

**THE STATUS OF CONSTRUCTION WORKERS IN
THE HIGH-RISE BUILDING PROJECTS OF
SRI LANKA**

MASTER OF SCIENCE

IN

CONSTRUCTION PROJECT MANAGEMENT

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**THE STATUS OF CONSTRUCTION WORKERS IN
THE HIGH-RISE BUILDING PROJECTS OF
SRI LANKA**

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“This dissertation was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfillment of the requirements for the Master of Science in Construction Project Management”

Department of Civil Engineering

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July 2021

DECLARATION

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university to the best of my knowledge and believe it does not contain any material previously published, written, or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and interlibrary loans, and for the title and summary to be available to outside organizations.

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ABSTRACT

Sri Lanka is a developing country and the construction industry plays a vital role in the contribution of the GDP. From the previous research, it was found, the construction workers play an important role in the project success and it's very difficult to keep them sustained in a project from the beginning to the end of a project. There's a huge job opportunity for the construction workers in the industry but still, the workers are not stable. Due to the difficulties in managing the construction workers, main contractors are assigning subcontractors to complete the tasks. Therefore, this research is being initialized to identify the Life status of the construction workers and the challenges faced by the subcontractors in the high-rise building projects of Sri Lanka. Based on the review of the literature a questionnaire that was prepared for the construction workers, main contractors, and subcontractors are reviewed. Analysis of the responses demonstrated that the satisfaction of the construction workers rely on the satisfaction of their family life, the status of the job and the satisfaction of their remuneration. From the main contractors' perspective, it is profitable for them by giving subcontracting. From the subcontractor's perspective retention money is highly influenced by the main contractors in subcontracting to continue the job even though they fail. The subcontractors failing in the industry due to the unskilled labour force and low rates imposed by the main contractors. According to the findings of this research study, it can be concluded that the main contractor, subcontractor, and construction workers are interconnected as a triangle and all three parties must have a strong relationship between them for the project's success. The life status of the construction workers can be increased by implementing the labour standards in the industry. The main contractor should prepare the rates fairly for the subcontractors and should maintain a long-term relationship. Further studies can be done for other industries.

Keywords: Construction, satisfaction, skill, workers, laboures, main contractor, subcontractor, EPF, ETF, job security, building

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LIST OF ABBREVIATIONS

BRAA	Budgetary Relief Allowance Act
CBSL	Central Bank of Sri Lanka
CIDA	Construction Industry Development Authority
DOL	Department of Labour
EPF	Employees' Provident Fund
ETF	Employees' Trust Fund
GDP	Gross Domestic Product
IESL	Institution of Engineers Sri Lanka
ILO	International Labour Organization
MBO	Maternity Benefits Ordinance
MWRWH	Ministry of Water Resources Works and Housing
PGA	Payment of Gratuity Act
SOEA	Shop and Office Employees' Act
TEWA	Termination of Employment of Workmen Act
WBO	Wages Boards Ordinance
WCL	Workmen's Compensation Law
WYCA	Employment of Women, Young Persons and Children Act

CHAPTER 1

INTRODUCTION

1.1 Background

Sri Lanka is a developing country. The construction industry is one of the key factors in the economics of the nation. The construction sector has contributed to 6.9% of the Gross Domestic Product (GDP) in 2019 (Lakshman, 2019).

For the development of a country, the construction industry plays a crucial role. Currently, there are many construction projects ongoing. Construction projects consist of roads, bridges, buildings, power plants, towers, etc. The infrastructure projects are being funded by the government and most of the building projects are being done by private investors.

A huge amount of manpower, time and money is required in the construction industry. To get the benefits from the project, it has to be successful. Project success is measured by product and project quality, timeliness, budget compliance, and the degree of customer satisfaction (PMBOK, 2017). In the construction industry, while clients order their projects to be completed on a particular due date, most of the construction projects can not be completed on a scheduled date. As a result both contractors and customers have to suffer and this is a huge issue. Some researchers believe the shortage of workers can be an external factor for the project delay (Samarakoon, 2009).

The three main parties involved in the construction projects are clients, contractors, and consultants. Delays caused by client are generally due to financial problems, slow decision-making, trying to change the original scope, and suggesting unrealistic contract duration. Whereas, Contractor-related delays are due to inappropriate project planning, wrong construction techniques, errors, and issues due to subcontractors. Inappropriate contract management, delays in approvals, delays in providing designs are some of the consultant-related cause for delays. Apart from these causes scarcity of workers, unforeseen site conditions, weather conditions, and regulatory changes can be the external causes for delays (Samarakoon, 2009).

The efforts of construction workers play an important role in the construction industry to achieve project success. It depends heavily on the adequate supply of skilled labor and, as a consequence, the shortage of skilled labor in Sri Lanka has received considerable attention in recent years (Basnayake & Premathilaka, 2015).

Lack of wages, inadequate retirement benefits, difficulties in interpreting technical drawings, the temporary nature of the job, hard work, and lack of social recognition have been found to demotivate construction workers in the sector. By reducing these demotivators through successful incentive techniques, the incentive for construction work to enter and remain in the construction sector would improve the efficiency of the construction workforce (Widanagamachchi, 2013).

From the previous research, it was found, the construction workers play an important role in the project success and it's very difficult to keep them sustained in a project from the beginning to the end of a project. There's a huge job opportunity for the construction workers in the industry but still, the workers are not stable. Therefore, this research is being initialized to identify the job satisfaction and expectations of the workers to remain in the construction industry.

By the involvement in the construction projects, it was observed that most of the contractors are not willing to get the work done by their direct manpower. Main contractors are assigning sub-contractors to complete the work. As a result, the majority of construction workers will be under the supervision of subcontractors. The subcontractor is the one who has to take all the responsibilities of the work and their workers as per the agreement.

As per the Labour Law of Sri Lanka, every worker has to be treated fairly and should get all the employment benefits such as the Employees' Provident Fund (EPF), Employees' Trust Fund (ETF), etc.

This research will focus on identifying whether the workers are satisfied with their job, getting treated as per the Labour Law of Sri Lanka, and the challenges faced by main contractors and subcontractors.

1.2 Problem Statement

It was identified that the construction industry is facing many difficulties in finding skilled and unskilled workers for project success. Current projects are getting delayed and cost overruns due to the lack of construction workers. Due to this reasons, main-contractors hire sub-contractors to complete their work. Therefore, construction workers will come under the custody of subcontractors. Since the main contractors assigning subcontractors, most of the workers' problems will be enforced towards the subcontractors.

Subcontractors and subcontractor workers are important in the construction phase for the project's success. From the literature studies, it was found that the demotivation of the construction workers is one of the reasons for skill shortage in the industry. Therefore, the question arises whether the subcontractor workers and the subcontractors are satisfied with their current job to survive in the industry.

1.3 Research Objectives

The main objectives of the study are as follows:

- To identify the status of construction workers in the perspective of their family life satisfaction, job satisfaction and remuneration satisfaction and the application of the labour standards in the high-rise building projects of Sri Lanka.
- To identify the challenges faced by the subcontractors in the high-rise building projects of Sri Lanka.

1.4 Research methodology of the study

The research methodology of the study is based on the findings from the literature review carried out at the beginning of the study. The subcontractor worker satisfaction and the challenges faced by the subcontractors in the high-rise building project in Sri Lanka are taken as the main objective of the study.

Initially, a questionnaire survey was conducted to identify the status of the construction workers. In this questionnaire survey, construction workers' satisfaction with their family life, the satisfaction of their current job, and satisfaction of their remuneration

were questioned to identify the relationship between each parameter. Apart from this, the status of their statutory payments (EPF and ETF) were analyzed. In this survey, EPF and ETF are taken as a measure for their job security.

A semi-structured interview was carried out among the main contractor and subcontractor representatives to identify the challenges faced by the subcontractors in the high-rise building projects and their contribution towards the job security of their workers were analyzed.

The questionnaire survey and the semi-structured interview were carried out during the lunch break with the permission of the site managers without any disturbance on their progress.

Statistical Package for the Social Sciences (SPSS), Pearson's Correlation Test, and Relative Important Index Method was used to analyze the surveys conducted.

1.5 Scope and Limitations

This research was focused on the construction workers and subcontractors at the high-rise building projects in the Colombo district. High-rise buildings are buildings with a level of 10 or more floors. (Samarakoon, 2009). In this study, the 'construction workers' represents those who are working at the finishing state of a project and the 'subcontractor' represents the domestic subcontractors who are involved in civil finishing works, such as masonry, painting, and tilling works in high-rise building projects. Other specialized subcontractors such as façade work, aluminum fixing, MEP works, HVAC work, etc are not included in the scope of this research.

1.6 The framework of the study

Chapter 1 – Introduction

Chapter 1 is a brief introduction to the research with the problem statement and the objective of this research.

Chapter 2 – Literature review

Chapter 2 is focused on the literature related to the involvement of construction workers, subcontractors, main contractors, and labour law in the construction industry.

Chapter 3 – Methodology

Chapter 3 describes the methodology used in this research to identify the status of the construction workers and challenges faced by the subcontractors in the high-rise building projects of Sri Lanka.

Chapter 4 – Analysis and discussions

Chapter 4 includes the analysis of data collected from construction workers in high-rise building projects through a questionnaire survey and semi-structured qualitative interviews with the representatives of main contractors and subcontractors.

Chapter 5 – Conclusions and recommendations

Chapter 5 describes the summary of the findings and concludes concerning the research analysis with recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The construction workers plays a vital role in construction industry. They have a huge job opportunity in the industry. But the industry is facing a scarcity of workers for the project's success. Also, the main-contractors are assigning sub-contractors to complete the works.

The purpose of this chapter is to study the literature related to the involvement of construction workers, subcontractors, main contractors, and labour law in the construction industry for further research.

2.2 Contribution of construction workers and project success

The performance of workers in the Sri Lankan construction industry has not been quantitatively or qualitatively assessed. As a result, there is no standard for recruiting workers with a perfect understanding of their product quality and, as a result, the industry would face several difficulties in finding the right crew to complete the project within the prescribed time and resources according to the required standard.

Migration affects skilled worker shortages and technological advancement has an influence on skills shortages in the industry. Since both workers' organizations and workers are less committed to developing the skills of workers, there is a shortage of skills in the sector. Most of the skilled workers who work in the industry have acquired skills through informal training of senior skilled workers. They can not learn the technology behind the job in this manner. It is also concluded that employees and contracting companies should be encouraged to improve the expertise of workers.

Workers still assume that they will speed up work, minimize waste and errors, and increase the consistency of the final product following a skill development program. However, the workers have no instruction on improving their skills. There is still less information among workers regarding training institutes in the industry. The worker

should be directed through the improvement of skills. The best approach to improve the skills of workers is to educate them about the benefits that can be gained by the acquisition of skills and the application of the skills development program. This training program can be very short and economic for both the workers and the organization. If the government is willing to engage in this phase, it would be of considerable value to the industry. Since there are insufficiently qualified workers in the industry, it is proposed that contracting companies create a system for the growth of workers' skills or use the framework shown in figure 2:1. It is therefore proposed that an on-site performance monitoring protocol be carried out regularly for workers to achieve optimum productivity from them (Fernando, et al., 2016).

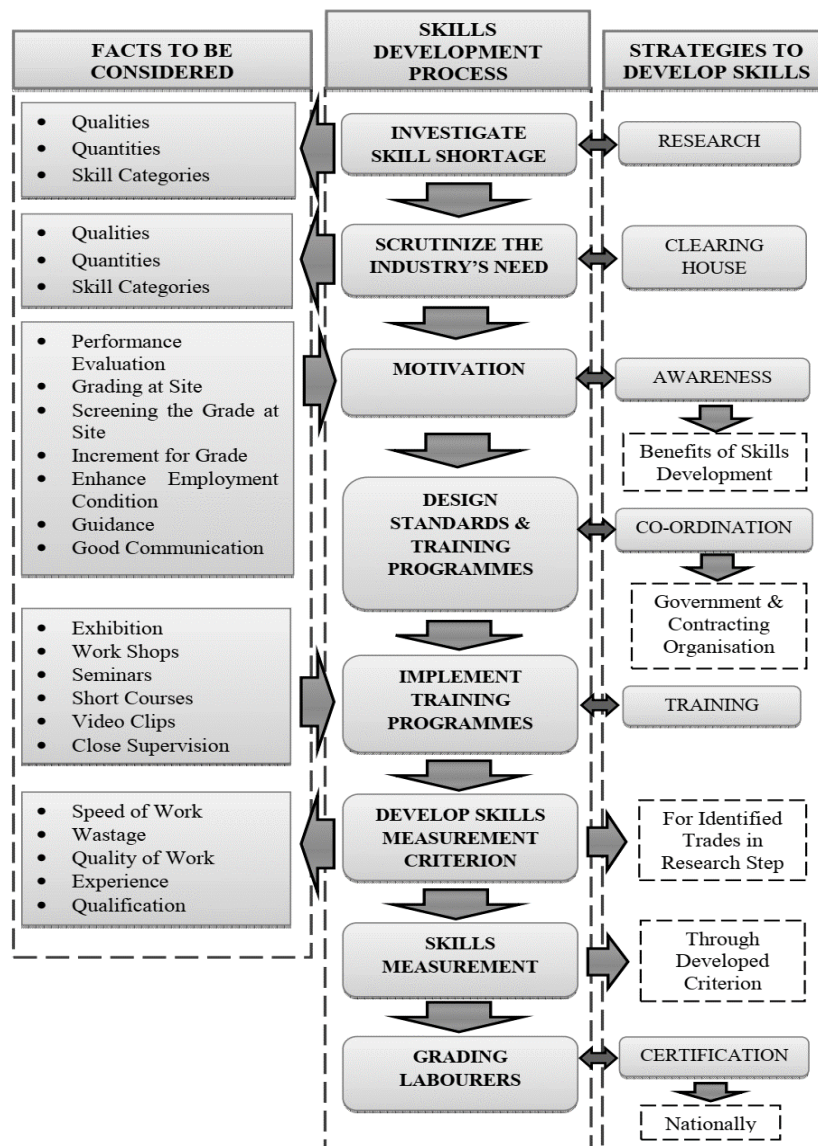


Figure 2:1 Framework to develop skills of labourers (Fernando, et al., 2016)

2.3 Labour shortages

The construction industry relies heavily on a sufficient supply of skilled workers. As a consequence of the lack of skilled workers in Sri Lanka, a substantial amount of work has received attention in the last few years.

Due to the lack of qualified workers, poor quality of work may be defined as the most serious effect. Other than the delay in construction and reduced labor efficiency, the detrimental effects of shortages are identified. This research focuses on the causes of skilled labor shortages, the repercussions of skilled labor shortages, coping approaches to address skills shortages, and the degree of skilled labor shortages in Sri Lanka.

The right advice to address this problem is focused on the findings obtained from the questionnaire on the organization of seminars/training by the Construction Industry Development Authority (CIDA) / Institution of Engineers Sri Lanka (IESL). In the future, developing a secure and sustainable workplace atmosphere will bring more people to the construction sector. It is therefore important to restructure the wage structure of the laborers to recruit more. It will also be helpful to avoid the wasting of skills. Also, the availability of skilled workers from training institutions must be increased (Basnayake & Premathilaka, 2015).

In every project, the construction industry must ensure the availability of sufficient labour. The management of labour shortages is more difficult to correct than the lack of material.

Due to the nature of the work, the recruitment and retention of work become very difficult because the construction activities involve most works that are dangerous and difficult. It is necessary to seriously manage the lack of sufficient labor in the construction industry, as it can affect the industry's productivity. The best strategy for addressing the shortage of skilled labour is, incorporating the subject matter as part of the technical education and vocational training program, because if education and training have failed to provide the labour requirement by industry, other issues in the field of sustainable construction are irrelevant (Rahim, et al., 2016).

The construction industry in Malaysia is having problems related to the shortage of skilled local labour. Moreover, it has been reported that local workers are unable to meet the demand of the construction market and this has caused the contractors to import foreign workers to meet the needs and requirements of the construction sector labor market.

The aim of this research is to define the requirements used by the construction company to hire local skilled labor and to examine strategies for recruiting local skilled labor to enter the construction industry.

The outcome of this study shows that the prospective employer prefers to work with people who are young, experienced, knowledgeable, and qualified. In addition to upgrading labor welfare and providing better accommodation, most of the strategies selected are mainly related to money, namely wage increases, bonuses, allowances, and overtime payments (Noh, 2017).

2.4 Workers Job Satisfaction and Family Life Satisfaction

Job satisfaction is described as the happy and aggressive mood that a person had at work (Locke, 1976). Job satisfaction is interpreted as a measure of an individual's favourable or unfavourable feelings about intrinsic and/or extrinsic conditions regarding his/her job (Bhuiyan & Mengue, 2002). Defined job satisfaction as people's attitudes and sentiments toward their jobs. Job satisfaction is shown by positive and favorable views about the job. Job dissatisfaction is indicated by negative and unfavorable attitudes about the job (Armstrong, 2006). Job satisfaction is defined as an employee's sense of accomplishment and success on the job (Kaliski, 2007). Employment satisfaction is described as a person's collection of thoughts and emotions regarding their present job (George, et al., 2005).

Family satisfaction has been defined as the pleasure derived by a person from spending time with his or her family and participating in family-related activities (Bedeian, et al., 1988). Employee happiness relates to a person's job and life satisfaction, as well as subjective well-being at work (Bhattacharjee & Bhattacharjee, 2010).

Happiness is a person's satisfaction or contentment with his or her life; it is not the occurrence or disappearance of certain sentiments, but the positive consequences of one's appraisal when certain standards are considered (Shin, 2015). If a person's personal and professional lives are not balanced, it creates a conflict that leads to work dissatisfaction. Using a sample of lawyers from the Colombo District, the study determined the link between work-life conflict, job satisfaction, and family satisfaction. The study discovered a negative significant correlation between work-life conflict and job satisfaction among practicing lawyers. Simultaneously, it was shown that there is a negative relationship between work-life conflict and family satisfaction among practicing lawyers. Also male practicing lawyers have a greater level of job satisfaction and family happiness than female practicing lawyers (Gamage, 2013).

A research was conducted to determine the levels of employee happiness and work satisfaction among academic staff at a selected state university in Sri Lanka. According to the study's findings, academic staff's job satisfaction and happiness are in high level. Furthermore, the study's findings indicated that there is a strong and positive relationship between employee happiness and job satisfaction. According to the findings of this study, a higher level of employee happiness can lead to higher levels of job satisfaction. (Nadesan & Mathyinparasan, 2021)

Mishra (2013) emphasized that job satisfaction is the result of a combination of attitudes in three categories. They are specific job factors, individual characteristics, and group interactions outside of the workplace. According to the study, job satisfaction is the favorableness and unfavorability in employees' perceptions of their jobs, and it occurs when job requirements match the employee's preferences. Further it was stated that other variables, such as age, character, health, level of ambition, desires, social status, family, entertainment, and etc must be considered in order to completely comprehend job satisfaction (Mishra, 2013). Samarasinghe (2016) revealed that quantity surveyors in Sri Lanka are satisfied but not strongly satisfied with their jobs, the current job satisfaction level of quantity surveyors is greatly diversified by wage level and critical factors impacting job satisfaction includes Job happiness, gratitude and feedback, teamwork and work environment interactions, job accomplishments, career awareness and advancement, and wage level (Samarasinghe, 2016)

2.5 Labour standards in Sri Lanka

In 1923, ordinance No 01 the Department of Labour (DOL) was established for the migrant workers from India for the plantation at the time of the British ruling the country to keep them as stable employees. From the Donoughmore Constitution in 1931, the new legislation was made for all the workers without any discrimination. Afterward introduced many legislations to give privilege to the workers by the Department of Labour.

In early the prints of the labour law documents were not available easily for the general public in the language that was in use. Due to this it didn't reach much and was unable to educate the public on labour law. In 1950, the Department of Labour published the Ceylon Labour Gazette for every month which was directed for the understanding of labour law. Latterly they have changed it to Sri Lanka Labour Gazette. (Siripala, 2018)

Department of Labour is a government institution which to ensures the welfare and employer-employee relationship of the semi-government and private sector, intending to increase institutional productivity to the highest level (Amarathunga, 2016).

The role of the Department is as follows:

- Implementing Labour Acts and Ordinances for the welfare and the betterment of the working community and settling industrial disputes.
- Implementing social security programmes for the workers.
- Conducting educational programmes for the workers.
- Promoting Social Dialogue between the relevant parties in the field of labour.
- Collecting, analyzing, and presenting data relevant to the field of labour.
- Maintaining a proper and active relationship with trade unions.
- Representing Sri Lanka in the International Labour Organization and working in collaboration with the Ministry of Labour and Trade Union Relations.

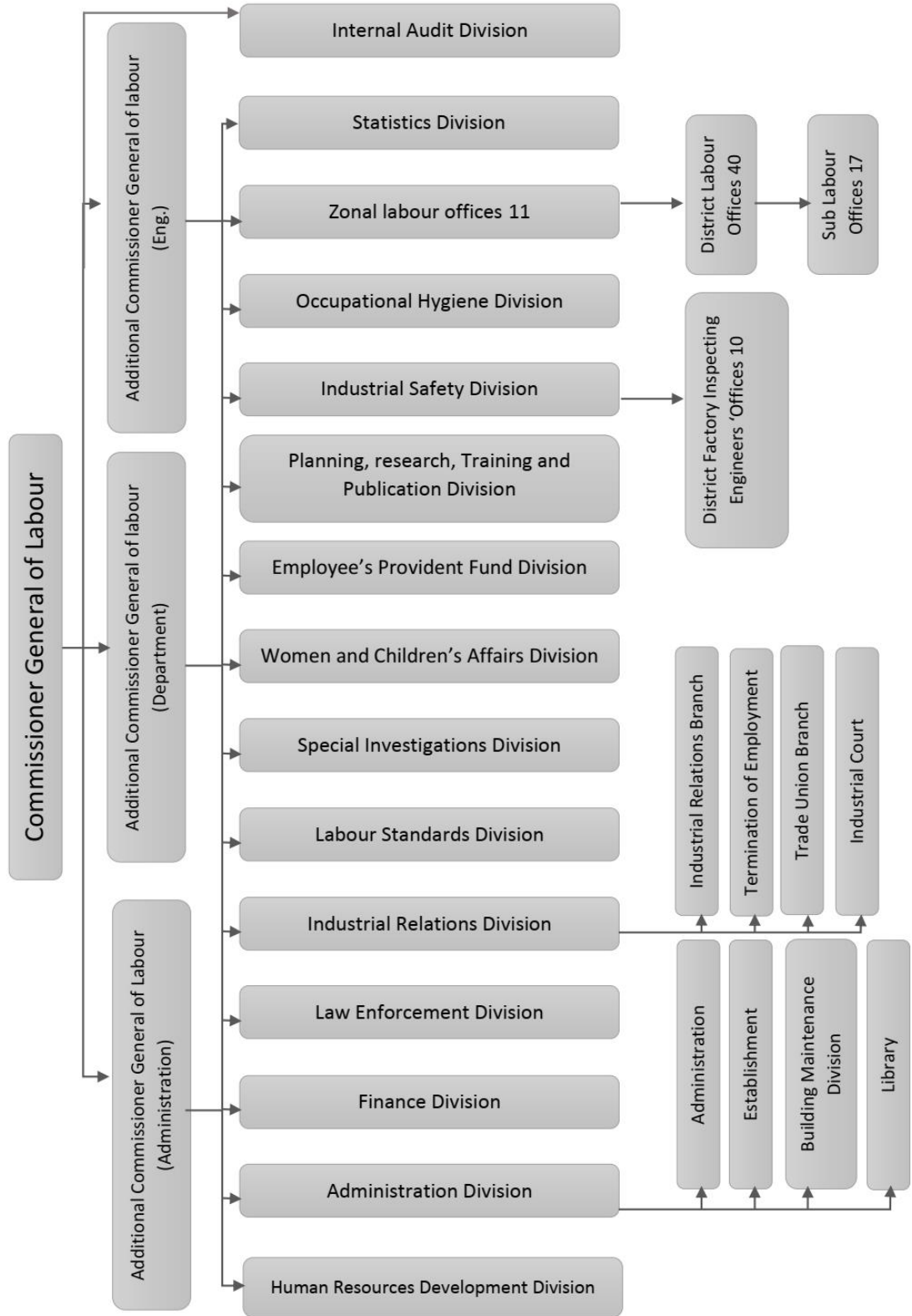


Figure 2:2 Organization structure of the Labour Department (Amarathunga, 2016)

2.5.1 Wages Boards Ordinance

The Wages Boards Ordinance (WBO) came into operation in 1941, ordinance number 27 to legalize the terms and conditions of employment with wages of workers in the trade. All the employees other than those employed by the State and those receiving industrial training in an institute meant for deaf, dumb, blind, or juvenile delinquents are covered under the WBO. As per WBO, the normal hours of work are 8 hours per day without overtime. A maximum of 48 hours per week constitutes work without paying for overtime. If it exceeds it is obligatory to pay on overtime which is 1 ½ time the normal hourly rate. One day in a week has to be given as a weekly holiday which is unpaid in many trades. If an employee works on a weekly holiday the employer should pay 1 ½ days wages for the first 8 hours and additional overtime payment if exceeds eight hours.

The employer is obliged to pay EPF on the wages earned for the first eight hours. The employees are entitled to annual holidays once a year which are paid holidays. The number of annual holidays is been decided by certain industrial trades which is generally 14 days to 21 days. EPF is applicable for annual holidays. The presents of the worker during the year will decide the number of annual holidays. All the workers are entitled to have public holidays. The employer has to pay for public holidays. If an employee is working on a public day, the employer should give a day off in lieu or should pay double for the day's work. The employer should give the holiday on the Full Moon Poy Day. If the employer assigns the work for an employee on the Full Moon Poya Day, it has to pay 1 ½ time the wages.

The wages have to be paid within 3 days if paid weekly, within 5 days if paid fortnightly and within 10 days if the periods exceed the fortnight up to one month. It is an offense to withhold part of earned wages. The Commissioner-General of Labour can prosecute employees for a specific violation of the provisions of this law. An employer should preserve his registers and records refer to wages for 4 years (Navaratne, 2018).

2.5.2 The Building Trade

There are 44 trades operating under the wages board ordinance. Building construction workers will come under the building trade. The wages board for the Building Trade was established on March 10, 1950, by an order made under section 8 of the ordinance, published in Ceylon government Gazette No. 10085 of May 17, 1950. The provisions of Part II of the WBO No. 27 of 1941 shall apply to the Building Trade. The following workers will come under this trade masons, carpenters, plumbers, painters, and decorators, tilers, erectors, equipment maintenance men, scaffolders, mechanical equipment operators, tinkers, kanganies, unskilled labourers and the workers engaged in any other operations in the building construction.

The normal working day constitutes 9 hours of work including 1 hour for a meal on any day other than a Saturday and 6 ½ hours of work including 1 hour for a meal on Saturday.

Minimum Rate of Wages for Time Work for the Unskilled workers is Rs. 455 and Skilled workers is Rs. 532. Therefore, the Minimum Rate of Wages for the Month for the Unskilled workers' Rs. 11,775 and for Skilled workers Rs. 14,000.

It's an offense if an employer breaches the provisions under this Act. In such a case, the employer shall be liable to pay a fine not exceeding Rs. 25,000/- or to the imprisonment of either description for a term not exceeding six months or to both such fine and imprisonment (Walpita, 2018).

In addition to these wages, overtime payment should be made which is 1 ½ time the normal hourly rate. Sunday has to be given as a weekly holiday which is unpaid. If an employee works on a weekly holiday the employer should pay 1 ½ days wages for the first 8 hours and additional overtime payment of 10 percent of the minimum hourly rate if exceeds eight hours. The employer is obliged to pay EPF on the wages earned for the first eight hours.

The employees are entitled to annual holidays every year which are paid holidays if the worker has been in continuous employment and has worked under the same employer in the qualifying year.

The number of annual holidays is been decided by certain industrial trades which is generally 14 days to 21 days. EPF is applicable for annual holidays.

All the workers are entitled to have public holidays by the Holiday act. No. 29 of 1971 The employer has to pay for public holidays. If an employee is working on a public day, the employer should give a day off in lieu or should pay double for the day's work.

The employer should give the holiday on the Full Moon Poya Day. If the employer assigns the work for an employee on the Full Moon Poya Day, it has to pay 1 ½ time the wages.

2.5.3 Shop and Office Employees' Act

The Shop and Office Employees' Act (SOEA) (Act No 19 of 1954) is a very comprehensive piece of legislation that applies, without distinction, to a very small shop or office where a single worker is employed or large establishments employing thousands.

The regular working day is restricted to 8 hours and the normal working week is limited to 45 hours, except 1 hour for meals. Employment exceeding regular hours must be regarded as overtime and charged at a rate not less than one and a half times the hourly rate, determining that by dividing the monthly rate by 240, the actual amount of overtime is limited to 12 hours per week. There is no right to overtime for executives in the State of Corporations.

The law Offers for the award of one and a half days of holidays with pay after 28 hours of work in a 'week' is completed.

The maximum annual leave allowance shall be 14 days and shall be paid for when work begins between the following dates for the awarding of the subsequent number of days as a leave in the following year:

- | | | |
|--|---|---------|
| a) January 1 st and March 31 st | - | 14 days |
| b) April 1 st and June 30 th | - | 10 days |
| c) July 1 st and September 30 th | - | 7 days |
| d) October 1 st and December 31 st | - | 4 days |

There is also no entitlement to leave at the beginning of the year of employment, but full salary limits are required in the coming years. Both public holidays and Poya days should be granted as holidays. For a calendar year, the casual leave allowance is seven days. This is to be used on a private or ill basis. One day is granted for every two completed months during the first year of employment.

The Maternity Leave allows 70 days' leave in respect of the live child and 28 days' leave if the confinements do not result in the delivery of the live child. In addition to other leave or holiday rights, such days of leave shall be allowed. If an employee had not utilized any part of the pre-confinement leave of 14 days, that part could be taken along with post-confinement leave.

Under this Act, it is a fundamental requirement for an employer to issue a letter of appointment detailing the conditions of employment for an employee. The employer's duly authenticated signature must be given to the employee in writing in the language he is fully familiar with; the employee must acknowledge receipt of such information in a duplicate to be retained by the employer. The employer is required to pay remuneration not lower than the prescribed minimum rate.

2.5.4 Retrenchment and Termination

Generally, retrenchment occurs due to worker redundancy. This results in the involuntary loss of employees' jobs. Lay off is a temporary reduction of employees to meet a company or establishment situation due to machinery breakdown, raw material shortage, non-functioning of certain sections or sections, business transaction breakdown, business crisis management, etc. The lay-off period is usually determined. The lay-off understanding is that employees will be restored to their services shortly after the lay-off period. A certain percentage or portion of wages is paid during the lay-off period at times agreed between the employer and employees or trade union. Under section 12(1) of the Industrial Disputes Act, such an agreement may be entered into. An employer intending to retrench workers should give the workers written notice of at least one month and transmit a copy thereof to the Labour Commissioner unless the retrenchment arises as a result of the agreement between the employer and the workers. On account of the Termination Act, the provisions relating to the retrenchment of workers practically do not apply.

Termination of Employment of Workmen Act (TEWA) N0 45 of 1971 was introduced by the government as strict measures in terms of the Emergency Regulations to give immediate relief to the workers. Under the common law, the employer could terminate the services of workmen if his services were not required any longer. All that the employer had to do was to give the notice in terms of the contract of employment or make a payment as compensation instead of notice in terms of the contract of employment (Wimalasena, 2018).

2.5.5 Budgetary Relief Allowance of Workers

The Budgetary Relief Allowance Act (BRAA) Act No 36 of 2005 was enacted by parliament to increase the salaries of Private sector employees. An employee drawing a monthly wage of Rs. 20,000 or less is entitled to an allowance of Rs. 1,000 for the monthly paid employees, Rs. 40 per day for a daily paid employee and 10% of the salary received when paid based on piece rate by the employer. The employees whose salaries are determined by the way of collective agreements and who have been granted salary increase not less than Rs. 1,000 during the period are not entitled to this allowance. This allowance is taken into account when computing overtime and maternity benefits. The employer should maintain the employee's name, type of employment, and the amount paid as Budgetary Relief Allowance. The Commissioner has the authority to enter any workplace premises and conduct inquiries and or inspections, inspect relevant documents, obtain copies of a document or part thereof and seek information from employees through questions and clarifications and obtaining. It's an offense if the employer doesn't cooperate, submit falsified documents, and payment due to Budgetary Relief Allowance on an employee. In such a case, the employer shall be liable to pay a fine not exceeding Rs. 10,000 or to the imprisonment of either description for a term not exceeding six months or both if found guilty, before a Magistrate (Walpita, 2018).

2.5.6 Employees' Provident Fund

According to the International Labour Organization (ILO), social security is a basic need and a basic human right. Employees' Provident Fund (EPF) was introduced to provide social security to all the workers from the EPF Act, No. 15 Of 1958 which is a contributory pension scheme. It is a mandatory, contributory scheme that covers the employees in the private sector as well as, semi-government sector (EPF, 1958).

As the EPF is a mandatory provident fund, an employee working under covered employment becomes automatically entitled to gain membership of the scheme from the first day of the commencement of the work in such an organization. The employer must take immediate action to register the new member under the EPF. As such, the employer is required to complete certain forms, such as A, B, and H, and deliver them to the labour office of the area within 14 days of the recruitment of the new employee. After examining the forms, the labour office would return the Form-B to the employer along with the certification of the Commissioner of Labour in charge of EPF. Form-B is considered as the certificate of membership, and this is a valuable piece of the document since it is used in all subsequent transactions concerning the EPF.

The employee will be given an individual membership number to access the account which is governed by the Central Bank of Sri Lanka (CBSL). A statement will be generated every year with the amount lying in the account. In the case of the employee changes his workplace, he/she has to handover the same Form-B to the new employer. The new employer should handover the Form-B along with Form-G to the labour office. The Labour office will provide Form-B with a new number. The employee is can nominate an heir to his/her EPF account (Fonseka, 2018).

The employee has to contribute eight percent (8%) of his earnings and the employer has to contribute twelve percent (12%) from his account. The employer has to do the remittance every month to the individual accounts of the employees.

The earnings under the EPF Act as follows:

- Wages, salary, or fees
- Cost of living expenses, special living allowance, and other similar allowances
- Payment in respect of holidays
- The monetary value of cooked or uncooked food
- Meal allowances
- Such other forms of remuneration as may be prescribed and commissions
- Budgetary relief allowance

Attendance incentives, over time, risk allowance, service charge, maternal benefits, and nonrecurring cost of living allowances cannot be considered as earnings.

The eligibility of an employee are as follows:

- Employees who are permanent, nonpermanent, temporary, apprentices, casual employees, those who work for less than a full day
- Employees who are working on a contract basis, piece rate, and commission basis
- Employees on monthly, weekly, or daily wages
- All ranks of employees from labour grades to management grades

However, if such an institution is a social welfare agency offering vocational training to minor offenders, destitute, deaf and blind, or a voluntary organization with less than ten (10) employees, such organizations are excluded from this requirement. So far, household workers are not expected to make contributions to the Provident Fund for Employees (Wijewardena, 2005).

As per Gezzete No. 13101, Dated 11th May 1962, the contribution to the EPF fund should be made within two weeks from the day he becomes liable. If the employer doesn't contribute to the EPF account of his Employee the above actions can be taken.

1. The employer has to pay for surcharge ranging from 5% to 50% for late payments
2. The 8% deductible from the employee's salary will have to be paid by the Employer
3. The employer has to go through financial trouble and will lose his reputation
4. It can lead to losing the property of the Employer

The main objective of EPF is to give a lump-sum benefit as income security after retirement from his employment as income security for an employee. The statutory age of retirement for a male is fifty-five years and for a female is fifty years. The lump-sum benefits consist of the cumulated contribution to the individual member's account, together with the cumulative interest credited yearly to it by the EPF.

Each member is entitled to earn an annual interest on the accumulated balance of his or her account each year from the Central Bank of Sri Lanka. It's compound interest.

Loan facilities shall be provided by financial entities to purchase property to construct a house, construct a house on a property already accessible for purchase and reconstruction, restoration or expansion of an existing building. The overall loan cap is set at seventy-five percent (75%) of the balance of the individual account. If a member

has two or more separate accounts, all accounts of the member shall be considered to determine the maximum amount of the loan.

The Act was amended to allow members who have contributed to the fund for not less than ten (10) years, are currently working, and have not less than three hundred thousand rupees (Rs. 300,000) in their accounts to deduct thirty (30%) percent directly from the lying credit balance in the member's individual EPF Accounts. However, under this facility, the maximum withdrawal is limited to two million rupees (Rs. 2,000,000). If any member has two or more individual accounts, all his / her accounts are considered to qualify under this facility for minimum requirements (Fonseka, 2018).

2.5.7 Employees' Trust Fund

On 1 March 1981, the Employee Trust Fund (ETF) was formed in Sri Lanka, under the Employees' Trust Fund Act, no. 46, 1980. The ETF is set up to encourage employee ownership, employee health, and economic democracy by involvement in finance and investment and employee participation in management through the purchase of equity interest in companies and to offer a broad variety of non-contributory financial incentives to all workers in the non-pensionable public and private sectors (ETF, 1980).

The main purpose of the fund is to benefit the employee during his or her working life as well as on retirement. A self-employed individual or migrant worker shall also be required to become a member of the Fund. The Employees' Trust Fund Board shall comply with all matters of the Fund, including the compliance and control of the accounts.

Unlike the EPF, the ETF does not provide a registration process until allowing contributions. Upon receipt by the Labor Department of the EPF Identification Number, the employer must receive the necessary forms and orders to render payments to the ETF (Mirissarachchi, 2018).

The employer has to contribute three percent (3%) of the employee's total earnings from his account. The employer has to pay the remittance to the individual employee accounts every month.

The earnings under the ETF Act, the employee's eligibility, and the imposition of an employer's surcharge for failure to contribute to the due date are the same as the EPF Act.

The main objective of the establishment of the Fund was to provide its members with non-contributory welfare benefits, with 10 schemes currently covering health, education, and housing. Such as, Free Life Insurance Scheme, Permanent Disability Insurance Scheme, Financial Assistance for Heart Surgery, Reimbursement of Cost of Intra-ocular lens, Year Five Scholarship Assistance Scheme, “Shramasuwa Rekawarana” Hospitalization Medical Scheme, ‘Vijaya’ Housing Loan Scheme, Kidney Transplant Surgery Assistance Scheme, Year Five Scholarships for Children of ETF members who had to terminate, Educational Grant for children of ETF members who passed GCE (A/L) Examination (ETF, 2009)

The members of the Fund shall be entitled to the general benefit of withdrawing, together with interest and dividends, the balance of the fund. As with EPF, there are no such statutory age limits to withdraw the money. The ETF member does not have to wait until the specific age is completed to withdraw their fund balance.

However, the following points must be noted.

- If withdrawal claims are to be made, cessation of employment is compulsory
- The reason for termination might be retirement, resignation, dismissal, post-vacation, etc
- A member shall not be entitled to submit a claim for withdrawal of the balance of the fund until five years have elapsed from the date of cessation of employment for which a refund has been made. Exceptions are to this rule, reaching 60 years of age, permanent Migration for Residence, joining a state service that entitles the member to a pension, employment termination due to permanent disability, and a member's death

2.5.8 Payment of Gratuity

The Payment of Gratuity Act (PGA) Act No. 12 of 1983 was established with the objectives of making payment of gratuity to a worker whose period of service is not less than five years and to provide legal provisions for the payment of gratuity to employees in respect of their service rendered to the employer (Labour, 1983).

Employees who are entitled to a gratuity are as follows:

- Employees, employed in an establishment that has fifteen workers or more
- Employees whose period of service is five years or more
- An employer by whom fifteen or more are employed during any day of the relevant year is liable to pay gratuity

The mode of computation of gratuity are as follows:

- Monthly paid Employees - Half of the monthly terminal salary for each year of service
- Daily paid Employees - Fourteen days' salary for each year of service
- Piece rated employee - The daily earnings during the preceding three months before the cessation of employment of the workman.

2.5.9 Workmen's Compensation

The Workmen's Compensation Law (WCL) was established in 1934 in Sri Lanka. The principle of worker compensation is that the employer is responsible for the work-related injuries or deaths of its employees. According to the law of Sri Lanka, the employer is not obligated to insure its employees.

The requirements to apply for workmen's compensation are as follows:

- An accident, an unexpected event that causes any physical or mental impairment is considered an accident.
- Such an accident should have occurred whilst in the course of employment. It must be proven that accidents have occurred in the workplace and are linked to the job.

If the mode of transport is provided by the employer, if an accident happens, it will be considered for compensation.

- Further, such an accident should have arisen out of employment. If a victim can demonstrate that only the job has put him at risk that such an accident is considered "arising out of employment".

Table 2:1 Computation of compensation

Monthly wage Rs.	Death of workman Rs.	Permanent total disablement of workman Rs.	Temporary disablement of workmen Rs.
0 - 2,500	181,665.00	196,083.80	1,320.00
2,501 - 5,000	258,640.80	295,075.00	1,804.00
5,001 - 7,500	330,968.00	351,461.00	2,186.80
7,501 - 10,000	407,427.90	444,494.60	2,733.50
10,001 - 12,500	478,495.60	519,593.80	3,231.80
12,501 - 15,000	522,495.60	550,000.00	3,561.00
15,001 - 17,500	549,631.50	550,000.00	3,890.70
17,501 - 20,000	550,000.00	550,000.00	4,221.80
20,000 and above	550,000.00	550,000.00	5,500.00

Not only is it the basic salary, but it also includes other benefits that can be calculated in terms of cash, i.e. bonuses, overtime allowances. Transportation allowances or pension or provident fund allowances are excluded.

2.5.10 Employment of Women, Young Persons and Children Act

Special Act No. 47 on the Employment of Women, Young Persons and Children Act (WYCA) was enacted in 1956 to protect women, young people and children in employment. Young people are of either sex and have reached the age of 14, but they are under the age of 18. Those under 14 years of age are children (Fernando, et al., 2018).

The Act seeks to safeguard women workers from night-work hazards. The term 'night' for women workers is defined as a period consisting of 11 hours comprising at least 7 consecutive hours falling between 10.00 p.m. and 6.00 a.m.

Conditions for the women's working at night are as follows:

- No female employee should be employed without her permission.
- Before such employment, the employer should obtain a written sanction from the Labour Commissioner.
- For such work done, the worker should be paid no less than one and a half times the normal payment made for such work.
- It is necessary to appoint female wardens to look after the welfare of women who are employed after 10.00 p.m.
- The employer should provide them with restrooms and refreshments.
- There should be no women workers employed after 10.00 p.m. For more than 10 days in a month.
- No female employee working on the day shift should be employed on the night shift that follows the day shift.

The exemption from the application of the Act applies to women employed in health and welfare services, women holding managerial or technical positions, and not normally engaged in manual work.

A young person cannot be employed on any day for more than 9 hours, and Sunday should be permitted as a full holiday. Total working hours in a week may not exceed 50 ½ hours. No person may employ a person under the age of eighteen in any dangerous occupation.

Section 13 provides, subject to the conditions laid down by the Employment of Children Regulations, that a child should be prevented from being employed in such a way as to influence his or her education and healthy development.

2.5.11 Maternity Benefits Ordinance

In 1939, the Maternity Benefits Ordinance (MBO) was formed under Act No 32. The latest amendment to the Maternity Benefits Ordinance is Act No 15 of 2018 (Chandrasekera & Mahadeva, 2018).

The Benefits of MBO are as follows:

- All of the childbirth of the female employee is granted 12 weeks of maternity leave.
- As a result of pregnancy or confinement or illness arising from pregnancy or confinement, the employment of a female employee should not be terminated.
- If the woman worker has provided notice of such confinement, a duty is placed on the employer by law to offer light work to the woman worker for the 3 months before the confinement.
- The mother is entitled to 2 nursing intervals per working day until the child is a year old.
- The MBO provides for the creation and maintenance of creches for children under the age of five.

2.5.12 Factories Ordinance

On 1 January 1950, Factories Ordinance No. 45 of 1942 came into force. The Factories Ordinance's objectives are a comprehensive approach to setting up and maintaining a safe and healthy work environment for those employed in a 'factory' defined workplace. Ect. is the main objective of the technical component of the Factories Ordinance provisions. (i.e. hazards) from the workplace are circumvented or removed (Karunaratne & Fernando, 2018).

The Factories (Amendment) Act, No 33 of 2000, requires the approval of factory construction plans to ensure that the planned factory building complies with safety and health requirements. It also calls for the registration of all factories.

If an accident occurs in a factory that causes loss of life or disability for more than three days or makes a person unconscious as a result of heat, fatigue, electric shock, or inhalation of irresponsible or poisonous fumes or gases, the employer should promptly send a written notice of the accident to the District Factory Inspector for the district.

In the case of an explosion, fire, factory building collapse and any other dangerous event referred to in the Factories (Dangerous Occurrences) Regulations, 1965, the employer should send a written notice to the District Factory Inspecting Engineer for the district in the event of an incident.

The District Factory Inspecting Engineer for the District should be provided with written notice of cases of industrial diseases by any registered medical practitioner attending or invited to attend to a patient who he believes is suffering from an industrial disease and by the employer of the affected person.

2.5.13 Labour Tribunals

The Industrial Disputes Act is the country's principal instrument for the maintenance of industrial peace. It is based on a statutory arbitration and adjudication framework with orders and awards that are legally enforceable and dominant over bilateral relations.

The Labour Tribunals are an important forum for dispute resolution. The amendment Act, No. 62 of 1967, "for the speedy settlement of industrial disputes both collective and individual" was introduced.

The tasks of the Labour Tribunals are to receive applications for relief from workers, such as (1) the termination of services, (2) forfeiture of gratuity Act, No. 12 of 1983, and (3) and gratuity from establishments employing on average less than 15 employees.

Unless otherwise specified in any service contract between the worker and the employer, the Labour Tribunal has the authority under the Act to grant relief or redress. In assessing the evidence, the Labour Tribunal must act judicially, hear both parties, consider all the facts relating to the dispute, and order the evidence before it within six months of the date of that request. The order of the Labour Tribunal shall be final and binding on the parties to appeal to the Provincial High Court within 30 days of the order of the Tribunal on a point of law basis (Wijayarathnam & Priyantha, 2018).

2.6 International Labour Standards

In 1919 a system of international labor standards was established by the International Labor Organization. The ILO's unique tripartite structure gives workers, employers, and governments an equal voice in ensuring that the views of social partners are closely reflected in labor standards and policy and program shaping.

Promoting rights at work, promoting decent employment opportunities, enhancing social protection, and strengthening dialogue on work-related issues are the main aims of the ILO.

The ILO is a key organization in setting standards and creating a consensus among nations on the signing of conventions. However, the results remain inconclusive in terms of such conventions achieving tangible improvements in construction practice in many developed countries.

The four core labor standards of the ILO cover:

1. Freedom of association and the right to collective bargaining;
2. Elimination of forced or compulsory labour;
3. Effective abolition of child labour; and
4. Elimination of discrimination in respect of employment and occupation.

These standards are set out in the Declaration on Fundamental Principles and Rights at Work adopted by the ILO in 1998 (ILO, 1998). The Declaration shall extend immediately to all countries which have ratified the ILO Constitution, and this shall include the case study countries.

Sri Lanka is one of the ILO Member States and the organization is monitored by the Labour Law of Sri Lanka. International labor standards are assisted by an internationally unique supervisory mechanism that helps ensure that countries follow the conventions they have ratified. The ILO evaluates the implementation of standards in the Member States regularly and recognizes areas where they may be best implemented. The goal of the ILO is to assist countries through social dialog and technical assistance where there are any issues relating to the implementation of the criteria.

Following their adoption by the International Labor Conference and their approval by Governments, the ILO has established different ways of supervising the implementation of conventions and guidelines in law and procedure.

There is adequate social security coverage for only 27% of the world's population and more than half lack any coverage at all. The ILO vigorously supports policies and offers support to countries to further expand to all members of the community appropriate standards of social security (ILO, 1919).

As per the International Federation of Consulting Engineers (FIDIC), the contractor shall pay salary rates and observe the status of workers who are not lower than those established for the trade or industry in which the work is performed.

The contractor shall comply with, and grant all legal rights to, all relevant labor laws applicable to the contractor's workers, including those relating to their jobs, health, safety, welfare, immigration, and emigration. The contractor shall mandate that all relevant regulations, including those relating to safety at work, be complied with by his employees (FIDIC, 1999).

The overall goal of labor standards is to ensure that employees are sufficiently covered in terms of job security and to ensure a minimum standard of living. The standard setting is based on the idea that the labor market cannot be viewed like other markets. Labours must be handled humanely. For this simple purpose, it is necessary to take action to ensure that employers do not take more of their employees than they pay for. Labor regulations are to serve this function. Yet, as a result of economic globalization, poor working conditions and the abuse of workers have become more abundant than ever. Thus, insisting on consistent rules in this era of global capitalism to ensure that economic development takes place alongside social security is very important to study.

Regarding the effects of labor standards or the context in which labor standards have influenced the challenges of labor standards to be applicable in Ghana. The application is not merely economic, but political as well. The neo-classical ideology has been politically projected at the international level to such an extent that it appears to be the only viable approach to the study of labor standards. However, it has been found that the neo-classical paradigm is singularly responsible for the poor working conditions in Ghana. As this study shows, continuous external influences in the form of neoclassical policies, with their emphasis on economic growth, are thus eroding the very fabric of society and its ability to turn workers away from economic growth victims into dignified citizens. Meanwhile, a dignified working class is what is required to create wealth.

Undoubtedly, it is imperative that efforts should be made to at least approach, if not perfectly achieve, decent work by applying labor standards. The context-specific recommendations presented above are deliberative and so the application of labor standards in Ghana will be more than just rhetoric but a reality once these are translated into actions, or at least into a pure will. This way, the labor norms. The issue will be minimized, and Ghana's working people will be treated as worthy. The dignity and dignity that all human beings owe (Akorsu, 2010).

This researcher found that there is no urgent need for more legislation; the incorporation of existing legislation; Legislation on construction contracts and the provision of operational clauses are a priority. This study identified practical and cost-effective procedures for bringing together stakeholders to implement and monitor labor standards, to contribute to the overall goal of "decent work" for all workers in the construction industry.

Case studies from Ghana, India, and Zambia reveal that there is a high degree of competition in the construction industry. Contractors must keep their costs down to attract bids, and labor is always a major component of those costs. If the customer routinely awards contracts to the lowest bidder, as is normal, the winning tender may be the one that pays the lowest salaries, does not have protective equipment, or has injury coverage and has the highest proportion of casual employees. These companies can actively prevent employees from joining unions. Meanwhile, in community contracting or self-help schemes using unpaid labor, there is often a lack of knowledge of the need to enforce national labour laws.

The actual problem is not the lack of labor legislation. Rather, there is a lack of effective mechanisms to ensure the application and monitoring of those laws. Typically, labor and trade union ministries have insufficient resources to inspect sites or represent employees outside the major cities. The construction contract is an important mechanism for employees, contractors, and employers to implement labor standards and to demonstrate the benefits in such situations. It is possible to include and/or reinforce contract clauses that relate specifically to labor standards.

While such provisions place formal responsibility on the contractor, it is also important to develop an awareness-raising process for all stakeholders, which establishes agreed compliance monitoring mechanisms.

Very few standards have been enforced on-site in practice, but this ranges between contractors and regions. Only through a consultation process involving all concerned parties can labor standards be successfully adopted and enforced. Together, these parties may agree on implementation and compliance monitoring mechanisms (Cotton, et al., 2005).

2.7 Main contractor and subcontractor relationship

The contractor shall design (to the degree defined in the contract), conduct, and complete the work in compliance with the contract and the instructions of the engineer and shall correct any defects in the work (FIDIC, 1999).

In his studies, Rahman (2013) referred to the need for cooperation in the construction project to make sure the progress of the project, in specific to the main contractor who has the ultimate responsibility for the growth of the project. The scope of function involves the preparation, coordination, and supervision of their subcontractor in the implementation of the construction project (Rahman, 2013). The main contractor undertakes a project based on the needs of the client corresponding to Schaufelberger (2009). They need to constantly search out new projects and opportunities open to them to develop new connections and create long-term relationships with other trade players. The contractor will also be responsible for educating the owner's employees on how to operate the building's systems, as well as providing post-construction maintenance. (Schaufelberger, 2009).

The main contractor specializes in fields such as the construction industry, commercial, manufacturing, and large-scale projects. From the design process to the final inspection of the building, the main contractor will prepare a budget and a planning schedule. If a problem arises, the main contractor can usually communicate with the consultants. This is to make sure the project is completed on schedule, under budget, and according to all specifications for a high-quality end product.

According to Samuel (2009), subcontractors agree with the main contractor to perform some particular parts of the work of the main contractors (Samuel, 2009). Main contractors tend to hire subcontractors for their projects for several reasons. Construction projects also include specific tasks involving skilled craftsmen and specialized equipment. However, it is not effective and economical for the typical main contractor to hire such full-time staff or own specialized equipment needed for each operation (Arditi & Chotibhongs, 2005).

Elazouni et al. (2000) described subcontracting as an act of general contractors recruiting specialty contractors (subcontractors) to help them solve employment problems such as the need for special skills, a lack of resources for the general contractor, and a constraint of finances (Elazouni & Metwally, 2000). In another vein, subcontracting is usually a contractual agreement defined by Chiang (2009) in which the main contractor submits parts of the job to another contractor who may plan to submit it to a third-party firm (Chiang, 2009).

The FIDIC Conditions of Contract for Construction (Red Book) do not allow the whole job to be subcontracted by the contractor.

There are three types of subcontractor:

- 1- Domestic subcontractor: the subcontractor was appointed at his discretion by the main contractor.
- 2- Nominated subcontractor: a subcontractor nominated by the employer to whom the contractor is obligated to appoint as a subcontractor.
- 3- Selected subcontractor: A subcontractor chosen by the contractor in consultation with the employer on the conditions of the contract.

The main contractor has no power over the hiring of nominated subcontractors. Consequently, if there is any delay in the appointment of such a subcontractor for any cause whatsoever, the employer shall be responsible for any costs and expenses which the main contractor may incur as a result of such delay.

The main contractor shall have power over the selection of selected subcontractors if he is made responsible for the procurement process. As a result, the employer shall not be liable for any expenses or costs associated with a delay in the hiring of the selected subcontractor unless the employer or the employer's representative is responsible for drawing up the procurement documents of the selected subcontractors or for managing the procurement method (Silinga, 2007).

2.7.1 Challenges faced by subcontractors

There is usually delayed payment of work done by the subcontractor and this leaves the subcontractor with insufficient money to carry on work. According to Fah (2006), usually, main contractors employ this strategy to improve their cash flow when payments from the clients are not forthcoming and incomplete. However, some unscrupulous main contractors may exploit smaller subcontractors by delaying payment to them and making unreasonable deductions without regard to earlier agreements (Fah, 2006).

It is common practice in the construction industry to subject workers to working extralong hours. Furthermore, Gunning et al. (1996) noted that construction employees suffer undue stress when they are exposed to unrealistic demands from clients, working with impracticable deadlines, juggling multiple projects and conflicts within the organization (Gunning & Cooke, 1996).

The findings of Kadan (2017) revealed sub-contracting in building projects is a common existence in Ghana. Significant percentages (nearly 40 percent) of projects/works are usually subcontracted. The main challenges in the management of subcontractors include lack of safety, site coordination challenges, lack of proper communication, nonadherence to schedule, and contractor's financial challenges. The factors affecting cost and time performance of subcontractors are the extent of subcontractor's commitment to schedule, practical and technical ability of the main contractor, project manager's recognition of the other construction activities related to subcontractors tasks, lack of efficiency, and clarity of contract conditions and project objectives. Cost and Time-related factors most affected by the subcontractor are Time required to rectify defects, waste rate of materials, planned time for project construction, and time needed to implement variation orders (Kadan, 2017).

2.7.2 A Win-Win Approach To Subcontracting

The findings of Mahamid (2017) recommended that, before awarding the contract, the owner should verify the resources and capabilities of the bidders, and tenders should be awarded to the appropriate bidder with an accurate estimation of the costs and not simply to the lowest bidder. Communication with the contracting parties and a thorough site investigation should be carried out during the planning and design phase of the project to prevent late adjustments during the construction phase.

The selection of subcontractors by the main contractors should not be dependent on the lowest price, but the subcontractor should be chosen based on experience, reputation, and skills in the fields of labor, equipment, and machinery. Main contractors are encouraged to consult constantly with their subcontractors to fix any problems immediately. Progress payments by the owner to the contractors and the contractors to their subcontractors should be paid on time (Mahamid, 2017).

Kadan (2017) suggested from his study that, the Ministry of Water Resources Works and Housing (MWRWH) should consider the separate registration of subcontractors in different categories, apart from the current categorization of contractors. This will help to develop the capacity of subcontractors in their different specialties and help clients as well as the main contractors to make informed decisions about registered subcontractors to encourage the selection of reputable subcontractors for their projects. Project managers must not follow a 'brick and mortar' approach to the management of subcontractors; the management approach taken must be adapted to the job at hand. It will be very beneficial to incorporate tools and methods from other management sectors, such as operational management, to improve current construction management strategies.

Main contractors should pay attention to helping to develop the technical ability of subcontractors in terms of project preparation, scope management, and project cost, and time management. Clients should exercise due diligence in selecting the key contractors and subcontractors for their project, paying attention not only to tender rates but, more importantly, to the past results, technical and financial capabilities of the bidders. Especially important is the role of the main contractor in selecting subcontractors, even if the subcontractor is nominated (Kadan, 2017).

Pasqual (2020), in the study of a win-win approach to subcontracting identified relationship factors between the main contractors and the nonspecialized subcontractors and the performance of nonspecialized subcontractors. The most critical factors affecting the relationship, according to main contractors, are mutual trust and good communication between the main contractor and the subcontractor, flexibility, cooperation, and active participation of the main contractor, and clear understanding of the work scope by the subcontractor, whereas the subcontractor's time and cost management capability, availability of finance/working capital for main contractor and subcontractor and design errors, late design changes, specialized design, etc are the most critical factors affecting the performance of a subcontractor.

The findings of Pasqual (2020) stated that the 'win-win' approach to subcontracting in Sri Lanka's construction projects must include: good management of the identified critical factors for the relationship between the main contractor and the subcontractor; good management of the identified critical factors for the performance of the subcontractor as indicated in figure 2:3. (Pasqual, 2020).

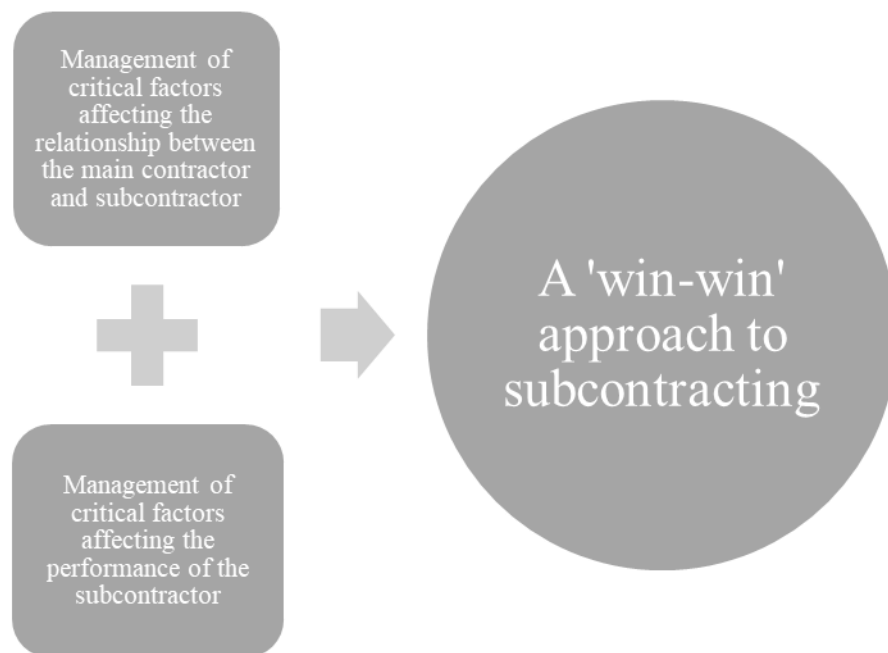


Figure 2:3 A 'win-win' approach to subcontracting (Pasqual, 2020)

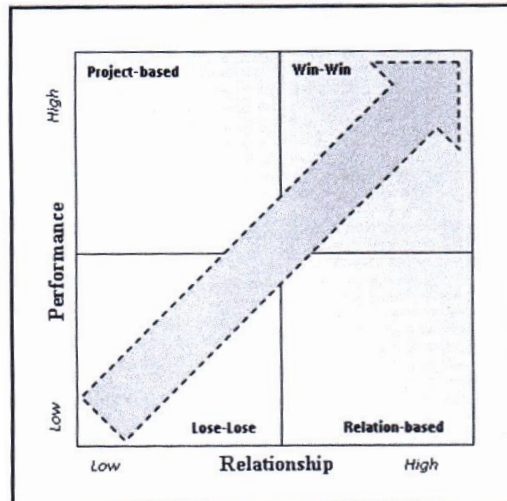


Figure 2:4 Key concept of 'win-win' approach (Pasqual, 2020)

From Figure 2:4, it can be recognized that it is important to aim equally for a better relationship and better results to obtain a win-win result in subcontracting.

CHAPTER 3

METHODOLOGY

3.1 Research overview

From the literature review, it was found that the input of subcontractors and the construction workers play a vital role in project success. Also both subcontractors and the construction workers facing difficulties to retain in the industry. Social security is one of the reasons they are unsustainable. From the deep study about the labour standards by the Department of Labour, in Sri Lanka, all the workers have to be provided with certain benefits, and social security that has been made compulsory by the DOL. Therefore, this research was structured to identify whether the workers are being treated in the industry as per the labour standards and also identify the challenges faced by the subcontractors. The findings will immensely help the construction workers, subcontractors, main contractors, and the construction industry in the future. This research is the first study to identify the application of labor standards in the construction industry of Sri Lanka.

The data collection for the research was done in two ways.

1. Questionnaire distribution among construction workers
2. Qualitative interview among main contractors and subcontractors

3.2 Questionnaire survey

The literature review identified the issues faced by the construction workers as they are not socially recognized, low salary, tricked by contractors and getting demotivated, etc. Due to these reasons, they don't remain in the industry even though there's a huge job opportunity in the industry.

As per the International Labour Standards, ILO gives an equal voice to the workers. The main aims of the ILO are to promote rights at work, encourage decent employment opportunities, enhance social protection, and strengthen dialogue on work-related issues. From the study, EPF and ETF are taken as a parameter to identify the social security of a worker.

The questionnaire was structured into three sections. Section A is to collect the general information about the respondents, section B is to collect their work information and section C is to collect the information about their remunerations. The structure of the questionnaire is given in figure 3-1 and the questionnaire form is attached as Annex-A.

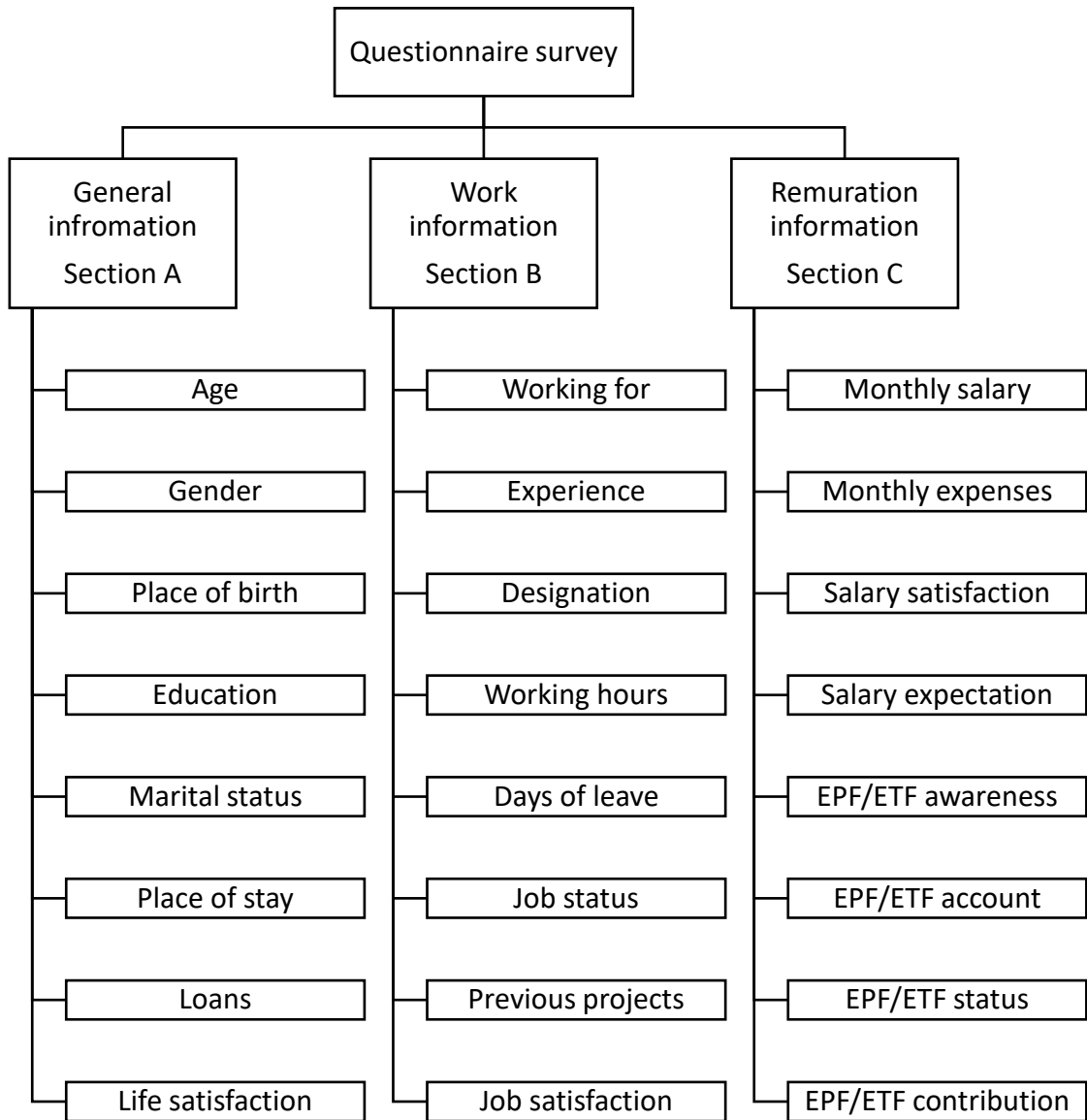


Figure 3:1 Structure of the questionnaire form

Questionnaire distribution was carried out at ongoing high-rise building projects which are at the finishing stages in the Colombo district. 100 workers were randomly selected and interviewed to fill the questionnaire. A pilot questionnaire survey was done among 10 workers to finalize the questionnaire survey with the response of them.

3.3 Qualitative interview

It was found that most of the works in the construction projects are being handed over to subcontractors by the main contractors from the literature study. This is risk-free for the main contractors and high risk for the subcontractors where they have to take the whole responsibility in completing the task by managing the construction workers. From the previous studies, it was identified that the workers are not stable and also they come under the supervision of the subcontractors. Therefore, to identify the challenges faced by the subcontractors, key personals from the main-contractors and subcontractors were interviewed.

The interview questions were structured into three sections. Section A is to collect general information about the company and the respondent's background. In this section, EPF and ETF status were questioned. Section B was prepared for the main contractors to identify the percentage of sub-contracting been given, the reasons for choosing subcontractors to complete a task, difficulties faced by the main contractors, and the reasons for not contributing to EPF and ETF for the workers. Section C was prepared for the subcontractors to identify their current status in the industry, the difficulties faced by the subcontractors, and the reason for not contributing to EPF and ETF for their workers. The interview form is attached to Annex-B.

The interview was done on the same projects where the construction workers were interviewed. 30 personals participated in the interview.

3.4 Data Collection Plan

As per the scope and the limitations of the research, ongoing high-rise building projects were chosen in the Colombo district on its finishing stages to conduct qualitative interviews. The questionnaire survey among the construction workers and semi-structured interviews among the main contractor and subcontractor representatives were decided to be carried out during the lunch break with the permission of the site managers without any disturbance to their progress.

3.5 Data Analysis Plan

From the pilot survey, it was decided to conduct the questionnaire survey among a hundred workers since the response is mostly similar to each other. After the completion of the questionnaire survey, the data were analyzed by the software called Statistical Package for the Social Sciences (SPSS). Descriptive and Pearson’s correlation test analysis in the software was conducted to find the relationship between factors identified.

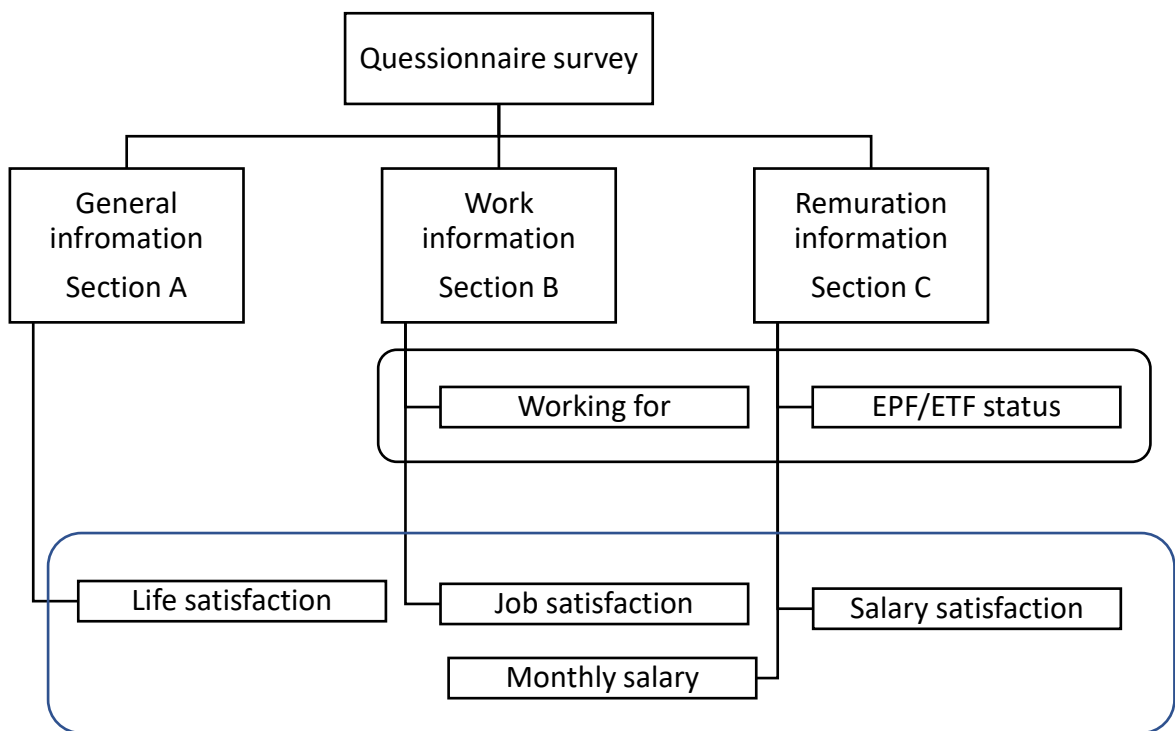


Figure 3:2 Pearson’s correlation test components

3.5.1 Pearson’s correlation test analysis

Pearson correlation measures the degree of the linear relationship between two variables. Correlation coefficients (r) range from -1 to +1. +1 means perfect positive relations, 0 means no relationship and -1 means perfect negative relationship. When interpreting, 1 is perfect relationship, 0.5 - 1.0 is strong relationship, 0.3 - 0.5 is moderate relationship, 0.0 - 0.3 is none or extremely weak relationship. The value of ρ is determining the significance level of the relationship. If $\rho \leq 0.01$ the test is significant and $\rho > 0.01$ the test is not significant. (Yeager, et al., 2020)

$$r_{xy} = \frac{cov(x, y)}{\sqrt{var(x)} \times \sqrt{var(y)}}$$

- r_{xy} - Correlation coefficients
- $cov(x, y)$ - sample covariance of x and y
- $var(x)$ - sample variance of x
- $var(y)$ - sample variance of y.

3.5.2 Relative Important Index method

Likert scales are used for the interview among the main contractor and subcontractor representatives. The relative important index method (RII) was used to rank the factors.

$$RII = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{A \times N}$$

- n_5 - Number of respondents for strongly agree
- n_4 - Number of respondents agreeing
- n_3 - Number of respondents for neutral
- n_2 - Number of respondents disagreeing
- n_1 - Number of respondents for strongly disagree
- A - Highest weight = 5
- N - Total number of respondents

CHAPTER 4

ANALYSIS AND DISCUSSIONS

4.1 Introduction

This chapter includes the analysis of data collected from construction workers in high-rise building projects through a questionnaire survey and semi-structured qualitative interviews with the representatives of main contractors and subcontractors.

4.2 Analysis of questionnaire survey for the construction workers

4.2.1 Respondent's background details

According to statistical analysis table 4.1, most of the workers were between 21 - 30 years of age and then 31-40 years of age. It can be identified very less number of workers were aged more than 40 years and female workers were not being recruited at high-rise building projects.

From the educational background, it revealed most of the workers were not being trained from the vocational training institutions. Fernando et al. (2016) stated that because of the current shortage of skilled workers, unskilled workers work as skilled workers and will adversely affect the quality and standard of the outcomes, cause high material waste and spend a long time completing the project. (Fernando, et al., 2016).

Zaki (2012) indicated in his study that the involvement of local workers was not very motivating and it was known that skilled workers from vocational training did not meet the needs of the industry. Some of them left the construction sector even after training from construction training institutions (Zaki, et al., 2012).

There are many vocational training institutions in Sri Lanka and every year students are being entered with Ordinary Level qualifications. At the end of the study, with the qualification, they leave the country by seeking foreign job opportunities or start working as supervisors in the industry. This is happening due to the demotivation of the workers in the construction industry. This is one of the key reasons for the skill shortage in the industry. To fill the gaps with the experience normal workers are getting named as skill workers.

Table 4:1 Respondent's background details

Type	Description	Frequency	Percentage	Total
Age	< 20 Years	6	6.0	100
	21 - 30 Years	40	40.0	
	31 - 40 Years	34	34.0	
	41 - 50 Years	13	13.0	
	> 50 Years	7	7.0	
Gender	Male	100	100.0	100
	Female	0	0.0	
Place of birth (Province)	Northern Province	7	7.0	100
	Eastern Province	13	13.0	
	Western Province	9	9.0	
	Southern Province	13	13.0	
	Central Province	14	14.0	
	North Central Province	9	9.0	
	North Western Province	11	11.0	
	Uva Province	13	13.0	
	Sabragamuwa Province	11	11.0	
Education	No Schooling	6	6.0	100
	Grade 9 and below	27	27.0	
	Upto GCE O/L	46	46.0	
	Upto GCE A/L	19	19.0	
	Vocational qualification	2	2.0	
Marital status	Married	73	73.0	100
	Unmarried	27	27.0	
If married, the number of children	None	7	9.6	73
	1	18	24.7	
	2	24	32.9	
	3	14	19.2	
	3+	10	13.7	
Occupation of the spouse	Working	14	19.2	73
	Not working	59	80.8	
Place of stay	Own house	85	85.0	100
	Rented house	15	15.0	
Loans	Loans taken	33	33.0	100
	Loans not taken	67	67.0	
Life satisfaction	Satisfied	55	55.0	100
	Not satisfied	45	45.0	

4.2.2 Respondent's work information

From the statistical analysis, 90 percent of the construction workers were working for the subcontractors and only 10 percent were working for the main contractors. From this result, it can be seen that the main contractors are not willing to get the work done directly from their workforce and they rely on the subcontractors to complete the task. Shimizu et al. (2002) stated main contractors in the construction industry rely on subcontractors during the execution of a project. Subcontractors are employed by the main contractor to carry out a specific portion of a project, supplying labor, material, equipment, tools, or design (Shimizu & Cardoso, 2002).

16 percentage of the workers were working for day work and 84 percent of the workers were working overtime. Since their basic salary is not adequate to manage their life they work more time to get overtime pay. From the discussion with the workers, it's found that they continuously work without a break, and averagely 5-6 days they take leave. Since most of the workers are from different provinces they prefer this to avoid unwanted traveling expenses.

81 percentage of the workers were working for daily wages as per the analysis. There is no job guarantee for them and due to this reason, the construction workers are not stable. They keep changing the projects soon after they get paid by their employer.

57 percentage of the subcontractor workers were satisfied with the current job and 62 percentage of the workers were willing to continue their job. From 38 percent of workers who don't like to continue their current job mostly preferred to work abroad. A study by Basnayake et al. (2015) also found that 54 percent of the skilled workers surveyed are chosen to work in foreign countries because of this lower pay compared to other countries. So this drain of skills is another crucial problem in the skill shortage. (Basnayake & Premathilaka, 2015). In Sri Lanka, there is a huge opportunity in the farming job but only 1 person out of 100 workers preferred farming as his preferred job.

Table 4:2 Respondents work information

Type	Description	Frequency	Percentage	Total
Working for	Main contractor	10	10.0	100
	Sub contractor	90	90.0	
Experience in the construction field	0 - 3 Years	28	28.0	100
	4 - 6 Years	23	23.0	
	7 - 9 Years	8	8.0	
	10 - 12 Years	10	10.0	
	Above 12 Years	31	31.0	
Current designation	Mason	22	22.0	100
	Painter	29	29.0	
	Tiler	9	9.0	
	Labour	23	23.0	
	Other	17	17.0	
Other designation	Aluminium Fabricator	5	29.4	17
	Barbender	1	5.9	
	Electrician	4	23.5	
	Rigger	2	11.8	
	Supervisor	4	23.5	
	Welder	1	5.9	
Working hours per day	0 - 8 Hours	16	16.0	100
	9 - 10 Hours	29	29.0	
	11 - 12 Hours	26	26.0	
	13 - 14 Hours	21	21.0	
	Above 14 Hours	8	8.0	
Days of leave in a month	0 Days	3	3.0	100
	1 - 2 Days	4	4.0	
	3 - 4 Days	33	33.0	
	5 - 6 Days	45	45.0	
	Above 6 Days	15	15.0	
Current job status	Contract basis	19	19.0	100
	Daily wages	81	81.0	
Previous projects	None	9	9.0	100
	1 - 2	14	14.0	
	3 - 4	22	22.0	
	5 - 6	15	15.0	
	Above 6	40	40.0	
Job satisfaction	Satisfied	57	57.0	100
	Not satisfied	43	43.0	

Continue the job	Like to continue	62	62.0	100
	Doesn't like to continue	38	38.0	
If not, the preferred job	Work in abroad	16	42.1	38
	Farmer	1	2.6	
	Driver	7	18.4	
	Business	9	23.7	
	Other	5	13.2	

4.2.3 Respondent's wages information

Table 4:3 Respondent's wages information

Type	Description	Frequency	Percentage	Total
Monthly salary	Below Rs. 25000	0	0.0	100
	Rs. 25001 - Rs. 50000	36	36.0	
	Rs. 50001 - Rs. 75000	45	45.0	
	Rs. 75001 - Rs. 100000	14	14.0	
	Above Rs. 100000	5	5.0	
Monthly expenses	Below Rs. 25000	0	0.0	100
	Rs. 25001 - Rs. 50000	5	5.0	
	Rs. 50001 - Rs. 75000	44	44.0	
	Rs. 75001 - Rs. 100000	40	40.0	
	Above Rs. 100000	11	11.0	
Salary satisfied	Satisfied	49	49.0	100
	Not satisfied	51	51.0	
If not, the expected salary	Below Rs. 25000	0	0.0	51
	Rs. 25001 - Rs. 50000	0	0.0	
	Rs. 50001 - Rs. 75000	22	43.1	
	Rs. 75001 - Rs. 100000	17	33.3	
	Above Rs. 100000	12	23.5	
EPF&ETF awareness	Aware of EPF&ETF	72	72.0	100
	Not aware of EPF&ETF	28	28.0	
EPF&ETF account	Have an account	27	27.0	100
	Doesn't have an account	73	73.0	
EPF&ETF current job	Contributing	6	6.0	100
	Not contributing	94	94.0	
EPF&ETF contribution	Wish to contribute	70	70.0	100
	Doesn't wish to contribute	30	30.0	

The minimum rate of wages for a month imposed by the building trade for the construction skilled workers as a basic salary is 14,000 Rs but from the analysis, it can be identified that all of the construction workers were getting monthly wages not less than 25000 Rs. Therefore, the building trade should consider updating these values as per the real market.

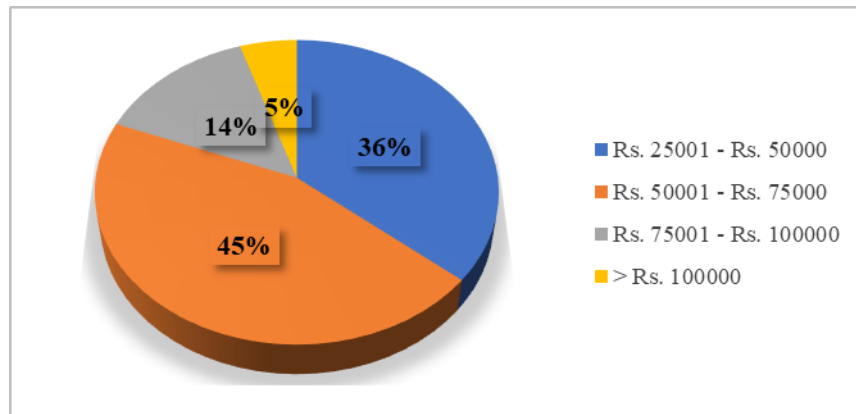


Figure 4:1 Monthly salary of the respondents

From figure 4:1, it can be seen that most of the workers getting a salary between 25,000 Rs to 75,000 Rs. Almost half of the workers getting a salary between 50,000 Rs to 75,000 Rs. 49 percentage of the workers are satisfied with their monthly earnings. A previous study by Basnayaka et al. (2015) found that only 42 percent are happy with their present salaries when it comes to their salary satisfaction. Their expected wages are so different from what they earn. However, most of the skilled workers surveyed are happy with their jobs and workloads (Basnayake & Premathilaka, 2015).

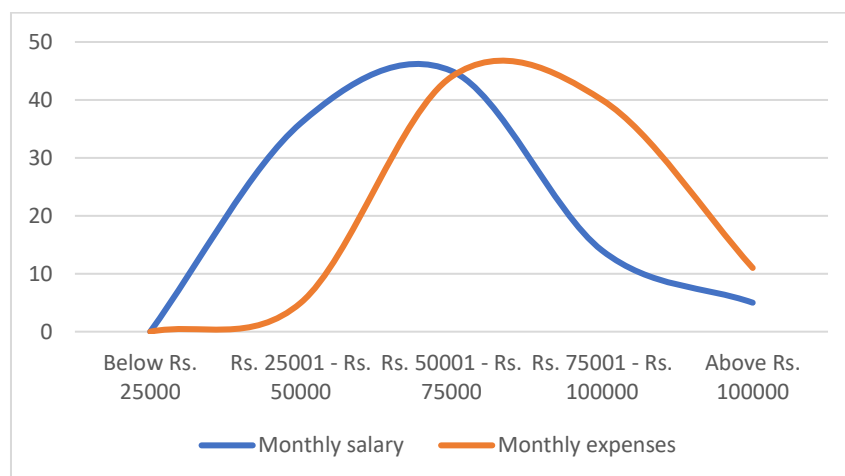


Figure 4:2 Comparison of monthly salary and monthly expenses

From figure 4:2, it is found that monthly expenses are higher than their monthly wages. Those who are not satisfied with their salaries are falling into this category.

72 percentage of the construction workers were aware of EPF&ETF and only 27 percentage have got an EPF&ETF account. As per the analysis, 94 percent of the workers were not getting EPF&ETF benefits. From the survey, 70 percent of the workers were interested in getting EPF&ETF benefits. So it is found that they were interested to get EPF&ETF but being neglected by their employer.

The reasons given for the not interested to contribute to the EPF&ETF account are that the workers are not interested to contribute a portion from their salary since their earning is not enough to manage their life, the doesn't have proper knowledge in EPF&ETF benefits and they feel it is difficult to get the payment from the department, they don't trust their employers and they feel getting daily wages is safe. Those who wanted to go abroad for work were also not interested in EPF&ETF. Some are aged more than 50 years also don't want to continue contributing to the EPF&ETF account.

At the time of the interview, workers have mentioned that construction job is very difficult and continuing for survival. To get more earning to have to work night shifts and have to work throughout the month without a break since working far from home which makes them very stressed and gives health issues. Few are working as a part-time job in the industry for the financial needs of higher studies. From the discussion, it is found that workers are getting demotivated in the industry since they are not treated well with their necessity needs. Therefore, they are not satisfied with what they are doing and few wanted to leave the industry and others working with tolerating for the survival of their life.

4.2.4 Pearson correlation test analysis

Pearson's correlations were tabulated using SPSS and results were shown in table 4:4. Findings from the correlation tests are given below:

- There is a significant strong positive relationship between life satisfaction and job satisfaction ($r = -0.717$, $\rho = 0.000$). Those who are satisfied with their jobs are satisfied with their family life and not satisfied with their jobs are not satisfied in their family life.
- There is a significant strong positive relationship between life satisfaction and salary satisfaction ($r = 0.766$, $\rho = 0.000$). Those who are satisfied with their salaries are satisfied with their family life and not satisfied with their salaries are not satisfied in their family life.
- There is a significant strong positive relationship between job satisfaction and salary satisfaction ($r = 0.528$, $\rho = 0.000$). Those who are satisfied with their salaries are satisfied with their job and not satisfied with their salaries are not satisfied with their jobs.

From the analysis it can be said, there is a strong positive relationship between each parameters.

Table 4:4 Correlations between satisfaction parameters

Parameters		Life satisfaction	Job satisfaction	Salary satisfaction
Life satisfaction	Pearson Correlation	1	.717**	.766**
	Sig. (2-tailed)		0.000	0.000
Job satisfaction	Pearson Correlation		1	.528**
	Sig. (2-tailed)			0.000
Salary satisfaction	Pearson Correlation			1
	Sig. (2-tailed)			

** . Correlation is significant at the 0.01 level (2-tailed).

4.2.5 Factors influencing family life satisfaction of construction workers

Factors influencing family life satisfaction of the construction workers have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:5 Ranking of factors influencing family life satisfaction of workers

Factors influencing Family Life satisfaction	RII	Ranks
Age below 40 years	0.775	8
Age above 40 years	0.775	9
Education up to Ordinary level	0.791	5
Education above Ordinary Level	0.714	13
Married person	0.774	10
Single person	0.778	7
Living at Own house	0.782	6
Living at Rented house	0.733	12
Loans taken	0.667	14
Loans not taken	0.828	3
Masonry worker	0.841	2
Painting worker	0.793	4
Tiling worker	0.944	1
Labourer	0.652	15
Other worker	0.735	11

From the ranking it is identified tiling workers were most satisfied in their family life and then respectively masonry workers, those who were not taken loans also satisfied in their family life. Those who have taken loans and labourers were not satisfied in their family life according to the ranking.

4.2.6 Factors influencing job satisfaction of construction workers

Factors influencing Job satisfaction of the construction workers have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:6 Ranking of factors influencing job satisfaction of workers

Factors influencing Family Life satisfaction	RII	Ranks
Age below 40 years	0.769	12
Age above 40 years	0.850	4
Education up to Ordinary level	0.816	7
Education above Ordinary Level	0.774	11
Working for Main contractor	0.800	9
Working for Sub contractor	0.783	10
Masonry worker	0.864	3
Painting worker	0.810	8
Tiling worker	0.889	1
Labourer	0.609	15
Other worker	0.824	6
Working time less than 8 hours	0.875	2
Working time more than 8 hours	0.768	13
Work experience less than 10 years	0.754	14
Work experience more than 10 years	0.829	5

From the ranking it is identified tiling workers were most satisfied in their job and then respectively those who were working for less than 8 hours, masonry workers were satisfied in their job. Those who have less than 10 years work experience and labourers were not satisfied in their job according to the ranking.

4.2.7 Factors influencing salary satisfaction of construction workers

Factors influencing salary satisfaction of the construction workers have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:7 Ranking of factors influencing salary satisfaction of workers

Factors influencing Family Life satisfaction	RII	Ranks
Age below 40 years	0.731	10
Age above 40 years	0.714	11
Working for Main contractor	0.850	2
Working for Sub contractor	0.733	9
Masonry worker	0.795	5
Painting worker	0.741	7
Tiling worker	0.944	1
Labourer	0.652	14

Other worker	0.706	12
Monthly Salary is less than 50,000 Lkr	0.597	15
Monthly Salary is higher than 50,000 Lkr	0.828	4
Monthly Expense is 50,000	0.786	6
Monthly Expense is higher than 50,000 Lkr	0.706	13
Getting EPF/ETF benefits from the employer	0.833	3
Not getting EPF/ETF benefits from the employer	0.739	8

From the ranking it is identified tiling workers were most satisfied with their monthly wages and then respectively those who were working for main contractors, those who were getting EPF/ETF benefits from their employers were satisfied with their salary. Labourers and the workers who were getting monthly salary less than 50,000 lkr were not satisfied with their salary according to the ranking.

From this analysis it can be said that tiling workers are getting treated well in the industry according to their satisfaction levels in their family life, job and salary satisfaction. General labourers are not satisfied in their life according to their satisfaction levels in their family life, job and salary satisfaction.

4.2.8 Computation of EPF Benefit

From the questionnaire analysis, it was found that a construction worker is getting paid not less than Rs. 25,000 per month. Therefore assuming Rs. 25,000 as the basic salary of the construction worker, EPF benefits computed is shown in table 4:5.

Table 4:8 EPF contribution chart

Year	Employee contribution 8 %	Employer contribution 12 %	Total monthly contribution	Yearly contribution + last year	Interest 10 %	EPF Benefit
Year 1	2000.00	3000.00	5000.00	60000.00	6000.00	66000.00
Year 2	2000.00	3000.00	5000.00	126000.00	12600.00	138600.00
Year 3	2000.00	3000.00	5000.00	198600.00	19860.00	218460.00
Year 4	2000.00	3000.00	5000.00	278460.00	27846.00	306306.00
Year 5	2000.00	3000.00	5000.00	366306.00	36630.60	402936.60
Year 6	2000.00	3000.00	5000.00	462936.60	46293.66	509230.26
Year 7	2000.00	3000.00	5000.00	569230.26	56923.03	626153.29
Year 8	2000.00	3000.00	5000.00	686153.29	68615.33	754768.61
Year 9	2000.00	3000.00	5000.00	814768.61	81476.86	896245.48
Year 10	2000.00	3000.00	5000.00	956245.48	95624.55	1051870.02

4.2.9 Computation of ETF Benefit

From the questionnaire analysis, it was found that a construction worker is getting paid not less than Rs. 25,000 per month. Therefore assuming Rs. 25,000 as the basic salary of the construction worker and ETF benefits computed is shown in table 4:6.

Table 4:9 ETF contribution chart

Year	Employee contribution 0 %	Employer contribution 3 %	Total monthly contribution	Yearly contribution + last year	Interest 10 %	ETF Benefit
Year 1	0.00	750.00	750.00	9000.00	900.00	9900.00
Year 2	0.00	750.00	750.00	18900.00	1890.00	20790.00
Year 3	0.00	750.00	750.00	29790.00	2979.00	32769.00
Year 4	0.00	750.00	750.00	41769.00	4176.90	45945.90
Year 5	0.00	750.00	750.00	54945.90	5494.59	60440.49
Year 6	0.00	750.00	750.00	69440.49	6944.05	76384.54
Year 7	0.00	750.00	750.00	85384.54	8538.45	93922.99
Year 8	0.00	750.00	750.00	102922.99	10292.30	113215.29
Year 9	0.00	750.00	750.00	122215.29	12221.53	134436.82
Year 10	0.00	750.00	750.00	143436.82	14343.68	157780.50

4.3 Analysis of qualitative interview among contractors

4.3.1 Respondent's background details

30 persons were interviewed, among those 8 were main contractor representatives and 22 were subcontractor representatives. According to statistical analysis table 4.7, 63 percentage of the contractors were registered contractors and 37 percent of the contractors were not registered as contractors. More than 50 percent of the contractors were not paying income tax. It is found that only 30 percent of the contractors were paying EPF&ETF to their employees.

Table 4:10 Respondent's background details

Type	Description	Frequency	Percentage	Total
Company	Main Contractor	8	26.7	30
	Sub Contractor	22	73.3	
Experience in the company	0 - 3 Years	10	33.3	30
	4 - 6 Years	8	26.7	
	7 - 9 Years	1	3.3	
	10 - 12 Years	3	10.0	
	> 12 Years	8	26.7	
Position in the organization	Project Manager	2	6.7	30
	Site Engineer	4	13.3	
	Quantity Surveyor	1	3.3	
	Supervisor	5	16.7	
	Owner	18	60.0	
Experience in the construction	0 - 3 Years	0	0.0	30
	4 - 6 Years	12	40.0	
	7 - 9 Years	5	16.7	
	10 - 12 Years	1	3.3	
	> 12 Years	12	40.0	
ROC Registration	Registered	19	63.3	30
	Not registered	11	36.7	
Audit reports	Maintaining	14	46.7	30
	Not maintaining	16	53.3	
Income tax	Paying	14	46.7	30
	Not paying	16	53.3	
EPF&ETF Registration	Registered	14	46.7	30
	Not registered	16	53.3	
EPF&ETF for workers	Paying	9	30.0	30
	Not paying	21	70.0	
Percentage paying in total workers	100	4	44.4	9
	76 - 99	0	0.0	
	51 - 75	3	33.3	
	26 - 50	2	22.2	
	< 25	0	0.0	

4.3.2 Main contractor's background

It is found that 90 percent of the main contractors were paying EPF&ETF for their employees. 50 - 75 percent of the works were being given for the subcontracting as per the analysis shown in table 4:8. More than 60 percent of the main contractors not considering EPF&ETF payments to be given to the employees for the subcontracting rates.

Table 4:11 Main contractor's background

Type	Description	Frequency	Percentage	Total
EPF&ETF for workers	Paying	7	87.5	8
	Not paying	1	12.5	
Percentage paying in total workers	100	4	44.4	7
	76 - 99	0	0.0	
	51 - 75	2	33.3	
	26 - 50	1	22.2	
	< 25	0	0.0	
Subcontracting ratio	100	0	0.0	8
	76 - 99	2	25.0	
	51 - 75	5	62.5	
	26 - 50	1	12.5	
	< 25	0	0.0	
EPF&ETF payments	Considering	3	37.5	8
	Not considering	5	62.5	

4.3.2.1 Factors influencing subcontracting

Factors influencing subcontracting have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:12 Ranking of factors influencing subcontracting

Factors influencing subcontracting	RII	Ranks
It is cost-efficient and risk-averse	0.850	7
Scarcity of skilled workers	0.950	2
Increased productivity	0.925	3
Less administration cost. Ex- No EPF&ETF payments	0.925	4
All the responsibilities enforced on the subcontractor	0.675	10

Subcontractors are willing to work for assigned rates	0.900	5
Can balance the financial problems	0.700	9
No need to release full payment until the acceptance by the client (Retention)	0.875	6
Not required permanent skilled workers	0.775	8
Profitable for the company	1.000	1

From the main contractors perspective, the top five factors influencing subcontracting are respectively, it is profitable for main contractors, it can fill the gap of skilled worker scarcity, productivity high when subcontracting, less administration cost since EPF&ETF, other payments can be neglected and subcontractors are willing to work for the assigned rates.

4.3.2.2 Problematic factors in subcontracting

Factors that are problematic in subcontracting have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:13 Ranking of problematic factors in subcontracting

Problematic factors in subcontracting	RII	Ranks
No direct control over the quality	0.400	10
Not meeting the completion schedule	0.550	7
Low productivity	0.425	9
Lack of communication	0.550	8
Failure to manage and look after the materials	0.675	5
Negating the orders of the main contractor	0.625	6
Shortage of skilled worker, with the subcontractor	0.725	3
Partnering works with another subcontractor without getting concern from the main contractor	0.850	1
Lack of subcontracting experience in related projects	0.825	2
Neglecting the safety measures	0.700	4

The top five problems faced by main contractors in subcontracting are respectively, subcontractors partnering the works to another subcontractor without getting approval of the main contractor, lack of experience of the subcontractor in similar projects, shortage of the skilled workers with the subcontractor, neglecting the safety measures and subcontractors fail to preserve and take care of the materials provided by the main contractors.

Contractors are recommended to choose a subcontractor based on their previous experience, reputation, and capabilities in terms of manpower, equipment, and machinery, as they guarantee the subcontractor's adherence to the terms of the contract and the ability to complete the work in compliance with the schedule and to achieve the highest quality (Enshassi, et al., 2012).

4.3.2.3 Reasons for not paying EPF&ETF

Reasons for not paying EPF&ETF have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:14 Ranking of reasons for not paying EPF&ETF

Reasons for not paying EPF&ETF	RII	Ranks
Taking that money as the profit	0.500	7
The company is running at a lost	0.250	9
The client is not allocating money to pay EPF&ETF	0.550	6
Workers are not interested in getting EPF&ETF	0.650	5
Difficult to convenience the workers	0.700	4
Workers are not stable and willing to work for daily wages	0.850	2
Workers demand high salaries	0.950	1
EPF&ETF should be paid only for permanent workers	0.850	3
EPF&ETF system is not convenient	0.350	8
Our company is not aware of EPF&ETF	0.250	10

The top five reasons given by the main contractors for not paying EPF&ETF for their employees are respectively, the workers demanding high salaries, workers are not stable and willing to work for daily wages, it should be paid only for permanent workers, difficult to convince the workers and workers are not interested in getting EPF&ETF.

From the interview, the respondents from the main contractors stated that they are willing to assign subcontractors to complete the task. They find it is profitable and easy to manage. The problem they are facing is to identify the required skilled team to do the job who can work from start to end of the project. Some enter into the contract without proper knowledge and leave the project without any notifications to the main contractor or else the main contractor is forced to terminate them from the contract.

4.3.3 Subcontractor's background

It is found that only 9 percent of the subcontractors were paying EPF&ETF to their employees. 70 percent of the subcontractors were not having supervisors for their contract to monitor since the majority of the main contractors were not allocating additional payment for the supervisors and the subcontractors cannot manage to pay for supervisors. Only 60 percent of the subcontractors were making a profit and the rest 40 percent were at risk.

A study in Pakistan's construction industry shows that 53 percent of subcontractors are satisfied with their current subcontracting experience, while 47 percent of subcontractors want positive improvements to subcontracting arrangements (Choudhry, et al., 2012).

Table 4:15 Subcontractor's background

Type	Description	Frequency	Percentage	Total
EPF&ETF for workers	Paying	2	9.1	22
	Not paying	20	90.9	
Percentage paying in total workers	100	0	0.0	2
	76 - 99	0	0.0	
	51 - 75	1	50.0	
	26 - 50	1	50.0	
	< 25	0	0.0	
Sub-contract	Masonry	5	22.7	22
	Painting	7	31.8	
	Tiling	5	22.7	
	LabourSupply	3	13.6	
	Other	2	9.1	
Number of workers in the project	< 5	5	22.7	22
	6-10	3	13.6	
	11-15	6	27.3	
	16-20	3	13.6	
	> 20	5	22.7	
Status of supervisors	Not assigned supervisors	15	68.2	22
	Assigned supervisors	7	31.8	
Status of the owner	Not visiting	2	9.1	22
	Randomly visiting	8	36.4	
	Daily visiting	3	13.6	
	Supervising only	2	9.1	
	Supervising and working	7	31.8	

Requirement of supervisor	Required	15	68.2	22
	Not required	7	31.8	
Payment for supervisor by MC	Paying	3	13.6	22
	Not paying	19	86.4	
If not Paying	Can manage	4	21.1	19
	Cannot manage	15	78.9	
Payment receiving	Enough	13	59.1	22
	Not enough	9	40.9	
Payment time	Getting on time	13	59.1	22
	Not getting on time	9	40.9	
Advance payment	Getting daily advance	17	77.3	22
	Not getting daily advance	5	22.7	
The balance pay for workers	Have to pay	7	31.8	22
	Have not to pay	15	68.2	
Profit	Making a profit	13	59.1	22
	Not making profit	9	40.9	

4.3.3.1 Factors influenced by the main contractor

Factors influenced by the main contractor have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:16 Ranking of factors influenced by the main contractor

Factors influenced by the main contractor	RII	Ranks
Financial difficulties of Main Contractor	0.560	8
Delay in contract progress payments	0.650	4
The contractor's interruptions and termination of work	0.590	6
Delay by the main contractor in the supply of the necessary materials	0.470	9
Providing low-quality materials that lead to low-quality workmanship	0.350	10
Lack of communication	0.610	7
Preparing the unit rates with the lowest price for subcontractors	0.600	5
Paying less amount until the acceptance by the client	0.770	2
Retention money	0.870	1
Continuing to save the reputation in the industry	0.670	3

From the subcontractors perspective, the top five factors influenced by the main contractors in subcontracting are respectively, retention money, paying less amount until the acceptance by the client, subcontractors will continue to save their reputation

in the industry, delay in contract progress payment by the main contractor and the main contractors preparing the unit rates with the lower price for subcontractors.

The findings of the Enshassi et al. (2012) study revealed that the most significant cause by the main contractor in subcontracting was the allocation of part of the works to a new subcontractor without telling the original subcontractor, the financial difficulties of the contractor, delay in contract progress payments, non-compliance with the terms of the contract, non-compliance of the subcontractor with the schedule, and lack of quality of construction work.

Main contractors should make financial payments to the subcontractor in due time, as this will help to develop the contractor's good reputation and allow subcontractors to cover their costs, buy the materials needed and pay on time for their workers. Before beginning the job, the main contractors can negotiate the work with the subcontractors to set the arrangements and define responsibilities. (Enshassi, et al., 2012)

It is found that the subcontractors are in the fear of retention money for the work done. To avoid this, Pasqual (2020) recommended discussing the conditions regarding retention before the contract and include the agreed condition in the contract, considering the existing relationship, and avoid excessive conditions regarding retention to secure the retention money to get from the main contractor (Pasqual, 2020).

4.3.3.2 Reasons for not paying EPF&ETF

Reasons for not paying EPF&ETF have been ranked based on the Relative Important Index method and the overview results of each factor are shown as follows.

Table 4:17 Ranking of reasons for not paying EPF&ETF

Reasons for not paying EPF&ETF	RII	Ranks
Taking that money as the profit	0.390	10
The company is running at a lost	0.600	8
The main contractor is not allocating money to pay EPF&ETF	0.990	1
Workers are not interested in getting EPF&ETF	0.880	5
Difficult to convenience the workers	0.880	4
Workers are not stable and willing to work for daily wages	0.920	3
Workers demand high salaries	0.990	2
EPF&ETF should be paid only for permanent workers	0.710	6

EPF&ETF system is not convenient	0.630	7
Our company is not aware of EPF&ETF	0.400	9

The top five reasons given by the main contractors for not paying EPF&ETF for their employees are respectively, the main contractor is not allocating money to pay EPF&ETF, the workers demanding high salaries, workers are not stable and willing to work for daily wages, difficult to convince the workers, and workers are not interested in getting EPF&ETF.

4.3.4 Pearson correlation test analysis

Pearson's correlations were tabulated using SPSS and results were shown in table 4:15. There is a significant positive strong relationship between the company category and paying EPF&ETF for their employees ($r = 0.757$, $\rho = 0.000$). Main contractors are paying EPF&ETF and Subcontractors are not paying EPF&ETF for their employees. This result is tallying with construction workers' responses.

Table 4:18 Correlations between each parameter

Parameters		Company category	Paying EPF&ETF
Company category	Pearson Correlation	1.000	.757**
	Sig. (2-tailed)		0.000
Paying EPF&ETF	Pearson Correlation		1.000
	Sig. (2-tailed)		

** . Correlation is significant at the 0.01 level (2-tailed).

From the interview with the subcontractor representatives, they stated that they are not getting treated well in the industry. They are forced to do the jobs where they cannot perform and due to this, they give pressure on their workers to get the work done. Most of the respondents mentioned that the money that they are getting is not adequate to pay EPF&ETF for their employees. Subcontractors have to buy tools for the works by themselves since there are no mobilization charges given to them. Some main contractors delay the progress payments purposefully to make the subcontractor leave site and they take that as a profit.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The observations and the interactions with the construction workers, while working in the construction industry motivated me to do this research on the job satisfaction of the subcontractor workers in the high-rise building projects in Sri Lanka. The role of construction workers plays a major role in the project success and from the previous studies it was found that construction workers are getting demotivated and leave the industry. There is a huge scarcity of construction workers due to these reasons.

Even though there are huge opportunities in the construction industry, the people who are unemployed are not willing to join the construction industry. This study is focused on identifying the status of construction workers, the application of the labour standards in the industry, and the challenges faced by the subcontractors.

5.2 Summary of findings

As per the first objective of the study, according to the data analysis of questionnaires distributed among the construction workers, only 57 percentages of the construction workers were satisfied with their current job and there is a significant strong positive relationship between satisfaction in their family life, status of the job and the remunerations. Therefore, satisfaction of the construction workers are relying on the satisfaction of their family life, status of the job and the satisfaction of their remuneration. From the findings, it is identified that tiling workers are highly satisfied and the general workers are not satisfied in the industry.

More than 90 percent of the workers were not getting EPF&ETF benefits. The overall objective of the research is achieved as presented by the quantitative analysis, it is recognized that the identified parameters show a positive relationship with job satisfaction.

As per the second objective of the study, the qualitative interview among the contractors found that main contractors prefer to utilize subcontracts since it is profitable for them, no worries of workers scarcity and the productivity is high when subcontracting. Subcontractors partnering their works with another subcontractor who lack of experience, and shortage of skilled subcontractor workers are the major problems faced by main contractors in subcontracting.

Only 59% of subcontractors were making a profit in the industry. 41% of the subcontractors were failing in the industry due to the unskilled labour force and low rates imposed by the main contractors. Retention money, less progress payment, and continuing the job for their reputation were highly influenced in subcontracting by the main contractors.

The major reasons for not paying EPF&ETF by the subcontractors were that the main contractor was not allocating money to pay EPF&ETF, the workers demanding high salaries, and the workers are not stable and willing to work for daily wages. There is a significant positive strong relationship between the company category and paying EPF&ETF for their employees.

5.3 Conclusion

According to the findings of this research study, it can be concluded that the main contractor, subcontractor, and construction workers are interconnected as a triangle. If one collapses the other two will fail to achieve the target. Therefore, the bottom line of the project is construction workers, and then subcontractors, and then main contractors. For the project's success, all three parties have to have a strong relationship between them.

The labour standards of Sri Lanka are covering everything as per the International Labour Organisation standards but it is not being applied to the construction workers. The Labour Department of Sri Lanka should work on implementing the acts upon all the construction workers and strongly impose the rules and regulations which are already gazetted to the industry.

By implementing the labour standards in the industry, the construction workers will get satisfied in their jobs and will retain them in the construction industry. The job satisfaction of the subcontractor workers depends on the subcontractors since they are working under subcontractors. Therefore, the subcontractor has to be treated well by the main contractor. The main contractor should prepare the rates fairly for the subcontractors and should maintain a long-term relationship.

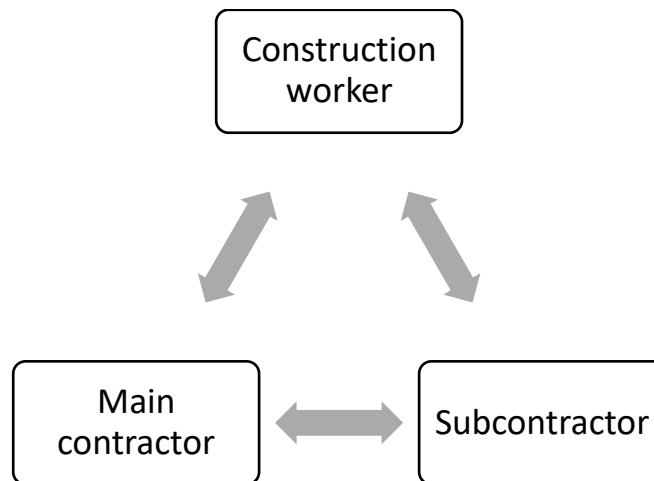


Figure 5:1 Relationship diagram

5.4 Recommendations

The main contractor, subcontractor, and construction workers are the main key players in the construction industry at the phase of site execution. All three players rely on each other for the success of the project. Therefore, they should satisfy each one's needs by having a strong relationship.

The main recommendations which can be determined from the above analysis can be simplified under the below key pointers.

- Development of a mutual contract between the subcontractors and the main contractors which is based on mutual discussions and agreement on the distribution of financial components of the remuneration packages to be formulated on par with the wages board ordinance and also the international convention of contractor benefit diffusion.
- Creation of a performance indexed payment scheme where key performance indicators such as time, cost minimization, and quality optimization are asserted as the performance indicators and criteria in the assessment of the benefits being distributed to the subcontractors. These payments are to be held in addition to the fixed elements to incorporate a variable element as the gross remuneration revenue.
- To develop motivation and a job satisfaction index measured through the turnover factor and also the delay factor in terms of the quality impairment so that the incentive dissemination can be used for the optimization and optimality of the job satisfaction of such construction workers.
- A governing body should be formed for subcontractors to optimize the fair and equitable distribution of rewards between contractors and subcontractors.

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Annex 1

Questionnaire Form

This questionnaire form is developed to identify Subcontractor Workers' Job Satisfaction in The High-Rise Building Projects of Sri Lanka.

Please write your answer or tick in the appropriate box egg: [✓]

Section – A

General Information

1. Age : < 20 [] 21 – 30 [] 31 – 40 [] 41 – 50 [] > 50 []
2. Gender : Male [] Female []
3. Place of Birth (District):

Northern Province	[]
Eastern Province	[]
Western Province	[]
Southern Province	[]
Central Province	[]
North Central Province	[]
North Western Province	[]
Ova Province	[]
Sabragamuwa Province	[]
4. Highest Education :

No Schooling	[]
Grade 9 and below	[]
Upto GCE O/L	[]
Upto GCE A/L	[]
Vocational qualification	[]
5. Marital status : Married [] Unmarried []
6. If married, number of children : 0 [] 1 [] 2 [] 3 [] 3+ []
7. If married, occupation of the spouse: Working [] Not working []
8. Place of stay : Own house [] Rented house []
9. Have you taken any loans from the bank? Yes [] No []
10. Are you satisfied with your family life? Yes [] No []

Annex 2

Semi-Structured Interview Form

This questionnaire form is developed to identify the Challenges Faced by the Main Contractors and Subcontractors in The High-Rise Building Projects of Sri Lanka.

Please write your answer or tick in the appropriate box eg: [✓]

Section - A

Project Information

1. Company Category : Main contractor []
Sub-contractor []
2. Years of experience in the company?
0 - 3 years [] 3 - 6 years []
6 - 9 years [] 9 - 12 years []
Above 12 years []
3. Position in your organization?
Project Manager [] Site Engineer []
Quantity Surveyor [] Supervisor []
Owner []
4. How long have you been working in the construction field?
0 - 3 years [] 3 - 6 years []
6 - 9 years [] 9 - 12 years []
Above 12 years []
5. Is your company registered under Department of The Registrar of Companies (DRC)? Yes [] No []
6. Is your company maintaining audit reports? Yes [] No []
7. Is your company paying government Tax? Yes [] No []
8. Have you registered your company for EPF&ETF? Yes [] No []
9. Is your company paying EPF&ETF for your workers? Yes [] No []
10. If yes, what is the percentage of numbers paying from the total workers tentatively? 100 [] 76-100 [] 51-75 [] 26-50 [] <25 []

Section - B

Please respond to Section-B if you belong to the Main contractor. If not please ignore this section.

1. On average what percentage of the physical work is been given for subcontracting? 100 [] 76-100 [] 51-75 [] 26-50 [] <25 []
2. Based on your experience and knowledge, how influential are the below-mentioned factors in subcontracting?

No	Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	It is cost-efficient and risk-averse					
2	Scarcity of skilled workers					
3	Increased productivity					
4	Less administration cost. Ex- No EPF&ETF					
5	All the responsibilities enforced on the subcontractor					
6	Subcontractors are willing to work for assigned rates					
7	Can balance the financial problems					
8	No need to release full payment until the acceptance by the client. (Retention)					
9	Not required permanent skilled workers					
10	Profitable for the company					

3. Based on your experience and knowledge, how problematic are the below-mentioned factors in subcontracting?

No	Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	No direct control over the quality					
2	Not meeting the completion schedule					
3	Low productivity					
4	Lack of communication					
5	Failure to manage and look after the materials					
6	Negating the orders of the main contractor					
7	Shortage of skilled worker, with the subcontractor					
8	Partnering works with another subcontractor without getting concern from the main contractor					
9	Lack of subcontracting experience in related projects					
10	Neglecting the safety measures					

4. Do you consider the amount for statutory payments for the workers when preparing the BOQ rate for a particular work?

Yes [] No []

5. If not paying EPF&ETF to all the staff, please state your opinion for the below reasons is which level influencing?

No	Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Taking that money as the profit					
2	The company is running at a lost					
3	The client is not allocating money to pay EPF&ETF					
4	Workers are not interested in getting EPF&ETF					
5	Difficult to convenience the workers					
6	Workers are not stable and work for daily wages					
7	Workers required salary is high					
8	EPF&ETF should be paid only for permanent workers					
9	EPF&ETF system is not convenient					
10	Our company is not aware of EPF&ETF					

Section - C

Please respond to Section-B if you belong to the Subcontractor. If not please ignore this section

1. What sub-contracting are you undertaking for this project?

Masonry [] Painting []

Tiling [] Labour supply []

Other

2. How many workers do you have for this project?

< 5 [] 6 - 10 [] 11 – 15 [] 16 – 20 [] > 20 []

3. How many supervisors do you have for this project?

0 [] 1 [] 2 [] 3 [] > 3 []

4. What is the status of the owner of this project?

Not visiting [] Randomly visiting [] Daily visiting []

Supervising only [] Supervising and working []

5. Do you require a supervisor for your contract?

Yes [] No []

6. If yes, is your contractor is paying for the supervisor?

Yes [] No []

7. If no, are you able to manage to pay for the supervisor? Yes [] No []
8. Is the payment being well enough for your work or effort? Yes [] No []
9. Are you getting paid on time? Yes [] No []
10. Are you getting daily advance? Yes [] No []
11. Is there any balance to be paid for the workers? Yes [] No []
12. Is your company making a profit on this project? Yes [] No []
13. Based on your experience and knowledge, how do the below-mentioned factors influence subcontracting by the main contractors?

No	Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Financial difficulties of Main Contractor					
2	Delay in contract progress payments					
3	The contractor's interruptions and termination of work					
4	Delay by the main contractor in the supply of the necessary materials					
5	Providing low-quality materials that lead to low-quality workmanship					
6	Lack of communication					
7	Preparing the BOQ with the lowest price for subcontractors					
8	Paying less amount until the acceptance by the client					
9	Retention money					
10	Continuing to save the company reputation in the industry					

14. If not paying EPF&ETF to all the staff, please state your opinion for the below reasons is which level influencing?

No	Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Taking that money as the profit					
2	The company is running at a lost					
3	The client is not allocating money to pay EPF&ETF					
4	Workers are not interested in getting EPF&ETF					
5	Difficult to convenience the workers					
6	Workers are not stable and work for daily wages					
7	Workers required salary is high					
8	EPF&ETF should be paid only for permanent workers					
9	EPF&ETF system is not convenient					
10	Our company is not aware of EPF&ETF					