standards, construction technology, construction process, contractual agreements, construction output, professionals training period, income problems, facilities at work, working hours, job stress, physical work condition, foods problems, weather and environmental issues. The study finally proposed strategies to overcome above identified problems under three categories, i.e. (a) foreign professionals themselves (b) construction organizations and (c) the government.

Keyword: *construction industry, foreign professionals, challenges in construction industry, foreign involvement in construction industry*

DEDICATION

*This research is dedicated to my beloved parents,
finally my lovely husband who firmly stood by me.*

ACKNOWLEDGEMENT

I would like to express my sincere thanks and special gratitude to my dissertation supervisor Dr. Y.G. Sandanayake, Head of the Department and Senior Lecturer for her excellent supervision, guidance, encouragement and constructive criticisms that significantly contributed towards the successful completion of this research. I extend my humble appreciation to Mr. Indunil Seneviratne, former Head of the Department and Senior Lecturer, Mr. Vijitha Disaratne the Project Management Masters degree program director and staff members of Building Economics Department and all my Sri Lankan friends who contributed for the better achievement of this goal.

Finally, I must express my very profound gratitude to my parents and to my husband, for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis to do this wonderful research on the topic challenges faced by foreign professionals in Sri Lankan construction industry.

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LIST OF ABBREVIATIONS

Abbreviation	Description
AEC	Architect, Engineers and Construction
BOI	Board of Investment
BOO	Build, Own and Operate
BOOT	Build, Own, Operate and Transfer
BOT	Build, Own and Transfer
CIOB	Chartered Institute Of Building
DAS	Delays Analyses System
FDI	Foreign Direct Investments
MNCs	Multi-National Corporations
QA	Quality Assurance
QC	Quality Control
QSR	Qualitative Solutions and Research
T&K	Technology and Knowledge

CHAPTER 01: INTRODUCTION

1.1. Research background

“Construction industry is one of the largest industries in most of the fast developing countries” (Ponnusamy, bin Ayob & Yahya, 2011). It is one of the main source of social raise and employment growth, especially in the developing countries (Milford, 2001). In addition to that, it plays a substantial role in a country’s economy, irrespective of the country’s levels of economic development (Zantanidis & Tsiotras, 1998). The indispensable part of any economy is the construction industry, which affects the growth in the other industries, therefore it will lead into total growth of gross economy (Ramachandra & Rameezdeen, 2006).

Construction industry consists of buildings, infrastructure and industries (Balachandra, 2014). Further to him, building construction is usually further divided into residential and non-residential. Infrastructure is often involved with large public works, dams, bridges, highways, water/wastewater and utility distribution and civil structures. Industrial sector construction includes refineries, power generation plants, mills and manufacturing plants (Balachandra, 2014). All organizations that are related to design, renovation, maintenance, facilities management, production, alteration, demolition and re-cycling of building and civil engineering works, are existing in the construction industry (Hills, Fox, Skitmore, Hon & Fong, 2008).

Resources that are used in construction industry identified as inputs, which are utilized in construction for infrastructure facilities, housing, public buildings and utility facilities. The main resources identified in Sri Lankan construction industry are human resources, construction materials and components, technology development and investment. The tantalizing issues concerning the resource usage are lopsided towards human component of the sector (Balachandra, 2014). The people who play a key role in the construction industry are the professionals such as architects, civil, mechanical and electrical engineers, quantity surveyors (Yadollahi, Mirghasemi, Zin & Singh, 2014).

They work together to make sure that construction works are being done according to the plan and finish within the time period (Olatunji, Oke & Owoeye, 2014).

European countries comprise of large work force in construction industry (Proverbs, Holt & Olomolaiye, 1998).

The construction industry has to develop its capability and capacity to meet the growing demand, challenges and threats to increase the ability and effectiveness of the construction industry to contribute towards the national economy by helping the social and economic development to reach the national objectives in line with the intentionally accepted procedure (CIB, as cited in Ofori, 2000). In the past, housing, industrial and physical infrastructure dominated the Sri Lankan construction industry and it is expected that in next 10 years there will be an increasing demand for sanitation, tourism, water supply ports, roads, power housing, and rebuilding (Barnabas, 2011). In year 2007, Sri Lanka reached a record economic growth of 6 percent, which was the first time since 1948 (Pathirage, 2008). The Sri Lankan government plans to have an economic growth rate over 8 percent in the coming decades.

As discussed earlier, Sri Lankan construction industry plays a critical role in the growth of economy in the country (Rajakaruna, Bandara & De Silva, 2013). This improved growth rate in the construction industry had the backing of enormous public sector investment for the phase two of the Southern Express Way, the Colombo-Katunayaka Express Way, the Colombo Outer Circular Highway project and Northern Railway Project as well as Port and Airport Development Projects (Balachandra, 2014). According to the Government Ten Year Development Plan, an allocation of 55% of the investment will be made to urban and infrastructure development (Balachandra, 2014). Foreign investment, loans and grants are the major contributing factors for most of the major infrastructure development projects. Most of the foreign funded projects are awarded to foreign contractors and in turn they sub-contract it to local contractors (Balachandra, 2014). Further to the author, higher growth in the construction industry in Sri Lanka is the reason to attract all the local and foreign investors in this sector.

By the end of 1990s, over half the world's population lived in the Asia-Pacific region. There are three different progressions in construction sector for the Asian

region, which are large number of infrastructure projects done by private sectors, raising vertical integration in the construction projects, and raised the number of international companies' involvement in local construction projects (Raftery, Pasadilla, Chiang, Hui & Tang, 1998). A decade ago, around 5-6% of employment in the national economy in Sri Lanka belongs to construction industry (Ramachandra & Rameezdeen, 2006). There were 500,000 direct employment in the construction industry in 2013. This includes five employment categories of professions. They are consultants, engineers, technicians (supervisor, foremen), skilled craftsman (masons, carpenters, etc.) and tradesman (construction machine operators, mechanics) (Balachandra, 2014).

Cross-border labour migration (skilled and unskilled) for employment in foreign countries has reached new heights due to fast economic growth in number of Asian countries (Castles & Miller, 2009). With the construction development, participation of international construction sector has increased largely in Sri Lanka (Weerasinghe & Ekanayake, 2013). Annually, there has been around 6 percent growth for the last two decades in migrant employment within the region, which means around 2.6 million people migrate to find jobs (Castles & Miller, 2009). Involvement of foreign construction firms could enhance the construction industry growth in Sri Lanka (Weerasinghe & Ekanayake, 2013).

In order to bring foreign professionals and expertise into an organization, there should be strategies for insourcing foreign labour, such as better organization, better resource, and better wage offers to name few. The use of temporary foreign professionals has a higher degree of flexibility and cost effective for organizations (Hippel, Mangum, Greenberger, Heneman & Skoglund, 1997). "In addition to old allies such as India, China, Japan, Pakistan, the UK and South Korea, the Sri Lankan Government intends to develop stronger economic ties with other countries such as Iran, Qatar, Turkey, Germany, Norway, Hungary, Portugal, Malaysia, Jamaica, Spain, Kuwait, Serbia, Ukraine, Egypt, Brazil, South Africa, Oman and Singapore" (Barnabas, 2011). "Many logics are behind the reason why the architectural, engineering, and construction (AEC) sectors must participate in international construction projects outside their countries (Torrance, 2004).

“Profession is an occupation that requires both advanced study and mastery of a specialized body of knowledge and undertaken to promote, ensure or safeguard some matters that significantly affect others’ well-being” (Abdul-Rahman,Wang & Yap, 2010). The people who are with education and training consider this as their investment and they try to find out the greatest return on their investment by searching around the world for highest paid jobs with maximum fringe benefits. Some of them will seek a place where they will feel comfortable considering various factors such as environment, religion, culture, ethnicity, prospects for education etc., and not necessarily for monetary advantage (Ponnusamy et al., 2011).

The report published from foreign employment organization showed professionals and skilled labour migration has increased by 12.5 percent within the year (Central Bank of Sri Lanka, 2015). Many foreign construction companies involve in the local construction industry due to expansion of the construction industry (Weerasinghe & Ekanayake, 2013). Professional contribute their knowledge, which they achieved in educational course and their professional career to influence the construction industry (Daft, 2008).

1.2. Problem statement

Construction industry is recognized as team that including different professional members and dealing with construction business (Ojo, 2016). It is not new to investigate the roles of the international contractors in developing countries. Many difficult and huge international projects in developing countries can be implemented only by foreign contractors (Ofori, 2000). Expatriates living in a new environment face numerous challenges, such as culture, language, health care, environmental issues like climate changes, logistics, familiarization, finding schools for their children to name few. They should change their lifestyle to the new environment for survival and adopt to work in the new environment. Many emigrants realize that their decisions to revise back to their own style of living in the host countries may affect them. Some policies and culture in the host countries can be considered detrimental (Ponnusamy et al., 2011).

The Sri Lankan construction growth was noticeable in last few years due to the end of civil war. Many infrastructure and reconstruction projects take place in the country

(Weerasinghe & Ekanayake, 2013). With the boom in construction industry in Sri Lanka, it is noticeable that there are many foreign contractors and companies come to Sri Lanka. Most of these construction companies bring their own professionals and workforce to Sri Lanka along with them. Since construction projects normally take many years and long term, these professionals from different countries will have to adopt and live in Sri Lanka with new condition, face many challenges and in living standards and technical matters as well. Therefore, there is a need to investigate those challenges faced by the foreign professionals, who are working in Sri Lankan construction industry and propose a mechanism to overcome them.

1.3. Aim and Objective

1.3.1. Aim

The aim of the study is to investigate the challenges faced by foreign professionals who work in the Sri Lankan construction industry.

1.3.2. Objectives

1. Review:
 - a. The involvement of foreign professionals in construction industry.
 - b. Challenges faced by foreign professionals in construction industry.
2. Investigate the foreign professional's involvement in Sri Lankan construction industry.
3. Identify problem and challenges faced by foreign professional in Sri Lankan construction industry.
4. Propose mechanisms to overcome challenges faced by foreign professionals in Sri Lankan construction industry.

1.4. Methodology

This research adopts qualitative research approach. A comprehensive literature review was conducted referring journals, papers, books and reports to gather information on foreign professional involvement and challenges which foreign professionals facing in both global and local contexts to provide background to the study.

Subsequently, unstructured interviews were conducted for data collection to gather information on investigate the involvement of foreign professionals, identify the challenges faced by them and propose mechanism to overcome the challenges they have in Sri Lankan construction industry.

The information collected from the interviews from professional from different countries are used to identify the challenges faced by foreign professionals in Sri Lanka. Collected data were analyzed using code based content analysis using by Nvivo 11 software to classify the information and prepare a mechanism to minimize the challenges faced by them in Sri Lankan construction industry.

1.5. Scope and limitation

The scope of research is to identify challenges faced by foreign professional working in Sri Lankan construction industry. The data collection was limited to foreign professionals from China, Iran, India and Pakistan who are working as Board members, Architects, Project managers, Engineers and Site in charge in high rise building construction projects in Sri Lanka. It was limited to above Asian countries due to time limitation and also to get a better idea on the challenges faced by Asian professionals working in Sri Lankan construction industry. The scope is further narrowed down to high-rise building construction projects as there are many unique challenges available related to them.

1.6. Chapter breakdown

Chapter breakdown is presented below:

Chapter 1 – Introduction

A brief introduction to the research including background, problem statement, aim and objectives, research methodology, scope and limitations and chapter breakdown are provided in this chapter.

Chapter 2 - Literature Review

Importance of foreign professionals in the construction industry, the challenges faced by foreign professionals, mechanisms for minimizing those challenges, in both global and local contexts are reviewed through a comprehensive literature review in this chapter.

Chapter 3 - Research Methodology

This chapter discusses the selected research process comprising of methods of data collection and analysis to achieve the aim and objectives.

Chapter 4 - Data Collection, Analysis and research findings

Data collection through unstructured questioner survey, data analysis using collected information and research findings are presented in this chapter.

Chapter 5 - Conclusions and Recommendations

The conclusions made and recommendations drawn based on the research findings are given within this chapter.

1.7. Chapter summary

This chapter explains the research area with a comprehensive background and the research problem. In addition to that, the aim of the study is identified as investigating the challenges faced by foreign professionals who work in the Sri Lankan construction industry. The objectives also have been identified and methodology used in this research to achieve those objectives is qualitative research approach. The data collection and analysis methods have been identified and explained. Furthermore scope of the research and limitation of the research also have been illustrated. The chapter finding presented how the chapters have been broken down.

CHAPTER 02: LITERATURE REVIEW

2.1. Introduction

This chapter reviews past literature to find out the nature of both global and Sri Lankan construction industries and challenges faced by foreign professional in construction industry. This chapter discusses the construction industry's involvement in the country's economy, Sri Lankan construction industry, and professional's involvement in construction industry, the role of foreign professional and challenges faced by foreign professional in construction industry. While Sri Lankan construction market attracts foreign nationals to invest and bring capital to the country, it tries to keep the competition between local and foreign. Moreover foreign investors not only bring the capital, but also bring new technologies, management skills (Central Bank of Sri Lanka, 2015). This chapter reviews nature of construction industry both global and local context, foreign contractors and professionals involvement in construction industry, challenges faced by foreign professionals and strategies to overcome them in global context.

2.2. Nature of construction industry

'Construction' is an activity, which creates all types of new building and civil engineering projects as well as the maintenance and repair of existing facilities (Wells, 1984). Construction is defined by Eccles (1981) as the erection, maintenance, and repair of immobile structures, the demolition of existing structures, and land development. The market of the construction company is mostly local and highly volatile (Segerstedt & Olofsson, 2010). Construction activities carried a major part of the country's national economy and industrial development (Khan, 2008). The construction industry is an old industry that dated back to the Palaeolithic Age between 40,000 and 12,000 B.C., when humans inhabited in caves or in built structures on level ground (Pérezgonzález, 2005). Compared to other industries, construction industry is unique, more complex and challenging to manage as it needs special skills and techniques (Lyshen, 1997). In addition to that it is dynamic in nature and its environment has become more dynamic due to the increasing uncertainties in technology, budgets, and development processes (A.P. Chan & Chan 2004).

The industry significantly contributes to improve the quality of life of people (Liyanage, Karunasena, Rathnayake & Senarathne, 2016). It is one of the key industries that play a major role in achieving the fast track of development (Rameezdeen, Zainudeen & Ramachandra, 2008). According to Raftery et al. (1998), the construction sector has been a critical factor in the strong economic growth of these Asian economies, as investments in building and infrastructure were needed to expand further growth. There is no doubt that the construction industry impacts directly on communities and the public and its improved efficient and effective delivery will enhance quality, productivity, health and safety and environmental outcomes (Kidokoro, 2009). It is a project-oriented industry where each project is unique and could be considered as a prototype, although a similar set of process stages is involved in every project (Wegelius-Lehtonen, 2001). Saravanan (2011) stated that construction activities are considered to be one of the major sources of economic growth and significant impact on the environment, social development. Furthermore, the construction undertakings affect nearly every aspect of the economy and that the industry is vital to the continued growth of the economy (Oladinrin & Ogunsemi, 2012).

After the ending of the war in 2009, Sri Lanka has paved the way for the construction industry to bounce back and catch up with what was missed for the last several decades. Significant reconstruction activities are being undertaken in all parts of the country, especially in the North and the East provinces (Economical & Social Statistics of Sri Lanka, 2013). Sri Lankan construction industry became a major contributor to country's GDP with an annual average contribution of 10.3 percent showing a 25.6 percent growth, which is a record for 2013 (Department of Census and Statistics, 2014). These statistics show that Sri Lanka is currently experiencing a construction boom due to increased interest of investors after the end of a three decade-long conflict and restoration of peace. Figure 2.1 shows the size of construction sector in Sri Lanka on economy from 2004 to 2013.



Figure 2-1: size of construction sector in Sri Lankan economy from 2004 to 2013
Source: (Department of Census Statistics, 2013)

2.3. Current issues in construction industry

The construction industry, by nature, has many special problems and requirements (Hillebrandt, 2000). Evidently the building sector is responsible for a high consumption of energy and material, solid waste generation, global greenhouse gas emissions, external pollution, environmental damage and resource depletion (Chan, Qian & Lam, 2009). Tan, Shen and Yao (2011), mentioned, construction activities have significant impact on the environment and are considered as a major contributor to environmental pollution. The construction market needs to be better understood for improvement (Chan et al., 2009).

The severity of risk in international construction projects can be varied from nation to nation as the political, economic, financial and natural features differ from each country (Ling & Hoi, 2006). Several studies in the past have addressed risks attached in construction projects (Edwards & Bowen, 1998).

Some other draw backs in construction industry are lack of design knowledge and experience, misunderstanding and partial achievement of project objectives, lack of

research capacity and business innovation, missing intermediary bodies, unfavorable regulatory framework, lack of providing and managing high-qualified human resources, bureaucracy and corruption practices, lack of political support, difficulty in resourcing the right skills and matching with project demands and geography, lack of properly trained on-site supervisors, lack of available on-site skilled workers or local labour force to name a few (Wijayapala, 2012).

The construction industry in Sri Lanka faces many issues as it is in the developing phase. The lack of technical knowledge, quality, skilled workers and availability of funds are some of the current issues experienced by the industry (Sanjith, 2001). Nevertheless, Sri Lankan construction industry is developing and it is in a boom in the economy. However, poor availability of funds remains as a serious concern and challenge for the industry. According to several industry experts, the reason for a majority of the contractors to remain below the boundaries of C1 to C3 grades (which precludes them from taking up higher value projects) is lack of funding (Sri Lankan Construction Industry, 2010).

2.4. Globalization of construction industry

Globalization, which is an inescapable fact, is defined as a process by which regional economies, societies, and cultures have become integrated through a global network of communication, transportation, and trade (Bhagwati, 2004). Globalization develops with the fast growing connectivity in economic, social and cultural activities across the world; one key result of globalization is the growing opportunities of foreign contractors in developing countries (Ngowi, Pienaar, Talukhaba & Mbachu, 2005). Migration, including labour mobility, is a major trend associated with globalization. Several authors predict that construction firms from developing countries will play an increasingly greater role in the global market in future (Hassan, Mitrovic, Gayoso & Hunter, 1998).

Furthermore, the way in which these companies can actively help to upgrade their national construction industries should be studied. This move towards globalization in construction poses both opportunities and concerns for less developed construction markets (Raftery et al., 1998). The advantages and disadvantages of globalization on

construction industry in the developing countries is shown in table 2.1 (Carrillo, 1994; Hillebrandt, 1999) as cited in Ofori (2000).

Table 2-1: Advantages and disadvantages of globalization on construction industry in the developing countries

Source: (Carrillo, 1994; Hillebrandt, 1999)

Advantages	Disadvantages
<ul style="list-style-type: none"> • Involvement of international finance makes possible the implementation of several projects, such as those of major infrastructure. • Direct foreign investment in projects leads to increase in construction demand, creating work opportunities for local firms. • Competition among foreign firms lowers the costs of projects to developing countries. • Presence of large numbers of international firms offers scope for technology transfer and the development of local firms and upgrading of the industry. The large number of such firms also means that technology transfer can be a tool for competition. 	<ul style="list-style-type: none"> • Local construction firms have no funds or expertise to participate in the sponsorship of privatized projects. • Local construction companies lack the technical and managerial capability to undertake most of the foreign-funded projects. • It is possible that local firms will be deprived of the opportunity to grow (Hillebrandt, 1999). • Foreign construction firms may pay lip service to technology transfer (Carillo, 1994) or take measures to avoid it. Moreover, local companies may not be in a position to benefit from technology transfer, or to subsequently utilize the acquired expertise.

According to Raftery et al. (1998), there are opportunities in the globalization that the expansion of international trade in construction would push companies in less developed countries to comply with international standards which, over time, could work towards increasing their competitiveness in terms of cost, quality and project delivery.

2.5. Involvement of Foreign Professionals in Construction Industry in Global Context

The rapid growth of the construction industry and globalization led to the increasing requirements of construction firms. The participation of more foreign contractors in the region's domestic construction markets is another very clear trend (Raftery et al.,

1998). Depending on whether the foreign investments involve competitive or cooperative relationship between entrants and other parties, market entry modes can be classified as either cooperative entry modes or competitive entry modes (Chen & Messner, 2011). Insourcing of employees is a labour market demand strategy for responding to a need for greater organizational capacity, efficiency, or effectiveness by bringing foreign employees into an organization (Tschirhart & Wise, 2007).

As is the case in any business, people or human resource is a construction organization's greatest resource. Construction operations depend on the knowledge and skills of people who are planning and executing the work. According to Al Ariss, Koall, Özbilgin and Suutari (2012), the quality of this most important resource: people, is what distinguishes one team or company from another and having a talented management in the company to guide and direct operations is crucial. Over time, however, governments also realized that to maintain the pace anticipated for their economic and infrastructure development, the active involvement of foreign capital, technology and management should be encouraged (Raftery et al., 1998). Obviously, having an adequate number of skilled and unskilled workers to perform the work is a bare necessity. In fifty years, the movement of skilled people has gone from "brain drain" to the "international exchange of human resources" (Al Ariss et al, 2012).

According to Raftery et al. (1998), it is very unlikely for one country to excel or even be self-sufficient in the various construction components of finance, technology, management, materials and labour. It is necessary to facilitate the trade of these resources among the various construction markets in the region. Foreign professionals are growing in numbers and creating increased socio-economic potential, in terms of greater social inclusion, revenue and employment generation, and technological innovation (Zamberi Ahmad, 2011).

From a diversity standpoint, foreign workers may bring value to an organization through language skills, different approaches to problem solving, or new work methods and they may similarly satisfy stakeholder demands for diversity and multiculturalism (Lutton, as cited in Tschirhart & Wise, 2007).

2.6. International Construction Firms

International construction firms are those in which the contractor, the lead consultant, or the employer is not from the same domicile, and at least one of them is working outside his or her country of origin (Xu, Bower & Smith, 2005). Normally international construction projects are large and complex, and should be undertaken only by experienced foreign Architect, Engineers and Construction (AEC) firms (Z. Y, Zhao, Zuo, Zillante & Zhao, 2012). Bon and Crosthwaite (2001) reported that the greatest opportunity for international construction projects would be in the developing countries, especially in Asia. Ofori (2000) suggested that the construction industry should always make good use of the opportunities of the international construction firms in order to embrace the development of materials; project documentation and procedures; human resources; technology; and institutions.

2.7. Foreign Direct Investments and Foreign contractors

Among the developing regions, Asia has received 58% of the total Foreign Direct Investments received by developing economies with the second highest recorded level of US\$ 406 Bn (Jayaweera, 2013). The rapid growth of the construction industry led to the increasing requirements of construction firms. An increasing number of governments in developing countries want to attract Foreign Direct Investments (FDI) as the characteristics associated with FDI increasingly fit the government's development objectives (growth, poverty reduction, etc.) (Velde, 2001). The author further highlighted that the potential positive effects of FDI (growth, technology, skill upgrading, capital) generally outweigh its negative effects (income inequality, environmental degradation, profit repatriation).

Under public and private partnerships most of the projects are handled by the foreign contractors as they have enough money to invest without getting profit before completion of the construction (Tang, Shen & Cheng, 2010). Abdul-Aziz (2001) highlighted that the construction sector is one of the sectors that relied heavily on foreign contractors. In developing countries labour and materials could in many cases be sourced domestically, such other components as technology, management and finance are more 'global', and access to these involves collaboration and involvement with foreign parties (Raftery et al., 1998).

Projects financed by the private sectors will be considered on a Build, Own and Operate (BOO), Build, Own and Transfer (BOT), Build, Own, Operate and Transfer (BOOT) schemes (Tang et al., 2010).

Contractors from a few developed countries dominate the international construction market (Upneja & Hua, 2007). There is a strong relationship between foreign direct investments and economic growth of Sri Lanka (Jayaweera, 2013). The National Planning Department, Finance Ministry and the Board of investment (BOI) have allowed foreigners to invest in Sri Lanka. In above projects, the foreign country currency plays a major role where foreign currency exchange rate, foreign currency convertibility are some important factors which influence the ongoing projects (Wang, Tiong, Ting & Ashley, 2000). Foreign contractors have created both positive and negative impacts on the Sri Lankan construction industry (Upneja & Hua, 2007). Further, foreign contractors are ready to work in hazardous places, work overtime and more concerned on the final output (Hamid, Singh, W.Z.W. Yusof, Yusof & Mustafa, 2011).

2.8. Professionals Involved in Construction Industry

To achieve a successful project outcome we need professionals who can, and are willing, to work together (Emmitt & Gorse, 2009). Professionalism may be defined as “a process by which an organized occupation, usually but not always by making a claim to special esoteric competence and to concern for the quality of its work and its benefits to society, obtains the exclusive right to perform a particular kind of work, controls training for and access to it, and controls the right of determining and evaluating the way the work is performed” (Freidson, 1973).

Engineers, Quantity Surveyors and Architects are identified as main construction professionals (Aziz & Omran, 2009). There are others also who supervise all parts of the project from start to project completion (Ojo, 2016). Traditionally, one of the most popular professions in construction is the “design engineer” (Gamayunova & Vatin, 2015). The all professionals work together to make sure that construction works are being done according to the plan and completed within the time period (Olatunji et al., 2014).

According to Toor and Ofori (2008), construction professionals invariably work in teams to complete the construction projects. They deal with various project stakeholders and often get involved in sensitive decision making and dispute resolution processes. Furthermore, they often undertake leadership roles as the design manager, construction manager, procurement manager, contracts manager, or project manager (Toor & Ofori, 2008). Additionally, the utilisation of teamwork between construction professionals such as designers, engineers, architects, quantity surveyors, project managers, facilities managers and other professionals can often lead to results that would have remained unrealised with traditional contracting arrangements (Aapaoja, Herrala, Pekuri & Haapasalo, 2013).

The construction industry faces several challenges today including technical, social, financial, political, and cultural. Developments such as the growing volume of activity, increasing number of active stakeholders, advancement in technology, more intense global competition, and demand for fast-track completion, have created many distinct challenges for construction professionals (Toor & Ofori, 2008). Over the past decade, construction projects have become increasingly complex with more and more construction stakeholders looking to engage in more integrated and collaborative ways in a multi-disciplinary team at both project management and design implementation levels to assist in project delivery (Evbuomwan & Anumba, 1998). Consequently, there is a need to equip the professionals with hard technical as well as soft management and leadership skills.

2.9. Reasons for Involvement of Foreign Professionals in Construction Industry

It is clearly noticeable that many foreign professionals are involving in various sectors and there is a significant amount of professionals working in construction industry as well. Anyone working in a foreign country for more than one year is considered as an expatriate unless otherwise citizenship is given (Richardson & McKenna, 2007). Foreign professionals in the public sector can be consultant for government agencies or can be in a diplomatic position in the foreign embassies. In the private sector, they can be top or middle level managers in the multinational companies (Ponnusamy et al., 2011).

The government and the nonprofit organizations are two major sectors in the construction industry and interaction of their behavior is very critical in understanding the use of international professionals to the further development of economy (Tschirhart & Wise, 2007).

The construction industry has been facing an undersupply of project leaders mainly due to a lack of focus on leadership research, and professional development programs (Toor & Ofori, 2006). The change in the life style, increased living standards and the working conditions are better in some foreign countries than the home country. Working conditions, wages and other facilities offered by some foreign companies are better than local companies (Torrance, 2004). As a reason, professionals from developing countries tend to move to the developed countries. It is further supported by a publication which says “with the economic growth, the manufacturing and foreign employment shows an upward trend (Ofori, 2000).

In a country affected by a civil war spanning a period of more than two decades, public investment in physical infrastructure is constrained giving rise to a need for promoting private sector and foreign direct investment in infrastructure development in Sri Lanka (Thalgodapitiya, 2008).

2.9.1. Lack of managerial skills

Improper management generates low productivity, low quality, lack of quality assurance, cost control, low safety consciousness and construction delay (Sambasivan & Soon, 2007). Lack of management skills may cause construction delays and the foreign professionals who were stationed in developing countries had the professional skills to manage and plan the construction activities (Huemer, 2004). In addition to that there is a need to equip the professionals not only with hard technical skills, but also with soft management and leadership skill and there is a broad sentiment in the industry that today’s new graduates are not adequately trained to deal with the soft issues on complex construction projects (Toor & Ofori, 2008).

2.9.2. Need for technical skills

The majority of local construction organisations in developing countries lack capacity and cannot meet the demand of complex construction works (Thwala & Mvubu, 2008). They have been criticised for inability to innovate and adapt new ways of working methods in order to compete favourably with construction organisations from developed countries (Ligny & Erkelens, 2008). Local contractors are not obsolete to the current system that may create time overrun, cost overrun, need in high professionals and labour compared to foreign contractors (Abdul-Aziz & Wong, 2011). Furthermore, most of construction organisations in developing countries have no requisite experience and are small which make it difficult for them to compete effectively (Enshassi, Al-Hallaq & Mohamed, 2006). For example, weak conditions both at organisational, industrial and institutional levels continue to inhibit their growth. As a consequence, much of the market share of the construction industry in most developing countries is dominated by foreign firms (Ligny & Erkelens, 2008).

Sri Lanka's construction industry may have specialized in buildings but there is always a great need to upgrade its technologies and systems. Sri Lankan construction industry's improvement in technologies are more rapid than other developing countries but they have not achieved extreme level of technologies, utilizing latest equipment, building components, systems and green technologies (Wijayapala, 2012).

2.9.3. Technology and knowledge transfer

Abbott (1985) studied the technology transfer potential of the operations of foreign contractors in developing countries. Strassman and Wells (1988) as cited in ofori (2000), note that Japanese and South Korean contractors had benefited from technology transfer from their US counterparts. According to Osabutey, Williams and Debrah (2014), one of the major benefits of foreign direct investment (FDI) is the potential for foreign firms, in particular multinational corporations (MNCs), to transfer technology and knowledge (T&K) to local firms in the host countries. Technology and knowledge transfers are seen as important mechanisms to promote capability building and innovation as well as technological development in construction industry (van Egmond, 2012 as cited in Osabutey et al., 2014).

Technology transfer itself includes the transfer of physical assets, knowledge, and human capabilities to enhance the efficient organisation of a construction project and services (Dunning, 1993). It is a crucial and dynamic factor in social and economic development and has been transferred intentionally or unintentionally from one party to another when right conditions are provided (Li Hua & Greenwood, 2001).

2.9.4. Shortage of professionals

The quality and quantity of labour supply can have major impact on the projects (Sambasivan & Soon, 2007). The construction industry has been facing an undersupply of project leaders mainly due to a lack of focus on leadership research, and professional development programs (Toor & Ofori 2006). The industry suffers from inadequate supply of professionals, less skill levels of fresh graduates and skilled labour force (Rajakaruna et al., 2013). This problem is not confined to the local industry, but is a common problem in many developing countries (Ofori, 1993). High demand for the professionals in many foreign countries and low level of salary schemes in the local industry may reduce the number of professionals retained in the local industry (Rajakaruna et al., 2013).

2.10. Challenges Faced by Foreign Professionals in Construction Industry

The construction industry is represented by several types of organisations and groups of individuals with different characteristics, different cultures and organisational practices of work (Baiden, Price & Dainty, 2006; Forgues & Koskela, 2009). International projects involve team members working in many locations across country borders (Aarseth, Rolstadas & Andersen, 2013). All the people and professionals including construction professionals face many problems when they move to a new environment and a new life style in a new land by changing the nation and the country. Task complexity, tight timeframes, complicated work relationships and an often-poor working environment conditions are some of the challenges faced by construction professionals in developing countries (Chartered Institute of Building (CIOB), 2006; Haynes and Love, 2004; Leung, Chan & Yu, 2009). Furthermore, the professionals acceptance of their new work condition and undesirable effects depend on their experience they gained in their past job career (Olatunji et al., 2014).

Since international construction projects involve collaboration between participants from multiple countries, they face unique challenges that do not appear in intra-national projects; challenges related to differences in work practices, legal regulations, and cultural values (Mahalingam & Levitt, 2007). Interactions and communication among individuals, organizations, and agencies from diverse national backgrounds and cultural contexts, even for technologically routine global projects, often lead to misunderstandings, increased transaction costs, friction between project participants, and coordination and communication difficulties (Orr, 2005). These in turn contribute to additional cost and time overruns in the projects.

Migrant professionals' have suffered badly at the hands of the industry with various reports highlighting the plight they face in many countries. As Matlala (2011, p. 28) states, "employees generally expect their workplace experiences to be fair and judge their relationships with the organisations they serve using justice as a fundamental base."

It refers to employees' perceptions of the quality of relationships with others in the workplace (particularly their supervisors) and comprises: interpersonal justice (are people treated with courtesy, politeness, dignity, respect and feel valued) and; informational justice (adequacy of information, explanation, involvement and participation in decisions that affect peoples' lives) (Loosemore & Lim, 2016).

According to Loosemore and Lim (2016), common challenges faced by the construction professionals are unjust recognition, unfair reward, unfair workload, unfair dismissal, lack of job promotion opportunities, lack of social well-being and privacy, ill-treated by supervisors, unclear instruction and lack of communication from management. Many of these challenges are a direct result of construction operations, while others a result of indirect, peripheral activities (Muir, 2005). Looking for employment in a foreign country may present unique cross-cultural challenges. These include differences in social welfare systems and legislation, communication styles, professional terminology, language spoken, as well as in professional qualifications (White, 2006).

Even social groups with high levels of professional skills and training have experienced labour market discrimination. Iredale (2005), for example, found that skilled female migrants face additional barriers due to family structures and obligations, which often delayed their accreditation process or the learning of a language. This inevitably hampered their ability to find work or secure promotion. In addition to that in many cases, overseas skills are not recognised and although there is often the promise of language training, work experience and subsidised training programmes, these are often not available for the non-principal migrants (Iredale, 2005). Some authors argue that racial, language, religious and cultural differences often act as an artificial wall that immigrants need to breach before they can enter the normal labour market (Ensign & Robinson, 2011; Roomi, 2013).

2.10.1. Language and communication problem

The goals and objectives of the projects can only be achieved if the team members work together in a mature environment for the benefit of every single person involved in the process, helping each other, and sharing information and experience (Reisner, 2011). Improper communication affects the integration between project team. Arditi, Elhassan and Toklu, (2002) added that failure of integration between project teams and construction professionals in the early phases can result in planning problems, delays and disputes during the construction process, later, harm the overall project outcomes. The parties involved in construction projects should regularly communicate with the client to avoid any ambiguities with his requirements and needs (Phua & Rowlinson, 2004). Communication barrier can lead to misunderstanding, difficulty in achieving mutual trust and confidence within multicultural project teams (Ochieng & Price, 2010).

Language problems are the greatest barrier to the smooth integration of migrants into a workforce, at least in the short term (Victor, 1992). Language is the primary means of interaction between people and is the main system by which people convey their thoughts, feelings, intentions and desires to others (Bonvillain, 1997).

It comprises different combinations of verbal and written symbols which are used by people to label and define social and physical objects and situations in their

environment (Ogden, 1993). It is widely accepted that language plays a strong part in communicating one's social status and role in society (Loosemore & Lee, 2002). Any problem with communication can lead to severe misunderstanding and therefore, delays in the execution of the project (Sambasivan & Soon, 2007). The more different the communicating cultures, the greater the problem. Language differences between supervisors and operatives are perceived to be a significant source of communication problems and potential conflict in the construction industry (Loosemore & Lee, 2002).

2.10.2. Construction process related issues

Construction projects are notoriously difficult to manage because of the nature of the industry (Rwelamila & Savile, 1994). They represent a unique set of activities that must take place to produce a unique product (Muir, 2005). The problem of delays in the construction industry is a global phenomenon (Sambasivan & Soon, 2007).

The global construction industry is littered with many examples of construction projects that have experienced significant time and cost overruns (Smith, 2014). The success of a project is judged by meeting the criteria of cost, time, safety, resource allocation, and quality as determined by the owner (Muir, 2005). The construction process is affected by different types of uncertainties (Spackova, 2012).

Aibinu and Jagboro (2002) found that the six effects of construction delay were: time overrun, cost overrun, dispute, arbitration and litigation and total abandonment. The main role of the project manager in a project is to make sure that the project is completed within the budgeted time and cost (Sambasivan & Soon, 2007). Herbsman, Tong chen & Epstein (1995) studied the effect of delays on cost and quality.

According to Sambasivan and Soon (2007), failure to achieve targeted time, budgeted cost and specified quality result in various unexpected negative effects on the projects. The successful execution of construction projects and keeping them within estimated cost and agreed schedules depend on a process that requires sound engineering judgment by the professionals (Hancher, 1985).

Shortages in basic materials like sand, cement, stones, bricks, and iron can cause major delays in projects. Delay in the delivery of materials and equipment to construction sites is often a contributory cause to cost overruns in construction projects in developing countries. Thus construction process is a one of the challenges faced by construction professionals.

2.10.3. Weather and environmental conditions

Construction is exposed to climatic extremes, which vary with the geographical location of the project (Kaming, Olomolaiye, Holt & Harris, 1997). E Al-Momani (2000) stated that one of the challenges in construction industry is change of weather conditions. Yates (1993) developed a decision support system for construction delay analysis called, DAS. One of the main categories of delays in DAS includes weather. A construction worker's productivity and efficiency is influenced by air temperature, wind velocity, relative humidity, solar radiation, precipitation, and light (Koehn & Brown, 1985).

Rain would definitely stop works, especially in foundation and substructure works (Kaming et al., 1997). Therefore, it is universally accepted that operations conducted during adverse climatic conditions suffer a loss of productivity and it depends upon the type of work and the degree of protection (Koehn & Meilhede, 1981).

Sri Lanka is a tropical country and according to Kaming et al. (1997), tropical climates do not favour muscular activity, which generates body heat and it causes discomfort. As a result output in hot climates is certainly lower. Therefore foreign professionals who are from non-tropical countries may find it difficult to work in a tropical country.

2.10.4. Cultural differences

The cultural differences is another challenge faced by foreign construction professionals in Sri Lanka. Hofstede (1980) defined culture as the collective programming of the mind, which distinguishes the members of one group from another; and shifted attention away from anthropology (Babatunde & Low, 2013).

Mainly in the developing world, where construction activity is heavily influenced by the foreign players, cross-cultural interactions play a key role in negotiations, decision making, problem solving, and all sorts of other business dealings. Cross-cultural issues present a further layer of complexity for international professionals (Henries & Souza-Poza, 2005) and mismanaging cultural differences can render successful managers and organizations ineffective (Dulaimi, Ling, Ang & Lim, 2007; Low & Shi, 2001). Similarly, multicultural construction project teams show different cultures in the forms of traditions, shared values and beliefs, being perceptions of how things are done in home countries (practices) and about how things should be done (preferred practices and beliefs) (Ochieng & Price 2010).

Experiencing a new culture is really challenging for both migrant men and women as it leads to acculturative stress, culture shock, homesickness, confusion about expectations in the host country, loss of support, discrimination and language barriers, all of which are explained by cultural theory (Azmat, 2013).

Watts et al. (2007) argued that traditions, beliefs, values and norms developed in home country cultural settings form the basis of cultural capital, and are important, as they explain the differences in values, insights and tastes experienced by immigrants in the host country. Research suggests that culture can act as either an enabler or a barrier, depending on how it is perceived and utilized by entrepreneurs. Culturally determined features, such as dedication to work, membership of a strong social network, acceptance of risk, compliance with social values, unity and loyalty, and direction towards self-employment can all be linked to culture and also help explain the variations in entrepreneurship among different ethnic groups (White, 2006).

Foreign professionals come from different cultural frameworks with different values, which can affect both the agreed objectives and the organizational own culture and design criteria for carrying out the objectives (Swierczek, 1994). The cultural differences also impede the smooth resolution of conflicts since conflict management behaviour differs between people with different cultural values (Morris et al., 1998). Therefore cultural difference is a challenge faced by foreign professionals in other countries.

2.10.5. Political changes and government regulations

According to Mason (2016), government directly involves in construction industry as a client in public projects and as well as indirectly regulate by its rules and regulations. Most of the government's rules and regulations have significant amount of impact on construction industry (Bertaud, Buckley & Owens, 2003). According to Muir (2005), not many industries are exposed to greater risks from legal issues than the construction industry. It is identified that the construction industry has been experiencing a lot of difficulties due to the lack of government policies or ineffective policies to support the construction industry (Rajakaruna et al., 2013). For instance, government tender procedures based on low price-based are sometimes shown very inefficient (Kashiwagi, Sullivan, Greenwood, Kovell & Egbu, 2005).

Government intervention or regulation of business, intervention by the parliament, bureaucracy and/or judiciary, fraudulent behaviour by domestic businesses, which leads to breach of contract, forced contract reviews and project delays are few of the challenges faced by construction industry (Jakobsen, 2010).

According to Rajakaruna et al. (2013), tax policies are another one of main concerns. The authors further pointed out that political instability of the country created rapid changes of certain policy decisions taken by the previous governments. For instance, decisions to awarding of contracts were revised in many instances. Therefore, the political instability of the government can affect the construction industry and its productivity. This poses major challenges for the global business community, particularly in terms of accurately assessing these risks, and multinational companies would be wise to prepare for trouble (Jakobsen, 2010). Therefore government regulations and policies as well are a challenge faced by construction industry and construction professionals.

2.10.6. Cyclical changes

Cyclical changes in construction demand due to the economic conditions can also be identified as one of the challenges faced by construction firms and their workforce (Bennett, 2005; Fan, Ng & Wong, 2011). For example, as construction demand fluctuates, goes up and down, employees and professionals in the construction sector often face uncertainty in regard to their employment, which has a detrimental effect

on their social well-being (Allan, Yin & Scheepbouwer, 2008). The “gains” in the booms and “losses” in the busts also a challenge to the construction professionals (Fox & Skitmore, 2007). When foreign professionals face such challenges, it is difficult for them to change the job or go back to home country.

2.10.7. Safety issues

Unlike other industries or professions which offer preferred work environments that are cleaner, safer, and generally more desirable, construction by nature is dangerous, dirty and hard work (Muir, 2005). Safety remains an ongoing concern for the construction professionals.

The toll of construction accidents is high in terms of both costs and human suffering. Development of construction industry and its products lead to environmental problems on a global scale (Ngowi, 2000). The people who work in this environment experience a fear of suffering ill-health, for example fatigue, tuberculosis or other physical deterioration due to poor living and working conditions (Van Huy, Dunne, Debattista & An, 2010).

Inadequate safety precautions, lack of implementation of rules, limited funds, knowledge and qualified officers were identified as the reasons for unexpected accidents and social problems in the construction industry (Rajakaruna et al., 2013). The extent of construction accidents is more severe when compared to other industries (Rameezdeen, Pathirage & Weerasooriya, 2003). According to Rajakaruna et al. (2013), low educational levels of many construction workers may be one of main barriers to imply the safety at sites. Most of the workers do not understand the importance of the site safety rules for their health and safety. Keys to a successful construction safety program is essential and it includes: support and enforcement from top management, front line management, consistently following and enforcing the safety program, on-going and comprehensive training, and recognition by all employees that safety is everyone’s job (Muir, 2005).

2.10.8. Workload and stress

Occupational stress affects the health and wellbeing of people who work, and the construction industry is recognized as a high-stress working environment (Bowen, Edwards, Lingard & Cattell, 2014).

Construction projects tend to be dynamic, time consuming, and multidisciplinary and the construction industry is noted for work-related stress (Love et al., 2010). Sutherland and Davidson (1989) identified inadequacy of project information flow, time-consuming paperwork and excessive workload as the top three stressors among construction site managers. Haynes and Love (2004) identified workload, long hours and insufficient time with family as the three most significant stressors experienced by construction project managers in Australia.

In today's hugely time driven business environment, superior planning, scheduling, and control are vital and the professionals are facing challenges regarding completing high volumes of work within tight timeframes and generally limited resources (Muir, 2005). This in turn leads to stress and stress has long been recognized as an issue for construction professionals, and one that significantly affects performance (CIOB, 2006; Leung et al., 2005, 2008; Haynes & Love, 2004). The experience of migration too can be extremely stressful in the recipient country (Farley, Galves, Dickinson & Perez, 2005).

2.10.9. Working conditions / Work environment

Working conditions can be either a challenge or a motivator for a construction professional. There is a lack of understanding of the importance of the working environment and its impact on the success of a project (Pheng & Chuan, 2006). According to Pheng and Chuan (2006), working environment refers to the perception of the work environment and can differ from project to project and the author further stated that only few studies have been done to specifically examine how the working environment can affect the effectiveness of a project manager.

Mustapha and Noaum (1997) identified and categorized the working environment related factors as personal variable related factors, job condition related factors, project characteristic related factors, environmental related factors and organizational related factors. Katz and Stewart (1967) identified that job related variables such as salary, job satisfaction, job security and working hours have significant impact on the effectiveness of managers. According to Price (1997), job satisfaction is defined as the degree to which employees have a positive affective orientation towards employment by the organization.

Availability of facilities, expertise, resources and management are few potential risks associated with complex and large project environments (Pheng & Chuan, 2006). Being sensitive to the project environment can lead to better performance of the project. Therefore working conditions can be a challenge for foreign professionals who work in different environment which they are not familiar with.

2.10.10. Working hours

Bell and Hart (1999) found that the number of hours worked each week by managers has grown considerably. Working hours in construction tend to be long and arduous (Van Wanrooy & Wilson, 2006) for professionals as well as for artisans and labourers. In the construction industry, long working hours for project managers have always been prevalent (Pheng & Chuan, 2006). According to Karau and Williams (1993), when managers are at work for a long time, the amount of time spent working as opposed to being present at work tends to fall. According to Pheng and Chuan (2006), project managers seem to have accepted long working hours, especially in the construction industry. Normally construction professional's work for long time and this long working hours is a challenge faced by them. On top of this, Atkinson (1991) and Babbar and Aspelin (1998) added that working long work days increases fatigue and decreases sharpness of decision making. These findings reveal that working hours do have significant effect on working performance of professionals.

2.10.11. Work permit and procedures

Foreign professionals may come from countries where foreign embassies, consulates and immigration offices may be inconveniently located and the paperwork intensive such as the application process takes many weeks to process, and may require costly legal assistance (White, 2006). Moreover, it is known that they frequently incur what is called a "transition penalty": a longer period of adjustment to establishment in a new country (Lochhead, 2003). It was further mentioned that once an employee has a visa, the expiration date and restrictive job descriptions make it a big challenge to change the employer or get promoted. Migrating as a professional is thus challenging due to this reason (White, 2006).

2.10.12. Managing different type of stakeholders

The success or failure of a project is strongly influenced by both the expectations and perceptions of the stakeholders, and the competencies and capabilities of project managers to manage those stakeholders (Bourne & Walker, 2008).

Aaltonen, Jaakko and Tuomas, (2008) defined the great risks in international construction projects as social, political, and cultural risks from the involvement of diverse actors with different objectives, goals, and strategies. Global projects are highly affected by these stakeholders with differing interests and demands (Aaltonen & Kujala, 2010) and face numerous uncertainties related to unknown and unfamiliar environments, differing regulations, norms, and cultural beliefs. With so many different stakeholders from different cultures, adapting to the organizational culture, the organizational structure, and the working hours to different time zones, building trust and coping with language differences is challenging for construction professionals in global projects (Binder, 2009).

2.10.13. Technological deflection

Technology has been defined in various ways in the business and management literature. Construction technology embraces the materials, plant and equipment, organizations, procedures and information systems used in planning, designing, constructing, maintaining, repairing, altering and demolishing buildings and infrastructure (Ofori, 1994). The dissemination of technology as new or innovative plant, equipment and tools is also very important to the construction industry (Kululanga, 2012). Morris and Hough (1987) found nine success factors of a project and out of which technology innovation is one of an important factors. There are many new technologies in the world that can benefit construction industries of developing countries (Kululanga, 2012). However, the slow rate of technology development within construction industry in developing countries is a major challenge faced by project managers (Ofori, 1994).

In developing countries like Ghana, the application of new and modern technology is relatively lacking in local firms in comparison to foreign firms who tend to have superior expertise and resources (Osabutey et al., 2014).

This is particularly the case in developing countries that are lagging behind the technology frontier (Pack & Saggi, 1997). According to Kululanga (2012), the diffusion of existing technologies in new applications is very critical to construction industries of developing countries.

Though technological development of construction industries of developing countries is generally low and lack of success in construction technology development prevents developing countries from taking full advantage of the potential of construction technology (Ofori, 1994). This is a challenge for the foreign professionals when they try implement new technologies, who has good innovation and technical knowledge.

2.11. Strategies to Overcome the Challenges of Foreign Construction Professionals

Foreign professionals' involvement in construction industry is essential for a developing country, and there should be ways to attract them and reduce the challenges as much as possible. Hence, organizations (and societies) should develop policies and practices that encourage and facilitate a developmental process of workplace diversity through proper recruitment and selection, socialization, and other practices that encourage the integration of foreign professionals (Carr, Inkson & Thorn, 2005). To survive in such a demanding and dynamic industry with its numerous sources of stress, foreign construction professionals too must be able to adopt suitable coping behaviours (Leung, Wong & Oloke, 2003).

Cultural diversity in international projects cannot be avoided. Expatriates tend to bring along their "culture baggage" and when cultural clashes occur, misunderstanding and misconceptions may result out of it (Tahir & Ismail, 2007). A better understanding of the influential cultural factors will help to reduce and manage conflicts in international construction projects (Chan & Tse, 2003: 380). If a project manager is familiar with the host culture, cultural misunderstandings are more likely to be avoided. It is obvious that the necessity of learning new customs and often, a new language is a must for international migrants.

Foreign professionals are faced with barriers to transferring their human capital (the economic value of their skill set, accumulated experience, and capacity to learn) to the new labour market (Chiswick, 1978; Cobb-Clark, Connolly & Worswick, 2005).

They should improve their human capital and career investments by learning about the labour market and mastering the language of the country they work as much as they can, with the objective of obtaining additional credentials, licences, and training that will allow them to adopt to the environment quickly (Peixoto, 2001). After spending some time in the host country, foreign professionals tend to gradually acquire country-specific knowledge thus they can translate the skills accumulated in their countries of origin into forms rewarded in the host labour market (Iredale, 2001). Thus the gap between immigrant professionals and native-born professionals will narrow over time.

One of the important challenges faced by the foreign construction professionals are communication barriers. Improper communication affects the integration between project team and leads to project failure (Arditi et al., 2004). Managing conflicts over distance and providing communication and cultural training (Binder, 2009) to the foreign professionals would be an important aspect in international construction projects. This can occur through supportive human resource policies that govern training, development, team work, and job rotation. Therefore, it is suggested that training and development practices be accompanied by additional cross-cultural training for the foreign professionals in order to provide sensitivity with regard to culture-specific training, development methods and communication (Novicevic, Buckley, Harvey, Halbesleben & Rosiers, 2003). Developing fluency in a foreign language requires an understanding of the related culture, builds relationships based on mutual respect and improves professional competency, while also increasing one's opportunities to successfully cross borders (White, 2006).

Government rules and regulations too a challenge faced by foreign professionals and the government of Sri Lanka should consider that there is a need for clear and effective policies for the construction sector (Rajakaruna et al., 2013). Further, such policies should be able to provide a framework for enabling and facilitating the

development of the domestic construction sector through professional development, business enterprise and productivity enhancement.

In addition to that regarding the stress and workload, the construction industry should give attention to how the need to work long hours is justified (Bowen et al., 2014). The author further stated that organizations should try to improve managerial and collegial supports of construction professionals, but be careful in engaging in socializing and project team-building activities.

The Sri Lankan construction growth was noticeable in last few years due to the end of civil war. With the boom in construction industry in Sri Lanka, it is noticeable that there are many foreign contractors and companies come to Sri Lanka. Most of these construction companies bring their own professionals and workforce to Sri Lanka along with them. Since construction projects normally take many years and long term, these professionals from different countries will have to adopt and live in Sri Lanka with new condition in living standards and technical matters as well. The foreign professionals face many challenges in a new country such as language problem, cultural problems, workload and stress, government rules and regulations, technology, environment and safety issues. Therefore, this study aims to investigate those challenges faced by the foreign professionals who are working in Sri Lankan construction industry and identify ways to mitigate and overcome them.

2.12. Summary

The involvement of foreign professionals in construction industry in a developing country like Sri Lanka will benefit the country in many ways. The construction industry, nature of construction industry and the impact of globalization in construction industry were discussed in this chapter. The rapid growth of the construction industry and globalization led to the increasing requirements of construction firms and the participation of more foreign contractors in the region's domestic construction markets became a trend. As a result, many foreign contractors and professionals move and involve in construction projects in developing countries like Sri Lanka and transfer their technology and knowledge.

As involvement of foreign professionals is a necessary, and countries like Sri Lanka encourages that, still there are some challenges faced by the foreign construction professionals in developing countries. This chapter identified and explained the major challenges faced by the professionals and in addition to that the ways to overcome those challenges too were discussed briefly.

CHAPTER 03: RESEARCH METHODOLOGY

3.1. Introduction

The research could be envision and as a methodical process to test, look into and as well as to reconstruct the actuality, theories and applications. Research method mirrors the ways to solve the research problem (Jamshed, 2014). Therefore, research methodology can be defined as a complete process, which starts with theoretical basis and continues with data collection and analysis (Fellows & Liu, 2008). This chapter efforts to represent the research process with consists the selected research design, research approach, research techniques, data collection and data analysis methods.

3.2. Research Design

Through good research design researchers can have confidence in solidity of the results drawn from the data (Bechhofer, & Paterson, 2000). Kumar (2011) has defined research design as “a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately and economically.” This is exploratory study which tried to investigate the challenges faced by foreign professionals work in Sri Lankan construction industry.

3.3. Research Approach

Research approach can be construed as a general plan of how researcher will be answering the research question (Tan, 2002). Furthermore, Smith, Thorpe, and Lowe, (2002) have stated that the research approaches guide in organising the research activities to achieve research aims. There are three types of approaches to conduct an educational research including: qualitative research approach, quantitative research approach and the mixed research approach, which is the combination of both qualitative and quantitative research approaches (Castellan, 2010).

According to Amaratunga, Baldry, Sarshar and Newton (2002), the benefits of quantitative approach consist of allowing comparison, independence of the observer from the subject being observed, reliability and validity and generally reducing the whole to the simplest possible elements in order to facilitate analysis.

Characteristically qualitative research begins with a broad area of study or problem of professional or personal attention to study in a specific research question researcher should narrow down the broad area in to a slight area (Choy, 2014). Truthful data search by qualitative approach is to identify and understand the relationship among the facts and how those facts are related to the theories and the results of previous researches (Fellows et al., 2008).

Qualitative research is 'subjective' in nature and it emphasises meanings, experiences, often verbally described description and so on (Naoum, 2007). Qualitative research is, "the systematic collection, organization, and interpretation of textual material derived from talk or conversation" (Grossoehme, 2014). It is used to gain an understanding of underlying reasons, opinions, and motivations. The data gathered by qualitative approach may be unstructured, at least in their 'raw' form, but will tend to be detailed, and hence 'rich' in content and scope (Fellows et al., 2008). Yin (2011) explained the advantages of this approach as ability to focus on specific set of people, in depth study on broad topics, offer greater latitude in selecting topics and representing the views and perspectives of the people. Qualitative data collection methods vary using unstructured or semi-structured techniques. Some common methods include focus groups (group discussions), individual interviews, and participation/observations. The sample size is typically small, and respondents are selected to fulfil a given quota (O'Doherty, 2014).

Mixed research is a combination of both qualitative and quantitative approaches used together to eliminate the drawbacks of both (Almalki, 2016). However, qualitative approach is selected for this research as it is necessary to investigate in depth the challenges faced by foreign professionals and it is limited to Sri Lankan construction industry.

3.4. Research Process

There is not any single, accepted process of conducting a research. Indeed it is depending upon the purpose and the goals of the research (Ritchie, Lewis, Nicholls & Ormston, 2014). The suggested research process is shown in Figure 3.1.

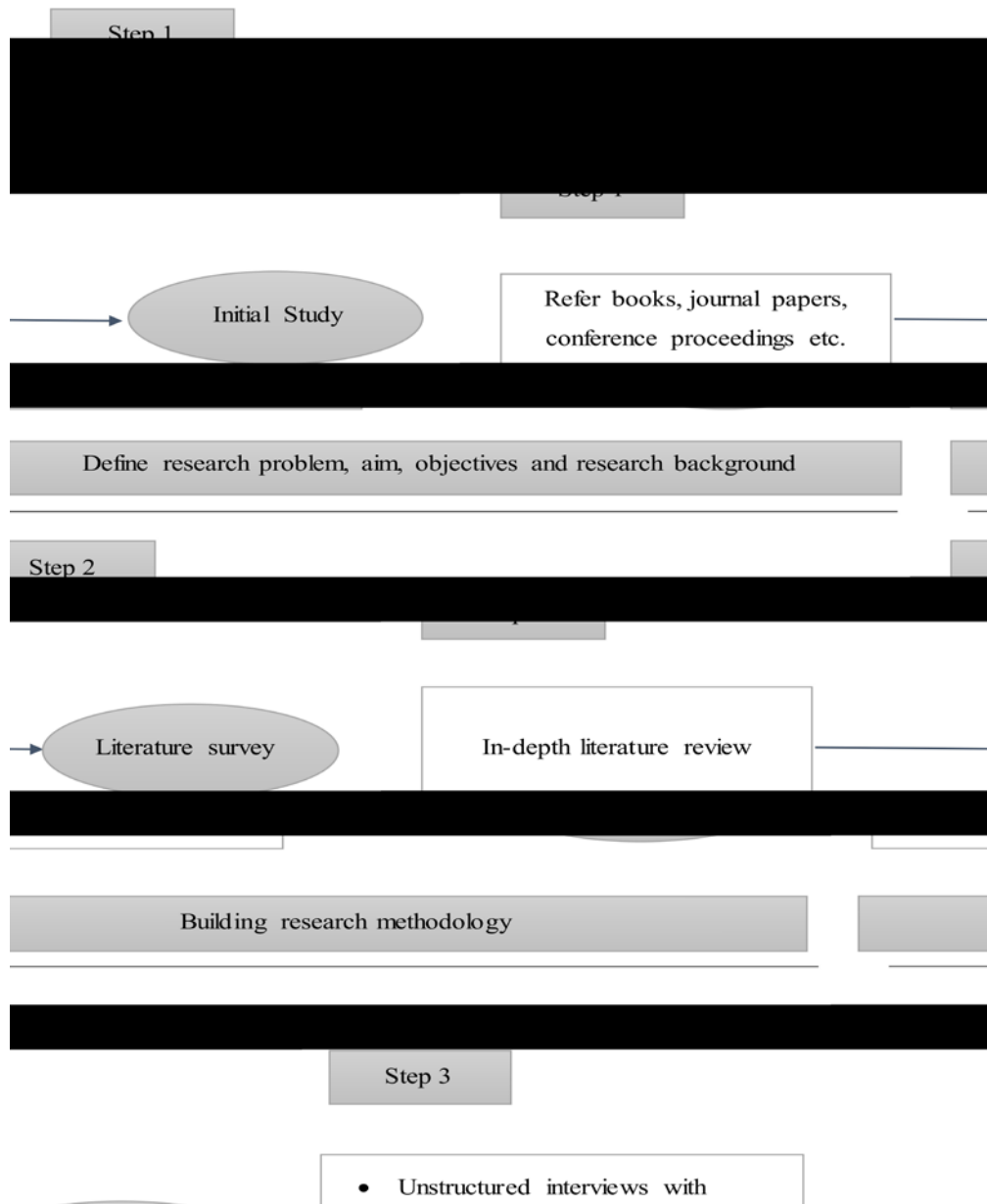


Figure 3-1: Research Process

3.5. Initial Study

Primarily, a brief idea on the research area is done with the initial study. Evolution of construction industry, development of Sri Lankan construction industry, foreign involvement in construction industry, and challenges faced by foreign professionals were identified by referring books, journal articles, unpublished dissertations and

conference proceedings, which then led to development of research problem, aim, objectives, scope and limitations.

3.6. Literature Survey

A critical review of literature was carried out in order to be familiarized with the nature of construction industry, impact of globalization in construction industry, foreign involvements in construction industry, challenges faced by the foreign professionals around the world and in Sri Lanka, finally the ways to overcome those challenges. Books, journal articles, conference papers and thesis were referred for gathering information.

3.7. Data Collection

Data collection is the process of systematic gathering of data for a particular purpose from various sources including observing, recording and organizing data to draw conclusions (Kumar, 2011). In this research, data collection is based on unstructured interviews.

The major forms of qualitative interviews are semi- and unstructured interviews (Edwards & Holland, 2013). Unstructured interviews are generally suggested in conducting long term field work and allow respondents to express in their own ways and pace, with minimal hold on respondents' responses (Corbin & Morse, 2003). Interviews using unstructured interview guideline is the major data collection method used in this study to establish the contribution of foreign professionals, challenges faced by them in Sri Lankan construction industry. Further it was the method of finding the mechanisms of minimizing the foreign professionals' challenges in Sri Lankan construction industry as the final step of this study.

Therefore, objectives of these unstructured interview guideline are investigating and reviewing of the foreign professional's involvement in Sri Lankan construction industry, identifying and reviewing of problems and challenges faced by them and proposing mechanisms to overcome those identified challenges. These objectives of the interviews were identified to form a better outcome of this research. Eight subject

matter experts who involved in Sri Lankan construction industry are interviewed using unstructured interview guideline during the data collection.

All interviews were lasted from one hour to two hours. Interview guideline was designed to identify and investigate the viewpoint of foreign professionals on the challenges they face in Sri Lankan construction industry, which would help in identifying ways to overcome and minimize those challenges through practices for a better performance and service to the nation.

Interview guideline, which was used in gathering information and a sample interview transcript of one respondent are attached in annexures A and B respectively. Interview guideline was developed with three sections. The first section was focused on the general information of the respondents comprising of the details of the project and details of the respondent, designation, qualification, years of experience and so on. These were used to prove and make sure that reasonable respondents have been selected for the data collection. Second section was structured to gather information related to foreign professional involvement in Sri Lankan construction industry. It was focused to find out the professionals areas where foreign professionals involve and the reasons behind their decision of selecting Sri Lanka for work, to understand the differences between Sri Lankan practices and foreign practices, the advantages and benefits they obtain by working in Sri Lanka and to find out if they are happy and satisfied to work in Sri Lanka.

Third section was structured to gather information related to the challenges that the respondents have been faced under several categories. Language, culture, construction safety, project management, construction standards, construction technology, construction process, contractual agreement and so on are the main concerned under the third section of the interview. Under this section the challenges faced by the foreign professionals, reasons behind the challenges identified and suggestions to overcome these challenges have been discussed.

All the interviews were conducted at the construction site where the respondents work and quick site observation had been done at the construction site before and after the interview, which led to understand whether some of the answers given by the respondents are real, such as the safety instruction and construction process. During that time the construction technology, physical working condition, relationship between foreigners and locals, project management acts and tension at job was observed.

3.8. Data Analysis

Data analysis is a vital activity, which gives the expected outcomes of a research process by processing data through the most suitable data collection techniques. The data collected through interviews were analysed through the appropriate data analytical techniques. A qualitative analysis has been used to analyse the data and obtain accurate results. With the use of some software data analysis like NVivo, Atlas.ti the qualitative analysis could be conducted (Fox, 2009).

A code based content analysis method was used for analysing expert opinions and observations. There are several data analysis software to support the qualitative analysis and in this study the selected software is a program called NVivo (2011) manufactured by Qualitative Solutions and Research (QSR) International (Pvt) limited, which contained graphical presentation of interpreting relationships. The results of the interviews were used to draw conclusions of this research.

3.9. Summary

The detailed process which was carried out to proceed with the research is clearly identified in this chapter. The background study and the problem statement were established first which was followed by the literature review. A set of unstructured interview guideline and observation were used to collect data on the foreign professional's challenges in construction industry in Sri Lanka and the collected data were analysed using NVivo. The results and the process of the analysis will be presented in the next chapter.

CHAPTER 04: DATA COLLECTION, ANALYSIS AND RESEARCH FINDINGS

4.1. Introduction

This chapter explains the analysis of the collected data from the foreign professionals, who are working in high rise building construction projects in the Sri Lankan construction industry, using unstructured interview guidelines, which was developed based on literature review on the research topic as stated in Chapter 2. The purpose of this particular research was to identify the challenges faced by foreign professionals in the Sri Lankan construction industry. Interviews were voice recorded and transcribed. Qualitative data analysis was subjected to code based content analysis using NVivo software. Details of data collection, analysis and research findings are demonstrated in the following section.

4.2. Profile of Participants

Eight foreign professionals including civil engineers, architects, safety officers, board members and project managers were interviewed to find out the challenges faced by them in the Sri Lankan construction industry. Table 4.1 present the details of each respondent. The sample of foreign professionals represent from countries such as India, Pakistan, China and Iran.

Table 4-1: Profile of Respondents

Respondent	Nationality	Designation	Education	Total experience	Experience in other countries	Experience in Sri Lanka
1	Pakistanis	Site-in-Charge	MSc. in Civil Engineering	4 years	3 years	1 year
2	Chinese	Project Coordinator	M.Sc. in Civil Engineering	18 years	7 years	11 years

3	Iranian	Chief Executive Officer (CEO)	BSc in Architecture	16 years	10 years	6 years
4	Indian	Safety Officer	BSc in Science	18 years	16 years	2 years
5	Pakistanis	Board Member	MBA	14 years	7 years	7 years
6	Indian	Manager QA/QC	B.E. (Civil), MBA	14 years	12 years	3 years
7	Iranian	Board Member	BSc. (Mechanical), M.Sc. Management	28 years	17 years	11 years
8	Iranian	Senior Manager	MSc. in Architecture	6 years	3 years	3 years

4.3. Research Findings

4.3.1. General information

Table 4.2 presents the willingness of interviewees to work in Sri Lankan projects in future.

Table 4-2: Willingness to Work in Future Projects in Sri Lanka

Respondent	Answer	Statement
1	Yes	“Our company is planning to initiate long term business in construction industry in Sri Lanka which will give me a long term opportunity in my career, since I am satisfied with this job, I can continue in the next projects with them in future too. There are some other construction projects under negotiation with my company which is located most probably out of Colombo.”
2	Yes	“Personally I like Sri Lankans because they are respecting foreigners. The first reason is, I have freedom in Sri Lanka because it is a Buddhist country, it’s like my own country and I feel no hesitation here. In China there are too much traffic and limited rules and regulation. And the second reason is my company which is one of the biggest company in China or even in the world.

		Another reason is that I have good income in Sri Lanka. My company gives a very good salary. In My home town China the cost of house and living is high but I can spend less money in Sri Lanka and can save my income. There is a very good relationship between Chinese and Sri Lankan government and there are many projects which are handled by the Chinese in Sri Lanka such as: port city, southern high way which shows me better job opportunities in the future in Sri Lanka for me. Chinese Government is Buddhist too and they invest a lot of money in Sri Lanka. Even I had some more offers from my company to work in another country since they have projects in many countries, but I have selected Sri Lanka as I like it in here.”
3	Yes	“In a larger scale it is profitable, even though there is some delay in construction process but somehow stability is there.”
4	Yes	“Currently in my country we are facing some job problems, due to government changes and also some financial problems thus better job opportunity and financial stability in Sri Lanka. I was in Dubai and after that I was in India for 6 years, I was working in high rise building and after that I didn’t have a job so once I get opportunity I came to Sri Lanka for work.”
5	Yes	“It is a good country. There is good law and order. My company is a very big holding in Pakistan and we have good experience in building construction and high rise buildings. I brought huge investment to Sri Lanka and invested in construction. Even most of our professionals are from Pakistan side. With this huge investment and number of years I spend here I would like to have more business and projects here in Sri Lanka and besides Sri Lankan government needs more foreign investments in Sri Lanka.”
6	Yes	“I do, because there is better opportunity for me here, including salary rate, facility and I can have good relationship with other professionals and colleagues and also it is an international project which gives out better experiences and work background for me.”
7	Of course	“Because there is very good job opportunity in the construction field in Sri Lanka as many construction projects are going in Sri Lanka especially in Colombo after war. Also there is good opportunity to doing some other business in here.”
8	Yes	“Generally I will gain some special things by working in Sri Lanka, definitely since we are foreigners our challenges are more substantial than locals in our jobs and life but even though with all these problems and difficulties we have good feeling of living in this country due to good environment and respect of Sri Lankans.”

According to Table 4.2, respondents are willing to work in Sri Lankan future projects. Few of the most common reasons are good salary, living conditions and better job opportunities. One respondent believes that Sri Lankans are very respectful toward foreigners and also his company has invested a big amount of money to many projects in Sri Lanka. Therefore he would like to involve in Sri Lankan future projects.

The next question asked from the respondents is whether they would suggest their friends to work in Sri Lanka. Table 4.3 shows the interviewees responses.

Table 4-3: Suggestions for friends to come and work in Sri Lanka

Respondent	Answer	Statement
1	Yes	“The environment is very good, weather is almost the same and I feel comfortable in this kind of condition. I also think after the civil war, there are a lot of constructions going on in the whole country, and there is good relationship between my country and Sri Lankan government, so I hope if I invite a friend to work here my friend can also have good opportunities. As I’m feeling satisfied they will be satisfied too.”
2	Yes	“Everything is good here, as I said before there are a lot of Chinese projects in Sri Lanka and my friends can have an opportunity to work in one of those projects, and also another important thing is that we have similar religion. My friends can have more benefits in Sri Lanka compared to China.”
3	Yes	“But I will ask them to take the step very cautiously. Sri Lanka has good potential in real estate and construction business. For the last 30 years there wasn’t much construction in country maybe because of war, domestic conflicts and fighting, so there is an ample amount of potential developments to be done. As a reason I believe that there are many good opportunities in Sri Lankan real estate field.”
4	Yes	“Climate is moderate compared to India, Dubai or Saudi Arabia.

5	Yes	“Its good country and business is profitable, generally when a country involved with some conflict or war inside or outside that stops all developments in that particular country and when this conflict is over, country will start development. Sometimes there is money but there is no technology and knowledge and sometimes everything that is needed for the development is missing. After the civil war, Sri Lankan government and policies are trying to absorb foreign investment to develop the country which makes a lot of opportunities for many foreign investors who are able to work in this context. This is the reason I’m here and also I suggest my friend to come here too.”
6	Yes	“Because as I said before many of my friends who are working in my mother land, their salary rate is definitely lower than my salary, also when they enter into an international job, their employment level will jump up comparing to some routine job they are doing now. You can be an international employee when you working in an abroad country as a professional, which we can call real professional.”
7	Yes	“I’m always offering them to come here, as they can have good opportunities, but there is some restriction for foreigners to work in Sri Lanka.”
8	Yes	“They can have good job opportunities and international experience. They can use their innovation in the construction projects since still there is no much of strict regulations in Sri Lanka.”

According to the respondents’ opinions presented in Table 4.3, all of them stated that they suggest their friends to come and work in Sri Lanka. Their main reason was that there are good job opportunities available in Sri Lanka. One respondent said that the climate in Sri Lanka is good comparing with the other countries that he has worked before. According to a respondent, the salary rate is high and by working in foreign projects they can become international professionals and achieve very good experiences. Another important reason on their positive response was that, as Sri Lanka is in the developing stage, they need a lot of investments which is profitable for foreign investors.

At the end of general section, the last question was whether respondents are living with their family and explain the reasons behind their answers. Table 4.4 shows the respondents answers either living with family or not with explanation.

Table 4-4: Findings on whether Foreign Professions are living with their Family

Respondent	Answer	Reason
1	No	“I’m single so there is no wife or any children to live with me and also Company is not providing visa for our family to come and live with me. Family means mother and sister only, but if company provides visa I am willing to bring them as well. There is no restriction from Sri Lanka government, only company issue.”
2	No	“They come two times a year and my family doesn’t like to live in a small city. They want big shopping malls and more facilities. For a shorter period they are okay but more than that they don’t like to stay. They will stay here only for a month. At the moment I don’t have any problem with my child’s school but in near future I will face this problem.”
3	Yes	“Main challenge is loneliness, and maybe a bit of weather problem and not able to get good suitable foods and standard items. There are not enough shopping malls and hygienic restaurants. This is another problem that my family is facing in Sri Lanka. Other issue is that all imported items are heavily taxed and expensive, and it is costly to live with my family in Colombo.”
4	No	“Cost of living is high and we cannot afford. Living standard is also very higher than Dubai. If the cost and expenses will be okay of course I will bring my family. Even for renting an apartment they want six month in advance and other than that they will not rent you the home if you do not agree with their terms and conditions. They will keep their home free but they will not give it for less price or less advance payment, for example for hair cutting we should pay Rs.200 but in India its Rs.60, even for cup of tea in India we will pay Rs.10 but here we will pay Rs.30. Education cost of children is really high otherwise everybody will like to live with their family and have more pleasure and I can concentrate on my job. Now if anything happen in India I get tension.”

5	No	“I moved them here for 1 year and they didn’t feel comfortable and they couldn’t settle here. My children feel loneliness. They had no relatives or friends here, no enough entertainment facilities for them, and also they couldn’t shop here well because there is no big and high quality shopping malls in Sri Lanka. The living standard is very different and they were not satisfied in Sri Lanka.”
6	yes	“Cost of living in Sri Lanka is high compared to other countries. Our salary is in Sri Lankan rupees, the value of money will come down each year, and for educating my children, we should send them to an international school which is costly for us. Normally by moving from one region to another with new condition we all will face some problems such as weather change, suffering to be far from family, starting new relationships with new friends and so on. Actually we must renew everything with new place.”
7	yes	“Actually the living standards are way below in Sri Lanka compared to my country. My family is suffering from Sri Lankan transportation system. We always need to have private car and go everywhere and they are not familiar and cannot use the local transport systems. Another problem is weather condition which is very hot for them and also the food is normally very spicy in Sri Lanka. We use to go only to MacDonal’d’s, hotels and few limited other restaurants. There are some issues relevant to culture too. Mosquitos is another big problem.”
8	No	“Loneliness is one of the big challenge which my family faced and I can say education of my children and high cost of living is also some of the problems in Sri Lanka. There are limited choices for everything in Sri Lanka starting from shopping mall, restaurants and even super market items. We cannot have everything we want from one place. We should go to market, look at the available goods then only we should decide what we want. Even for simple shopping we should go to more than 3 shops to buy specific things which we need and sometimes no any luck finding it.”

Out of eight respondents three of them are living with their family. Major challenges they faced are:

- a) Food
- b) Weather patterns
- c) Living standards are below compared to their country
- d) Loneliness since they don’t have any friends or relatives
- e) High cost of living

- f) Lack of proper public facility and entertainment, shopping malls, restaurants and proper public transportation system
- g) Cost of schooling

The other five people do not live with their families. One of them was single but he likes to bring his parents here. One of the respondents was living with his family but after one year, his family felt uncomfortable and they returned to their country and now just visit periodically. Other respondents didn't bring their families due to high cost of living or less public facilities.

4.3.2. Foreign professional's involvement in Sri Lankan construction industry

Questions were raised to know how foreign professionals are involved in Sri Lankan construction industry and the reason for them involving in Sri Lankan projects. Further, it was expected to know the differences between Sri Lankan professionals and foreign professionals in practice of their respective professional fields. Questions were asked about the benefits that they are gaining and whether they are happy and satisfied to work in Sri Lanka. Figure 4.1 shows code based content analysis for foreign professional's involvement in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
General Information	7	25	
Involvement of foreign professionals in sri lanka construction industry	7	51	
Reasons for selecting Sri Lanka to work	7	13	
Differences between Sri Lankan and foreign practices relevant to your professional field	7	12	
benefits that you can gain by working in Sri Lanka	6	11	
Happiness of selecting srilanka for work	6	15	
Challenges faced by foreign professionals in Sri Lankan construction industry	8	270	
Strategies to overcome challenges	8	53	

Figure 4-1: Foreign professional's involvement in Sri Lanka construction industry

According to respondents, they have selected Sri Lanka for following reasons:

- a) Company started investing and expanding operations in Sri Lanka
- b) Compelling boom in Sri Lankan construction industry after civil war

- c) Potential investment opportunities in Sri Lanka
- d) Better job opportunities and income
- e) Interest to undertake new challenges
- f) Recommended by colleagues

Figure 4.2 shows the professionals reasons of selecting Sri Lanka to work.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
General Information	7	25	
Involvement of foreign professionals in sri lanka construction industry	7	51	
Reasons for selecting Sri Lanka to work	7	13	
Company started investing and expanding operations in Sri Lanka	2	2	
Compelling boom in Sri Lankan construction industry after civil war	1	1	
Potential investment opportunities in Sri Lanka	2	3	
Better job opportunity and income	3	3	
Interest to undertake new challenges	3	3	
Recommended by colleagues	1	1	

Figure 4-2: Reasons for selecting Sri Lanka to work

When trying to identify the difference between Sri Lankan professionals and foreign professionals, out of 8 interviewees, 5 respondents pointed out that Sri Lankans are not willing to work hard and they explained that it is due to less working hours, holidays and lack of incentives given to them to work. Differences are as follows:

- a) Negative mannerism and working attitudes among Sri Lankans
- b) Sri Lankans not willing to adopt to international system
- c) Sri Lankan systems are quality based than time based
- d) Law restrictions for high rise constructions in Sri Lanka
- e) Lack of experienced people in Sri Lanka

Figure 4-3 shows the different between Sri Lankan and foreign professionals practices.

In the next part, the interviewees stated the benefits they gain working in Sri Lankan construction industry. Following are the other benefits mentioned by respondents:

- a) Possibility of earning a high salary
- b) Working in unique project
- c) Gaining patience
- d) Knowledge in various sectors

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	398	
General Information	7	25	
Involvement of foreign professionals in Sri Lanka construction industry	7	50	
Reasons for selecting Sri Lanka to work	7	13	
Differences between Sri Lankan and foreign practices relevant to your professional field	7	11	
Negative mannerism and working attitudes among Sri Lankans	5	5	
Sri Lankan not willing to adopt to international system	1	1	
Sri Lankan systems are quality based than time based	1	1	
Law restrictions for high rise constructions in Sri Lanka	1	1	
Lack of experienced people in Sri Lanka	2	2	
Sri Lankans are relatively fluent in English	1	1	

Figure 4-3: Different between Sri Lankan Professionals and foreign professionals

Figure 4-4 shows the benefits of professionals they can gain via working in Sri Lanka construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	395	
General Information	7	25	
Involvement of foreign professionals in Sri Lanka construction industry	7	47	
Reasons for selecting Sri Lanka to work	7	13	
Differences between Sri Lankan and foreign practices relevant to your professional field	7	11	
benefits that you can gain by working in Sri Lanka	6	8	
Earning a high salary and income	4	4	
Knowledge in various sectors	1	1	
Working in unique project	2	2	
gaining patience	1	1	

Figure 4-4: Benefits of working in Sri Lanka

Figure 4.5 shows the code based content analysis of the professional's happiness by working in Sri Lankan construction industry. All the respondents were happy to select Sri Lanka for work. According to respondents' opinions the reasons for their happiness are as below:

- a) Good income
- b) Comfortable
- c) Safe country and working conditions
- d) Help, support and respect from locals
- e) New experiences

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka constructio	8	399	
General Information	7	25	
Involvement of foreign professionals in sri lanka construction	7	51	
Reasons for selecting Sri Lanka to work	7	13	
Differences between Sri Lankan and foreign practices rele	7	12	
benefits that you can gain by working in Sri Lanka	6	11	
Happiness of selecting srilanka for work	6	15	
Have good income	4	4	
Feel Comfortable	3	3	
Safe country	3	3	
Help and respect form people	3	3	
Gaining experience	2	2	

Figure 4-5: Analysis of professional's happiness in working in Sri Lanka

4.3.3. Foreign professionals' challenges and mitigation measures

Subsequently, to elicit valuable information from the interviewees, questions were asked in different categories of challenges faced by foreign professionals in Sri Lankan construction industry based on their opinions and work experience in Sri Lankan construction projects. Challenges and strategies to overcome those challenges have been questioned from various construction professionals. Figure 4.6 shows code based analysis challenges faced by foreign professionals' in Sri Lankan construction industry and the suggested strategies by respondents.

Nodes			
Name	Sources	References	
Challenges faced by foreign professionals in Sri Lankan construction industry		8	270
Language issues in communication with sri lankan		6	9
cultural differences issues		8	17
Construction safety during project progress		7	15
Project management challenge		7	15
Construction standards practices in sri lanka construction industry		7	10
Construction technology in sri lankan construction industry		7	21
Construction process in sri lankan construction industry		8	21
Contractual agreements related issues to construction projects in sri lanka		7	21
Construction output or quality related issues in construction projects in sri lanka		7	19
Training period in sri lankan construction industry		7	14
Salary and incentive expectation in sri lankan construction industry		6	11
Facilities at work in sri lankan construction industry		7	11
Working hours condition in sri lankan construction industry		7	11
Tension and job stress in sri lankan construction industry		7	24
Physical working conditions in sri lankan construction industry		7	9
Foods conditions in sri lankan		7	11
Weather and environment condition in sri lanka		7	13
other issues relevant to sri lankan construction industry		6	18
Strategies to overcome challenges		8	53
strategies foreign professionals can use to overcome the professionals challenge		8	20
strategies construction organisations can use to overcome the professionals ch		8	17
strategies Sri Lankan government can use to overcome the professionals challe		8	16

Figure 4-6: Analysis of Challenges faced by Foreign Professionals Work in Sri Lankan Construction Industry and the Strategies to overcome them

4.3.3.1. Language

Communication between the various groups is a fundamental aspect in construction projects. In multicultural projects, language problem is more obvious. Based on majority of the respondents' opinion, most of the Sri Lankans are able to communicate in English and they haven't faced any problem regarding the language. According to respondent 1, if professionals have English capability, they will not face any problem, however if they don't know English then they will face issues in communicating with Sri Lankans.

He said that Sri Lankan labourers are able to speak in English but the labourers brought from their country could not speak in English. Respondent 4 has pointed out that the low level labourers couldn't understand English, nevertheless professionals, supervisors and the foremen level workers can speak in English. According to respondents 3, 5 and 7, there are some problems to communicate in English and it can be manageable with the help of someone who knows English or at least by using body language. Respondent 8 faced another problem that the labourers don't have willingness to do some jobs and they pretend as they do not understand English. Figure 4.7 shows the identified language issues by interviewees in Sri Lankan construction industry.

Nodes			Sources	References
Name				
Challenges faced by foreign professionals in Sri Lanka construction industry			8	399
General Information			7	25
Involvement of foreign professionals in Sri Lanka construction industry			7	51
Challenges faced by foreign professionals in Sri Lankan construction industry			8	270
Language issues in communication with Sri Lankan			6	9
Lack of English language in local and foreigner labors			3	3
problem in Communication with public			3	3
Most of people can communicate in English			3	3

Figure 4-7: Language issues faced by foreign professionals

4.3.3.2. Culture

Cultural issues arise in work places due to different nations, religions, traditions and practices. Figure 4.5 shows the identified cultural challenges by interviewees in Sri Lankan construction industry. According to the interviewees, major cultural challenges are:

- a) Being irresponsible
- b) Pacific culture not a challenging culture
- c) Too many holidays
- d) No common understanding in work culture

Based on the respondent 1, they are not much responsible for their duties. He claims that the Sri Lankans are not answering their phone calls properly. According to respondent 1, when they have agreed with someone to supply some materials on

time, they do not answer their phone calls which force them to find another way to get the necessary items. Respondent agreed with respondent 1 in phone answering issue. Respondent 8 too agreed with respondents 1 and 4. He stated that not answering to the phone calls in Sri Lanka is not a big deal, however that is very bad habit or culture Sri Lankans have. However, respondent 1 explained the reason by his experience for not answering the phone calls is that they have not completed the given work or responsibility or that they cannot supply the materials on time.

Meanwhile, respondent 2 said that he has no cultural issues and he feels free in the country as Sri Lankans are very good in treating and respecting the foreigners and he was here during war time and did not face any problems.

Furthermore, according to respondents 3, 5 and 7, the high numbers of holidays is another problem in Sri Lanka. Respondent 5 stated that there are many holidays during the year and all their labourers leave their jobs and that is a key factor for delays in construction projects which causes losses for the parties. He said that, “These people are very relaxed people and nothing can force them to do something beyond their thinking and their plan, nothing affects their mentality.” According to Respondent 7, there is no common understanding between locals and foreigners. He mentioned that, “There is a Poya day every month and nobody works. Saturday and Sunday also people do not work or not work properly and there are many other holidays as well, we have our own holiday too, if you collect all these holidays together you will understand how much trouble this small cultural different can create in construction which is totally depends on time.” “In this culture hard work is meaningless”, respondent 3 said. According to respondent 6, religion is not an issues for foreigners in Sri Lanka since all the religions are existing in this country. Figure 4.8 shows the cultural differences faced by foreign professionals.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry		8	399
General Information		7	25
Involvement of foreign professionals in sri lanka construction industry		7	51
Challenges faced by foreign professionals in Sri Lankan construction industry		8	270
Language issues in communication with sri lankan		6	9
cultural differences issues		8	17
No responsibility		4	4
Pacifists culture not challenging		3	3
Too many holidays		3	4
No common understanding		3	6

Figure 4-8: Cultural challenges faced by foreign professionals

4.3.3.3. Construction safety

Construction workers face so many risks on the job, and accidents, property damages, injuries and life losses are relatively high in construction industry compared to other industries. There are many dangerous, hazardous activities that are undertaken at site by less / uneducated labourers, who do not know how to carry out the works safely and take care of themselves. Most of the interviewees explained that labours do not understand the vital role of the safety instruction and procedures related to their own health and safety and normally they do not follow them. All the respondents were happy about the safety instruction from the company but they had a common view that there is lack of training to the labourers and need to spend more time and cost for training of the labourers to make them to understand safety. Respondent 1 stated the some major hazards in high rise constructions are:

- a) Working in height
- b) Working with heavy machineries
- c) Using dangerous tools, equipment and materials
- d) Performing the heavy and extensive force work

“There is a health and safety engineer who is responsible to manage the safety at the site. The health and safety team has given instructions to assure people’s safety and

they are trying to train the people to do the job processes in a safe manner, but teaching safety to the normal labourers is very difficult as they cannot understand the degree of the risk. Therefore it creates some problems in the construction site”, Respondent 1 said. Respondent 2 mentioned that, “it is very difficult to convince people to wear the safety shoes and jacket. Sometimes we warned that we will reduce their salary or dismiss them from job to force them to follow the safety rules.”

According to respondent 4, “there are two major challenges in high rise building. First is materials falling from height and second is people falling from height. In both situations, we might face fatality.” He further stated that, “for moving materials, there are many regulation in the country where I worked before, but in Sri Lanka there is no regulation for shifting or moving materials.” According to him, sometimes labourers think that the foreign professionals are forcing them to follow the safety instructions and many of them are coming to fight. During that kind of situations foreign professionals ask the help of Sri Lankan professionals to explain the situation.

According to respondents 3 and 5, lack of experience in high rise building in Sri Lanka is another reason for labourers not following the safety instructions. According to respondent 8, not following construction safety instruction by labourers goes back to their culture and that needs long term training and experience. Figure 4.6 shows the identified construction safety challenges by interviewees in Sri Lankan construction industry. Figure 4.9 shows the challenges faced by foreign professionals in construction safety.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
General Information	7	25	
Involvement of foreign professionals in sri lanka construction industry	7	51	
Challenges faced by foreign professionals in Sri Lankan construction industry	8	270	
Language issues in communication with sri lankan	6	9	
cultural differences issues	8	17	
Construction safety during project progress	7	15	
No understanding of safety by labors	6	6	
Lack of training and experience	6	6	
Lack of safety rules and regulation	2	3	

Figure 4-9: Construction safety challenges faced by foreign professionals

4.3.3.4. Project management

Project management deals with a lot of activities in construction project and project management plans, coordinates and manages all those activities in order e to have best results. According to respondents 1, 2, 4, 7 and 8, lack of resources affects the project management process. Respondent 1 stated that, “management always depends on man power.” Based on respondent 2, project management team is facing big challenges regarding lack of construction materials and skilled man power. Further, he explained that lack of resources like materials and man power, which are the major factors in a construction project affect the project success and lead to management team face time, cost and quality challenges in the project. He described that, “As Sri Lanka is in the developing phase, there are many problems faced by construction companies.

Specifically the management is facing challenges in importing materials, managing human resources, dealing with government and authorities, managing cost and time of the project and so on.” According to him, high rise is new to Sri Lankan construction industry and most of the high rise projects in Sri Lanka are constructed and managed by foreign companies. They are not familiar with the workforces, construction market, construction demographic and the construction culture, therefore the incompatibility between those key factors lead to a lot of challenges for management such as delay in project completion and cost overrun in projects.

According to respondent 7, “Project management means arranging all activities with all the resources to do the project in the right way. But when laborers do not work properly, when holidays are too much, when materials supply is relayed, management is difficult.”

Respondent 1 believed that when management team members are foreigners, the project management is efficient compared to local management. When Sri Lankan feel that the project is initiated by foreigners, they work in better capacity.

Respondent 3 pointed out that, “The poor management always bring delays and these delays cause a lot of loses.” According to respondent 5, finding a good project manager in Sri Lanka is very difficult. He mentioned that there are shortages in construction professionals and he suggested that Sri Lanka should stop sending their professionals abroad. According to respondent 7, project management in Sri Lanka acts traditionally as they are not familiar with popular project management software such as MS Project and Primavera. Figure 4.10 shows the identified project management challenges by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry		8	399
General Information		7	25
Involvement of foreign professionals in sri lanka construction industry		7	51
Challenges faced by foreign professionals in Sri Lankan construction industry		8	270
Language issues in communication with sri lankan		6	9
cultural differences issues		8	17
Construction safety during project progress		7	15
Project management challenge		7	15
Lack of proper management members and management system		3	3
Project management depend on condition		5	5
Foreign project management is efficient than local management		2	3
Project management affected by lack of different resources		4	4

Figure 4-10: Project management challenges faced by foreign professionals

4.3.3.5. Construction standards

Majority of respondents identified that the projects which are constructed by foreign companies are in high level of the standards. Respondent 2 stated that, “we have good standards. As an example, our accuracy is in millimeter range, because of that the progress is low. We have to use BS Standards for phase 3 of project. If there are no proper standards to follow, we will face big problems.” Respondent 4 said that, they are following the high standards of USA and UK which is the best standard in the world. He stated that they are following the “ILO” International Labour Organization. For example for installation and operating lifts, we get the certificate by a third party. Before the operation of the lift, third party comes and checks the lift if it is in the standard range and they give the certificate for operating the lifts. According to respondent 1, if we go and check the foreign projects in Sri Lanka, we will find the high standards in their projects. Generally, other respondents agreed that the foreign companies follow good standards in their projects in Sri Lanka.

Respondents 1, 3, 4, 6, 7 and 8 stated that, there are no common and proper construction standards in Sri Lanka. Respondent 1 stated that, there are no national and common standards here. There are many companies in Sri Lanka from different countries and each of them following their own standards. For example if a company is from India then they follow the Indian standards, but under Sri Lankan rules and regulation. Moreover, according to respondent 3, there is no well-defined standard in construction industry and needs improvement. He suggested that, “Standard Association of Sri Lanka should enter to the construction field and establish and improve standards for the engineers, skilled workers and labourers.” He further pointed out that universities and seminars can help to improve the standards in Sri Lankan construction industry.

Respondent 4 said that, “in Sri Lanka some of them are adopting standards from other countries.” According to respondent 6, Sri Lankan construction professionals need to adopt international standards. He further stated that, their standards are theoretical than practical and they are using a lot of calculations and structural analysis at design stage which causes delays in the design phase. Furthermore,

respondent 7 identified that, there is no enough standards in designing. For example if we compare the size of the parking or ramp with other countries, its small or not according to the standard. Most of the designers are local and the standards they follow are not acceptable in their engineering standards.

Besides, Respondent 8 identified that, the Sri Lankan government is trying to improve the construction industry standards. Figure 4.11 shows the challenges faced by foreign professionals related to construction standards in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
General Information	7	25	
Involvement of foreign professionals in sri lanka construction industry	7	51	
Challenges faced by foreign professionals in Sri Lankan construction industry	8	270	
Language issues in communication with sri lankan	6	9	
cultural differences issues	8	17	
Construction safety during project progress	7	15	
Project management challenge	7	15	
Construction standards practices in sri lanka construction industry	7	10	
High standards in foreign project	3	3	
No common and proper standards	5	5	
following good standards	1	2	

Figure 4-11: Construction standards related challenges faced by foreign professionals

4.3.3.6. Construction technology

Most of the respondents commented on lack of knowledge and experience in working with new technologies in construction industry in Sri Lanka. Based on respondent 1, most of the Sri Lankan workforce is not familiar with the new technologies. This takes time for them to gain knowledge and experience in new technology and become familiar to work with those technologies. Respondent 2 stated that, mostly Sri Lankans work with old traditional technology. He stated “for example still they are using plywood as formwork.

For our project we are using advanced aluminum formwork which Sri Lankan are not that much familiar with. In Sri Lanka when we excavate the ground in depth there is

a strong water flow. For dewatering we are using very advanced technology which most of the Sri Lankan do not know. Due to the lack of technological issues we even changed our management team.” He further stated that they faced many problems with lack of knowledge on new technology and right people. He stated that, “before they were not able to make big bridges and now they have learned how they can do such big projects. Many local companies really improved in last 11 years.” He further described that for normal buildings they have enough technology, but when it comes to construction of mega projects such as Port City it is not possible for Sri Lankan construction professionals. He doubted that even in next 10 years definitely Sri Lankans will not be able to reach this technology” According to respondent 4, the technological challenges are:

- a) New technologies are not available
- b) Issues in importing technology
- c) High cost of the technology
- d) Technology maintenance
- e) Inability to work with technology

Out of 8 interviewees, respondent 6 identified that, there is no issues regarding technology. Further, respondent 5 stated that, technology is available and they can use the new technology. But the problem with the new technology is that it is expensive and there is lack of the enough people to work with new technology. Moreover, respondent 3 said that, “In regard of new technology and new developments Sri Lankan construction industry is far behind.” He explained that with the help of universities, engineering associations, holding seminars, exhibitions and involvement of foreign professionals, it is possible to transfer the technical knowledge from one country to another. Especially this could happen between developed and developing countries.

Respondent 8 said that, “technology is good, because many foreign companies are working in Sri Lanka, therefore automatically knowledge transferring is there between them and they will improve more in near future.” Figure 4.12 shows the identified construction technology challenges by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
Challenges faced by foreign professionals in Sri Lankan construction industry	8	270	
Construction output or quality related issues in construction projects in sri lanka	7	19	
Construction process in sri lankan construction industry	8	21	
Construction safety during project progress	7	15	
Construction standards practices in sri lanka construction industry	7	10	
Construction technology in sri lankan construction industry	7	21	
High cost and difficulty of maintenance of new technology	2	2	
Lack of industrial manufacture	2	2	
Lack of knowledge and experience to work with new technology	5	5	
Lack of transferring the new technology knowledge	1	1	
New Technology not developed in srilanka	4	4	
Shortage in human resource	2	2	
Technology have no problem	3	3	
Using traditional technology	2	2	

Figure 4-12: Construction technology challenges faced by foreign professionals

4.3.3.7. Construction process

According to respondents 1, 2 and 3, slow progress in the construction process causes delay in project completion. Construction process depends on the condition of the project resources availability such as: man power, construction machineries and others resources. Respondent 1 said that, if these resources are in good and acceptable level then construction process will be undertaken properly. With foreign professionals' involvement can reduce the delays. Moreover, respondent 2 stated that, since Sri Lanka is not a developed country, project activities take more time to complete compared to other countries. For example there is no proper infrastructure facility across the country and many materials reach the site lately. Besides, respondent 3 identified that, delay in the construction projects is because of the Sri Lankan culture.

Majority of the respondents defined that there are many challenges in construction process such as shortage in materials, skilled labours and high cost of construction process in Sri Lanka. According to respondent 2, "cost is higher than other countries, because here they import all the materials. Even for making concrete they have to bring the sand from East of Sri Lanka, there is no proper road to bring sand and aggregate faster. All the construction materials and machineries

are expensive in Sri Lanka.” Respondent 3 said that, due to the delay in activities cost of the project goes high too. He said lack of skilled labours is another issue. Furthermore respondent 4 have identified that, they faced challenges due to lack of proper certified technicians in mechanical and electrical field. For example when they recruited 20 technicians in electrical field most of them had expired licence and only three of them had knowledge on electrical work properly. After that they assigned an expert to train and monitor them during works which is another extra cost in the project. According to respondent 5, there are lack of skilled man power, less productivity, no productivity, lack of experience, and lack of the sequence (discipline) at the work processes. Respondent 7 said there are too much rules and regulation in construction process. However, respondents 5 and 8 have identified construction processes are same as everywhere. Figure 4.13 shows the identified construction process challenges faced by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry		8	399
Challenges faced by foreign professionals in Sri Lankan construction industry		8	270
Construction output or quality related issues in construction projects in sri lanka		7	19
Construction process in sri lankan construction industry		8	21
High cost		4	4
Lack of certified technician		1	1
Lack of experience and productivity		4	4
Lack of training institution		1	1
Low speed in construction process cause delay		3	3
Not sufficient knowledge in the field		3	4
Process are same everywhere		1	1
Shortage in materials and labors		3	3

Figure 4-13: Construction process related challenges faced by foreign professionals

4.3.3.8. Contractual agreement

After analyzing the interview data, it can be seen that majority of the respondents have identified that, there are lot of modifications in international agreements in Sri Lanka. Respondents 2 and 4 have identified that, when they make an agreement in Sri Lanka, Sri Lankan people add many modifications and terms in the context of the agreement. All the risks come to contractor and it is not fair.

Respondent 2 said that, “it is impossible to have exact scope of work for the construction in agreement. Sometimes, when we are building the apartments and when those apartments are sold to private sector or people, the customer do not like the design. Therefore they request from our client to do some changing in the apartment design. This variation was not in our scope and we can claim as extra work for extra cost.”

Furthermore, respondents 2, 4 and 5 described that, there are discrimination in agreements. When they ask for modification or change some term in the agreement, the Sri Lankan response was that “if you do not like these conditions, then leave the tender.” Respondent 4 said that, “Unfortunately in each part of agreement they put some clause which is unfavourable to foreign contractors. They follow partly international agreement and partly local agreement. The problem is because when they deal with a foreigner in their own country, they change the agreement clauses in a way to their own benefits.” Respondent 5 has described that, “Sri Lankan people are not working without a signed agreement. In some countries even with verbal instructions, people start to work. I signed an agreement with a Sri Lankan local subcontractor and after spending some time there was no progress in their part. We had conflict and he put a case against my company, but the court supported the local people. May be the agreement was in their favor and I think the local contractor did that intentionally.”

Some respondents complained that, there are restricted rules and regulation in order get agreement and work permission. Respondent 1 said that there are strict rules for agreements and normally top management deals with it. According to respondent 7, getting into an agreement with a local company is very difficult as they follow different rules and standards. He said that when buying a house or renting an apartment, there are strict rules so that foreigners cannot have direct investments.

Respondent 3 stated that, “we have no problem regarding the agreement and the agreements are based on international standards.” Figure 4.14 shows the identified contractual agreement challenges by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
Challenges faced by foreign professionals in Sri Lankan construction industry	8	270	
Construction output or quality related issues in construction projects in sri lanka	7	19	
Construction process in sri lankan construction industry	8	21	
Construction safety during project progress	7	15	
Construction standards practices in sri lanka construction industry	7	10	
Construction technology in sri lankan construction industry	7	21	
Contractual agreements related issues to construction projects in sri lanka	7	21	
Discrimination	3	5	
International arbitration	1	1	
Modification in international standard agreement	2	3	
No exact scope of work in high rise	1	3	
No problem in agreement	1	2	
Strict rules in agreements	3	4	
Strict Work permission rules	2	3	

Figure 4-14: Contractual agreement challenges faced by foreign professionals

4.3.3.9. Construction output or quality

Majority of respondents have identified that, there are challenges related to lack of experience, resources and training institutions. According to respondent 1, quality is depending on the following items:

- a) Quality of work of project members
- b) Standards of education institutions
- c) Project members' experience

He explained quality of work is related to the project members directly and Sri Lankans do not have enough experience to have good quality and further stated that "I think my people are much better than Sri Lankans in quality."

Respondent 2 said that, the quality is very good according to the clients' requirements. According to him, "We barely can say we are completing this project with minor mistakes. As an example they try to have tolerance less than 5 millimeter in the construction components but the speed is very low." Respondent 4 stated that, quality and outcome is very good since the client and customers are happy about that. In his country maximum they can complete 2 or 3 concrete slabs per month but in the

particular project in Sri Lanka where he is working now, it takes around 5-6 months to complete.”

Respondents 3 has defined that, the quality is good but still needs improvement. He further added “For the surface and structure they are using the traditional methods and materials are also not good, the quality is also low. They are using plywood and timber for concrete formwork.” According to respondent 5, “It’s acceptable and it needs little improvement, Sri Lankan labourers are not that skilled which is needed for the desired output.” Respondent 5 have identified that, the quality needs improvement. For example for fixing the tiles in good quality Sri Lankan workers are doing a lot of rework due to bad fixing of tiles and that rework is extra cost for project. Figure 4.15 shows the identified construction output/quality challenges by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry	8	399	
Challenges faced by foreign professionals in Sri Lankan construction industry	8	270	
Construction output or quality related issues in construction projects in sri lanka	7	19	
Good quality and outcome	3	3	
Lack of experience	3	5	
Lack of resources	2	3	
Lack of the training institution	2	2	
Need improvement	3	4	
Using traditional construction methods	1	2	

Figure 4-15: Construction output/quality challenges faced by foreign professionals

4.3.3.10. Training period

Except respondent 7, all other respondents have identified training for professionals is not necessary. According to him, “There is no training here, but foreigner cannot come into a new environment and directly start working, they must be trained with some culture, construction system and so on.”

Respondents 2, 4 stated that, when foreigners involve with the Sri Lankan construction industry, they need some time to adopt with new environmental

condition. Respondent 4 have identified that, generally professionals don't need training but for safety professionals it is necessary. Based on Respondent 1, there are not enough training institutes in Sri Lanka. Figure 4.16 shows the identified construction training period challenges by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Salary and incentive expectation in sri lankan construction industry		6	11
Tension and job stress in sri lankan construction industry		7	24
Training period in sri lankan construction industry		7	14
Need adoption period		4	4
Need training		2	4
Unnecessary		5	6

Figure 4-16: Construction training period related challenges faced by foreign professionals

4.3.3.11. Salary and incentive expectation

Most of the interviewees have identified that, their salary is at acceptable level and manageable. According to respondent 1, “when you work in a foreign company they pay you high salary and even they pay high to local people.”

Nodes			
Name	Sources	References	
Facilities at work in sri lankan construction industry		7	11
Foods conditions in sri lankan		7	11
Language issues in communication with sri lankan		6	9
other issues relevant to sri lankan construction industry		6	18
Physical working conditions in sri lankan construction industry		7	9
Project management challenge		7	15
Salary and incentive expectation in sri lankan construction industry		6	11
Conflict between foreign professionals and locals		1	2
Depending on company origin		1	2
Expect high salary		1	1
In acceptable level and manageable		4	4
No motivation		1	2

Figure 4-17: Salary and incentive related challenges faced by foreign professionals

According to respondent 4, “our company has incentive scheme for locals but not for foreigners. There is a fixed salary for us and no motivation to improve salary.” Respondents 3, 4, 5, 6 and 7 stated that they are expecting higher salary. Based on respondent 1, foreigners have higher salary compared to local people, even in the same field and level. With the salary difference between locals and foreign professionals, locals are not happy and they need more incentive in their job. He said, “This is fair if foreigner have better salary and income since they are far away from their family and they need more salary and incentive to leave their country to come and work in another country.” Figure 4.17 shows the salary and incentive related challenges identified by interviewees in Sri Lankan construction industry.

4.3.3.12. Facilities at work

According to the interview data classification, all of the respondents have identified that, facilities at work is in the acceptable level. Respondent 1 identified that, facilities are similar to other countries and company provides them: food, flight, residency, insurance and vehicle for top management people. Respondent 2, explained that, “my company provides the transport facility and we have Chinese chef who cooks Chinese food for us. Most of the people are having good vehicle which company provides them.”

According to respondent 3, professionals have good facilities at work since they are foreigners but normally labourers are not provided with good facilities at the construction project site. Figure 4.18 shows the identified facilities at work challenges by interviewees in Sri Lankan construction industry.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry		8	399
Challenges faced by foreign professionals in Sri Lankan construction industry		8	270
Construction output or quality related issues in construction projects in sri lanka		7	19
Construction process in sri lankan construction industry		8	21
Construction safety during project progress		7	15
Construction standards practices in sri lanka construction industry		7	10
Construction technology in sri lankan construction industry		7	21
Contractual agreements related issues to construction projects in sri lanka		7	21
cultural differences issues		8	17
Facilities at work in sri lankan construction industry		7	11
Different condition with other working place condition		1	2
In an acceptable condition		6	6
Not acceptable for labors		1	1
Similar to other country		1	2

Figure 4-18: Facilities at work related challenges faced by foreign professionals

4.3.3.13. Working hours

Most of the respondents have identified that, working hours is similar to any other country in construction industry. Company pays overtime as well for the extra working hours.

Respondent 2 stated that working hours is not good and it is not in the international working hour range. He explained that, “for Sri Lankan professionals, it is good as they are working 8 hours per day, have all the holidays and vacation. But for the foreigners, especially Chinese, they are working from 6.30am to 10pm every day without vacations. Every year we have only 44 days leave. Working under this condition is so hard, I am trying to rectify this rules in our company.”

Respondent 3 stated that, Sri Lanka people have less working hours and they use all holidays they have and there are a lot of holidays in this country. But professionals, they are doing their best to complete the project and go back to their country as soon as possible. Respondent 6 stated that, “due to the sun light, working in the noon time is very difficult for the locals and even much more difficult for the foreign professionals.” Figure 4.19 shows the challenges related to working hours identified by foreign professionals.

Nodes			
Name	Sources	References	
Physical working conditions in sri lankan construction industry	7	9	
Project management challenge	7	15	
Salary and incentive expectation in sri lankan construction industry	6	11	
Tension and job stress in sri lankan construction industry	7	24	
Training period in sri lankan construction industry	7	14	
Weather and environment condition in sri lanka	7	13	
Working hours condition in sri lankan construction industry	7	11	
Acceptable and Similar to other country with over time	4	5	
Depending on company and nationality	1	2	
Not in international rule range	1	2	
Working at difficult time during daylight	1	2	

Figure 4-19: Working hour related challenges faced by foreign professionals

4.3.3.14. Tension and job stress

Under this section the interview was comprised inquiring the job stress and tension at the construction project site. All the respondents have identified that, construction projects are very stressful. According to them, the major reasons for high tension and stress in the construction job are:

- a) High client requirements
- b) Shortage in materials, machineries and man power
- c) Conflicts with the top management
- d) Lack of proper suppliers to provide the materials and necessary items
- e) Delay due to getting many approvals
- f) Different working hours within Sri Lankan industry
- g) Delay due to working culture of Sri Lankan people
- h) Too many holidays and lack of experience of Sri Lankan workers
- i) Safety problems
- j) Concern about family
- k) Many authorities are involved in construction industry and dealing with them is very difficult

Respondent 1 stated that, “always client is not satisfied with the process. For example if we complete one slab in one week, they expect and request from us to complete one slab in five days.” He further added “most of the stress is because of the top management. If they do not

give unnecessary tension to us, work will go very smoothly. But we never transfer those stress to labourers. Moreover, there are two options to complete a task. First is we put the labourers under pressure and second is we encourage them to complete that task. If you put them under pressure it never works but if you encourage them they will be more efficient and it is same everywhere.” According to respondent 2, if a task is completed under pressure and tension the outcome is not in good quality. He stated that putting pressure on workers can help for a short period to complete few tasks, but it cannot be used all the time.

Nodes			
Name	Sources	References	
Tension and job stress in sri lankan construction industry		7	24
Approvals of documents		1	2
Delay in project completion		4	6
Encouragement have better result than tension		1	3
High tension		5	5
Lack of materials		1	1
Lack of proper supplier		1	3
Tension in different job position		1	2
Top management pressure		1	2

Figure 4-20: Tension and job stress related challenges faced by foreign professionals

Respondent 4 has stated, “This job is full of stress.” Respondent 6 said that, due to a lot of responsibilities and works at the site, it is always stressful. Figure 4.20 shows the identified tension and job stress related challenges faced by respondents.

4.3.3.15. Physical work condition/environment

Based on interviewees’ opinion, majority of them have identified that the physical work condition in construction project is good but it is difficult compared to other jobs. According to them, construction profession is difficult than others because:

- a) Construction job is hard and dirty work
- b) Dangerous
- c) Dealing with uneducated labourers
- d) Complex work

Nodes			
Name	Sources	References	
Contractual agreements related issues to construction projects in sri lanka		7	21
cultural differences issues		8	17
Facilities at work in sri lankan construction industry		7	11
Foods conditions in sri lankan		7	11
Language issues in communication with sri lankan		6	9
other issues relevant to sri lankan construction industry		6	18
Physical working conditions in sri lankan construction industry		7	9
In good condition		3	3
It's good only for professionals and engineers		1	1
Physical work condition is difficult than other job physical condition		5	5

Figure 4-21: Physical work condition related challenges faced by foreign professionals

Respondent 2 has stated that, “We have no problem regarding physical condition, there is enough tools, machinery and office equipment. But still we cannot say it is like other office places or home because our work condition is so hard, dangerous and not clean. Handling materials and dealing with labourers is difficult.”

Respondent 3 said that, “the work environment is friendly and supportive but in construction site, things are not going easily and smoothly.” According to respondent 5, construction is not comparable with any other jobs as it’s a harsh job.

Respondent 6 explained, “For professionals, it is ok, but for labourers it is not. Professionals have proper office space.” Figure 4.21 shows the physical work condition related challenges faced by interviewees in Sri Lankan construction industry.

4.3.3.16. Food

Most of the respondents have identified that there is no proper food and they face difficulty regarding local food. According to respondent 1, food taste and dishes are different with his country and normally they use bread based food but Sri Lankan main food is rice and curry. He said that they have good food since company recruited chefs from Pakistan to make us Pakistani dishes. He stated that, “Food items are not available like my country, we cannot find even proper

vegetables. Regarding food this country is not good.” Further, respondent 3 stated that, “there are not many hygienic and proper standards in restaurants in Sri Lanka. We cannot eat the normal food here and food items we like in our country is not available here or it is very expensive. We do not have many options, normally we cook at home with our taste or going to the standards restaurant.” According to respondent 5, “Pakistani labourers do not like the rice and curry and they feel sleepy when they eat rice. They like bread.” Based on respondent 7’s opinion, “Proper food is not available, most of the time we use our Iranian stuff and cook for ourselves. And spending money for everyday in a hotel is not affordable. We cannot drink normal water so we use mineral water all the time.”

Interviewee 8 stated that Sri Lankan taste is too spicy and they could not handle the spicy food. However he also mentioned that when they decide to live out of their country they should adopt themselves with the normal condition. He added that the food variety is less and there are not much hygienic foods.” Respondents 2, 4 and 6 have identified that, there are not much difference between their country taste and Sri Lankan.

They do not feel any problems regarding foods. Respondent 2 stated that, “I can buy food from anywhere. Cost of food is acceptable.” Figure 4.22 shows the challenges related to foods faced by foreign professionals.

Nodes			
Name	Sources	References	
Challenges face by foreign professionals in Sri Lanka construction industry		8	399
Challenges faced by foreign professionals in Sri Lankan construction industry		8	270
Construction output or quality related issues in construction projects in sri lanka		7	19
Construction process in sri lankan construction industry		8	21
Construction safety during project progress		7	15
Construction standards practices in sri lanka construction industry		7	10
Construction technology in sri lankan construction industry		7	21
Contractual agreements related issues to construction projects in sri lanka		7	21
cultural differences issues		8	17
Facilities at work in sri lankan construction industry		7	11
Foods conditions in sri lankan		7	11
Faced difficulty regarding local foods		4	4
No problem regarding foods		3	4
Not proper foods available or expensive		3	3

Figure 4-22: Challenges faced by foreign professionals related to foods

4.3.3.17. Weather/environmental condition

Interviewees 2, 3 and 7 have identified that, weather is not comfortable because of the temperature and humidity difference. Respondent 3 stated that, “It’s humid and hot and it is different to my country’s weather. My country has four seasons, so that we have weather change every three months. But after sometime we live here, we get bored because weather is almost the same in whole year. But it is fresh. It is not polluted. That is an advantage of this country.” Respondent 7 agreed with respondent 3.

One of the main issues construction professionals face is rain. They claimed that there are no accurate weather forecasting therefore they can’t pre plan the project activity of a day. Respondents 1, 2, 5 and 8 agreed about this matter. Respondent 1 explained that, “during heavy rain we are facing a lot of difficulties. In Pakistan there is good forecasting and can plan the work, but in Colombo rain will start suddenly and the forecasting here is not that accurate. We have to program the activities according to rain especially for the concreting.”

Respondents 1, 4 and 6 defined that, they are comfortable in this weather and environment. Respondent 1 stated that, adopting to weather conditions in the country depends on where you come from. If someone is coming from the similar climate country he/she will not feel any difficulty. Figure 4.23 shows the weather and environment condition related challenges faced by foreign professionals.

Nodes			
Name	Sources	References	
other issues relevant to sri lankan construction industry		6	18
Physical working conditions in sri lankan construction industry		7	9
Project management challenge		7	15
Salary and incentive expectation in sri lankan construction industry		6	11
Tension and job stress in sri lankan construction industry		7	24
Training period in sri lankan construction industry		7	14
Weather and environment condition in sri lanka		7	13
Different in construction project and different places		1	1
Facing problem due to rain		3	3
Feeling comfortable in this weather and environment		3	3
Feeling different by change the nationality		2	2
Lack of entertainment facilities		1	1
Weather not comfortable and boring		2	3

Figure 4-23: Weather and environment condition related challenges faced by foreign professionals

4.3.4. Strategies to overcome the identified challenges

The respondents were asked about the strategies they can propose for construction organizations and Sri Lankan government regarding the challenges faced by foreign professionals. As they are working in different levels of professions, they mentioned variety of ideas and solutions regarding this section according to their profession. The main challenges faced by a foreign professional is lack of the project resources and lack of enough experience of local labourers. These main challenges lead to many other challenges such as high cost of materials, conflict in job, minor incentive at work, low progress of the project, high tension and stress to name a few.

The interviewees were questioned about the strategies under following headings:

- 1) Identify the strategies that foreign professionals can use to overcome the challenges
- 2) Identify the strategies that construction organisations can use to overcome the challenges
- 3) Identify the strategies that Sri Lankan government can use to overcome the challenges

4.3.4.1. Strategies that foreign professionals can use to overcome the challenges

Respondent 1 emphasized that, foreigners must be very careful during the construction process. According to respondents 1 and 7, “they should be very flexible in making decisions regarding the problems at work.” Respondents 1, 5 and 7 stated that there should be proper planning and monitoring regarding the activities to have good construction process. Respondent 1, 6 and 7 agreed that when foreign professionals are working in a new country, they should try to adopt with host country environment and culture. Respondent 2 and 7 stated that, “if there is not enough skilled workers, we have to bring the man power from our own country and it is good for the progress of the construction. Better results can be obtained if we have both foreign and local workers.”

Respondents 4 and 7 said that cooperation and working together with local professionals can help to overcome many challenges and to transfer the knowledge between them. Respondent 8 believed that, the foreign professionals who are involved in Sri Lankan construction industry could have an “international construction professionals association” and they can share their experiences between them to find better solutions to overcome the challenges. Figure 4.24 shows the strategies that foreign professionals can use to overcome the challenges.

Nodes			Sources	Referen
Name				
Involvement of foreign professionals in sri lanka construction industry			7	51
Strategies to overcome challenges			8	53
strategies construction organisations can use to overcome the professionals challenges in sri lankan construction industry			8	17
strategies foreign professionals can use to overcome the professionals challenges in sri lankan construction industry			8	20
Bring the human resource from other country			1	1
Convey the experience to the relevant authorities			2	2
Cooperation with local professionals			2	3
Flexibility of professionals			1	1
Foreign professional adoption with conditions			4	4
Foreigner can't make a strategy			1	2
Mixing foreign with local			1	1
More careful during construction process			1	1
Proper planning and monitoring			3	3
Study about existing challenges in srilanka			2	2

Figure 4-24: Strategies that foreign professionals can use to overcome the challenges

4.3.4.2. Strategies that construction organizations can use to overcome the challenges

There were many challenges identified during interviews which can be mitigated by the construction organizations. Figure 4.25 shows the strategies that construction organizations can use to overcome the challenges.

Nodes			
Name	Sources	Referen	
strategies construction organisations can use to overcome the professionals challenges in sri lankan construction industry	8	17	
Establish research and training section in construction organization	5	5	
Gather the foreign professional knowledge	2	2	
Get united in construction ministries	3	5	
Holding relevant seminars	1	2	
More involvement in construction project	1	1	
Study and education about the barrier of construction industry	2	2	
strategies foreign professionals can use to overcome the professionals challenges in sri lankan construction industry	8	20	
strategies Sri Lankan government can use to overcome the professionals challenges in sri lankan construction industry	8	16	

Figure 4-25: Strategies that construction organizations can use to overcome the challenges

According to Figure 4.25, the strategies that construction organizations can use to overcome the challenges are:

- a) Establish research and training section in construction organization among professionals
- b) More involvement in construction projects
- c) Study and analyse the barriers of construction industry professionals
- d) Gather the foreign professional knowledge's (Technology transfer)
- e) Get united in construction ministries
- f) Holding relevant seminars, conferences and exhibitions among professionals.

4.3.4.3. Strategies that the government can use to overcome the challenges

It can be observed from the NVivo outcome that the majority of interviewees have stated that the government should change the strict rules and regulation towards construction industry and foreign professionals. Most of the respondents suggested government of Sri Lanka give more support to the foreign companies and investors. According to respondents 1, 2 and 6, government should attempt to identify the foreign professionals' requirements and their social problems and eventually try to

decrease the problems and provide their necessary requirements as much as possible. Respondent 6 stated that, Sri Lanka has expanded the construction industry mainly through many foreign investments. Government should identify the problems of these foreign investors and try to resolve them since those investors bring a lot of money to this country and involve in major projects. As respondent 5 mentioned if the government does not support the investors, they wouldn't come and the foreign direct investments will become low thus affecting the boom of construction development in Sri Lanka. Further respondent 3 and 5 emphasized that, government should change a lot of socialist approaches and welcome foreigners and investors in Sri Lanka and prepare good atmosphere for them. Moreover respondent 7 and 8 explained that, government should support the overall construction industry and the parties involved in construction industry which will eventually benefit the whole industry and provide means for development. Figure 4.26 shows the strategies that Sri Lankan government can use to overcome the challenges.

Nodes		Sources	Referen
Name			
strategies Sri Lankan government can use to overcome the professionals challenges in sri lankan construction industry		8	16
Change srilankan government policy and regulations and approach		7	7
Follow western oriented policy		1	1
Identifying the foreign necessary requirements		3	4
Support foreigners		4	4

Figure 4-26: Strategies that Sri Lankan government can use to overcome the challenges

4.4. Summary of the Findings

The summary of research findings are presented in Table 4.5.

Table 4-5: summaries of the finding

Challenging area	<ul style="list-style-type: none"> Identified challenges and opinions
Language	<ul style="list-style-type: none"> Lack of English language in local and foreigner labourers Communication with other stakeholders

Culture	<ul style="list-style-type: none"> • Non responsible behaviour of people • Pacifists culture (Not challenging nature of people) • Too many holidays • No common understanding
Construction safety	<ul style="list-style-type: none"> • No proper understanding of safety • Lack of training • Lack of safety rules and regulation
Project management	<ul style="list-style-type: none"> • Lack of proper management team members • Foreign project management is efficient than local management • Project management affected by lack of construction resources
Construction standards	<ul style="list-style-type: none"> • High standards in foreign projects • No common and proper standards in local industry
Construction technology	<ul style="list-style-type: none"> • Lack of knowledge and experience to work with new technology • Using traditional, old technology • Lack of innovation in technology • Challenge with technology and knowledge transfer • High cost and difficulty of maintenance of new technologies • Shortage in human resource
Construction process	<ul style="list-style-type: none"> • Lack of experience • Slow in construction process • Construction process delays • Shortage in materials and labourers • High cost • Lack of training institutions • Lack of certified technicians • Not sufficient knowledge for technicians in the field • Processes are same everywhere

<p>Contractual agreements</p>	<ul style="list-style-type: none"> • Strict rules in agreements • Modification in international standard agreements • No exact scope of work in high rise constructions • Strict work permission rules • Discrimination • International arbitration
<p>Construction output or quality</p>	<ul style="list-style-type: none"> • Lack of the training institutions • Lack of experience • Good quality and outcome • Using traditional construction methods • Needed improvements • Lack of resources
<p>Professionals training period</p>	<ul style="list-style-type: none"> • Mostly unnecessary • Need time for become familiar • Need training in some areas
<p>Salary and incentive expectation</p>	<ul style="list-style-type: none"> • Depends on company origin • Conflict between foreign professionals and locals • Expect high salary • No motivation • In acceptable level and manageable
<p>Facilities at work</p>	<ul style="list-style-type: none"> • Similar to other countries • In an acceptable condition • Different facilities compared to other workplaces • Not acceptable for labors
<p>Working hours</p>	<ul style="list-style-type: none"> • Acceptable and similar to other countries • Not in international rule range • Depends on company and nationality • Difficulties during daytime

Tension and job stress	<ul style="list-style-type: none"> • High tension • Encouragement • Lack of materials • Lack of proper suppliers • Approvals of documents • Different working hours • Tension in different job positions • Delay in project completion • Top management pressure
Physical working conditions	<ul style="list-style-type: none"> • In good condition • It's good only for professionals • Physical working condition is difficult than other jobs
Foods	<ul style="list-style-type: none"> • Difficulties regarding local foods • Hygiene issues • Lack of proper clean standard restaurants • Expensive
Weather/ Environmental condition	<ul style="list-style-type: none"> • Not comfortable • Boring as same in whole year • Facing problems due to rain • Different feeling in different construction projects in different places • Lack of entertainment facilities
Other issues	<ul style="list-style-type: none"> • Lack of preliminary facilities • Shortage of industrial materials • High cost in living and construction projects • Lack of government support • Lack of new technology • Shortage in human resources • Environmental issues • Old Government policy • Communication culture

4.5. Summary

The outcomes of the unstructured interview guideline with referring the outcomes of the literature review were discussed in detail throughout this chapter. The ideas and suggestions of the foreign professionals which were taken during expert interviews were analyzed and presented in detail. Finally, a discussion has been done to distinguish the differences and similarities in literature review and findings using expert opinion survey. Hence, the objectives of the research have been fulfilled with this chapter and the outcomes of the research will be concluded in the next chapter.

CHAPTER 05: CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter summarizes and concludes the results drawn from the research. Following conclusive deliberations of the study were established to discover the challenges faced by foreign professionals work in Sri Lankan construction industry, which is the aim of this research. Initially, an overview of the study undertaken was presented. Then, appropriate recommendations are made for the industry practitioners provided based on the research findings. The whole idea of a recommendation is to provide a beneficial guide that will not only resolve certain issues, but result in a beneficial outcome. Finally the limitations on which this study has been undertaken and further research directions emerging from this study are discussed.

5.2. Conclusions

By considering the number of foreign companies that involved in the Sri Lankan construction industry and their influence on economic growth in last 8 years, it is concluded there are many foreign professionals who are working in the Sri Lankan construction industry. This research therefore aimed at studying the challenges faced by foreign professionals work in Sri Lankan construction industry.

After conducting a thorough background study, the research aim was derived from the research problem and research objectives were determined. The first chapter presents those areas briefly. Then a comprehensive literature review was carried out mainly covering; construction industry's nature, issues in construction industry, global construction industry, foreign professional's involvement in global construction industry, foreign investment, reasons of foreign professional's involvement in construction industry, and challenges faced by professionals in construction industry.

To achieve the research objectives, a qualitative research approach was adopted. Expert opinion interviews were conducted among foreign construction project professionals who are working in Sri Lankan construction industry.

The interview transcripts were prepared based upon the data collected through the literature review. Data collected through the expert interviews were analysed with the assistance of NVivo data analysis software.

In order to investigate the challenges faced by foreign professionals, applicability and requirement of specific technical knowledge, skills and competencies of the foreign professionals of construction projects were first identified through the interviews. Further, the challenges faced, reasons behind the challenges and mechanism to overcome those challenges were also elicited through the interviews.

A list of challenges faced by the foreign professionals have been identified via existing literature. In addition to the challenges identified through the literature, interviews revealed some different challenges as well. Through the literature survey, it was highlighted that the most of the challenges faced by the foreign professionals have the potential to directly and highly affect the whole construction project. Further, the review of literature emphasised the various challenges and their influences on the foreign professionals and construction projects. Similarly, the scrutiny on interview data provided significant evidence of the challenges faced by the foreign professionals in Sri Lankan construction projects as well.

Through data analysis it has been ascertained that, all the respondents have identified foreign professionals are willing to work in Sri Lankan future projects mainly because of prevailing job opportunities and high level of income that can be gained. Their major argument was the lack of resources such as, man power, materials and lack of well experienced professionals and workers in construction industry related to construction phase of the project.

Major challenges discovered by the expert's opinions were, lack of the construction necessities, such as human resources, materials, technologies, construction knowledge and experiences, supply of construction requirements and lack of public facilities. Projects faced delay due to many holidays during the whole year and it lead to projects cost overrun.

Irresponsible behaviour of the Sri Lankans makes the professionals uncomfortable to work in Sri Lankan construction industry in the entire construction phases. Skills and competencies of the people have been identified as it not up to the anticipated level. Absence of training institutions, high cost of construction process, incompatible government rules and policy, food cost and quality, difficult weather condition, high job tension, cultural and construction standards issues were some other challenges faced by foreign professionals in Sri Lankan construction industry. Most of the professionals lived alone, due to the difficulties that they face in living in Sri Lanka.

In order to minimize the challenges faced by foreign professionals in Sri Lankan construction industry the following suggestions are strongly recommended under three main categories: (These suggestion are based on interviewee's recommendations)

- a) Suggestions toward foreign professionals to overcome the identified challenges in this research:
 - Have a proper knowledge or planning and monitoring system
 - Identify construction industry barriers and challenges before starting the business
 - Share knowledge and skills between local and foreign employees
- b) Suggestions toward construction organizations to overcome the identified challenges in this research:
 - Establish research and training division in construction organizations for development of construction industry
 - Increase the involvement of construction organizations to upgrade the standardization of construction project based on national requirements
 - Recruiting the required human resources from local industry and if necessary from other countries
 - Have a proper planning and monitoring system

- Link with other similar construction organizations and establish a centre to gather all possible foreigner know how which derive during construction process
 - Organise regular seminars and exhibitions related to construction industry
- c) Suggestions toward government to overcome the identified challenges in this research:
- Review and revise government policy and approaches related to foreign investment
 - Support foreign investors in order to increase foreign investments in future

5.3. Recommendations for Industry Practices

Foreign contractors and their professional staff play a vital role in developing countries. This study shows the challenges faced by them in working in construction projects in Sri Lanka. Further, foreign professionals themselves, construction industry organisations and government authorities can take actions and implement strategies proposed in this study to minimize the challenges faced by foreign professionals working in the Sri Lankan construction industry.

5.4. Recommendations for Further Research

With the issues identified after conducting this study, the following areas were identified which can be used for undertaking further research;

- 1) The data collection can be extended to countries other than India, Pakistan, China and Iran to get a better and broader knowledge on challenges faced by foreign professionals working in Sri Lankan construction industry
- 2) Data collection can be further extended to infrastructure construction projects
- 3) Future research could investigate the future effect of foreign professionals in Sri Lanka construction industry, advantage and disadvantage of foreign professional's existence in Sri Lankan construction industry

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APPENDIX 01

T.M.Alamouti,
M.Sc. in Project Management,
Department of Building Economics, Faculty of Architecture, University of
Moratuwa.

Dear Sir/ Madam,

Questionnaire for Master Thesis

I am a Master thesis students of Department of Building Economics at University of Moratuwa and undertaking the Master of Science in projects management. In fulfillment of this degree program, I am engaged in a thesis with the topic of **“Challenges face by foreign professionals in Sri Lanka construction industry.”** The research is supervised by to **Dr. Y.G. Sandanayake** (Head of Department of Building Economics), who is one of senior lecturer at Department of Building Economics, University of Moratuwa.

Purposes of this questionnaire are:

- Involvement of foreign professionals in construction industry.
- Challenges faced by foreign professionals in construction industry.
- Investigate the foreign professional’s involvement in Sri Lanka construction industry.
- Identify problem and challenges faced by foreign professional in Sri Lankan construction industry.
- Propose mechanisms to overcome challenges faced by foreign professionals in Sri Lanka construction industry.

I would be grateful if you could complete this attached questionnaire within your busy work schedule. The information provided will be treated with strict confidence, result would be summarized and there will not be specific referees to individual firms.

Yours faithfully

Tel.0773378116

E-mail: tmalamouti@gmail.com

Interview Guideline

Section 1: General Information

1.1 Details of the respondent

1.1.1 Nationality

.....

1.1.2 Designation

.....

1.1.3 Name of the project currently involved

.....

1.1.4 Education qualification

.....

1.1.5 Professional qualification

.....

1.1.6 Total years of experience

.....

1.1.7 Number of years of experience in your home or other countries

.....

1.1.8 Number of years of experience in Sri Lanka

.....

1.2 Do you willing to involve in future projects in Sri Lanka?

.....

1.3 Do you suggest to your friend colleague to come and work in Sri Lanka?

.....

1.4 Do you live with your family?

Yes No

If 'No', why? Please provide reasons.

.....

1.5 If 'Yes', what are the challenges faced by them at Sri Lanka

.....

Section 2: Foreign professional involvement in Sri Lankan construction

2.1. What are the professional areas that foreign professionals involve in your project?

.....
.....

2.2. Why did you decide to work in Sri Lankan construction industry?

.....
.....

2.3. What are the differences between Sri Lankan and foreign practices relevant to your professional field?

.....
.....

2.4. What are the advantages or benefits that you can gain by working in the Sri Lankan construction industry?

.....
.....

2.5. Are you happy about selecting Sri Lanka as your present work place?

.....
.....

Section 3: Challenges faced by foreign professionals in Sri Lankan construction industry

3.1 What are the problems or challenges faced by you as a foreign professional work in Sri Lanka construction industry in related to following areas? Please explain the challenge related to your own profession.

3.3.1 Language

.....

3.3.2 Culture

.....

3.3.3 Construction safety

.....

3.3.4 Project management

.....

3.3.5 Construction standards

.....

3.3.6 Construction technology

.....

3.3.7 Construction process

.....

3.3.8 Contractual agreements

.....

3.3.9 Construction output or quality

.....

3.3.10 Training period

.....

3.3.11 Salary and incentive expectation

.....

3.3.12 Facilities at work

.....

3.3.13 Working hours

.....

3.3.14 Tension and job stress

.....

3.3.15 Physical working conditions

.....

3.3.16 Foods

.....

3.3.17 Weather / environmental condition

.....

3.3.18 Any other

.....

Section 4: Strategies to overcome challenges

4.1. Propose strategies to overcome the above identified problems or challenges under following headings.

4.1.1 Identify the strategies that foreign professionals can use to overcome the challenges.

.....
.....

4.1.2 Identify the strategies that construction organisations can use to overcome the challenges.

.....
.....

4.1.3 Identify the strategies that Sri Lankan government can use to overcome the challenges.

.....
.....

APPENDIX 02**Interview Guideline****Section 1: General Information**

- 1.1 Details of the respondent
 - 1.1.1 Nationality
 - Pakistanis
 - 1.1.2 Designation
 - Site in charge
 - 1.1.3 Name of the project currently involved
 - Project 1, Respondent 1
 - 1.1.4 Education qualification
 - MSc. Civil engineer
 - 1.1.5 Professional qualification
 - 1.1.6 Total years of experience
 - 4 years
 - 1.1.7 Number of years of experience in your home or other countries
 - 1 year
 - 1.1.8 Number of years of experience in Sri Lanka
 - 1 year

1.2 Do you willing to involve in future projects in Sri Lanka?

Yes, Our Company has started another new project, and they have planned for long-term business in construction in Sri Lanka which is make long-term opportunity in my job career since I'm satisfied with this job and I can continue on the next project with them in future too. There is some other construction project under negotiation with my company which is located most probably out of Colombo.

1.3 Do you suggest to your friend colleague to come and work in Sri Lanka?

Yes obviously, the environment is very good, the weather is almost the same and I feel comfortable in this kind of weather condition. I also thinking, country just finished the civil war and there is a lot of construction going on in the whole country, and there is good relationship between my country and Sri Lanka government ,it rings the bell my friend can have good opportunity here too, as I'm feeling satisfied they will be satisfied too.

1.4 Do you live with your family?

Yes No

If 'No', why? Please provide reasons.

I'm single so there is no wife or any children to live with me and also Company not provide the visa for our family too. To me, Family means mother and sister only, but if company provide visa I willing to bring them as well. There is no restriction from Sri Lanka government only that is related to company policy.

1.5 If 'Yes', what are the challenges faced by them at Sri Lanka

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Section 2: Foreign professional involvement in Sri Lankan construction

- 2.1. What are the professional areas that foreign professionals involve in your project?

The main company is a developer and contractor. Basically, as the project client they dealing with customers, construction authorities, the local contractor, relevant agency and also dealing with the project construction process. Therefore, they have engineers such as project manager, quantity surveyor, surveyor, civil engineer and administrative people such as sales manager, accountant, C.E.O and so on. Supervise and manage the project is another professional area involvement.

- 2.2. Why did you decide to work in Sri Lankan construction industry?

The major reason was that I worked with the main contractor earlier in Pakistan on some other projects. Later when my company came and studied the Sri Lankan work environment, they started a project here and by them invitation, I join them as a site in charger. My company has a plan for 6-7 years job duration in Sri Lanka and I'm willing to work with them. A lot of opportunities are available here, and I have more benefit to working in Sri Lanka.

- 2.3. What are the differences between Sri Lankan and foreign practices relevant to your professional field?

I can just differentiate between Pakistani and Sri Lankan construction industry because I been only in this two countries for purpose of work. The environment is almost the same, in Sri Lanka due to they don't have the seismic zone (earthquake area) they started to construct many high-rise building. But Pakistan is under the seismic zone, therefore there is some restriction for constructing high-rise buildings. And also this is a very small country with limited land compare to Pakistan. Even lower grade of labors they can communicate in English, so we can't feel any difficulty in

coordinating and working with them, but in Pakistan, the literacy rate is not as much as Sri Lanka, Pakistani labor cannot speak English well. With Sri Lankan, there is no problem regarding English communication. But at the professional level, the Pakistani people are better in communicating compare to Sri Lankan, because they have the high-level education. In a big country such as India, China, and Pakistan the literacy is low. By increasing the population literacy rate coming down. But in Sri Lanka average literacy is high.

- 2.4. What are the advantages or benefits that you can gain by working in the Sri Lankan construction industry?

The first advantage , salary rate is high, I don't know about the other Pakistani company but my company pay me a higher salary and the food, insurance, vehicle are free but high salary is the main reason. When you work in your country your rate is lower than abroad, if you go in some country such as Saudi Arabia and Qatar you earn a better rate than homeland.

- 2.5. Are you happy about selecting Sri Lanka as your present work place?

Yes, obviously, my financial condition is in satisfaction level, weather condition is comfortable and I can work in this weather like my country, this country is safe and I never feel any difficulty to go out or somewhere else for any reason. Sri Lankan are a very helpful community, especially in behave with foreign people. They are very calm people compare to other countries. I have no problem with them during the work process. There are some issues but it is manageable.

Section 3: Challenges faced by foreign professionals in Sri Lankan construction industry

3.1 What are the problems or challenges faced by you as a foreign professional work in Sri Lanka construction industry in related to following areas? Please explain the challenge related to your own profession.

3.3.1 Language

If you know English there is not much problem but if you don't know English then its big problem for you. Sri Lankan labor able to speak English but Pakistani labor can't speak English like them. In professional's level, the English language is better between Pakistanis to compare to Sri Lankan professionals.

3.3.2 Culture

For neighbor countries, culture is not that much different. Most of the time they don't answer their phone from the whole day, actually, they are working according to their conditions. For example, there is a different culture in answering the phone, imagine we need some kind of materials and we meet some supplier to provide those materials, someone agreed to provide the pieces of stuff but when we call for that purpose they are not responding our call. This culture is existing between all of them and we are really suffering from that. If they have the product they will pick the phone if not they will not respond. After we live in the Sri Lankan community we understood when the Sri Lankan not answering the phone the meaning is no, and you should not try anymore. In Pakistan industries are much wider, they are just waiting for us to give them some order, but here the industries are limited. The work environment is very good you will never go for a fight with Sri Lankan. Sometimes we get a bit angry and that is because of the human nature. But generally, the environment is good and manageable.

3.3.3 Construction safety

Overall safety for the worker is good. Actually, when you are going for high-rise buildings we have to prepare a specific safety because you are working in height, working with heavy machineries and dangerous tools. Therefore in all the project life cycle, we are facing the risk of the project. The risk could take the human life easily. There is the H.S.E engineer who is responsible for managing the safety at the site. HSE team have an instruction for people safety and they are trying to manage the people to do job process in a safe manner. But to teaching safety to the normal labors it's very difficult and they can't understand the degree of the risk which the HSE officer trying to teach them and it's create problem in the construction site.

3.3.4 Project management

Actually management is always depends on man power. How many man power you have, if staff be sufficient, you are not facing much issues. We feel some management problems, that's why we changed our previous project manager. Foreigner should arrange some staff from their own countries.

There is some differences between the working style of Sri Lankan and Pakistani people. For example it's noticed, one steel fixer from Pakistan is equal to 3 steel fixer from Sri Lanka, they have less capability compare to our persons in matters of quality wise and quantity wise. Naturally its Sri Lankan nature in work capability. In my opinion they are not doing more work but their maximum work capacity comparing with our people capacity its 60 - 70 percent. If you can have good management abilities, they can get more works from labors, it can't be like others but it can be better. I think they are working with foreign manager efficient than local management. They can work better if they feel you are owner of project then they will work with maximum capacity in the project.

3.3.5 Construction standards

It's good, if we go to Altair project they are doing really well, we don't have problem in standards, there is non-write standard in construction. Each company has its own standards. It's difficult to find a national standards which really followed by foreign construction industry companies. If a company is from Pakistan that project follow the Pakistanis company standards in that project which is applying with Sri Lankan rules and regulation by relevant authorities. They can put some training with a good standard for them to bring the quality and progress in the construction process.

3.3.6 Construction technology

Technology is okay, any technology is needed can be order from the manufactured country and received it in the certain time .The problem is Sri Lankan are not much familiar with those new technologies .they haven't enough experienced in the high rise building and it need some more time to they get the knowledge to work with those new technologies.

3.3.7 Construction process

It is depend on some item such as: Owner Company, man power, construction machinery and all other resources. If these item is in good condition then we can have good process in project lifecycle. If we work with Pakistani teams we will be able to complete a concrete slab during 4 days but here the work progress is low because Sri Lankan can't proceed fast.

We should spend a lot of money to cover the wasted time due to low speed of work but for the quality, it is not easy to rectify since is very costly. Anyway, the quality is low, might because their experience is not enough in construction. for example in Pakistan, we have much better quality and better construction experience and recruiting people are easier. When recruiting a carpenter for work, he is not only as a carpenter. He is able to do the aluminum work and some other work as well. Quality mostly gaining by

experience. The experience in construction will increase after 20 or 30 years. The government has planned for the BOI project. They invited many other investors from various countries to Sri Lanka. BOI project are taxes free for many construction project items .therefore different investors enter in Sri Lanka from the different countries. Through those plans, by entering foreign investors in Sri Lankan construction industry Sri Lanka will developing sooner and all the involved involve sectors benefit from it.

3.3.8 Contractual agreements

There are the strict rules in agreement, it is not reasonable if any project start without proper agreement. Generally, the top management dealing with this part.

3.3.9 Construction output or quality

It is depends on the quality of working of construction team and standards of the education institution which if it is good, the output of the quality will be in a satisfactory level. With Pakistani labours, it is possible to have the better work quality. I think, they have no global ranking in the quality of educational institutions. There is a direct relationship between quality and construction team experiences. Another reason of the quality problem is because of their low experience. Certainly quality will improve in future by improving in construction experiences. At this time it's not comparable with other countries. With the current experience of these people, can't expect them to have high work quality. It is not so much bad but through our people quality of work is better. Might it is better decision if companies bring more people from their countries at the beginning.

3.3.10 Training period

Obviously it will be useful especially for local forces, training many advanced tools and equipment's which I think not available in Sri Lanka or are very new to the industry, the person which teach the knowledge in training period must have enough experience. In Sri Lanka, you couldn't find that much training

institutions compare to Pakistan. For professionals which will come to Sri Lanka no need any training they are good in their fields already.

3.3.11 Salary and incentive expectation

It deepens on the company which you are recruited. My company is good but if you work whit Sri Lankan Company can't expect high salary from them compared to foreign companies which they pay good enough. Even they will pay higher salary to Sri Lankan man power. Just comparison of the people salaries in the different work levels .there are some difference between Sri Lankan and Pakistani people salaries in the project. Since the Pakistanis earning more than Sri Lankan even though they have the same work position, designation and experience, therefore it leads to a bad imagination in their job incentive and mostly Sri Lankan doesn't have the good feeling about it. But the point is Pakistanis are far away from their mother country and many of them are in distance with their family so they have expected higher salary to come and work in a foreign country compare to when they are work in their countries.

3.3.12 Facilities at work

Facilities are like other countries, company providing the facilities such as food, flight with limitation time, residency, insurance and car for top management. But always who is involved in the construction projects, they are suffering from the environment since the construction site is not similar to the other jobs condition. Daily even hourly we are dealing with the skilled, semi-skilled and unskilled labors. Their understanding and expecting from life is different so that managing and living with them is really difficult. Being at the construction project sites. Anyway, we are involved with labors therefore sometimes we prefer to be a bit in distance from the construction site to use the better facilities.

3.3.13 Working hours

8 hours, same as other countries and more than normal hours they will pay us over time.

3.3.14 Tension and job stress

Tension is high, project client needs speed in the construction process, if we complete a concrete slab in one week, the company expect that we complete next slab in five days if we complete it in five days they expect less and less duration for concreting a slab. That means every second of construction work is under tension. Besides, we can gain more experiences by handle those tensions so that it makes us have a better ability in the future. Mostly Tension comes from upper management if they decrease their expectation and leave the technical matters to us most of the job stress will be over and the project process will run in a smooth way. I think with their pressures on us or without that mostly work speed is in the same condition. Sometimes they are successful by pushing us, but not for all the time. We are not transferring any tension to labors because by my experience if we put tension and stress on them, it will not work. With encouraging them they will work better from any were in the world. There is two option to complete a task, first, put the labors on the pressure to finish it and second encourage them to complete the task in a certain time. By pressure it never work, they are much more efficient with encouragement and this is a common rule everywhere.

For example: suppose there are 12 columns in a floor of the project, If I put pressure on the carpenters and tell them you have to finish 8 columns in one day they never finish those columns but if I suggest them, by finish 8 columns I will pay 1 hour extra over time they will finish all 12 columns in one day. Actually, I tested it several time and I understood the encouragement work well and I got the good result from that test. When testing somebody, he gives his maximum ability continuously for two, three and four times, after that, should not test them again since they showed what they could do. If you ask them to do that job again and they reject your request you knew that they can

do that but they won't, because before they were tested and we know their ability so they have to do the job.

3.3.15 Physical working conditions

It is good, internally we have very good relations between the staff and us and labors, we giving the plan to work and everybody going according to that plan.

3.3.16 Foods

We face difficulties for food because in Sri Lanka they only using rice as food but our dishes are bread basis. Foods are not good here, our company provides food with some Pakistanis food provider, but if the company does not provide the Pakistani food taste, site facing many problems, the items of food not available in Sri Lanka like my country. We can't find even proper vegetables. Regarding food, this country is not good.

3.3.17 Weather / environmental condition

It depends on which country you are coming from. Overall weather conditions are good. During the rainy season, we are facing a lot of difficulties due to heavy rain.in Pakistan, there is some construction pattern for the rainy time. In my country, until rain begins it will take some time so that we can forecast within next 2 hours we will have a rain and become ready for that rainy condition. In Colombo, rain will start suddenly and their forecasting is not that much accurate. We have to be more careful if we going to concrete the slap during this heavy rain. We have to setup the activities according to the rain, especially for the concreting.

3.3.18 Any other

Normally company provides everything, but suppose If we want to print an A0 paper individually we are facing a lot of difficulties, you can't find the shop for printing that size paper easily. But in Pakistan, anything's you need you can provide quickly.

Their productions or manufacturing is really less in whole parts of the industry. For example, if we need an electromotor when we going to buy it, need to try so hard. Construction materials or even some other items are very scarce. For example, in Sri Lanka, if I need simple things there is only one shop but in Pakistan, we have many shops for such a purpose. There are no competitions in Sri Lanka construction market, that's why the prices are high in the construction market.

The market must be adjusted with the huge construction projects which are going on in Sri Lanka. But still, they didn't increase that needs much. The government has to do something. More people have to enter in the market to increase the supply of the construction products. The government had planned to bring many investors from other countries, therefore, the government should support them to encourage more investors to come in Sri Lanka. They have good planning for investors but they have not good planning for balance the construction market. to procure the construction needs we have to provide the procurement list and make a planning for that list and take the step based on that plan. We should purchase construction needs two months in advance. If we need any construction materials urgently we never could be successful. Even to order for the concrete we should order few days in advance. If we need some urgent concreting we can't provide it. Concrete casting doesn't have good system. as an example yesterday I called steel supplier for the whole day but he didn't respond therefore I had to call my upper manager and they should do the same.

Section 4: Strategies to overcome challenges

4.1. Propose strategies to overcome the above identified problems or challenges under following headings.

4.1.1 Identify the strategies that foreign professionals can use to overcome the challenges.

We have to be more careful during the construction process. Have a good planning for the process can help a lot. The foreigner must adopt themselves with many things which will solve many of those problems. The professionals must be more flexible compared to the time they were worked in their countries. When professionals facing challenges in the new country they should be patient and learn about those challenges and find the most efficient way to overcome those challenges or at least going along them.

4.1.2 Identify the strategies that construction organisations can use to overcome the challenges.

There is some association who working in different part of the construction industry, such as NCASL (National Construction Association of Sri Lanka), CIDA (Construction Industry Development Authority) and CCI (Chamber of Construction Industry). They should be more involved in the foreign construction projects and should establish a research section in their organization regarding foreign construction projects in Sri Lanka and Inference some good result from those research to improve the Sri Lankan construction industry and make some basic standards of those result to use them for the foreign construction industry in Sri Lanka and for future Sri Lankan projects.

4.1.3 Identify the strategies that Sri Lankan government can use to overcome the challenges.

The government can play a very vital role. There is a lot of construction projects under construction in Sri Lanka but the construction market did not grow well like construction industry. The government has very good plan in investment but not good planning for the supply the construction products. The government must recognize the requirements of the foreigner and attempt to provide them their needs or at least help them because foreigners and their funds are one of the major sources to developing the country and improve the people and especially construction industry.