ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

ADDIS ABABA INSTITUTE OF TECHNOLOGY

SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING

STUDY OF INSURANCE PRACTICES IN ETHIOPIAN CONSTRUCTION INDUSTRY

By

Tigist Gonfa

A Thesis Submitted to School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Construction Technology and Management

Advisor

Abebe Dinku, Prof. (Dr.-Ing)

November 2016

Addis Ababa

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Certification

The undersigned certify that he has read and hereby recommends for acceptance by Addis Ababa Institute of Technology a thesis entitled: 'Study of Insurance Practices in Ethiopian Construction Industry', in fulfillment of the requirements for the degree of Master of Science in Construction Technology and Management.

…….

Abebe Dinku (Prof. Dr,-Ing)

Advisor

Declaration

I, Tigist Gonfa, declare that this thesis is my own original work and that it has not been presented to other university for a similar or any other degree award and that all sources of materials used for the thesis have been duly acknowledged.

…….

Tigist Gonfa

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ABSTRACT

The general aim of this research is to study in detail what is being exercised in Ethiopian Construction sector related to insurance and identify problems in the current circumstances to then give relevant recommendations for better practice.

Different literatures were assessed to show that risk management is a very important aspect of construction projects management and insurance is a vital construction risk transfer mechanism; to discuss the principles of insurance and the several types of construction insurance policies. Questionnaire survey was performed using randomly selected grade one contractors and class one consultants and also using all the 17 insurance companies in Ethiopia, to observe the practice of using insurance in construction projects in Ethiopia; followed by a structured formal interview held with relevant authorities.

The research findings indicated that there is generally a good level of awareness at a level of opinion by majority of parties in Ethiopian construction industry regarding the importance of insurance for their construction undertakings, but the parties need to have a concrete knowledge about risk and insurance as a risk transfer mechanism to make it a practical part of their construction activities. Formal risk analysis is not being exercised by majority of the parties in Ethiopian construction sector and hence no chance to consider insurance formally as part of their risk management. But despite the policy types most parties purchase insurance policies as part of their informal construction risks management. It is also found by the time of this study many consultants do not have PI policy while conducting their business. There is an attitude by construction firms that paying premium is unnecessary cost due to the less emphasis given to insurance while the fact is the premium that insurance companies currently request for policies is not expensive. In addition, majority of the insurance companies in Ethiopia do not conduct research to identify the needs for different policies in the construction industry, which indicates a core area for them to improve and also they need to increase their efficiency of urgent claims settlement. In a nutshell the findings indicated a number of gaps in the insurance practice of Ethiopian construction sector that needs improvement and accordingly recommendations are provided.

Key words: *Construction Industry of Ethiopia, Client, Consultant, Contractor, Insurance Companies, Contract, Indemnity, Insurance, Insurability, Liability, Risk Management, Formal Risk Analysis, Risk Transfer, Premium, Claim and Insurance Policy*

LIST OF ABREVIATIONS

BC-Building Contractor

CA-Consulting Architects

CAE-Consulting Architects and Engineers

CAR- Contractors All Risk

DB– Design Build (DB)

ERA- Ethiopian Roads Authority

FDRE- Federal Democratic Republic of Ethiopia

GCC– General Conditions of Contract

GC- General Contractor

ILO- International Labor Organization

MoC-Ministry of Construction

MoWE- Ministry of Water and Energy

MoWUD-Ministry of Works and Urban Development

NBE- National Bank of Ethiopia

OCIP-Owner Controlled Insurance Program

PI- Professional Indemnity

PPA– Public Procurement and Property Administration Agency

SBD– Standard Bidding Document

SCC– Special Conditions of Contract

WWCC-Water Works Construction Company

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1.1 BACKGROUND TO THE RESEARCH

Managing various risks in construction projects has been recognized as a very important management process in order to achieve the project objectives in terms of time, cost, quality; safety and environmental sustainability. The Construction work involves the production of a long lived capital product. It is the result of the complex interaction of design, construction, finance, law and insurance. This interaction involves a wide range of risks, and one of the fundamental ways of dealing with risk is through insurance (Gould, 2003).

Insurance is a form of risk management in which the insured transfers the cost of potential loss to another entity in exchange for monetary compensation known as the premium (invetopedia.com, 2010). The advantage of obtaining insurance is that it allows the pooling of risks and reduces the probability of one party bearing the entire cost of a loss (IAG, 2011). And construction insurance is a practice of exchanging a contingent claim for a fixed payment to protect the interests of parties involved in a construction project. Its primary function is to transfer certain risks from clients, contractors, subcontractors and other parties involved in the construction project to insurers to provide contingent funding in time of difficulty. However, insurance sometimes doesn't receive the attention it deserves because practitioners do not have a clear understanding of risk allocation and the strategy of risk management through insurance (Junying Liu, 2006).

In the case of Ethiopia, 'the potential severity of accidents and the frequency with which they occur require that contractors and consultants protect themselves with a variety of complex and expensive insurance coverage. Without adequate insurance protection, the contractors and consultants would be continuously faced with the monetary possibility of serious or even ruinous financial loss' (Abebe, 2000).

Previous research works conducted on the area of insurance and risk management of projects in the Ethiopia's construction sector by Abebe Dinku 2000; Getachew Yilma 2014; and Addis Mesfin 2014 indicated that there is a substantial gap in relation to the practice of risk management and the use of insurance in the sector; showing adequate

insurance coverage is not being provided by construction firms in Ethiopia due to the reasons summarized as follows;

- There is lack of knowledge on the principles of risk management and insurance (Getachew Yilma, 2014). There is lack of proper understanding on the importance of relevant insurance policies by construction firms and their clients; law makers; legal professionals and the society in general (Abebe, 2000). The understanding of risk management by majority of the parties in the construction industry comes only through practice rather than training and formal education (Addis Mesfin, 2014). Also there is a tendency to underestimate the risks associated with construction projects by all parties involved in a construction project (Abebe, 2000).
- Most construction firms do not have a well organized management system who can evaluate the risk involved in a particular project (Abebe, 2000). The process of risk analysis is poor which mainly uses just adding a percentage to budget or cost to cope with uncertainties instead of identifying risk factors and quantify their impact using probability of occurrence, range of risk costs and simulation besides risk management is not handled by a professional with expertise to manage risks formally rather most construction companies' simply use their departmental personnel or safety officer rather than an independent risk manager within the organization and the principle of risk allocation to the parties which can best manage them is not adhered by parties in the construction industry (Getachew Yilma, 2014).
- There is no interaction between insurance companies; contractors and consultants before or during construction in risk identification, allocation and to negotiate on drafts of required insurance policies and insurance companies do not visit the project site before issuing the insurance coverage and during construction for follow up to reduce the happening of risks (Getachew Yilma, 2014).
- The complex policy language of insurance policies is one of the hindrances to purchase insurance by construction firms and there is no uniform method of fixing premiums among insurance companies (Getachew Yilma, 2014).
- Most consultants are delivering the design and construction supervision services without having professional indemnity insurance cover (Getachew Yilma, 2014).

- Insurance companies are not efficient in responding to clients claims (Abebe, 2000).

This research is therefore based on the belief that current problems in the insurance practice of Ethiopian construction industry needs to be identified through a detailed study. The research tries to study the needs and the types of insurance policies in the construction industry in general from international practices and assess in detail what is being exercised in relation to insurance by all parties involved in Ethiopian construction sector and provide possible recommendations for improving the practices.

1.2 STATEMENT OF THE PROBLEM

While insurance is a vital tool for transferring risks associated with construction projects; previous research works conducted on the area of practices of insurance and risk management in projects of Ethiopian construction sector indicated that there is a poor practice related to insurance in the country's construction sector. Therefore, to identify current problems and to give feasible recommendations it is important to study in detail the current status of Ethiopian construction sector.

1.3 OBJECTIVES OF THE RESEARCH

The general aim of this research is to study in detail what is practically being exercised in Ethiopian construction sector in relation to insurance and identify current state problems in the practices in order to give relevant recommendations for improved practices. Whereas the research specifically addresses each research questions to finally come to feasible recommendations for better insurance practices in the construction industry of Ethiopia. It is also aimed to create awareness and serve as an alert on the issue of the topic to all parties involved in the construction sector in general and to concerned government authorities in particular; through structured interview and some informal discussions meanwhile collecting data.

1.4 SIGNIFICANCE OF THE RESEARCH

It is highly believed that the outcome of this research will help to create awareness to each concerned bodies over what gaps currently do exist in the industry in relation to insurance practices and what needs to be done to improve the use of insurance as a risk sharing tool in the industry. Hence relevant authorities can take action using this research as a guide and also all parties can be provoked on their share to contribute for the improvement.

1.5 RESEARCH QUESTIONS

The research is conducted to mainly answer the following questions;

1. What is the current status of Ethiopia's construction sector with regard to the practices of Insurance coverage's of Local contractors and consultants?
2. Is there proper understanding of the importance of relevant insurance policies by construction firms their clients, law makers and consultants in Ethiopia? Is proper emphasis given to risks associated with construction projects by all parties involved?
3. What contractual, government authorities and client's requirements are there so that adequate insurance coverage are provided by construction and consulting firms?
4. Are there hindrances that firms in the construction sector do face to purchase insurance policies? What constraints are there for practicing insurance?
5. The efficiency of insurance companies in responding to clients' claim and the way insurance premiums are fixed by insurers and why premiums of policies are expensive?
6. Are there adequate requirements by concerned government authorities and contract conditions to regulate and support the insurance practice in the construction sector?
7. What needs to be done to improve the insurance practice? And who is responsible for what?

1.6 RESEARCH METHODOLOGY

The methodology implemented in this research is a literature review followed by structured questionnaire survey, collecting brochures and marketing department sells data from insurance companies and formal interview with concerned government authorities for data collection and then analyzing the data to obtain results, reach at conclusions and give recommendations.

1.7 SCOPE AND LIMITATIONS OF THE RESEARCH

Only class 1 consultants and grade 1 contractors of all categories (i.e. building, road, water, specialized and general) were taken while collecting data through questionnaire for this research excluding the rest of the classes and grades since the population size is huge and the calculation result of the sample size showed it would be a difficult size to manage

through the time period and budget for this study if all classes and grades were considered. It is believed that the responses obtained from those included in the sample size for this study can well represent the entire population since the majorities are well experienced firms which are contacted at the level of their head offices where the data of their individual projects scattered in different regions of the country can be obtained.

There are rarely few researches done on risk management and use of insurance as a risk transfer tool in Ethiopia, hence this research only reviewed these few done on the subject. It took a very long time to collect all the data necessary for the research since the firms are scattered all over the city of Addis and some of the companies were not willing to return the questionnaire on the set date. Besides the attempt to interview representative figures from Ministry of Construction which took a very long time because of their continuous unsuccessful appointments it was only possible to find a response for general questions that are forwarded to identify their attitude towards insurance but a response on questions that are directly forwarded for the authority could not be obtained. But since the questions were forwarded both in soft and hardcopies for them it is hoped that it will at least serve as an alert if they consider it.

1.8 THESIS ORGANIZATION

The research is organized into five chapters which are summarized as follows;

The first chapter introduces the research problem and the aim of the study followed by the objectives of the research in achieving the depicted aim. The research methodology is concisely presented, significance of the research and scope and limitations are discussed.

Chapter two is a literature review from professional journals, books, internet searches and published research works. This chapter essentially provides a review of the general practice of risk management, construction insurances, and construction risks management through insurance.

Chapter three discusses the research methodology followed in order to achieve the objectives of the study.

In Chapter four the results of the data obtained from the questionnaire survey were presented, discussed and interpreted accordingly.

Finally, in Chapter five, conclusions and recommendations were forwarded based on the major findings of the study.

2 LITERATURE REVIEW

The purpose of this chapter is to discuss about the definition of insurance, risk and its management from the perspective of construction industry and insurance industry, the core functions of insurance companies, and legal and contractual requirements of construction insurances. It also examines the practice of risk management through insurance in the construction industry by evaluating responsibility and liability in construction and discusses various types of construction insurances that are applicable in the construction industry. The comprehensive literature review is conducted with an aim to address the objectives of the research.

2.1 GENERAL

This section discusses what insurance is, its benefits, functions and its cost to society.

2.1.1 What is insurance and insurance Policy?

Insurance is a form of risk management in which the insured transfers the cost of potential loss to another entity in exchange for monetary compensation known as the premium (invetopedia.com, 2010).

Insurance is the equitable transfer of the risk of a loss, from one entity to another in exchange for money. It is a form of risk management primarily used to hedge against the risk of a contingent, uncertain loss. An insurer, or insurance carrier, is selling the insurance; the insured, or policyholder, is the person or entity buying the insurance policy. The amount of money to be charged for a certain amount of insurance coverage is called the premium (wikipedia.org, accessed November 2015).

Insurance is a financial device for transferring or shifting risk from an individual or entity to a large group with the same risk. Insurance is used to indemnify, or restore, a policyholder to a pre-loss condition. The individual accepts a known cost, the premium, in exchange for payment of a large, uncertain financial loss (Dearborn Career development, 2003).

Article 654(2) of the Commercial Code of Ethiopia (1960) provides a legal definition of insurance policy as follows:-

"An insurance policy is a contract whereby a person, called the insurer, undertakes against payment of one or more premiums to pay to a person, called the beneficiary, a sum of money where a specified risk materializes."

An insurance contract is a contract in which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policy holder (IAG, 2011). The details of insurance protection, such as exactly which events are covered and for how much, are defined in the insurance policy (FCAC, F2011). The insured receives a contract, called the insurance policy, which details the conditions and circumstances under which the insured will be financially compensated (wikipedia.org, accessed November 2015).

2.1.2 History of Insurance

According to Wikipedia.org, accessed November 2015; the following is history of insurance summarized for this chapter.

- The earliest form of insurance occurred when wealthy Chinese merchants along the Yangtze River decided that it was too risky to place all their merchandise on a single vessel and sail it down the river. To reduce their risks, they split the shipment into smaller portions and placed them on several boats. Although this arrangement was not formally called insurance, it was the forerunner of the modern insurance company, which also recognizes the importance of spreading risk.

- The Babylonians developed a system which was recorded in the famous Code of Hammurabi, at 1750 BC, and practiced by early Mediterranean sailing merchants. If a merchant received a loan to fund his shipment, he would pay the lender an additional sum in exchange for the lender's guarantee to cancel the loan should the shipment be stolen or lost at sea.

- At some point in the 1st millennium BC, the inhabitants of Rhodes created the 'general average'. This allowed groups of merchants to pay to insure their goods being shipped together. The collected premiums would be used to reimburse any merchant whose goods were jettisoned during transport, whether to storm or sinkage.

- **Lloyd's of London (Modern Insurance)**

The more formalized insurance arrangements we are familiar with today actually began at a coffeehouse owned by Edward Lloyd near London. In the late 1600s, wealthy merchants gathered at the coffeehouse to discuss their latest ventures, which often involved overseas shipments, increasingly to the new world. Concerned that they could be devastated financially if an entire shipment was lost, merchants began to make arrangements with each other to share their risks of loss (wikipedia.org, accessed November 2015).

2.1.3 Benefits, Functions and Costs of Insurance

Insurance has its own benefits, functions and also costs to society as discussed below.

2.1.4.1 Benefits of Insurance

The advantage of obtaining insurance is that it allows the pooling of risks and reduces the probability of one party bearing the entire cost of a loss (IAG, 2011). The primary benefits of insurance include: - payment of losses; economic growth; credit support; loss prevention; and peace of mind (Dearborn Career Development, 2003).

2.1.4.2 Functions of Insurance

According to the publishing by Dearborn Career Development (2003); Insurance has many functions and benefits, some of which we may describe as primary and others as ancillary or secondary, as follows:-

a) **Primary functions/benefits:** The primary benefit is seen in the financial compensation made available to insured victims of the various insured events. On the commercial side, this enables businesses to survive major fires, liabilities, etc.
b) **Ancillary functions/benefits:** Insurance contributes to society directly or indirectly in many different ways. These will include:-
    i. **Employment:** the insurance industry is a significant factor in the local workforce;
    ii. **Financial services:** financial services have assumed a much greater role in the local economy, insurance being a major element in the financial services sector;
    iii. **Loss prevention and loss reduction (collectively referred to as 'loss control'):** the practice of insurance includes various surveys and

inspections related to risk management. These are followed by requirements (conditions for acceptance of risk) and/or recommendations to improve the 'risk'. As a consequence, we may say that there are fewer fires, accidents and other unwanted happenings;

iv. **Savings/investments:** life insurance, particularly, offers a convenient and effective way of providing for the future.

v. **Economic growth/development:** developments of every kind, from erection of bridges to building construction and a host of other projects, are encouraged and made possible partly because insurance is available.

2.1.4.3 Cost to Society

Despite its benefits, insurance is not without costs. Insurance can inadvertently create a situation where losses are more likely to occur. While insurance provides significant benefits our society depends on, it is not without its costs. In addition to the physical and human resources consumed in the insurance industry, insurance also creates some losses that otherwise would not occur, such as deliberate fires—arson—or needless damage and injury caused by indifference (Dearborn Career Development, 2003).

2.2 PRINCIPLES OF INSURANCE

Generally accepted insurance principles are summarized as follows:

2.2.1 Insurability

Not all risks and loss exposures are insurable. Insurance companies generally are unwilling to insure unusual risks or those that represent a potential for catastrophic loss. Certain requirements must be met for a risk to be insurable from a company's point of view (Dearborn Career Development, 2003).

2.2.2 Indemnity

Under this rule, insurance policies are considered to be contracts of indemnity, meaning they are designed to put someone back in the same general financial condition he or she was in before the loss. In other words, a person should not be able to profit by collecting on insurance. The elimination of gain also supports the idea that insurance is designed to insure only pure risk situations (Dearborn Career Development, 2003). The insurance

company indemnifies, or compensates, the insured in the case of certain losses only up to the insured's interest (wikipedia.org, accessed November 2015).

According to Office of the Commissioner of Insurance Hong Kong (2013); Indemnity means an exact financial compensation for an insured loss, no more any less. Indemnity cannot apply to all types of insurance. Some types of insurance deal with 'losses' that cannot be measured precisely in financial terms. Specifically, we refer to Life Insurance and Personal Accident Insurance. Both are dealing with death of or injury to human beings, and there is no way that the loss of a finger, say for instance, can be measured precisely in money terms.

It is sometimes said that life and personal accident insurances involve benefit policies rather than policies of indemnity. Since indemnity cannot normally apply, the policy can only provide a benefit in the amount specified in the policy for death or for the type of injury concerned. Life and personal accident insurances may generally be regarded as involving an unlimited insurable interest, and therefore indemnity cannot apply to them (OCI, 2013).

2.2.2.1 How Indemnity is provided

It is common for property insurance policies to specify that the insurer may settle a loss by any one of four methods named and described below. However, both marine and non-property policies are silent on this issue so that the insurer is obliged to settle a valid claim by payment of cash (OCI, 2013).

a) **Cash payment (to the insured):** This is the most convenient method, at least to the insurer.
b) **Repair:** Payment to a repairer is the norm, for example, with motor partial loss claims.
c) **Replacement:** With new items, or articles that suffer little or no depreciation, giving the insured a replacement item may be a very suitable method, especially if the insurer can obtain a discount from a supplier.
d) **Reinstatement:** This is a word that has a number of meanings in insurance. As a method of providing an indemnity, it means the restoration of the insured property to the condition it was in immediately before its destruction or damage.

2.2.3 Insurable Interest

Definition: Insurable interest is a person's legally recognized relationship to the subject matter of insurance that gives them the right to effect insurance on it. Since the relationship must be a legal one, a thief in possession of stolen goods does not have the right to insure them (OCI, 2013).

An insurance agreement is void without insurable interest. The rules relating to return of premiums under such an agreement vary as between the different classes of insurance. These rules are the general rules on illegality of contract. The requirement of an insurable interest is what distinguishes insurance from gambling (wikipedia.org, accessed November 2015).

2.2.4 Utmost Good Faith - (Uberrima fides)

Insurance is subject to a more stringent common law principle of good faith, often called the principle of utmost good faith. It means that each party is under a duty to reveal all vital information (called material facts) to the other party, whether or not that other party asks for it. For example, a proposer of fire insurance is obliged to reveal the relevant loss record to the insurer, even where there is not a question on this on the application form (OCI, 2013).

The Statutory Definition of Material fact is given as follows according to OCI (2013); 'Every circumstance which would influence the judgment of a prudent insurer in fixing the premium, or determining whether he will accept the risk'.

2.2.5 Proximate Cause (Causa Proxima)

The proximate cause of a loss is its effective or dominant cause. A loss might be the combined effect of a number of causes. For the purposes of insurance claim, one dominant cause must be singled out in each case, because not every cause of loss will be covered. The cause of loss (the peril) must be covered under the insuring agreement of the policy, and the dominant cause must not be excluded (OCI, 2013).

In search of the proximate cause of a loss, it is often a must to analyze how the causes involved have interacted with one another throughout the whole process leading to the loss. The conclusion of such an analysis depends very much on the identification of the

perils (i.e. the causes of the loss) and of their nature. All perils are classified into the following three kinds for the purposes of such an analysis (OCI, 2013):

1. **Insured peril:** It is not common that a policy will cover all possible perils. Those which are covered are known as the 'insured perils' of that policy, e.g. 'fire' under a fire policy, and 'stranding' under a marine policy.
2. **Excepted (or excluded) peril*:*** This is a peril that would be covered but not covered for its removal from cover by exclusion, e.g. fire damage caused by war is irrecoverable under a fire policy because war is an excepted peril of the policy.
3. **Uninsured peril:** This is a peril that is neither insured nor excluded. A loss caused by an uninsured peril is irrecoverable unless it is an insured peril that has led to the happening of the uninsured peril. For example, raining and theft are among the uninsured perils of the standard fire policy.

The principle of proximate cause applies to all classes of insurance. Its practical applications may be very complex and sometimes controversial (OCI, 2013).

2.2.6 Subrogation

Subrogation is the exercise, for one's own benefit, of rights or remedies possessed by another against third parties. As a corollary (i.e. a natural consequence of an established principle) of indemnity, subrogation allows proceeds of claim against third party be passed to insurers, to the extent of their insurance payments. At common law, an insurer's subrogation action must be conducted in the name of the insured. Subrogation seeks to protect the parent principle of indemnity, by ensuring that the insured does not get paid twice for the same loss. Subrogation rights are only acquired after an indemnity has been provided. Where the insurer has only provided a less-than indemnity on the basis of certain policy limitations, the insured may possibly be entitled to part of – sometimes even the whole of - the subrogation proceeds, depending on what limitations have been applied in the process of claims adjustments (OCI, 2013).

2.2.7 Contribution

The principle of contribution is explained using the following two concepts as stated in OCI (2013).

i) Equitable Doctrine of Contribution

This is a claims-related doctrine of equity which applies as between insurers in the event of a double insurance, a situation where two or more policies have been effected by or on behalf of the insured on the same interest or any part thereof, and the aggregate of the sums insured exceeds the indemnity legally allowed. Apart from any policy provisions, any one insurer is bound to pay to the insured the full amount for which he would be liable had other policies not existed. After making an indemnity in this manner, the insurer is entitled to call upon other insurers similarly (but not necessarily equally) liable to the same insured to share (or to contribute to) the cost of the payment.

ii) Rateable Proportions

Where contribution applies, the ultimate proportion of the insured's loss that any one particular insurer is responsible for is called the 'rateable proportion' of that insurer. It is not difficult to understand that the sum of all the insurers' rateable proportions equals one, that is to say, 100% of the insured's loss. Contribution will only apply if indemnity applies. Insurers which have similar obligations to the insured contribute in the indemnification, according to some method (www.wikipedia.org, accessed November 2015).

2.2.8 Mitigation

In case of any loss or casualty, the asset owner must attempt to keep loss to a minimum; as if the asset was not insured (www.wikipedia.org accessed November 2015).

2.2.9 Benefit Insurance

The principle of benefit insurance is that the insurance company doesn't have the right of recovery from the party who caused the injury and is to compensate the insured regardless of the fact that Insured had already sued the negligent party for the damages; for example, personal accident insurance (www.wikipedia.org, accessed November 2015).

2.3 KEY STAKEHOLDERS IN INSURANCE TRANSACTIONS

According to Insurance Australia group (2011), the major stakeholders of insurance transactions are Insurer; Employees; distributors; reinsurers; claim "agents"; third party, government and customers (1st party claimant).

The distributors' category comprises insurance brokers or agents. An insurance agent is anyone who solicits insurance, delivers policies and collects premiums on behalf of an

insurance company. An insurance company transfer all or part of the risk assumed by it under one or more insurance contracts to another insurer; who is referred to as a reinsurer company. Figure 2.1 below demonstrates the key stakeholders in insurance transactions.

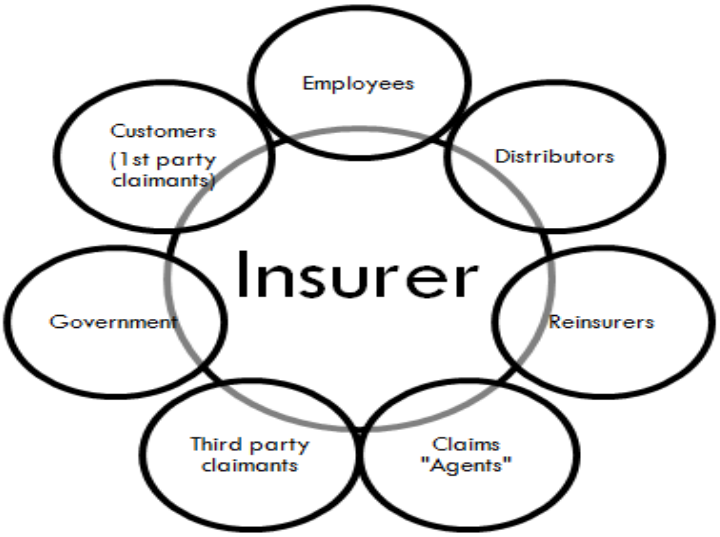

Figure 2.1 Key Stakeholders in Insurance Transactions (IAG, 2011)

2.4 CORE FUNCTIONS OF AN INSURANCE COMPANY

The following core functions of an insurance company discussed in this portion of literature review is as obtained from Office of the Commissioner of Insurance Hong Kong, 2013;

2.4.1 Product Development

For an insurer product means insurance policies. Product Development is one of the functions of insurance companies. The Product Development department/section of an insurer will be much occupied with;

a) **Individual product development:** this is a never-ending process. With competitors eager to learn and copy, it has been said that the unchallenged 'lifespan' of a totally new product is very short, perhaps a matter of only a few weeks or months. After that time, the product has been copied, adapted and frequently undersold.

b) **Product portfolio development:** increasingly, producing a 'package' of cover, especially for larger clients, is sensible, even vital, in order to retain a competitive edge.

c) **Product research:** this may be thought in three areas:

   i. ***Own products:*** nothing is perfect beyond improvement.

ii. ***Competitors' products:*** It is essential to know what is happening in our market and 'what we are up against'.

iii. ***Market trend:*** the needs of the general public.

2.4.2 Customer Servicing

Sometimes described as Client Servicing, this section has a number of functions, and with a particular insurer some of these may be carried out by other departments (such as Accounts, Claims etc.). The general scope of its responsibilities is indicated by its name. It is to provide a service to existing and potential customers/clients, and the duties probably include: Correspondence, Public relations, Documentation and Complaints.

2.4.3 Marketing and Promotion

This is a very important area for the insurer. The particular areas of responsibility include:

a) **Public Relations:** This wide-ranging activity will include: the co-ordination of all external communications; the co-ordination of media enquiries and interviews; press conferences, to announce or explain things, as necessary; preparing press releases and copy for trade and other journals.

b) **Promotions:** organizing and coordinating their preparation and conduct.

c) **Advertising:** selection of external agencies; the extent to which TV or other media are to be involved; co-ordination of advertising campaigns; expenditure analysis and control.

d) **Sponsorship:** insurers are frequently asked to sponsor industry or educational projects. Also, this is of course an important aspect of advertising, involving much time and probably a considerable budget.

e) **Market research:** obviously, continuous monitoring of one's present and potential market is a vital element for a marketing department. This will seek to establish existing and perceived needs and demands in respect of insurance products.

2.4.4 Insurance Sales

Very closely connected with marketing, there may be considerable overlap of activities, if separate sections exist. The name, however, indicates the functions, which specifically will include: Product liaison, Sales enhancement programs and Monitoring.

2.4.5 Underwriting

This may be defined as the selection of risks to be insured and the determination of the terms under which the insurance is given. With non-life insurances, it also involves a continuing process of monitoring results and individual risks, to see whether renewals should be offered, and on what terms.

According to investopedia.com, accessed November 2015; underwriting is the process of evaluating the risk to be insured. This is done by the insurer when determining how likely it is that the loss will occur, how much the loss could be and then using this information to determine how much you should pay to insure against the risk.

2.4.6 Policy Administration

This is another departmental description that may involve overlap with other sections or departments mentioned above or below. The general areas of concern here may be: General or Life insurance, Life insurance policies and new business procedures.

2.4.7 Claims

An insurance claim is a formal notification by the insured requesting payment of an amount due under the terms of the policy (Junying Liu, 2006).

As stated in OCI (2013) an insurer stands or falls on the way it deals with its claims. Accordingly, there are two areas that must be the subject of attention in all insurance claims. These are:

i. ***Liability:*** is the insurer liable under the policy? When dealing with liability insurance, it must also be ascertained whether the insured is liable at law to the third party claimant.
ii. ***Quantum****:* how much is payable with the claim?

There is truth in the remark and the insurance intermediary will want to know and feel confidence in the support he looks for in this area. Claims and loss handling is the materialized utility of insurance; it is the actual "product" paid for (OCI, 2013).

The policyholder may hire their own public adjuster to negotiate the settlement with the insurance company on their behalf. For policies that are complicated, where claims may be complex, the insured may take out a separate insurance policy add-on, called loss recovery

insurance, which covers the cost of a public adjuster in the case of a claim (www.wikipedia.org, accessed November 2015).

2.4.8 Reinsurance

According to OCI (2013) the function of insurance can be discussed as follows;

a) **Definition:** insurance used to transfer all or part of the risk assumed by an insurer under one or more insurance contracts to another insurer, who may be referred to as a reinsurer in relation to such a transaction.

b) **Reasons:** The major reason for buying reinsurance is security. It is very likely that an individual insurance claim is payable from the assets of the insurer, but it may be very inconvenient (and even costly) to produce large amounts of cash at short notice, since assets will mostly be in investments.

   Another important reason for reinsurance is to increase an insurer's 'underwriting capacity', which means the ability to accept proposed business with in mind all risk management considerations. Having reinsurance means that some risks may be accepted which might otherwise have to be declined in part or total.

The insurer is always directly liable to the policyholder for the full amount payable under the contract irrespective of the financial condition of its reinsurers. Reinsurance, however, does give an added security that the insurer will be able to pay.

2.4.9 Actuarial Support

An actuary may be thought of as a highly skilled mathematician. His particular expertise is not only in the collation and presentation of numerical information, but also in projecting and predicting future trends, based on available data and assumptions. It will immediately be understood, therefore, that such an expert has a very important role to play in insurance (OCI, 2013).

2.4.10 Accounting and Investment

According to OCI (2013) the Accountant is another official with a vital role to play in the running of any business enterprise, and particularly that of an insurer. The functions of this department are fairly obvious, which are: Record keeping, Collections, Payments and Investment.

2.4.11 Training and Development

Sometimes unappreciated by line managers, ever conscious of targets and deadlines, the training and development department within a company is very important (OCI, 2013).

2.5 RISK FROM THE PERSPECTIVE OF THE CONSTRUCTION INDUSTRY AND THE INSURANCE INDUSTRY

There is a difference on the way risk is defined and perceived by the insurance industry and the construction industry which as discussed in this portion.

2.5.1 Risk in the Insurance Industry

There have been many attempts to define 'risk'. Probably, to most of us, 'risk' contains a suggestion of loss or danger. We may therefore define it as 'uncertainty concerning a potential loss', a situation in which we are not sure whether there will be loss of a certain kind, or how much will be lost. It is this uncertainty and the undesirable element found with risk that underlie the wish and need for insurance (OCI, 2013).

According to OCI (2013) Insurance practitioners may use the word 'risk' with other meanings, including:

1. The property or person at risk that they are insuring or considering insuring; and
2. the peril (i.e. cause of loss) insured (so, some policies may insure on an 'all risks' basis, meaning that any loss due to any cause is covered, except where the cause is excluded from cover).

'Risk management' is a term which is used with different meanings: Insurance companies will probably use the term only in relation to pure risks, but they may well restrict it even further to insured risks only. Thus, when insurers talk about 'risk management', they could well be referring to ways and means of reducing or improving the insured loss potential of the 'risks' they are insuring, or being invited to insure.

2.6.1.1 Classification of Risk in the Insurance Industry

As stated in OCI (2013); risk in the insurance industry is classified under two broad headings (each having further two categories) which are discussed below:

a) Financial Results

Risks may be considered as being either Pure or Speculative considering their financial results as a base for classifying:

i. **Pure Risks** offer the potential of loss only (no gain), or, at best, no change. Such risks include fire, accident and other undesirable happenings.
ii. **Speculative Risks** offer the potential of gain or loss. Such risks include gambling, business ventures and entrepreneurial activities.

The majority of the risks which are insured by commercial insurers are pure risks, and speculative risks are not normally insurable. The reason for this is that speculative risks are engaged in voluntarily for gain, and, if they were insured, the insured would have little incentive to strive to achieve that gain.

b) Cause and Effect

Risks may also be considered as being either Particular or Fundamental taking their cause and effect as a base for classifying:

i. **Particular Risks:** They have relatively limited consequences, and affect an individual or a fairly small number of people.
ii. **Fundamental Risks:** Their causes are outside the control of any one individual or even a group of individual, and their outcome affects large numbers of people.

The majority of the risks which are insured by commercial insurers are particular risks. Fundamental risks are not normally insurable because it is considered financially infeasible for insurers to handle them commercially.

Therefore, it can be observed from the above discussion the concept of risk management for insurance companies is mainly about ways and means of reducing or improving the insured loss potential of the 'risks' they are insuring, or being invited to insure.

2.5.2 Risk in the Construction Industry

Risk has long been recognized in the construction industry. According to Flanagan and Norman (1993), the construction industry is subject to more risk and uncertainty than many other industries. Risk should be fully understood by all the contracting parties; otherwise it might cause many problems to all involved. The effect of poor understanding is that the contractual parties might adapt risks they don't understand and be subject to different problems and bankruptcy.

Risk management is now widely accepted as a vital tool in the management of projects, although risk management has become firmly institutionalized across the industry sectors,

it is only comparatively recently that this has extended to include the construction industry (Norman, 1993). Modern approaches to managing projects recognize the central need to manage the risk as an integral part of the project management discipline (David Hillson, 2011).

A successful construction project depends on how well project participants manage project risks and this depends on their risk attitude. As defined by David Hillson (2011); 'Risk attitude is a chosen response to uncertainty that matters, influenced by perception'. Without taking proper account of the people aspects of managing risk, the risk process will be subject to unseen influences, leading to unreliable results and ineffective actions.

A significant component of successful risk management begins with how well the project participants allocate risks at the contract formation stage. The following are risk management processes in the construction industry.

1. **Risk Identification in Construction**

Risk identification is the process of identifying risks that can adversely affect the project cost and schedule and also the opportunities that can reduce project costs or result in a reduction in project duration (Touran, 2006).

2. **Risk Classification in Construction**

Risk classification is a significant step in the risk management process, as it attempts to structure the diverse risks affecting a construction project. There are many approaches in literature for construction risk classification (Mead, 2007).

3. **Risk Analysis in Construction**

Risk analysis involves quantifying the impact and the probability of occurrence of risks. After identification and classification of the probable risks, their impacts on the project objectives need to be assessed to develop proper response. Risk analysis can also be described as short listing risks with the highest impact on the project, out of all threats mentioned in the identification phase (Cooper et al. 2005).

4. **Risk Response in Construction**

Once the risks of the project have been identified and analyzed appropriate risk response strategy must be adopted in order to take the necessary steps to minimize the negative effects of risk on project objectives. Risk response occurs to eliminate, mitigate, deflect or accept the risk and logically will reflect on the cost benefit of the risk management process. Mitigation is action taken to reduce the risk and deflection is action taken to

transfer the risk (Fewings P., 2014). It can generally be observed that ways of responding to risk are; Risk mitigation, Risk avoidance, Risk transfer and Risk retention.

5. Risk Monitoring and Control in Construction

According to Norman (1993) risk monitoring system is required to maximize the effectiveness of risk response towards meeting the project objectives. Risk monitoring process also used to indicate the need for revision of cost and program in relation to the response for risk. Another important aspect of risk monitoring is to ensure that actual events are recorded for use in future projects. Risk register is a record system in which the information including the identified risks and the proposed strategy as well as its result will be recorded for use of subsequent risk management activities.

6. Principles of Risk Allocation in Construction

The process of determining and allocating risk is fundamentally linked to the drafting of the conditions of contract, which is effectively the choice of standard form of conditions of contract and any amendments thereto (Premaraj, 2005). Contract is the vehicle for risk allocation.

2.5.3 The Roles of Clients, Contractors and Insurers in Managing Construction Risks

There are many parties involved in the construction industry, including clients, contractors, subcontractors, insurers, and suppliers. Chapman and Ward (1997) stressed that different parties involved in a project frequently have different perspectives on the risks according to their own background and benefits.

2.6.3.1 Clients

Client bodies might be principally concerned with the risk of the project not being finished on time and exceeding the budget which has been allocated (Anderson, 2000). The clients of the industry ultimately pay the bill and it is important to understand their needs and expectations.

Main risks faced by clients can be (Palmer et al., 1996, Baartz and Longley, 2003): failure to fund; failure to make progress payments; extra government administration cost; land acquisition risk; client-furnished materials not available; major changes in requirements; interference among parties; and project delay. These risk factors can lead to fears that

increasing cost, faulty projects and frequent repairs, abandoned project and wasting investment.

Therefore, from clients' perspective, the risk management process should start from briefing of project to the handover to users. Clients are the first party to conduct the risk management process and involve contractors during the construction stage or at an earlier stage according to the procurement method.

2.6.3.2 Contractors

Contractors have the major responsibility to deal with construction risks. They are responsible for successful risk management of the project (Treceno et al., 2003). A contractor's capability in risk management is one of the key factors to project performance (Wang and Chou, 2003).

Contractors may be focused on making a profit out of their work on the project; and the workers might well be concerned about the health and safety of their day-to-day working environment and the risk of having accidents and suffering ill health (Anderson, 2000).

Risks which the contractor will have to consider, allocate, assume or lay off can arise at all stages from bid agreement through to construction and any follow up maintenance contract (Baartz and Longley, 2003). It is not possible or cost-effective for contractors to carry all risks. Consideration must also be given to the contractor's ability to control and bear the risks (Boothroyd and Emmett, 1996).

Baartz and Longley (2003) consider the risks list from contractors' perspective to include inclement weather; delays in site availability; site conditions; inadequate detail drawings; late material deliveries; unanticipated price changes; subcontractors failure to perform; unproductive labor and strikes; design risk; construction defects; damages, penalties and costs caused by delays in completion of the works. Contractors should also consider the obligations to carry insurance and the capacity to transfer risks to subcontractors, insurers or consultants.

Moreover, the client needs to be protected against claims arising against the contractor; either by the contractor's employees or by third parties, and usually the contractor

indemnifies the client under the contract for such claims arising. The contractor frequently arranges the employer's liability and public liability insurance to alleviate such risks.

2.6.3.3 Insurers

While contractors are mainly responsible for successful risk management of a project, insurers can provide their expertise to assist the contractors' risk management in recognizing potential risks and reducing the probability of such risks. The willingness of insurer to write an insurance coverage reflects favorably on the insured's efforts at safety control, health and environment (Williams et al., 1998).

Construction risks are usually very complex, hazardous and difficult to assess, price and control. It requires insurers to provide the highest quality service of insurance with the help of training, research and up-to-date engineering knowledge and information technology (Heidenhain, 2001).

2.6 ROLE OF INSURANCE IN THE CONSTRUCTION INDUSTRY

Construction projects are sensitive to an extremely large matrix of hazards and risks, due to some of the inherent characteristics of construction projects (Bunni, 2003). All parties involved in a construction project must accept that there is some risk attached to their activities. Some risks have enormous size in financial terms and the party to whom a risk is allocated may want to cover it by means of insurance (Akbiyikli, 2012). If one cannot control a risk through a business practices or transfer that risk to someone else through an indemnification clause, then he can manage that risk through insurance (Ratterman, 2003).

For a variety of reasons, construction contractors face many uncertainties as they start projects. Construction operations do not always take place according to plans; mistakes occur, workers suffer injuries, property is damaged, and acts of God or other mishaps can impede or halt progress on a construction project. Most of these incidents require money to rectify. The prudent contractor realizes the importance of having adequate insurance and will purchase the types that will offer the best protective coverage for each project undertaken. Public agencies recognize the fact that mishaps occur, and that liability suits can be brought against them, as owners, even though the prime contractor or subcontractor is at fault. To minimize the risk of financial loss during construction of the project, agencies may include provisions in their specifications that require contractors to maintain certain types and levels of insurance. In addition to contractually required insurance, there

are many other types of insurances available to construction contractors to offset almost any loss (J. Kyle Hansen, 1990).

- The points are important to be considered by a contractor in its construction risk management by transferring risk through insurance:

The contractor needs to assess the risks to be retained or insured

If insurance policy is not issued accurately according to the risks, it might lead to the lack of indemnity cover by insurers when claims arise. Construction insurance policies must be specially designed to respond to the particular circumstances (Bunni, 2003). It means an insurance policy needs to be specially designed according to the nature of project, the types of procurement and construction contract.

In this respect, contractors should be innovative and have the ability to negotiate with the insurers improved conditions of insurance, which are adapted to the changed needs as well as obtain best premium reduction through implementing proper loss control and risk management measures via their experienced expert team.

The right insurer and the appropriate insurance policy

A contractor is expected to be familiar with a wide range of construction insurance policies. The contractor should also be aware of the quality of the various insurers in respect of their financial strength/claims paying ability and market reputation. The quality of insurance can only be tested when the insurer is called upon to pay a justifiable claim.

Underwriting and claim settlement

Contractors play an important role in the decision of the value of items to be insured and the negotiation of premium to be paid. Price alone should not be the determining factor in the decision to accept an insurance cover. The standards for contractors to choose insurers include not only premiums, but also service of claim settlement and risk management support.

2.6.1 When is appropriate to use insurance for managing construction risks?

Due to the fact that different bodies are involved in a typical civil engineering projects (clients, consultants, contractors, sub-contractors, suppliers, employees, financers, members of the public, etc.), it is important for everybody to be sure that insurance is

given proper attention and covers the expected risks satisfactorily without paying for unnecessary cover or duplication of cover (Abebe, 2000). Insurance is not a substitute for effective risk management. Insurance is only intended to deal with measurable or known risks and serves to spread the impact of loss (CIDB, 2004).
Insurance is only one possible part of a proactive organization risk management program (Edwards et al., 1996).

If construction insurance is not the only solution to transfer risks, the question is when construction contractors should use it. Some factors have influence on the decision. The factors include (Juning Liyu, 2006):

1. Business environment: local financial system, economy development, and legal system;
2. The nature of contractors: years of experience, size of companies, and characteristics of projects, which often carry out, the ability of risk management;
3. The maturity of the insurance industry. The capacity it has to provide insurance products and service which can effectively transfer risks from a single contractor and change risks from an uncertain cost to a fixed rate, i.e. premium;
4. Availability of other forms of tax treatment, regulatory satisfaction and other market & legal concerns.
5. Size is also an important prerequisite and dominant factor in determining a project's suitability for project insurance according to Anderson (2003). A project must be sufficiently large, or at least contain significant labor costs, to make project insurance financially viable. Otherwise, the additional administrative cost generally makes it less worthwhile to use project insurance.

In reality, insurance is a fall back measure after other measures have been taken to reduce risk. Its position in the total risk response spectrum of a construction project can be illustrated using figure 2 below (Perera, Rathnayake, Rameezdeen, 2008).

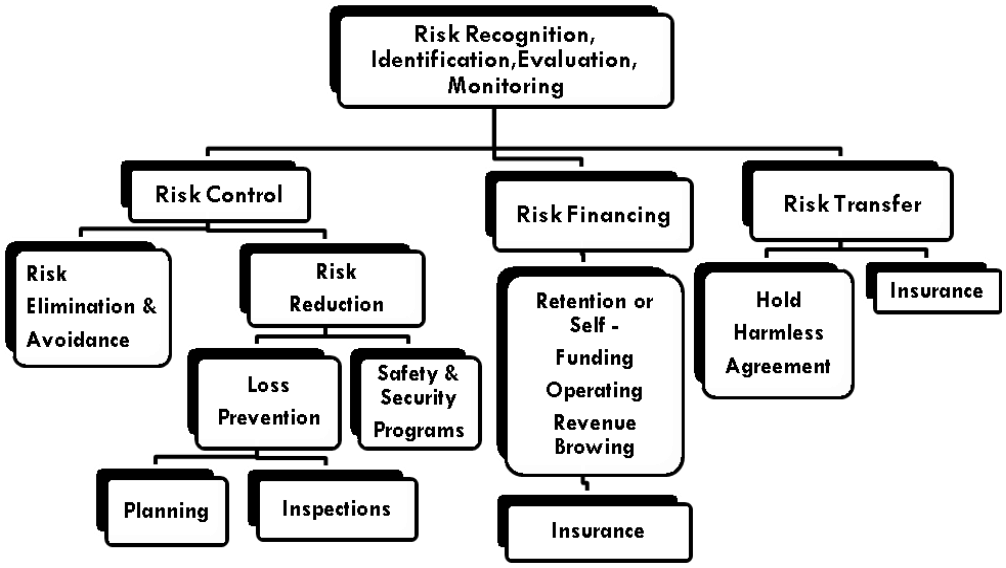

Figure 2.2 Position of Insurance in the Construction Risk Management (De Silva, 2003)

However excessive reliance on insurance, including contractual requirements forcing the purchase of insurance, can lead to higher overall costs of risk in the construction industry (CII, 1993). If risk management by insurance cannot be proved to be the most cost-effective of available commercial solutions, contractors would choose other risk financing solutions such as self-insurance, captives, contingent capital, finite risks, catastrophe bond, securitization and derivatives. (Junying lyu, 2006).

2.7 SOME GENERAL TYPES OF INSURANCES

Insurance comes in many types and forms. Under this heading, some of the general types of insurance policies that are being provided by the global insurance industry that may or may not be directly related to the construction industry that are believed important to be summarized and discussed here are presented.

2.8.1 Life insurance

Life insurance provides a monetary benefit to a decedent's family or other designated beneficiary, and may specifically provide for income to an insured person's family, burial, funeral and other final expenses (FCAC, 2011).

2.8.2 Health insurance

Health insurance policies cover the cost of medical treatments. Dental insurance, like medical insurance, protects policyholders for dental costs. In most developed countries, all citizens receive some health coverage from their governments, paid for by taxation. In

most countries, health insurance is often part of an employer's benefits (wikipedia.org, accessed November 2015).

2.8.3 Property Insurance

Property insurance provides protection against risks to property, such as fire, theft or weather damage. This may include the following specialized forms according to www.wikipedia.org, accessed November 2015;

- **Fidelity bond** is a form of casualty insurance that covers policyholders for losses incurred as a result of fraudulent acts by specified individuals. It usually insures a business for losses caused by the dishonest acts of its employees.
- **Marine insurance and marine cargo insurance** cover the loss or damage of vessels at sea or on inland waterways, and of cargo in transit, regardless of the method of transit.
- **Surety bond insurance** is a three-party insurance guaranteeing the performance of the principal.

2.8.4 Auto insurance

Auto insurance protects the policyholder against financial loss in the event of an incident involving a vehicle they own, such as in a traffic collision (www.tammimi.com, accessed November, 2015).

Coverage typically includes:

- **Liability insurance** covers losses (such as injury or death) that a vehicle causes to other people or damage to their property. It does not cover the cost of repairs to one's own vehicle.
- **Accident benefits/bodily injury insurance** covers the cost of your own medical expenses and loss of income when you are in an accident.
- **Collision insurance** covers the cost of repairing or replacing your vehicle if you hit another vehicle or object.
- **Comprehensive insurance** covers the cost of repairing or replacing your vehicle due to other types of damage or loss, such as vandalism or theft. Comprehensive insurance does **not** cover loss or damage to your vehicle if you hit another vehicle or object in a collision.

2.8.5 Business Insurance

According to www.wikipedia.org, accessed November 2015 business insurance can protect you against loss or damage to physical property or the loss of your business' ability to operate and generate income.

2.8.6 Collateral protection insurance (CPI)

This type insures property or primarily vehicles held as collateral for loans made by lending institutions (FCAC, 2011).

2.8.7 Workers' compensation insurance

This type replaces all or part of a worker's wages lost and accompanying medical expenses incurred because of a job-related injury.

2.8.8 Liability insurance

Liability insurance is a very broad superset that covers legal claims against the insured. Many types of insurance include an aspect of liability coverage. Liability policies typically cover only the negligence of the insured, and will not apply to results of willful or intentional acts by the insured (www.wikipedia.org, accessed November 2015).

- **Public liability insurance** covers a business or organization against claims should its operations injure a member of the public or damage their property in some way.
- **Errors and omissions insurance (E&O)** is business liability insurance for professionals such as insurance agents, real estate agents and brokers, architects, third-party administrators and other business professionals.
- **Professional liability insurance**, also called professional indemnity insurance (PI), protects insured professionals such as architectural corporations and medical practitioners against potential negligence claims made by their patients/clients.

2.8 TYPES OF INSURANCES FOR THE CONSTRUCTION INDUSTRY

Construction insurances are used as a collective term to describe various types of policies to protect construction works, erection and operation of machinery. Traditionally it is assumed to be only limited to the construction stage. However, the project is a whole life process, which includes a feasibility study, a call for tender and evaluation of tenders, an award of contract, construction and erection phases, a take-over and maintenance period (Juning Liyu, 2006).

With the development of construction management and civil engineering, construction insurance products and services have become increasingly specialized since the first Contractors' All Risks policy was issued in 1929 to cover the construction of Lambeth Bridge over the Thames in London. A special policy was created in Germany in 1934 and started to spread slowly (Wassmer, 1998). Latent defects insurance was introduced as Decennial Insurance by French insurers during the 1980s. Insurance, which are generally required in connection with a construction project, can be divided into two basic categories: property insurance and liability insurance. Recently, it has been extended to cover business interruption during construction process, which is generally termed as Delay in Start-up (DSU) or Advance Loss of Profit (ALOP). Although it would seem ideal to obtain one insurance policy covering a construction contract, this is not possible because the range of contract risks is vast and insurers specialize in underwriting certain risks (Levine, 1991).

Hereunder is the enumeration of different types of construction insurances from several literature sources:

2.8.1 Construction Insurance [Contractors' All Risks (CAR)]

CAR insurance, sometimes referred to as contract works insurance, provides comprehensive cover for construction, buildings and civil engineering projects. Due to the complex nature of contract works, this policy is designed to provide cover for any damage that occurs during the construction process (HSB Engineering Insurance, 2014).

Available on a single risk or annual basis, the policy can be arranged in the name of the contractor, the principal or joint names depending on the project requirement. There is no such thing as a standard policy, so builders should take particular care when taking out construction works insurance, as there are significant variations in the extent and quality of policies issued by different insurance companies (www.masterbuilders.asn.au).

2.8.2 Erection all risks (EAR)

During a construction project, the responsibility for insuring against loss or damage to electrical and mechanical plant whilst in the erection and installation stage often falls to the contractor or employer. EAR insurance provides cover for machinery installation and refurbishment and is available on a single risk or annual basis. Like CAR, the policy can

be arranged in the name of the contractor, the principal or joint names depending on the project requirement (HSB Engineering Insurance, 2014).

2.8.3 Professional Indemnity Insurance

As its name suggests, this insurance indemnifies an insured for amounts which the insured becomes legally liable to pay as a result of any actual or alleged negligent act, error or omission in the conduct of its business or profession (Baartz, 2003).

Professional indemnity insurance (PII) covers professionals, such as architects, engineers and other consultants, and claims against them arising out of the professional services they provide [CACC, 2004]. Typically the cover includes, and claims may arise from the services involved where they include:

- A breach of professional duty; Negligence; Bodily injury and property damage arising from service negligence; Fraud/dishonesty other than a company director's dishonesty; Infringement of intellectual property; Breach of duty/confidentiality; Defamation; and Loss of documents.

2.8.4 Equipment Floater Insurance

Construction equipment and machinery used on the project is subject to damage and can be protected by what is known as an equipment floater policy. This policy covers equipment that moves from job to job (the equipment "floats"). The equipment covered, often referred to as off-road vehicles dozers, scrapers, power shovels, loaders, cranes, pumps, and pavers. The major losses that typically occur are due to theft and vandalism. No liability component is attached as the policy only covers damage to the equipment (Hinze, 1990).

2.8.5 Key Man Insurance

Key Man insurance is essentially a life insurance policy written on company principals. It will protect the company from heavy losses that may result from one or more principals (key men) of the firm dying. There may also be a clause that will provide benefits if the principal is disabled and unable to work (Hinze, 1990).

2.8.6 Automobile Insurance

There are two broad categories of risk involved when a contractor operates automobiles. First, there is loss or damage to the contractor's own vehicles caused by collision, fire,

theft, vandalism, or other hazards. Second, there is liability for bodily injury to third parties or damage to their property caused in some way by the operation of the contractor's licensed vehicles. Automobile liability coverage will cover any vehicle fitting into one of three categories--owned automobiles, hired or rented automobiles, and non-owned automobiles such as employees' personal automobiles used in conjunction with official business. The coverage will provide for legal defense and payment of damages resulting from damage to persons or property due to the operation of vehicles fitting into one of the categories listed above (Stokes, 1990).

2.8.7 Worker's Compensation Insurance

Worker's Compensation insurance provides medical care and other benefits for the contractor's employees in the event that they are injured on the job. The principle behind worker's compensation is that on-the-job injury or death of a worker is a cost of doing business and should be borne by the industry. The fundamental objective is for injured workers to receive prompt medical attention and monetary assistance. Another principle behind worker's compensation is that of strict liability of the employer, regardless of any fault by the employee. Contributory negligence of the employee will not affect the employer's liability, except in cases where the worker was under the influence of drugs or alcohol (Clough, 1981).

2.8.8 Wrap-Up Insurance (Owner Controlled Insurance Program)

To lower the insurance cost of a construction project, the owner may provide coverage for the owner, architect, engineer, prime contractor, and all subcontractors. This policy is referred to as wrap-up insurance. For such a project, all contractors must exclude insurance coverage from their bids and accept the coverage provided by the owner. The usual procedure is for a single insurance company to provide all coverage, including general liability, worker's compensation, and builder's risk (Clough, 1981).

Owner Controlled Insurance Programs, also known as OCIPs or wrap-up policies, are insurance policies procured by the owner, developer or general contractor of a construction project. Instead of each individual contractor and subcontractor securing its own liability insurance, worker’s compensation insurance, etc. for the project, the policyholder secures an OCIP that covers all construction and contractors on the project (State bar of Nevada, 2010).

According to State bar of Nevada (2010), OCIP's basic features are: insurance coverage covering all contractors and subcontractors on a project; an integrated owner-contractor managed safety program on the construction project; and central processing of claims. By utilizing an OCIP, owners may be able to save money on their construction projects. Because the owner pays for an insurance policy that covers the project's contractors, each contractor is expected to submit a lower bid. In essence, the owner is credited back the cost of the insurance that the contractor would normally include in the bid as overhead costs. Additionally, users of OCIP can save money on large projects through lower bulk insurance rates, improved safety management processes, and reduced disputes between contractors concerning who is responsible for a loss.

2.8.9 Damage caused to a crane and contract works insurance

When accidental damage occurs to a crane and contract works on a construction site. The policy arranges cover for removal and repair of the crane so remedial action could be taken on the works immediately (HSB Engineering Insurance, 2014).

2.8.10 Material Damage covers for existing structures

Insuring existing structures (for their entire value) for a nominated amount, under the material damage policy, removes a risk for the building owner. Most home and commercial building insurance policies will continue to provide cover to an existing building that is undergoing additions or renovations, provide the value of the work is below a set limit each insurer has different limits (www.masterbuilders.asn.au, accessed, November 2015)**.**

2.8.11 Contractors' plant insurance

Contractors' plant insurance recognizes the dependency of the construction industry on a wide range of plant and machinery; from tower cranes and large mobile cranes, to excavators, generators and hand tools. Due to the nature and use of these types of plant, they are susceptible to risks such as damage on site, damage in transit, fire and theft. During a construction project, plant and machinery can be more susceptible to losses during transit and movement. Theft, fire, and damage caused during the loading, unloading and re-sitting process are all common risks and can cause significant interruption to a project if they occur (HSB Engineering Insurance, 2014).

2.8.12 Machinery inherent defects insurance (MIDI)

Modern buildings are becoming increasingly complex with up to 30% of construction costs relating to the mechanical and electrical services that support them. These mechanical and electrical services can be plagued by defects caused by poor design, materials or workmanship and this can be highly problematic for the owners and occupiers of affected buildings (HSB Engineering Insurance, 2014).

2.8.13 Business Owners Policy

During construction, there are typically three types of insurance policies that can provide protection. The first type of coverage is available to property owners under their existing Business Owners Policy ("BOP") or Commercial Property Policy ("CPP"). Often, both of these provide coverage for remodeling or expanding an existing building already insured under the policy. An all-risk version of these policies covers all risks except those specifically excluded and typically provides the broadest coverage for buildings under construction. Property owners could file claims with their own carriers for damages resulting from a construction defect. Since a typical BOP includes general liability coverage in addition to property coverage, some smaller, lower-risk contractors may have BOP coverage as their first line of defense in the event a client notifies them of a construction defect (designingbuildings.co.uk, 2010).

2.8.14 Collateral Warranty

A collateral warranty is a legally binding agreement which is ancillary to a separate contractual agreement between two parties and which imposes an extended duty of care and a broader liability on those parties. Such a warranty effectively provides for a duty of care to be extended by a contracting party to a third party that is not party to the original contract (designingbuildings.co.uk, 2010).

2.8.15 Integrated Project Insurance

According to designingbuildings.co.uk (2010) Integrated Project Insurance (IPI) collectively insures the client and all the other 'Alliance' partners: consultants, specialists, manufacturers, construction managers and their supply chains. In particular it replaces liability-driven professional indemnity insurance (which requires proof of fault before responding) with financial loss cover where the outturn cost above the target cost plus pain-share is insured.

2.8.16 Builder's Risk Insurance

Builder's Risk insurance is a form of property insurance that protects the building or project against physical loss or damage from external causes during construction. The protection provided depends upon the terms of the written policy, but usually includes materials and supplies to be used on the project. These items are insured while held in temporary storage before delivery, during transit to the jobsite, and after delivery while awaiting installation (Clough, 1981).

2.8.17 Delay in start-up insurance (DSU)

Unless the contractor is entitled to relief under the contract, contractors are customarily required to pay liquidated damages to the employer if the works are not taken over by the date for completion or, depending on the nature of the works, fail to satisfy specified output criteria.

However, liquidated damages are customarily capped at 10% of the contract price. Caps of this nature may mean that the employer is not fully compensated for any loss suffered and even though caps on delay damages can sometimes be set aside (and damages reassessed so that they correspond with the actual loss suffered), this can be a slow, uncertain and expensive process. For this reason, employers sometimes (especially if the works are project financed) take out DSU insurance which provides compensation for losses including loss of revenue and other consequential losses arising out of late completion as well as other forms of delay such as force majeure (tamimi.com, accessed Feb. 2014).

2.9.18 Flood Insurance

A flood can be considered a general or temporary condition occurring on two or more acres of land, or affecting two or more properties. Flood insurances typically have a queue of 30 days, before entering its coverage period, to avoid insurance solicitations only when a flood event is expected (construction.about.com, accessed October, 2015).

2.8.19 Legal expenses insurance

This is a relatively inexpensive form of insurance which can either be insured via a specific policy or as a section of a combined policy. In an increasingly litigious world it is becoming common to insure against the cost of defending legal action. Such are the levels of legal costs, often with no certainty of recovery, that this type of insurance is seen as an inexpensive safety net (designing buildings.co.uk, 2010).

2.8.20 Legal indemnity insurance

This type of insurance exists to provide recompense in the event that the policy holder incurs capital loss or expense in dealing with a range of possible legal issues which are inadvertently encountered. Examples could be to deal with unforeseen rights of way issues over land that has been purchased, or costs incurred in complying with certain planning requirements (designing buildings.co.uk, 2010).

2.8.21 Liability Insurance

Generally speaking, legal liabilities are incurred as a result of negligence and lack of care (Bunni, 2003). However, in certain circumstances, insurance is required even when negligence has not been committed. Such insurance is also transacted within the liability type of insurance. Liability insurance under the Commercial Code of Ethiopia [1960] is discussed under Article 654(2) to Article 685. To illustrate some of the Liability insurances commonly issued are;

- Compulsory (Liability) Motor Insurance; (in case of car accident or collision on road);
- Employer's Liability Insurance; (to compensate the employer in case of the worker's negligence who injures third party); see also Article 2130 of the Civil Code;
- Professional Liability Insurance/Professional Indemnity Insurance; (in case of Engineer's or Architect's liability towards its client); and
- Workmen's Compensation Policy; (to cover the liability of the employer to the worker as per the Labour Law)

Liability under the Ethiopian law is further extended to Extra-contractual liability that emanates from the law in addition to the contractual liability that concerns about the specific individual with whom we have a contractual relationship. The Extra-contractual liability concerns about the general public or to any third party. With respect to the construction project or the construction business there may be a practical possibility to become extra-contractually or legally liable towards third parties, with whom we do not have any contractual relationship. The Law of Extra-contractual liability is provided under the Civil Code of Ethiopia from Article 2027 to Article 2161 (Title XIII Chapter I).

According to Article 2027 of the Civil Code of Ethiopia (1960), there are three sources of extra-contractual liability. These are:

- Liability based on fault (Article 2027(1));
- Liability without fault (strict liability) (Article 2027 (2)); and
- Liability for others (vicarious liability) (Article 2027 (3))

2.8.21.1 Product Liability

Product Liability coverage protects against construction defects causing bodily injury for companies that manufacture, distributes, or retail products. Product liability insurance protects the policy holder against liability resulting from defects in products used in construction projects: a product being any physical item that is sold or given away (lexis nexis .com; accessed November, 2015).

2.8.21.2 Employer's Liability Insurance

Employer's Liability insurance is written in conjunction with worker's compensation insurance and provides the contractor with broad coverage for personal injury or death of an employee. This can be utilized by the employee when the injury is not covered by the worker's compensation policy. The employee may also refuse to accept the worker's compensation benefits and elect to seek compensation through the court system (Clough, 1981).

2.8.21.3 Contractors Professional Liability

This specialized coverage protects design/build contactors from construction defects resulting from their design errors or omissions. This type of insurance coverage is relatively new to the construction defect insurance repertoire and arose in response to the increasing number of contractors who are doing design/build work, thus increasing their resultant design liability exposure which would not be covered by typical errors and omissions insurance for a design professional or a contractor acting as a design professional (J. Kyle Hansen, 1990).

2.8.21.4 Commercial General Liability

CGL policies provide coverage for bodily injury and property damage claims made by a third party. In the case of construction defects, it is the coverage most contended by insurers. The basic type of insurance most closely associated with construction defect litigation is commercial general liability insurance, commonly referred to as a "CGL policy" (State bar of Nevada, 2010).

2.8.21.5 Contractors Liability Insurance

This type can be categorized in the following two broad types;

- **General liability policies** will cover property damage and bodily injury, but they exclude certain mishaps *(*Clough, 1981):
- **Specific Liability coverage's**

The general liability policy is made up of several specific liability coverages which are usually included in the general policy or as those coverage that contractors must purchase as extended coverage. They are enumerated and discussed below as follows:

- **Operations-Premises Liability Insurance**

Operations-premises liability insurance is purchased most frequently of all the liability coverages (Hinze, 1990). Under this type of insurance, the contractor is protected for liability arising out of bodily injury and property damage caused by an incident on premises owned or occupied by the insured contractor anywhere in the United States or Canada (Stokes, 1990). This will only cover injuries caused to third parties and damage to property owned by third parties.

- **Elevator Liability Insurance**

Contractors can be held liable for bodily injury or property damage to third parties caused by the operation, ownership, and maintenance of elevators (or hoists) (Clough, 1981). The contractor is protected against these types of claims by elevator liability insurance. Elevator liability can be part of the operations-premises coverage.

- **Completed Operations and Products Liability Insurance**

Although Completed Operations and Products liability insurance is written as a single coverage, on construction projects only the completed operations portion is generally applicable. This insurance is intended to provide protection against claims for bodily injury or property damage that may occur after the contractor has completed the project (Rothschild, 1973). It covers damage to property other than the cost of replacing the contractor's own work. It should also cover the cost of the contractor's legal defense. A typical exclusion is liability incurred because of a design error if the contractor also designed the work (Stokes, 1990).

- **Contractor's/Owner's Protective Liability Insurance**

Contractor's protective liability insurance protects a contractor from claims arising from damage or injuries to third parties caused by a subcontractor working on the jobsite. A third party harmed by the actions of a subcontractor can sue the prime contractor because the prime exercises general supervision over the work and is responsible for the conduct of construction operations (Clough, 1981).

Similarly, owner's protective liability insurance provides the owner protection for damage or injury claims caused by the general contractor or any subcontractors. Owners can be sued for a contractor's negligence because the owner has a responsibility to inspect the work, employ competent contractors, and ensure that work is undertaken in a safe manner (Lyneis, 1987).

- **Contractual Liability Insurance**

Contractors may assume the legal liability of another party in a construction contract. The other party can be the engineer, the owner, the architect, or a material supplier. This type of liability can be exclusion in general liability policies, so the contractor must procure contractual liability as an extended coverage. Contractual liability insurance is designed to protect the contractor from claims made due to the assumption of liability in the contract (Clough, 1981).

- **Explosion, Collapse, Or Underground Liability Insurance**

A common exclusion to the general liability policy is damages caused by explosion, collapse, and underground operations. Commonly known in the industry as the X-C-U exclusions, these hazards are part of a large portion of contracting. If contractors want the X-C-U coverage, they must purchase it as an extended coverage. The explosion portion covers property damage arising out of blasting or explosion including explosion of equipment such as pressure vessels. The collapse portion covers property damage arising out of the collapse or structural injury to an adjacent building resulting from work operations. The underground portion covers property damage to buried conduit, pipe mains, sewers, telephone wires, tanks, tunnels, and any other items resulting from excavating or grading operations (Clough, 1981; Stokes, 1990).

- **Broad-Form Property Damage Liability Insurance**

A normal exclusion to general liability policies is damage to property in the care, custody, and control of the contractor. Because the entire project is usually considered to be in the care, custody, and control of the contractor, it is excluded from property damage coverage. Thus, if a piece of equipment belonging to a third party is in the care, custody, or control of the contractor and is damaged, the general liability policy will not cover the loss. This insurance is designed to answer the question of how much of the property being worked on is subject to the care, custody, and control exclusion (Clough, 1981; Stokes, 1990).

- **Personal Injury Liability Insurance**

Personal injury, as opposed to bodily injury, is not physical impairment, but is defined as intangible harm (Clough, 1981). Instances where personal injury may be claimed are: false arrest; malicious prosecution; libel, slander, and defamation of character; wrongful eviction; invasion of privacy; and wrongful entry. Personal injury insurance protects the contractor from claims brought on for any of these reasons. The personal injury endorsement normally excludes coverage of the contractor's own employees, so if the contractor desires this coverage, the endorsement must waive this exclusion (Rothschild, 1973).

- **Umbrella Excess Liability Insurance**

Umbrella Excess liability insurance extends the limits of liability insurance beyond the maximum coverage of the general policy (Hinze, 1990; Rothschild, 1973). The main purpose of this insurance is to cover the contractor for judgments greater than that provided by the basic liability policy. The umbrella policy is only invoked in cases where the contractor is held liable for damages greater than what is provided by the primary policy. The limit on the primary policy is therefore the deductible on the umbrella coverage. These coverages would take effect after a specified deductible limit is exceeded (Clough, 1981; Rothschild, 1973).

2.8.22 Bonds and Guarantees

A surety bond is a three-party contract comprised of the Surety, the Principal (contractor) and the oblige (owner) (Bunni, 2003).

The type of bond normally found in the construction industry is the conditional bond, under which the surety agrees to pay if and when certain specified conditions are satisfied. In the case of a performance bond, the most likely such condition would be any default

(i.e. Breach of contract) by the contractor. In order to call for payment, the employer must provide evidence of both the contractor's default and the resulting losses suffered by the employer (Hughes, 2000). Conditional bonds are sometimes referred to as "default" or "proven default" bonds and are predicated on a breach of the underlying contract by the contractor (Norton, 2010).

A second type of bond is the unconditional or demand bond, something which has spread into the construction field from international trade (Hughes, 2000). Such a bond entitles the beneficiary to call upon the surety for payment whether or not there has been default under the principal contract, provided only that the call is not fraudulent.

On-demand bonds are commonly used in international project finance and they are usually given by banks rather than insurance companies (Norton, 2010). This means that, unless the surety has clear evidence of such fraud, payment must be made. The use of these bonds in construction contracts is on the whole undesirable since, while the employer may not intend to call on such bonds irresponsibly, the contractor cannot rely on this; the contractor must therefore increase the tender price to cover the cost of something which is not really necessary (Hughes, 2000).

The following are forms of bond and guarantee transacted within the construction industry:

1. **Bid bonds:**

Bid bonds are intended to assure the beneficiary that the bid or tender is a serious one and that, if it is accepted, the tenderer will proceed and effect the form of contract including whatever subsequent bonding arrangements he is required to provide. A bid bond is a guarantee that you provide to the project owner stating that you have the capability to take on and implement the project once you are selected during the bidding process. Normally, project owners do not know if a contractor is financially stable or has the necessary resources to take on a project. However, because of a bid bond, they will be more comfortable to award a project to a contractor knowing that if the project fails, they can collect compensation from the surety bond (www.construction.about.com).

The standard bidding document issued by the federal public procurement agency of Ethiopia as of July 2011, provides the requirements & forms for bid security in clause 22

of instruction to consultant of Request for Proposal – National Competitive Bidding and SBD-Works (NCB) instruction to bidders clause 21.

2. **Performance bonds:**

Performance Bonds are purchased to guarantee that a contractor will satisfactorily complete a project. Not only does this insure against defects in workmanship or failing to construct to specifications, it also protects against unforeseen events such as contractor bankruptcy (State bar of Nevada, 2010). Performance Bonds guarantee for the satisfactory completion of a project. This will require having a collateral property or investment to back up the requirements of the surety agency. A performance bond is usually issued by a bank or an insurance company, both of which act as a "surety." If the contractor does not complete the project on the date specified in the contract the surety bonding company will either pay for the completion of the project or hire a contracting firm to complete the project (www.construction.about.com, accessed December 2015).

The standard bidding document issued by the federal public procurement agency of Ethiopia as of July 2011, provides the requirements & forms for performance security

3. **Advance payment guarantees:**

If the client agrees to make an advance payment (sometimes referred to as a down payment) to a supplier, a bond may be required to secure the payment against default by the contractor. This is referred to as an advance payment bond (APB), advance payment guarantee or advance stage payment.

Typically on a construction project an advanced payment bond will be required by the client if the contractor requests advance payment to help them meet significant start up or procurement costs that may have to be incurred before construction begins. These guarantees are issued to assure the beneficiary that any sums of money advanced will not be lost through default or poor performance by the party in receipt of the advance (www.construction.about.com, accessed December 2015).

In any public procurement of Ethiopia, advance may be paid for the contractor in an amount not exceeding 30% of the total contract price.

4. **Retention money bonds:**

Retention is a percentage (often 5%) of the amount certified as due to the contractor on an interim that is retained by the client. The purpose of retention is to ensure the contractor properly completes the works required under the contract. Half of the amount retained is released on certification of practical completion and the remainder is released upon certification of making good defects. Retention due to subcontractors may in turn be held by the main and so on down through the contractual chain.

This type of bond is issued to allow the release of retention money usually held by the beneficiary (www.construction.about.com, accessed December 2015).

5. **Maintenance bonds:**

Maintenance bonds are issued to guarantee that as soon as the installation is completed, the contractor will fulfill his obligations throughout the commissioning and testing periods (www.construction.about.com, accessed December 2015).

A type of surety bond purchased by a contractor that protects the owner of a completed construction project for a specified time period against defects and faults in materials, workmanship and design that could arise later if the project was done incorrectly. A maintenance bond is not insurance technically but basically it functions as an insurance policy on a construction project to make sure a contractor will either correct any defects that arise or that the owner is compensated for those defects (investopedia.com, accessed December 2015).

6. **Payment Bond**

A payment bond is a type of insurance purchased by a builder that protects both the bank and the owner by providing that the insurance company will be responsible for payments due to laborers and other parties who provided services for the construction project (State bar of Nevada, 2010).

2.9.23 Decennial Insurance (Latent defects insurance)

After the works have been completed, defects remedied and finally accepted by the employer, there may be no contractual liability towards the contractor except the outstanding ones. There might, however, be a possibility for legal liability. This is the warranty obligation of the contractor. This legal warranty period lasts for ten years and the

ten year time is calculated from the date of the final acceptance of the works (Baartz, 2003).

Decennial insurance is generally transacted to cover the liability of those involved in construction for latent defects in the stability of the structure and for major defects in the weather shield for ten years. The ten-year cover matches the limitation period in respect of the stability and major defects in the structure or of an important part thereof in certain jurisdictions (Bunni, 2003).

Such liability is called decennial liability and exists mainly in jurisdictions where the civil code forms the basis of the legal system which is a case for Ethiopia. Article 3039 (Warranty due by the Contractor) of the Civil Code of Ethiopia (1960) (under Contracts of Work and Labour related to Immovable) for private construction contract states;

1. The contractor shall guarantee during ten years from its delivery the proper execution and the solidity of the work done by him.
2. He shall be liable during this period for such loss or deterioration of the work as is due to a defect in its execution or to the nature of the soil on which the work has been done.
3. Any provision shortening the period laid down in sub-art (1) or excluding the warranty due by the contractor shall be of no effect.

On the other hand, for public construction Article 3282 of the Civil Code is applicable and more relevant; which is stated as follows:

Art. 3282. ----- Warranty in respect of defects of construction

(1) Unless otherwise provided, the contractor shall be liable to the administrative authorities for the defects of construction of the work during ten years from the day on which they have entered into possession of the work.

(2) The warranty shall not be due, however, in respect of the defects which were apparent at the time of the final acceptance of the works.

(3) The warranty shall apply to such defects only as prevent the works from being used for the purpose mentioned in the contract or as render such use more onerous or less profitable.

2.9 CONSTRAINTS FOR PRACTICING INSURANCE

Complexity of policy languages and limited consumer benefits as a result of their improper understanding to policies are among the constraints for purchasing insurance as explained here under.

2.9.1 Complexity of Insurance Policy Contracts

Insurance policies can be complex and some policyholders may not understand all the fees and coverage's included in a policy. As a result, people may buy policies on unfavorable terms. In response to these issues, many countries have enacted detailed statutory and regulatory regimes governing every aspect of the insurance business, including minimum standards for policies and the ways in which they may be advertised and sold. For example, most insurance policies in the English language today have been carefully drafted in plain English; the industry learned the hard way that many courts will not enforce policies against insured's when the judges themselves cannot understand what the policies are saying. Typically, courts construe ambiguities in insurance policies against the insurance company and in favor of coverage under the policy (Wikipedia.org, accessed December 2015).

2.9.2 Limited consumer benefits

Consumers are advised to select high deductibles and to not insure losses which would not cause a disruption in their life. However, consumers have shown a tendency to prefer low deductibles and to prefer to insure relatively high-probability, small losses over low-probability, perhaps due to not understanding or ignoring the low-probability risk. This is associated with reduced purchasing of insurance against low-probability losses, and may result in increased inefficiencies from moral hazard (Wikipedia.org, accessed December 2015).

2.10 PROCEDURES IN FIXING PREMIUM FOR CONSTRUCTION RELATED POLICIES

There are several factors to be considered in the process of fixing premium by insurance companies for construction sector clients. The insured's past loss experience can affect the premium. The insured retains some control over the cost in the sense that loss-prevention efforts can reduce the number of losses and consequently reduce the premium (Williams et al., 1998). To maintain market share, insurers are increasingly taking into account the

claims track record of individual construction-related organizations, in order to provide the best possible deal (Edwards et al., 1996).

Premiums are based primarily on three factors: the employer's safety experience on prior construction projects, the type of craft, and the geographic location. For the first factor, it is obvious that if a particular contractor has an outstanding safety record, the premiums will be lower than a contractor who has a poor safety record. An "experience modification rating" is assigned to each company that reflects the frequency of injuries and the monetary loss suffered over a three year period. This rating is a multiplier that effectively raises or lowers the premiums. The second factor is associated with the craft, as this is related generally to the degree of risk involved. For example, a roofer has a higher degree of day-to-day risk than a concrete sidewalk installer. This difference results in various premium rates based on the industry loss history for each craft in the state. For the third factor, different states have varying injury experiences across all types of crafts. This results in some states having much higher premiums than others (Hinze, 1990).

When shopping for insurance coverage, contractors must realize that prices for the same coverage will vary among insurance companies. Contractors should also understand the factors that affect premium rates and use this knowledge when negotiating with insurers on insurance prices (Kyle Hansen, 1990).

For a specific contract the premium charged is calculated based on the total contract value, not the period of cover. In the event, the construction is complete before the expiry of the policy, no refund of premium is due (www.masterbuilders.asn.au). For annual policies, premiums are calculated on one of two methods:-

1. The total value of contracts started within the policy period, or
2. The total value of contracts completed within the policy period

The interaction among the contract groups in the identification and management of risks with insurance companies is insignificant. As a result, it is noted that the insurance premium is fixed mainly based on the location of the project and the contract amount of the project (Getachew, 2014).

2.11 CONTRACT CONDITIONS FOR CONSTRUCTION INSURANCE PROVISIONS

Professional associations and institutions have proposed standard forms of contract, such as Joint Contracts Tribunal building contract forms (JCT), Institution of Civil Engineers (ICE), New Engineering Contract (NEC) system of documents, the Fédération Internationale des Ingénieurs (FIDIC) conditions of contract. Each standard form of contract, plus any special additional clauses inserted specifically for the project concerned, must be assessed to determine which party is responsible for what risks, what indemnities are required, what supporting insurances are specified and which are needed, and what deductibles are permitted.

Each contract has been modified with the development of construction industry. The client depended upon the contractor to maintain adequate insurance under FIDIC 1979 in the past. However, owner-controlled insurance was strongly recommended for large civil engineering projects and the options have been written into the Contract Conditions to allow for this possibility in 1995, because clients can rely on the increasing experience and expertise of their own risk managers to monitor the contractor's insurance arrangements (Griffiths & Armour, 1997).

Most standard forms of engineering and construction contracts require the contractor to effect a range of insurances and to extend such cover to subcontractors (Akbiyikli, 2012). It is important that contract administrators check insurance policies before work commences, and at other appropriate times, to ensure that the specified insurance is in place (CACC, 2004). Most construction contracts contain a provision that before the contractor commences work under the contract and whenever requested in writing by the other party, a party liable to insure shall provide satisfactory evidence of such insurance effected and maintained (Baartz, 2003).

Contract administrators must be prepared to act decisively if insurance arrangements are unsatisfactory because lack of insurance can put at risk the whole value of the works, or expose the principal to large claims for personal injury or death. Contract actions in response to unsatisfactory insurance may include (CACC, 2004):

- Terminating contracts,
- Denying contractors' access to sites,

- Suspending work, and
- Withholding payment of contractors' claims

However, if appropriate contract administration practices are not in place, there is a risk that a party required to maintain prescribed insurance under the contract may fail to comply with that obligation and an event occurs to which insurance would have responded had it been in place. In these circumstances, a party might have a claim in contract against the other but the party in default may not have the financial resources available to satisfy the claim (Baartz, 2003).

2.11.1 Provisions for Insurance in Standard Conditions of Contracts in Ethiopia

General Conditions of Contracts of PPA 2006 Clause 21 to 24 stipulate insurances to be taken out by the contractor and clause 25 lay down the remedy on contractor's failure on insurance. And clause 10 states the performance bond requirement.

- Clause 10 Performance Bond

"The Contractor undertakes to enter into a Bond within 30 days after the receipt of the Letter of Acceptance for the due and proper performance of the Contract and observance of all provisions, covenants, conditions and stipulations therein in the sum of 10% of the Contract price. The Bond shall be in the form as may be agreed between the Employer and the Contractor. The Contractor shall enter in the space provided in the tender proposal the name of the proposed surety."

- Clause 21 Insurance of works

"… the Contractor shall insure in the joint names of the Employer and the Contractor against all loss or damage from whatever cause arising, other than the excepted risks, for which he is responsible under the terms of the Contract….."

- Clause 22 (1) Damage to Persons and Property
- Clause 22 (2) Indemnity by Employer
- Clause 23 (1) Third party Insurance
- Clause 23 (2) Minimum Amount of Third Party Insurance

"*Such insurance shall be effected with an insurer domiciled and licensed to carry out business in Ethiopia and in terms approved by the Employer, which approval shall not been reasonably withheld for at least 10% of the Contract value but not exceeding Birr 200,000.00 per occurrence, with the number of occurrences unlimited……"*

- Clause 23 (3) Provisions to Indemnify Employer
- Clause 24 (1) Accident or Injury to Workmen
- Clause 24 (2) Insurance against Accident, etc. to Workmen

"The Contractor shall insure against such liability with an insurer domiciled and licensed to carry out business in Ethiopia approved by the Employer…"

Similarly, General Conditions of Contracts of PPA 2011 Clause 21stipulate insurance to be taken out by the contractor where the deductibles are left to be specified by the employer in the particular condition of the contract.

MOWUD standard conditions of contract for construction of civil work projects 1994 clause 21 to 24 stipulate insurances to be taken out by the contractor and clause 25 lay down the remedy on contractor's failure on insurance in a similar manner to PPA 2006.

Similarly, GCC Article 40 of PPA 2011 states insurance to be taken out by the contractor as follows;

- **Clause 40.1**

"The Contractor shall provide, in the joint names of the Public Body and the Contractor, insurance cover against loss or damage for which he is liable under the contract in the amounts and deductibles stated in the SCC. Such insurance shall, unless the SCC provide otherwise, cover"

a) *the Works, together with Materials and Plant for incorporation therein, to the full replacement cost against all loss or damage from whatever cause arising other than from Force Majeure or risks attributable under the contract to the Public Body;*

b) *an additional sum of 15% of such replacement cost, or as may be specified in the SCC, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the works and of removing debris of whatever nature;*

c) *the Contractor's Equipment and other things brought onto the Site by the Contractor, for a sum sufficient to provide their replacement at the Site.*

- **Clause 40.2**

"The Contractor shall take out insurance covering his liability with regard to industrial accidents and civil liabilities to any person employed by him on the works, to the Public Body and any employee of that authority, arising from the execution of the works. Such liability shall be unlimited in the case of personal injuries."

- **Clause 40.3**

"The Contractor shall take out insurance covering liability with regard to risks and civil liability resulting from an act or omission attributed to him, to his legal successors or agents. Such insurance shall be for at least the amount stated in the SCC. Furthermore, he shall ensure that all his sub-contractors have taken out a similar insurance."

- **Clause 40.4**

"By requiring such insurance, Public Body shall not be deemed or construed to have assessed the risk that may be applicable to the Contractor under this Contract. The Contractor shall assess its own risks and if deemed to be appropriate and/or prudent, should maintain adequate limits and/or broader insurance coverage than that stipulated above. The Contractor is not relieved of any liability or other obligations assumed or pursuant to the Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration, or types."

- **Clause 40.5**

"Insurance shall be provided at the Contractor's expense and shall not be charged directly to the Public Body."

- **Clause 40.6**

"All the insurance referred to in this Clause shall be taken out within 30 days of the notification of the award of the Contract, and shall be subject to approval by the Public Body. Such insurance shall take effect from the commencement of the Works and remain in force until final acceptance of the Works."

- **Clause 40.7**

"The Public Body shall be notified by the Contractor or its Insurance Carrier at least 30 days prior to any material change to or cancellation of any of insurance coverage."

- **Clause 40.8**

"Prior to the commencement of the Works under this Contract, the Contractor or its Insurance Carrier shall provide a Certificate(s) of Insurance (COI) evidencing compliance with all requirements for insurance coverage. The COI shall be submitted to the Public Body for review and approval. For the duration of the Contract, the Contractor

or its Insurance Carrier shall provide updated COI's to evidence renewals or other changes to insurance policies or coverage, and payment of the current premiums whenever they are required to do so by the Public Body or the Engineer."

- **Clause 40.9**

"Notwithstanding the obligations of the Contractor to insure in accordance with this Clause, the Contractor shall be solely liable and shall indemnify the Public Body and the Engineer against any claims for damage to property or personal injuries arising from the execution of the works by the Contractor, his sub-contractors and employees in connection with the Works".

2.12 CONSTRUCTION INDUSTRY AND INSURANCE IN ETHIOPIA

This portion discusses how insurance is incorporated in Ethiopian construction industry.

2.12.1 Construction Industry of Ethiopia

Under Ethiopian Federal System of Government, the former Ministry of works and urban development which is restructured in to two Ministries by 2008 E.C named Ministry of Construction and Ministry of Urban Development and Housing; of which it is now the responsibility of Ministry of construction to register and issue licenses and certificates of competence to those involved in the country's construction industry. Again it is the power and duty of Ministry of Water and Energy to register and issue licenses and certificates of competence to those involved in the country's water works construction contracting and consultancy and profession.

In Ethiopia, construction license of contractors by Ministry of construction has four categories, namely: General Contractors (GC); Building Contractors (BC); Road Contractors (RC) and Specialized Contractors (SC); depending on human and material resource requirements each category is then sub-divided into various classes which lead to determine the maximum cost of a project value they can bid for.

The ministry divides consulting firms into four classes: Consulting Architects and Engineers; Consulting Architects; Consulting Engineers General and Consulting Engineers Specialized. Based on their resources, experience and other criteria, each type is then sub-divided into 5 categories.

Ministry of Water and Energy categorize contractors as water works construction companies (WWCC), water well drilling companies (WWDC), Sanitary works construction company (SWCC) and further subdivide them in categories. Similarly, classing and categorizing of water works design consultants is provided by the ministry.

2.12.2 History of Insurance in Ethiopia

The emergence of insurance business in Ethiopia was closely linked to expatriates and foreign insurance companies. There were a good number of foreign insurance companies undertaking insurance business in Ethiopia through agents prior to 1951. The first domestic insurance company, namely, Imperial Insurance Company of Ethiopia Ltd was established in 1951. Thereafter, until 1960 one domestic and numerous foreign insurance companies represented by agents were operating insurance business in Ethiopia (Zeleke, 2007).

Four distinct periods can be observed in the development of insurance in Ethiopia as indicated by Zeleke 2007:

1. 1920s-1950s: this period can be designated as the period of agents of foreign insurance companies. There was only one domestic insurance company, which was established in 1951, that was undertaking insurance business in the 1950s. Competition during this period was believed to have taken place between the domestic firm and the foreign companies operating through agents.
2. 1960-1975: this period can be cited as the era of private insurance companies. Fourteen (93%) of the 15 domestic insurance companies that existed prior to the enactment of the country's first insurance proclamation (1970) were established in 1960s.
3. 1976-1994: this period reflects the era of monopoly. The state owned insurer, Ethiopian Insurance Corporation, monopolized the insurance business in the country.
4. 1994-Pesent: private insurance companies re-emerged. Both the public and the private insurance sectors operate side by side.

Following the 1994 insurance proclamation, which brought to an end to the monopoly of the insurance business by the state owned insurer for 19 years, the private sector once

again got an opportunity to engage in insurance business and a number of private insurance companies established. The first to be established in August 1994 was Universal Insurance, which was later closed down as a result of supervisory measures. Lion Insurance Company, which was established in October 1998, was merged with UNIC (United Insurance Company) in October 2000 (Zeleke, 2007).

As found from National Bank of Ethiopia; currently, the Ethiopian insurance industry consists of 17 insurance companies (1 public and 16 private) as shown in Table 2.1 below:

Table 2-1 List of Insurance Companies in Ethiopian

No.	Company Name	Date of Establishment
1	Ethiopian Insurance Corporation	1975
2	National Insurance Company of Ethiopia S.C.	23/09/1994
3	Awash Insurance S.C	1/10/1994
4	Africa Insurance S.C	1/12/1994
5	Nyala Insurance S.C	6/1/1995
6	Nile Insurance S.C	11/4/1995
7	Global Insurance S.C	11/1/1997
8	The United Insurance S.C	1/4/1997
9	NIB Insurance S.C	1/5/2002
10	Lion Insurance S.C	1/7/2007
11	Ethio-Life and General Insurance S.C	23/10/2008
12	Oromiya Insurance S.C	26/01/2009
13	Abay Insurance S.C	26/07/2010
14	Berhan Insurance S.C.	24/05/2011
15	Tsehay Insurance S.C.	28/03/2012
16	Lucy Insurance S.C	13/11/ 2012
17	Bunna Insurance S.C	21/05/2013

In the Ethiopian insurance industry, all local insurance companies are transacting with foreign reinsurance companies, thus transferring part of the risk they undertake against payment of part of the premium originally charged (Zeleke, 2007).

The reinsurance transaction can be both a one-off arrangement, known as facultative reinsurance, or an automatic arrangement with an agreed pattern for a specific branch of insurance under a contract between the insurer and reinsurers usually referred to as a reinsurance treaty (Bunni, 2003). According to Zeleke (2007), the reinsurer companies giving reinsurance to the Ethiopian insurance companies are from different countries including: Germany, Kenya, Nigeria, PTA, Tunisia, India, South Africa, Morocco, Mauritius, and Turkey.

In the case of the relationship between the reinsurer and the insured, it is important to note the fact that insurance company buys reinsurance gives no rights to the insured so that if the insurer fails or refuses to perform his obligations to his insured, the insured has no right of action against the reinsurer (Bunni, 2003). In this regard, establishment of reinsurers in the country is advantages to the policyholder and the country in saving the foreign currency that is being paid by insurance companies for the transaction of reinsurance service and the performance of the insurance business.

2.12.3 Regulation and Supervision of Insurance Industry in Ethiopia

Insurance regulation refers to the legal framework and statues within which insurance companies operate in a country and supervision of insurance company also refers to the continuous monitoring of insurance companies to ensure that they are operating in accordance with the insurance proclamation and regulations issued (Zeleke, 2007).

Though both domestic and foreign insurance companies had been undertaking insurance business in Ethiopia prior to 1960, there were no insurance laws put in place until the issuance of the Commercial Code and the Maritime Code in 1960. Following that various regulations were issued to regulate the insurance business in the country.

In line with Proclamation No. 746/2012 (Insurance Business Proclamation), the National Bank of Ethiopia has the powers and duties as stated in the proclamation including:

- Licensing insurance companies and insurance auxiliaries ;
- Conducting continual on-site and off-site supervision and monitoring;

- Taking intervention measures, depending on the findings of supervision and monitoring;
- Ensuring the existence of sound and stable insurance industry ;and
- Protection of the interests of policyholders

2.13.4.1 Other Directives and Proclamations

There are about 13 directives enacted by National bank of Ethiopia to regulate the insurance industry of Ethiopia. Among them in;

- Directive No. SIB/24/2004

Insurance companies in Ethiopia are prohibited from issuing a Financial Guarantee Bond and any Unconditional Bond, by whatever name it may be referred to, in any form whatsoever;

"Financial Guarantee Bond" shall mean a bond payable on demand issued by an insurance company obliging such insurance company to pay to a lending bank or another creditor or supplier all outstanding claims arising from non-payment by principal debtor or debtors;

2.13 SUMMARY

The most obvious benefit of purchasing insurance is the fact that it can protect in the event of human error or accident. This protection is primarily financial, whether an employee is injured throughout the course of their work or there are complications with regards to specific projects. So long as careful attention is paid to the individual needs of each project and invest in comprehensive coverage that covers these, a contractor or a consultant can create a safety net that protects their investment and business reputation.

Insurance is a crucial risk management tool. Careful thought must be given to the requirements to be stated in the contract and to the coverages provided by each party. The construction industry is diverse and unique and taking a more general attitude towards projects could lead to misunderstanding and complications. Therefore, during the planning stages of construction projects, it is important to identify the risks that should be covered through insurance, determine if coverage is available and define the appropriate limits. Insurance advisers for both the owner and the contractor should be involved in reviewing the requirements, coverages and limits proposed.

3 RESEARCH DESIGN AND METHODOLOGY

This chapter describes the methodology implemented in this research work and provides information about the Research Design; Data Sources; Data Collection Method; Target Population and Sample Size Determination; and the process and method of Data Analysis.

3.1 RESEARCH DESIGN

In consideration of the nature of the research question, qualitative research method is selected for this study as the research questions relates to the personnel attitude, opinion and view. The study was carried out using the following procedures, methods and materials which is summarized in five phases.

- The first phase was conducting extended desk study by reviewing the relevant literatures on the subject of risk management and insurance, in particular looking at insurance as means of risks transfer; discussing insurance basics and general principles of insurance; the types and requirements of construction related insurance policies; regulation and contract conditions concerning construction insurance; insurance industry functions and regulatory frameworks; the insurance industry of Ethiopia and the insurance practice of Ethiopia's construction sector from previous researches. Books, journals, many published thesis from in and outside Ethiopia and internet sources are used for this purpose.
- In the second phase, a pilot study which took the form of structured questionnaire was conducted with selected through purposeful sampling strategy for contractors, clients and consultants in the Ethiopian construction industry and all insurance companies in the Ethiopia.
- In the third phase, a formal interview was held with Ministry of Construction; Ministry Water and Energy and National Bank of Ethiopia and also some informal discussion with insurance companies, insurance brokers and construction consultants and contractors have been conducted.
- In the fourth phase, analysis and discussion of data collected is done using different methods of analysis.
- In the fifth phase, conclusions and recommendations are drawn from the outcome of the analysis of the results.

3.2 DATA SOURCES

The study uses both primary and secondary sources of data by the use of questionnaires, interviews. Primary data sources used are;

1. For data collection through questionnaire;
   - Grade one Contractors of all category (i.e. Building, Road, Water Works, Specialized and General contractors) contacted through their Head Offices
   - Class one Consultants of all category (i.e. CA – Consultancy Architects, CAE – Consultancy Architects and Engineers, HBC – Consultancy Highway and Bridge, CE – Consultancy Engineers and SC – Specialized Consultancy) contacted through their Head Offices
   - All the 17 Insurance Companies in Ethiopia contacted through their Head Offices
   - Private Owners of huge building projects and real estates
   - Government Clients including Ethiopian Road Authority (ERA), Ethiopian Sugar Corporation, Ministry of Education (MoE), Ethiopian Electric Power Corporation (EEPCO) and;
2. For data collection through interview with authorities includes,
   - Ministry of Construction
   - Ministry of Water and Energy and,
   - National Bank of Ethiopia

The companies are represented by their top management, middle management and professionals participating in work process.

The secondary sources of data used include relevant books, research journals, research papers, government publications; such as proclamations, regulations and directives, and internet sources used to compliment the primary data.

3.3 DATA COLLECTION METHOD

Data for the study was collected through structured questionnaire and interview in addition to desk study. The questionnaires and interview questions are extracted from recommended insurance practices explained on the literature review part of this paper and it is designed to determine the state of exercising the practices by Construction parties (i.e. Clients, Consultants, and governmental and private owners of construction projects) in the construction industry in Ethiopia; by insurance companies and by concerned government authorities depending on the roles they have in the practice.

3.3.1 Design of Questionnaires and Interview Questions

Four separate questionnaires were designed for each party in the target group; depending on the kind of information required from each of them. Also a set of interview questions categorized by sections were developed for individual authorities. Copies of the questionnaires and interview questions are attached at the end in the Appendices.

The questionnaires were devised in several parts in line with the objectives of this research. The first part tries to gather background information of respondents. The second part contains questions directed towards identifying the practice of conducting formal risk analysis for specific projects and the level of use of different construction risk management techniques. The third part contains questions directed towards identifying the practices in the construction industry in relation to insurance. The fourth part is focused on of the assessment of the efficiency of insurance companies in Ethiopia in providing relevant policies important to the construction sector; in terms of efficient claim handling and responding and also on their premium fixing methods. Finally open ended questions are included for respondents to provide their suggestions on improving Construction Risks Management through insurance practices in the Ethiopian construction industry.

Similarly, the interview questions are devised in parts in line with which authority the question addresses.

3.4 TARGET GROUP AND SAMPLE SIZE DETERMINATION

The target groups for this study are Grade one Contractors; Class one Consultants, All Insurance Companies, private employers and governmental organizations engaged in construction industry on Federal level whose head offices are located in Addis Ababa.

To obtain the population size list is taken from latest data's of 2008 E.C license renewal registration of grade one contractors and class one consultants from Addis Ababa Construction Agency and similarly list of grade one Water works construction companies and consulting firms is obtained from Ministry of water and Energy.

For a total population size containing 43 consultants and 137 contractors the following formula is used to calculate the representative sample size.

Statistical Equation 3.1 and 3.2 were used in order to calculate the sample size for the consultants and contractors.

$$SS = (Z^2*P*(1-P))/C \text{---------- [Eq. 3.1]}$$

Where SS = Sample size

Z = Z value (which is 1.96 for 95% confidence level)

P = Percentage picking a choice, expressed as a decimal (0.50 used for sample size needed).

C = Margin of error (9%)

Correction for Finite Population

$$SS_{new} = SS\ (1 + (SS-1)/\ (POP)) \text{ ---------- [Eq. 3.2]}$$

Where POP is the population of class one consultants and grade one contractors for the separate calculations respectively,

Using the above equations a sample size of 32 consultants and 64 contractors is obtained.

Excel simple random sampling is then used to select samples of contractors and consultants. All the 17 insurance companies in Ethiopia are taken since it is possible to find their responses from their head offices in Addis Ababa. Besides well known government organizations which engaged in the construction industry on federal level are selected reasonably; because of their wide participation in country's construction work. The organizations are: Ethiopian Road Authority (ERA), Ethiopian Sugar Corporation, Ministry of Education (MoE) and Ethiopian Electric Power Corporation (EEPCO). Also a total of 15 Private Owners of huge building projects and real estate are selected using purposeful random sampling to incorporate the practice of private employers in the study. Three authorities are purposefully selected for data collection through interview which includes; Ministry of Construction, Ministry of Water and Energy and National Bank of Ethiopia.

3.5 DATA PROCESSING AND ANALYSIS

The questionnaires were dropped and collected in person. Interviews were held after the questionnaires are collected and surveyed is done to incorporate the suggestions of questionnaire respondents in the interview questions to authorities.

After collection of data, tabulation was done to summarize data. Frequency and percentage of respondents reply for each question are analyzed. Descriptive statistics method was

used to analyze the responses in actual numbers. Counts or frequencies were used to figure out how many times something occurred or how many responses fit into a particular category and the findings were presented in a table. Percentages are easier to interpret and in this analysis, they were implemented to express the findings as a proportion of the whole. The findings were presented in forms of tables and when necessary bar diagrams, pie charts and histograms to help easy understanding.

Finally, conclusion and recommendation is made based on result of the analysis.

4 ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

The results and discussion below is devised in several parts in line with the objectives of this research and also the sections of the questionnaire and Interview questions. These divisions can help to tackle one objective at a time. The first part tries to present the response rate to questionnaire and background information of respondents. Then after findings of the question asked to test the level of awareness of different parties involved in Ethiopian construction projects on importance of insurance to the construction industry and discuss about what this finding mean. The third part of the results and discussion contains the findings of the questions directed towards identifying the practice of conducting formal risk analysis for specific projects and the level of use of different construction risk management techniques and the results are discussed. The fourth part is focused on presenting practices in the construction industry in relation to insurance. Whereas the fifth part tries to present the result of the assessment of the efficiency of insurance companies in Ethiopia in providing relevant policies important to the construction sector; in terms of efficient claim handling and responding and also on their premium fixing methods. Finally discussion of results of the questionnaires is concluded by presenting the suggestions provided by respondents on improving Construction Risks Management through improved Insurance practices in the Ethiopian construction industry.

Following the discussion of the questionnaires results is presented three interview responses of concerned authorities which are Ministry of construction, ministry of energy and water and national bank of Ethiopia. The interview results and discussion section is also devised in several parts in line with the objectives of this research where the divisions are believed to help in answering the research questions of the thesis.

4.2 QUESTIONNAIRE RESPONSE RATE

A total of 177 questionnaires were distributed to the four groups of respondents (i.e. clients, consultants, contractors and insurance companies) and 163 questionnaires were collected back; out of which 9 responses were received from selected private owners of huge projects (clients); 14 from governmental employers; 30 consultants; 70 contractors where 10 are water works construction companies (WWCC grade-1), 25 building contractors (BC-1), 1 road contractor (RC-1), 2 specialized contractors (SC-1) and 32

general contractors (GC-1); and 17 insurance companies with an overall response rate of 92%.

Table 4-1 shows the summary of distributed questionnaire and rate of responses by target group.

Table 4-1 Response rate of distributed questionnaires

No.	Category of Parties	Distributed questionnaire	Responded questionnaire	Response Rate
1	Employers	25	23	90%
2	Consultants	35	30	86%
3	Contractors	75	70	93%
4	Insurance Companies	17	17	100
	Total	**177**	**163**	**92%**

The number of questionnaires distributed for each target group is more than the number of the sample sizes found in chapter three. This because it is predictable that the probability of achieving 100% response rate is unlikely and hence it is believed distributing more than the sample size obtained will help getting a response near accurate to the required sample where in this case the response rate is more than satisfactory for each target group and acceptable to the research purpose.

4.3 YEARS OF ESTABLISHMENT OF FIRMS

Table 4.2 below shows years of establishment of firms in the target group where the result indicates that most of the firms are well experienced in the industry; with 43 percent of them having beyond 15 years from their date of establishment and 38 percent with 6 to 15 years. This implies the fact that their responses will best represent the whole population.

Table 4-2 Years of Establishment of the Firms

No.	Years of Establishment of the Firms	Employers		Consultants		Contractors		Insurance Companies		Overall Resp.
		Freq	%	Freq	%	Freq	%	Freq	%	%
1	< =5 years	8	35%	4	13%	3	4%	4	24%	*19%*
2	6-10 years	3	13%	10	33%	11	16%	4	24%	*22%*
3	11-15 years	2	9%	7	23%	19	27%	1	6%	*16%*
4	>15years	10	43%	9	30%	37	53%	8	47%	*43%*
	Total	**23**	**100%**	**30**	**100%**	**70**	**100%**	**17**	**100%**	***100%***

4.4 RESPONDENTS' POSITION IN THEIR COMPANY

As shown in Table 4-3 below shows 38% of the respondents are Top Management, 34% are Middle Management, 23% Expert and 5% others which means the majority of the

respondents are top and middle managements whose responses can be considered more validated for the research.

Table 4-3 Position of Respondents in their organization

No	Experience of Respondents	Employers		Consultants		Contractors		Insurance Companies		Over all Resp.
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	%
1	Top Management	6	26%	15	50%	32	46%	5	29%	*38%*
2	Middle Management	4	17%	11	37%	24	34%	8	47%	*34%*
3	Expert	11	48%	3	10%	12	17%	3	18%	*23%*
4	Other	2	9%	1	3%	2	3%	1	6%	*5%*
	Total	**23**	**100%**	**30**	**100%**	**70**	**100%**	**17**	**100%**	***100%***

4.5 RESPONDENTS' WORK EXPERIENCE

Again in Table 4-4 below summary of relevant work experience of respondents is presented which indicates another reason to consider the responses collected more valid for the research purpose. The table contains the frequency and percentage of each category. The work experience classification shows that 38 (21%) of the respondents have less than or equal to 5 years of work experience, 44 (25%) of the respondents have 6-10 years of work experience, 54 (31%) the respondents have 11-15 years of work experience, and 41 (23%) the respondents have 16-20 years of work experience.

Table 4-4 summary of respondents work experience

Experience in years	Frequency	Percentage
<= 5	38	21%
6-10	44	25%
11-15	54	31%
>15	41	23%
Total	**177**	**100%**

4.6 AWARNESS TO IMPORTANCE OF INSURANCE FOR THE CONSTRUCTION INDUSTRY

Question- What is your opinion concerning the role of insurance in construction undertakings in the construction sector of Ethiopia?

The results summarized in Table 4-5 below shows that the 83 (70%) of the respondents think insurance is very important to the construction industry, 22 (18%) level it as important, 8 (7%) select for average, and 0 (%) of respondents select none.

Table 4-5 Awareness to Importance of Insurance for Construction Undertakings

Response	Employers		Consultants		Contractors		Overall	
	Freq.	%	Freq.	%	Freq.	%	Frequency	Percentage
Very important	13	57%	25	83%	45	68%	83	70%
Important	5	22%	4	13%	13	20%	22	18%
Average	5	22%	0	0%	3	5%	8	7%
Low	0	0%	1	3%	5	8%	6	5%
None	0	0%	0	0%	0	0%	0	0%
Total	**23**	100%	**30**	100%	**66**	100%	**119**	**100%**

Since, insurance is leveled as very important to important by majority of the respondents it can be said there is a good level of awareness over the importance of insurance for the construction undertakings of the sector, at least generally as opinion. Figure 4.1 below presents the response summary.

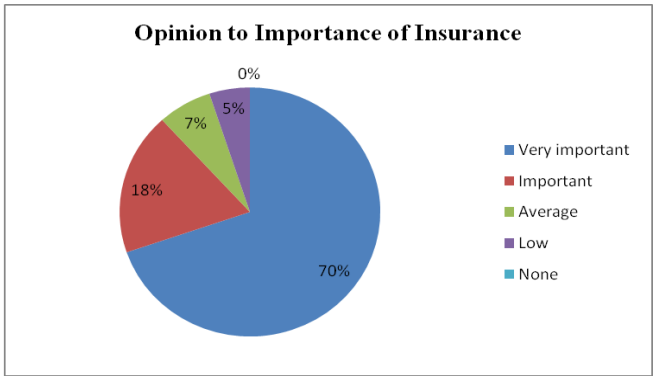

Figure 4.1 Respondents Opinion on Importance of Insurance

4.7 FORMAL RISK ANALYSIS AND MANAGEMENT PRACTICE

The following 10 questions attempts to find out the level of conducting formal risk analysis for individual construction projects, the methods construction companies and insurance companies use to identify, minimize and manage construction risks.

Question 1- Do you have a formal risk analysis practice in your organization for construction projects' management?

Table 4-6 below illustrates that 60% of the surveyed participants replied that they do not have a formal risk analysis practice; where as 40 % participants replied that they do have a formal risk analysis practice. This implies formal risk analysis is not being exercised by majority of the parties in the sector and that a lot needs to be done to increasing the rate of the practice of formal risk analysis for construction projects by the parties involved.

Table 4-6 Formal Risk Analysis Practice

Response	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Yes	11	48%	9	38%	25	36%	*40%*
No	12	52%	15	63%	44	64%	*60%*
Total	**23**	**100%**	**24**	**100%**	**69**	**100%**	***100%***

Question 2- Who perform in your organization the risk analysis?

Table 4-7 shows that among the participants who replied that they conduct formal risk analysis in table 4-6 above 51% of them replied that Design/Supervision Consultant conducts the risk analysis for their organization, 30% participants replied Departmental personnel, 10% participants replied Risk manager within their organization, 3% participants replied Insurance broker(s), 1% participants replied Independent risk consultant and 7% of participants replied others.

Table 4-7 Risk Analysis Performers

Category	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Risk manager within your organization	2	13%	2	9%	5	9%	*10%*
Departmental personnel	5	33%	3	13%	26	48%	*30%*
Design/Supervision Consultant	8	53%	17	74%	18	33%	*51%*
Insurance broker(s)	0	0%	1	4%	2	4%	*3%*
Independent risk consultant	0	0%	0	0%	1	2%	*1%*
Others	0	0%	0	0%	2	4%	*7%*
Total	**15**	**100%**	**23**	**100%**	**54**	**100%**	***100%***

Figure 4.2 below presents the response summary.

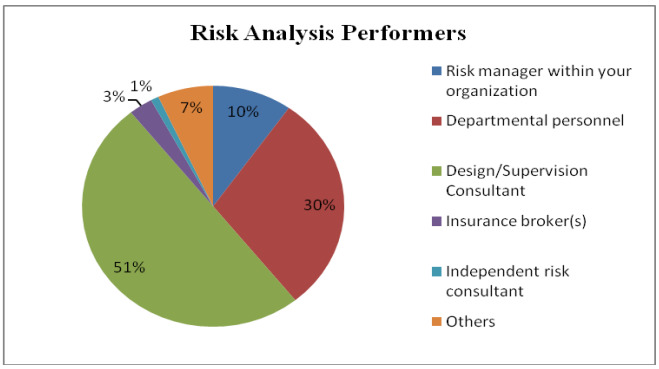

Figure 4.2 Respondents Opinion on Importance of Insurance

Table 4-8 below presents the listed risk analysis performers by respondents who replied on the others category of the response in table 4-7 above; which are the HSE department along with the contract administration department; and project managers.

Table 4-8 Risk Analysis Performers

Category	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
The HSE department along with the contract administration department	0	0%	0	0%	1	2%	*2%*
Project Managers	0	0%	0	0%	2	4%	*4%*
Total No. of Respondents					**54**		

This result imply Design/Supervision Consultant and Departmental personnel conduct the risk analysis for majority of the organizations, which indicates the absence of independent risk analysis departments or a practice of using independent risk consultant in the construction sector. Insurers can provide their expertise to assist the contractors' risk management in recognizing potential risks and reducing the probability of such risks (Williams et al., 1998). It can also be seen from the result that the use of insurance broker for performing risk analysis is very poor which needs to be improved.

Question 3- If you conduct a formal risk assessment, what does the process consist of?

Table 4-9 below illustrates that 27% of the surveyed participants replied the process of their formal risk assessment is through identifying major risk factors and quantifying their impact subjectively, 24% just adding a percentage to budget/cost to cope with uncertainties, 10% Use of various mathematical tools: such as sensitivity analysis, net present value etc., and 6% Identify risk factors and quantify their impact using probability of occurrence, range of risk costs and simulation.

Table 4-9 Process of Formal Risk Analysis

Category	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Just adding a percentage to budget/cost to cope with uncertainties	6	29%	0	0%	25	43%	*24%*
Identify major risk factors and quantify their impact subjectively	11	52%	0	0%	17	29%	*27%*
Use of various mathematical tools: such as sensitivity analysis, net present value etc.	4	19%	0	0%	6	10%	*10%*
Identify risk factors and quantify their impact using probability of occurrence, range of risk costs and simulation	0	0%	0	0%	10	17%	*6%*
Others	2	0%	0	0%	1	0%	*0%*
Total	**21**	**100%**	**0**	**0%**	**58**	**100%**	***67%***

The result clearly shows less use of advanced risk analysis methods by parties in the construction industry which implies a need of improvement on the methods of risk analysis by use of various mathematical tools: such as sensitivity analysis, net present value etc., and identifying risk factors and quantifying their impact using probability of occurrence, range of risk costs and simulation.

Figure 4.3 below present the summarized result of responses.

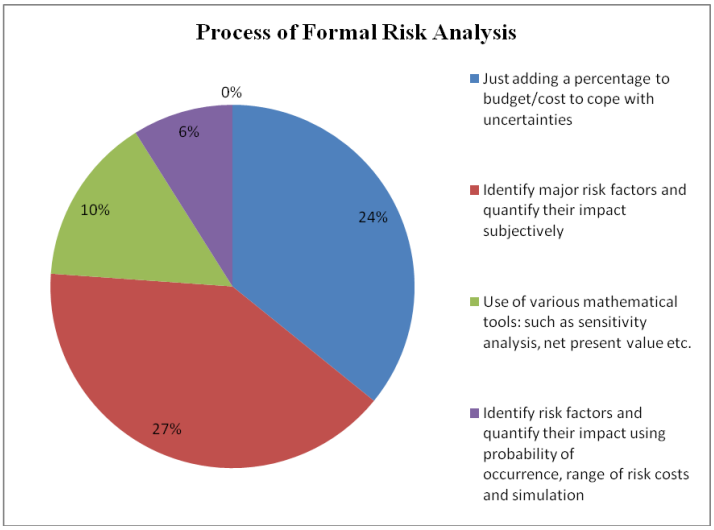

Figure 4.3 Process of Risk Analysis

Other formal risk analysis process listed by respondents is presented in table 4-10 below.

Table 4-10 Other Listed Processes by Respondents

Category	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Contractors are expected to include costs of insurance in their bids	1	1%	0	0%	0	0%	1%
Every project has 10 % contingency added for risk	1	1%	0	0%	0	0%	1%
Depending on the type of project under review different types of assessment are conducted usually after identifying all the risks, all hazards and exposed subjects we prepare an analysis using the "Risk Evaluation Method"	0	0%	0	0%	1	1%	1%

Question 4- List below what measures you took as your risk response strategy to manage risks in your construction projects?

Table 4-11 below is list of risk response strategies being implemented by respondents in their risk management process of construction projects.

Table 4-11 Risk Response strategy of parties

Category	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Risk avoidance			2	7%	4	6%	5%
Risk transfer to insurance			4	13%	9	13%	11%
Risk allocation among parties (those not covered with insurance)			1	3%	1	1%	2%
Risk minimization by hiring experts that works on minimizing risk, Providing materials used to minimize damage and accident, Allocating the right personnel to minimize risk and using quality control method, Providing materials used to minimize damage and accident. Risk mitigation through Checking design before commencing work, Health and safety training, Introducing safety rules and safety equipment in risk zone, Informing on possible risk to be occurred on the specific project and to be alert on that risk.					13	19%	11%
After preparing the "risk evaluation form" containing all prevention and protection measures to be implemented and assigning responsible personnel to the project we establish "Emergency response flow chart" with "Emergency contact person" as risk response strategy.							
Time scheduling, cost scheduling, cost control and price escalation clause							

Out of 70 contractors only 13 of them list ways of mitigating risk through different strategies and only 9 of them mentioned that they use risk transfer through insurance while the rest 48 contractor give no response for this question indicating overall less practice of preparing risk response strategies for projects. Whereas among those who plan their risk response strategies a few use risk transfer through purchasing insurance policy covers.

Question 5- Do you analyze the risk associated with individual construction projects in your provision of construction related insurance services to Employers (construction owners), Contractors and Consultants?

Table 4-12 Practice of Risk Analysis of Insurance Companies

Insurance Companies Response	Frequency	Percentage	Overall (%)
Yes	17	100%	*100%*
No	0	0%	*0%*
Total	**17**	**100%**	**100%**

Table 4-12 above illustrates that 100% (yes) responses indicating all insurance companies conduct risk analysis of individual construction projects for provision of insurance cover.

Question 6- What are the methods you use for risk analysis?

Table 4-13 below present the summary of insurance companies response on what methods the use to analyze their risk from construction industry clients.

Table 4-13 Summary of Responses on Risk Analysis Methods of Insurance Companies

No.	Insurance Companies Response	Freq.	%
1	Physical Inspection At Site	4	24%
2	Area Knowledge & Area Specific Risk (Topography, Metrological Condition, Level Of Ground, Detail Of Subsoil, Etc)	6	35%
3	Experience Of Contractors	10	59%
4	Company History (Profile)	13	76%
5	Nature Of Project And Its Familiarity	10	59%
6	Type And Professional Mix Of The Employers	6	35%
7	Sum Insured	12	71%
8	The Type Of License Of The Contractor And Validity Of License	16	94%
9	Any Loss To The Company The Past Five Years	15	88%
10	Pre- Risk Assessment	5	29%
11	Grade Of Contractor	14	82%
12	Contract Agreement For The Construction	15	88%
13	Collateral Held (If It Is Bond)	14	82%
14	The Type Of Occupation The Building Is Going To Be Used.	2	12%
15	The Type Of Safety Measure Installed In Relation To The Project Risk.	3	18%
16	Clearly State In Policies What Risks Or Perils Are Not Covered At All, Absolute Exclusion And Perils Covered By Paying Additional Premium.	1	6%
17	Fixed Asset Acquired By The Contractor	8	47%
18	Financial Statements Of The Firm	6	35%
19	Existence Of Consultant And Project Follow Up	3	18%
20	Using Expert's Comment	16	94%
21	By The Company Surveyor And The Contractor Also Make Survey By External Surveyor	14	82%
	Total No. Of Respondents	**17**	

If insurance policy is not issued accurately according to the risks, it might lead to the lack of indemnity cover by insurers when claims arise. Construction insurance policies must be specially designed to respond to the particular circumstances (Bunni, 2003). It means an insurance policy needs to be specially designed according to the nature of project, the types of procurement and construction contract.

From the list of methods given by respondents in Table 4-13 above it can be observed that the methods of risk analysis which has got a high percentage of response rate (in the range of 71% to 94%) for being used by the insurance companies are more of general nature rather than being specific to the project nature where as responses of low percentage (in the range of 6% to 59%) are specific to individual construction project. Which implies less use of detail aspects of a specific project that needs to be considered in their risk analysis which is a scenario in need of improvement since the effect goes to premium fixing and risk management process by both the insurance companies in collaboration with the construction company.

Question 6 and 7 below are counterchecking to one another where the parties in the construction industry and the insurance companies are inquired about the existence of interaction between them for devising the accurate risk response strategy and cooperative risk minimization.

Question 7- Do you normally interact with insurance companies in risk identification, allocation and required insurance policies before or during design/supervision of projects (for Employers and Consultants) before or during construction (Contractors) to negotiate on drafts of required insurance policies?

As it is shown n Table 4-14 below, 61% of respondents replied they have an interaction with insurance companies on risk management and to negotiate on policies while 39% admits that they do not have interaction with insurance companies. To avoid relying on a response of one side, the response of insurance companies for a similar question is addressed on question No. 8 below.

Table 4-14 Summary of Responses on interaction of construction stakeholders with Insurance Companies on risk management and policy negotiation

Response	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Yes	15	65%	13	52%	42	66%	*61%*
No	8	35%	12	48%	22	34%	*39%*
Total	**23**	**100%**	**25**	**100%**	**64**	**100%**	**100%**

Question 8- Do you normally interact with construction companies before and during construction in their risk identification and allocation process and while drafting insurance policies for their projects risks?

Table 4-15 Summary of Responses of Insurance Companies on interaction with Construction stakeholders for risk management and policy negotiation

Insurance Companies Response	Frequency	Percentage
Yes	11	65%
Yes But Not Always	1	6%
No	5	29%
Total	**17**	**100%**

As it is shown on Table 4-15 above, 11 (65%) of the insurance companies replied their interaction with construction companies on risk management and to negotiate on policies; 5 (29%) of them admit that they do not have interaction; 1 insurance company mention they interact with construction companies on risk management and to negotiate on policies but not always.

The results indicate that there is some sort of interaction between insurance companies and parties of from construction projects on risk management and to negotiate on policies; even though further assessment is required to find out the quality of their interactions.

Questions 9 and 10 below are counterchecking to one another where Contractors and the insurance companies are inquired about the existence of a site visit by insurance companies to control or minimize the occurrence of risks in the construction projects.

Question 9- Does your insurance company visit the project site before issuing the insurance cover and during construction to control or minimize the occurrence of risks in the construction projects?

Table 4-16 below illustrates 10 (59%) of the insurance companies response is that they visit the project site before issuing the insurance cover and during construction to control or minimize the occurrence of risks in the construction projects, while 5 (29%) of them admits that they do not visit construction project sites; 2 (12%) insurance companies respond that they visit construction project sites but not always.

Table 4-16 Summary of Responses on Site Visit by Insurance Companies

Insurance companies response	Freq.	%
Yes	10	59%
Yes But Not Always	2	12%
No	5	29%
Total	**17**	**100%**

Question 10- Do insurance companies visit the project site before issuing the insurance coverage and during construction?

Table 4-17 Summary of Responses on Site Visit by Insurance Companies

Contractors' Responses	Frequency	Percentage
Yes	20	34%
Yes But Not Always	2	3%
No	36	62%
Total	**58**	**100%**

Table 4-17 above illustrates 20 (34%) of the contractors replied insurance companies visit the project site; 36 (62%) of the contractors response shows that insurance companies do not visit construction project sites and 2 (3%) of the contractors respond that insurance companies visit construction project sites but not always.

It can be observed from the results of question 9 and 10 even though most of the insurance companies respond that they visit construction project sites before issuing the insurance cover and during construction to control or minimize the occurrence of risks in construction projects on the other hand the response of majority of the contractors shows that they do not. Therefore, from the balance of the responses of both sides it can be understood there is a need to increase the practice of the insurance companies visit to construction project sites before issuing the insurance cover and during construction to control or minimize the occurrence of risks in the construction projects.

4.8 CONSTRUCTION INSURANCE PRACTICE

Question 1- Do you purchase insurance policies as part of your construction risks management in your projects and also to protect your entire business?

Table 4-18 Summary of Responses on Parties Insurance Purchase

Response	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Yes	16	70%	21	75%	62	89%	78%
No	7	30%	7	25%	8	11%	22%
Total	**23**	**100%**	**28**	**100%**	**70**	**100%**	**100%**

Table 4-19 Reasons Listed for Not Purchasing Insurance

Response	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
No mandatory laws to have any insurance policies	2	29%	0	0%	0	0%	29%
No need of insurance	1	14%	0	0%	0	0%	14%

Negligence and not giving insurance attention	0	0%	0	0%	1	13%	13%
Total no. of respondents	7	43%	7	0%	8	13%	56%

As presented in Table 4-18 and Table 4-19 above; despite the types of insurance policies being purchased, most parties in the construction sector do purchase insurance policies as part of their construction risks management. Among few of the parties who do not purchase insurance the listed reasons are "no need of insurance" which shows lack of awareness to its importance, "negligence and not giving insurance attention" which shows low attitude for using insurance and "No mandatory laws to have any insurance policies" which indicates the lack of proper regulation by government.

Question 2- What are the policy types that your firm purchases for its different projects and also at head office level?

Table 4-20 Policy types being purchased by each category of construction parties

Policy Types	Employers	Consultants	Contractors	Overall	
				Freq.	Percent.
Contractors' all risks (CAR)			29	29	7%
Performance Bond			63	63	14%
Contractors Professional Liability			11	11	2%
Employer's Liability Insurance	11	6	11	28	6%
Contractors third party Liability Insurance			29	29	7%
Worker's Compensation Insurance		8	28	36	8%
Vehicle Insurance	18	13	49	80	18%
Advance payment bond			63	63	14%
Erection all risks (EAR)			5	5	1%
Major Medical Insurance	6		23	29	7%
Bid bond			44	44	10%
Professional Indemnity		14		14	3%
Wrap up liability insurance	2			2	0%
Others	6	0	6	12	3%
Total					**100%**

As presented in Table 4-20 above the insurance policy types being purchased by construction companies can be put in the following descending order from most purchase to the least purchased which are Vehicle insurance, (performance and advance payment bonds), Worker's Compensation Insurance, (Contractors' All Risks (CAR), Contractors third party Liability Insurance, Major Medical Insurance), Employer's Liability Insurance,

(Professional Indemnity and Others (listed in Table 4-21 below)) and Contractors Professional Liability. Wrap up liability is not being purchased by any of the construction companies. Figure 4.4 below shows the result summary.

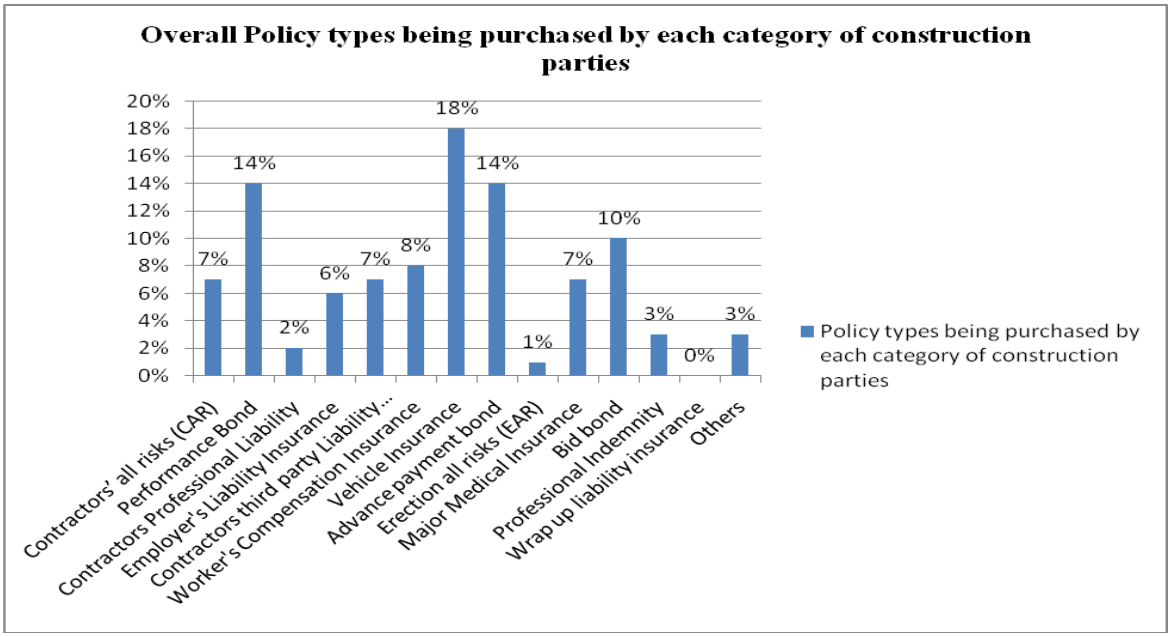

Figure 4.4 Policy types being purchased by each category of construction parties

Table 4-21 List of other policies purchased by respondents

Response	Employers		Consultants		Contractors		Overall
	Freq.	%	Freq.	%	Freq.	%	%
Marine cargo insurance	3	23%					23%
Equipment insurance	3	23%					23%
Fire insurance					2	2.8%	2.8%
Burglary & House breaking insurance					1	1.4%	1.4%
Infidelity insurance					1	1.4%	1.4%
Motor Comprehensive					1	1.4%	1.4%
(Contractors Plant and Machinery) CPM					1	1.4%	1.4%
Third party compulsory motor Insurance					1	1.4%	1.4%

Question 3- Do you have professional indemnity insurance for the services you deliver?

As it is possible to understand from Table 4-22 below more than half (63%) of the consultants purchase PI policy which shows an improvement from the state where previous works indicated; the fact that 32% of the consultants do not have PI policy explains there is still a gap in this area that needs more work by relevant bodies for improvement in order for them to have the policy.

Table 4-22 List of policies by respondents in the others category

Consultants' Response	Frequency	Percentage
Yes	17	*68%*
No	8	*32%*
Total	**25**	**100%**

Table 4-23 below presents summary of the responses of consultants for not having PI policy.

Table 4-23 List of reasons by consultants for not having PI policy

Consultants' Response	Frequency
It is not widely known in the construction industry	2
No insurance company in Ethiopia provides such policy	1
Regulatory bodies could not oblige us	1

Question 4- In the developed world Professional Indemnity (PI) insurance is a must to purchase by consultants. Do you think it is timely to make this insurance policy mandatory in Ethiopia?

Table 4-24 Consultants belief if it is timely to make PI policy mandatory in Ethiopia

Consultants' Response	No. of Respondents	Frequency	Percentage
Yes		25	83%
No		0	0%
Total	**30**	**25**	**83%**

As it is possible to understand from Table 4-24 above all Consultants belief it is timely to make Professional Indemnity (PI) insurance policy mandatory in Ethiopia for the following reasons listed by the in their responses. The following are reasons listed by yes respondents;

- Because it increases responsibility, accountability and quality of services; and also professionalism
- To improve the service quality
- Because currently enormous no. of construction projects are facing many design and supervision problems as a result of this time and cost overrun are major challenges in the industry. More failure of different structures have observed in the past few years
- Helps the consultant from bearing the full cost of defending against a negligence claim which is common in our country

Question 5- Who assist with the insurance purchasing decision?

Table 4-25 below presents summary of the responses of construction parties on who assist with their insurance purchasing decision. The result shows the assistance comes mostly from internal staff followed by Design/Supervision Consultant and Insurance broker(s). Whereas the use of outside risk management Consultant is very limited; showing this is a practice that needs to be cultivated.

Table 4-25 who assist with the insurance purchasing decision

Response	Employers		Contractors		Overall	
	Freq.	%	Freq.	%	Freq.	Percentage
Internal staff	8		42		50	44%
Design/Supervision Consultant	10		12		22	19%
Outside risk management Consultant	2		6		8	7%
Insurance broker(s)			22		22	19%
Committee			7		7	6%
Others	1		4		5	4%
Total					**114**	**100%**

Figure 4.5 below demonstrates the result summary

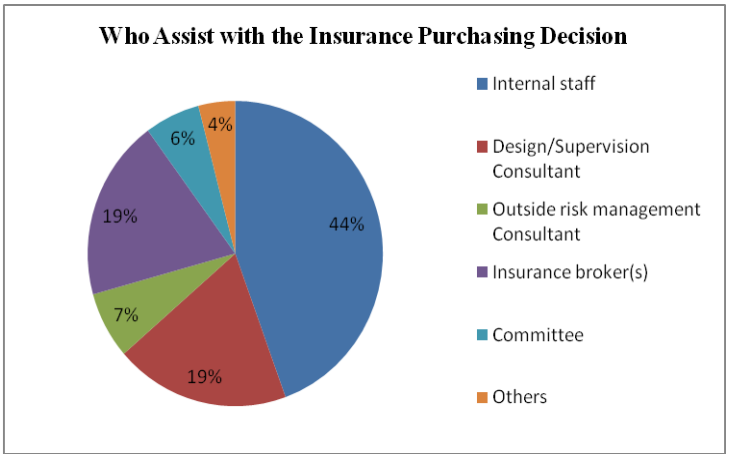

Figure 4.5 Insurance purchasing decision assistors

Table 4-26 below shows the mentioned assistors in insurance purchasing decision on others row.

Table 4-26 who assist with the insurance purchasing decision

Response	Employers		Contractors	
	Freq.	%	Freq.	%
Organization Lawyer	1		1	
General manager			1	
Top management			1	

Question 6-What are the reasons that you provide the insurance covers?

As shown summarized in table 4-27 below the most first put reasons by respondents for providing the insurance covers are to meet the demand of the client and to meet tender and contract requirement. To transfer risk comes as a third reason followed by to reduce the impact of any disaster during construction and recommendation of insurance advisor comes last.

The result implies that the parties do not provide insurance from the motive of their own initiation to transfer risks as their first reason rather it is from imposing conditions like demand of the client and tender and contract requirement that they provide it; which is an indication of their low attitude to insurance as a vital risk transfer tool.

Table 4-27 Reasons for Insurance Purchasing

Reasons for Insurance Purchasing	Consultants		Contractors		Overall	
	Freq.	%	Freq.	%	Freq.	%
To meet the demand of the client	18	60%	45	64%	63	25%
To transfer risk	17	57%	45	64%	62	24%
To reduce the impact of any disaster during construction	17	57%	34	49%	51	20%
To meet tender and contract requirement	17	57%	46	66%	63	25%
Recommendation of insurance advisor	5	17%	7	10%	12	5%
Others	0	0%	3	4%	3	1%
Total						**100%**

Table 4-28 below present other listed reasons by respondents as a reason to purchase insurance.

Table 4-28 other listed reasons for insurance purchasing

Reasons	Consultants		Contractors	
	Freq.	%	Freq.	%
Risk Finance	0	0%	1	
Risk Reduction	0	0%	1	
Risk Losses	0	0%	1	

Question 7- What are the factors that you consider are hindrances for your firm to purchase insurance policies important to your projects and business?

Table 4-29 below summarizes the reasons respondents give as hindrances for purchasing insurance.

Table 4-29 Hindrances for Insurance Purchasing

Response	Employers Freq.	Consultants Freq.	Contractors Freq.	Overall	
				Freq.	%
Rising cost of premiums	6	8	42	56	19%
Impact of reinsurer cost on the premium	5	6	9	20	7%
Lack of proper coverage or exclusion	8	9	28	45	16%
High collateral demands by insurance companies	1	12	31	44	15%
Absence of compulsory requirements	10	12	14	36	12%
Lack of knowledge in insurance	10	14	20	44	15%
Fewer companies willing to insure	6	5	10	21	7%
Complex policy language	10		12	22	8%
Others		1	1	2	1%
Total					**100%**

Figure 4.6 below presents the summary of the result in Table 4-29 above.

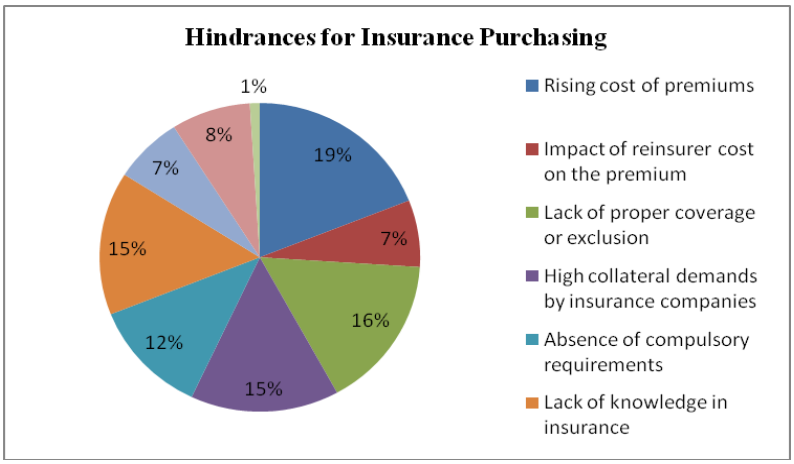

Figure 4.6 Hindrances for Insurance Purchasing

As illustrated in table 4-29 above rising cost of premiums is the number one reason mentioned by respondents as hindrance to purchase insurance policies; followed by lack of proper coverage or exclusion. Absence of compulsory requirements is in third place. Lack of knowledge in insurance and high collateral demand by insurance companies got the same responses giving them the fourth place. Complex policy language is the fifth reason while the Sixth reasons which got the same response rates are 'fewer companies willing to insure' and 'impact of reinsurer cost on the premium'. From what is discussed below on the result of premium fixing section at pages 94 and 95 this result seems contradictory; since respondents mention rising cost of premiums as the number one reason being hindrance to purchase insurance policies. But the result of the premium fixing part of this chapter shows majority of the construction parties believes that insurance premium is not expensive. Therefore, it can be said from this result that there is an attitude of considering

paying premium is unnecessary cost due to less emphasis given to insurance while the fact is the premium that insurance companies currently demand is not expensive.

Table 4-30 other hindrances for insurance purchasing

Other Listed Reasons	No. Of Respondents
Less Consideration And Demand By Clients And Contractors	2
Lack Of Practice Generally In The Construction Industry	1

Question 8- What types of insurance policies do you recommend for contractors to have?

Table 4-31 below clearly shows most consultants' recommendation is for contractors is to have Contractors All Risk (CAR) insurance policy.

Table 4-31 Recommended insurance for contractors by consultants

Consultants' Response	No. of Respondents	Frequency	Percentage
Contractors, All Risk (CAR)		3	10%
Advance Repayment Insurance		1	3.33%
Retention Guarantee		1	3.33 %
Total	**30**	**5**	**17.67 %**

Question 9- Please specify if there is/are there any insurance policy(s) that you believe should be compulsory by law for all contractors?

Table 4-32 Insurance policies that contractors believe should be compulsory for all of them

S/N	Contractors' response	Frequency	Percentage
1	Contractors Professional Liability	1	1%
2	Employer's Liability Insurance	4	6%
3	Major Medical Insurance	5	7%
4	Insurance for employees in office and workers on project site	5	7%
5	CAR	2	3%
6	Worker's compensation	6	9%
7	Public liability	1	1%
8	Performance bond	1	1%
9	Advance payment bond	1	1%
10	Contractors third party	1	1%
11	Third party liability insurance	1	1%
12	Professional liability insurance	1	1%

13	Employer liability workers compensation insurance	1	1%
14	Insurance against loss or damage	1	1%
15	Third party vehicle liability insurance	1	1%
	Total no. of respondents	**70**	**46%**

It can be observed from the response in table 4-32 above majority of the contractors do not respond to this question which may be deduced as indicating their implicit interest not to be obliged. Among the responded contractors majority of them believe Workers compensation insurance should be mandatory for all of them. This is an important policy which the government should consider for making mandatory since frequency of accidents happening on construction sites currently is highly increasing and contractors would not hesitate to have the policy if an equal cost ground for competing in bid is created for them.

Practice of Insurance Consideration for Selecting Consultant and Contractors

Question 1- While preparing Terms of Reference (TOR) or selecting contractors for a project do you consider insurance policy as one of the criterion?

Table 4-33 Use of insurance as criteria for selecting contractors

Consultants' Response	Frequency	Percentage
Yes	18	64%
No	10	36%
Total	**28**	**100%**

Question 2- Do you consider construction insurance provisions in your contract conditions in the selection of Contractors/Subcontractors and Consultants?

Table 4-34 Provision of Insurance in Contract Conditions

Employers' Response	Frequency	Percentage
Yes	16	70%
No	7	30%
Total	**23**	**100%**

Responses in table 4-33 and table 4-34 above shows majority of consultants and employers consider insurance for selecting contractors and provide provisions in contract documents. Many contractors do not use insurance as criteria for selecting Sub-Contractors as shown in table 4-35 below.

Question 3- Do you require insurance policy as a criterion for selection of sub-contractors for a project?

Table 4-35 Use of insurance as criteria for selecting Sub-Contractors

Response	Contractors	
	Frequency	Percentage
Yes	20	32%
No	42	68%
Total	**62**	**100%**

Question 4-Do you have sufficient allowance to consider in your construction bid cost for insurance policy coverage?

Table 4-36 Considering Sufficient Allowance in Construction Bid Cost

Contractors' Response	Frequency	Percentage
Yes	29	50%
No	29	50%
Total	**58**	**100%**

Table 4-37 Usual Range of Percentages Listed For Allowance for Yes Respondents

Ranges listed	Frequency	Percentage
0.5-1 %	1	1%
1.2 %	1	1%
2-3 %	2	3%
10 %	1	1%
Always varies	1	1%
As per contract requirement	1	1%
It is already included in the overhead cost	3	4%
Total No. of Respondents	**10**	**14%**

As illustrated in table 4-36 and table 4-37 above; only half of the contractors consider sufficient allowance for insurance in their construction bid cost. Contractors routinely and appropriately need to include charges for their insurance costs in their cost of work. However, fairly allocating these costs to specific jobs requires contractors to evaluate their project risks and factor them into the cost of risk.

Question 5- Do construction contractors ask you to review insurance requirements in their contract specifications?

Table 4-38 Contractors request for insurance companies to review insurance requirements in their contract specifications

Response	Frequency	Percentage
Yes	10	63%
No	6	38%
Total	**16**	**100%**

As shown in Table 4-38 above majority of the insurance companies responded that contractors request them to review insurance requirements in their contract specifications. The result indicates there is a reasonable sort of communication between insurance companies and contractors which needs to be improved in terms of number of contractors who owns the practice.

Question 6- Are there some types of insurance covers that you think are not adequately included in construction contracts?

Table 4-39 below illustrates some types of insurance covers that insurance companies think are not adequately included in construction contracts which show less response rate to the question indicating there are fewer policies they think are not included in construction contracts.

Table 4-39 some types of insurance covers that insurance companies think are not adequately included in construction contracts

Insurance Companies' Response	Total no. of Respondents	Frequency	Percentage
Blanket Type Policies		1	6%
Public Liability		2	12%
Total	**17**	**3**	**18%**

Question 7- Do you ask contractors timely for renewal of their insurance policies especially performance and advance guarantee bonds?

As it can be seen from table 4-40 below all consultants responded that they ask contractors timely for renewal of their insurance policies especially performance and advance guarantee bonds which indicate a good practice on this regard.

Table 4-40 whether consultants ask contractors timely for renewal of their insurance policies

Consultants' Response	Frequency	Percentage
Yes	29	100%
No	0	0%
Total	**29**	**100%**

4.9 EFFICIENCY OF INSURANCE COMPANIES IN THE SERVICE THEY PROVIDE TO THE CONSTRUCTION INDUSTRY

This portion deals with the analysis of results of questions forwarded to respondents to find out the current efficiency of insurance companies in terms of responding to the demands of their clients from the construction sector.

4.9.1 Efficiency in Terms of Providing Relevant Policies to the Construction Industry

Question 1- What types of insurance policies do you offer to the construction industry?

The summarized result presented in table 4-41 below shows most of the relevant insurance policies in relation to construction industry are being provided by insurance companies except Civil Engineering Completed Risks (CERC)/ Decennial (10yr) Insurance; Machinery loss of profit (MLOP); Deterioration of Stock (DoS) Insurance and Condominium Insurance.

Table 4-41 Types of Insurance Policies Insurance Companies Offer to the Construction Industry

S/No.	Insurance companies' response			Frequency	Percentage
1	Cargo Insurance (Land, Sea and Air transit covers)				
	i)	·Marine cargo		13	76%
	ii)	·Goods In Transit (GIT)		10	59%
2	Property Insurance				
	i)	·Fire and allied perils Insurance (fire and lightning)		14	82%
	ii)	·Burglary and house breaking		13	76%
	iii)	·All risks' Insurance		12	71%
	iv)	·Plate Glass Insurance		13	76%
	v)	·Motor Insurance			
	a)	*Commercial Vehicles*		17	100%
		i)	*Third party Compulsory*		
		ii)	*Comprehensive*		
	b)	*Private Vehicles*		17	100%
		i)	*Third party Compulsory*		
		ii)	*Comprehensive*		
	c)	*Special Vehicles*		1	6%
3	Engineering Insurance				
	i)	Contractor's All Risks' Insurance (CAR)		17	100%
	ii)	Erection All Risks' Insurance (EAR)		16	94%
	iii)	Contractors Plant and Machinery (CPM)		17	100%
	iv)	Machinery Breakdown Insurance		13	76%
	v)	Boiler Explosion and pressure vessel Insurance		13	76%

	vi)	Electronic Equipment Insurance	12	71%
	vii)	Delay in startup (DSU)/Advance loss of profit (ALOP)	11	65%
	viii)	Civil Engineering Completed Risks (CERC)/ Decennial (10yr) Insurance	1	6%
	viiii)	Machinery (M) Insurance	1	6%
	x)	Machinery loss of profit (MLOP)	1	6%
	xi)	Deterioration of Stock (DoS) Insurance	1	6%
	xii)	Condominium Insurance	1	6%
4	Liability Insurance			
	i)	·Public Liability	13	76%
	ii)	·Professional Indemnity	14	82%
	iii)	·Product liability	10	59%
	iv)	·Inland carrier liability	10	59%
	v)	· Workmen's Compensation (Employer's Liability)	15	88%
	vi)	·Combined liability	1	6%
	vii)	·Carrier's legal liability insurance	1	6%
5	Pecuniary			
	i)	·Business Interruption Insurance	1	6%
	ii)	·Fidelity Guaranty	14	82%
	iii)	·Money Insurance	14	82%
6	Bonds			
	i)	· Bid bond	15	88%
	ii)	· Performance bond	16	94%
	iii)	· Supply bond	13	76%
	iv)	· Customs bond	14	82%
	v)	· Maintenance Bond	12	71%
	vi)	· Advance payment	16	94%
	vii)	·Retention and Release Bond	10	59%
7	Medical			
	i)	· Individual Medical insurance	1	6%
	ii)	· Group Medical Insurance	2	12%
8	Riders (Supplementary Contracts)			
	i)	· Accidental Death Benefit (ADB)	3	18%
	ii)	· Accidental Death and Dismemberment Benefit (AD&DB)	3	18%
	iii)	· Supplementary Accident Insurance (SAI)	3	18%
	iv)	· Comprehensive Accidental Insurance (CAI)	3	18%
	v)	· Waiver of premium Benefits (WOP)	2	12%
	vi)	· Permanent Disability Benefits	2	12%
9	Term			
	i)	· Individual term Life Assurance	2	12%
	ii)	· Group Level Term Assurance	2	12%

	iii)	· Group Yearly Renewable Term Life Assurance	2	12%
10	Other Covers			0%
	i)	· Personal Accident Insurance (Individual and Group Personal Accident-GPA)	13	76%
	ii)	· Mortgage Protection	1	6%
	iii)	· Whole Life Insurance	1	6%
		Total No. of Respondents	**17**	

Question 2- Is there any policy which you have asked from insurance companies but you failed to purchase due to the reason that they do not have that insurance policy? If yes please list the policies.

Table 4-42 below shows the summary of yes and no responses and table 4-43 shows the listed policies summary.

Table 4-42 Existence of Insurance Policies Insurance Companies Do not Offer While There is A Need by the Construction Industry

Contractor' response	Frequency	Percentage
Yes	6	11%
No	49	89%
Total	**55**	**100%**

Table 4-43 Listed policies by yes respondents

Contractor' response	Frequency	Percentage
Unconditional guarantee	3	50%
Bid Bond	2	33%
Advance Guarantee	1	17%
Total	**6**	**100%**

Results in table 4-42 and 4-43 shows there is less gap by insurance companies in offering insurance policies in need by the construction industry.

Question 3- Among the following list of construction related insurance policies which are found from different sources of literature being marketed in different countries across the world tick (√) on those policies you are familiar with. And also tick (√) on the corresponding columns to indicate the importance of each policy as important (I) on those you believe are important to be provided by insurance companies in Ethiopia; as very important (VI) or as not important (NI) for Ethiopian context.

The response is summarized in table 4-44 below.

Table 4-44 Insurance policies familiarity with policies and indication of Importance

No.	Name of Insurance Policy	Familiar?				Important		Very Important		Not Important	
		Yes		No		(I)		(VI)		(NI)	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	Construction Works Insurance/ Contractors' All Risks (CAR)	17	100%		0%	2	12%	15	88%		0%
2	Professional Indemnity Insurance	17	100%		0%	3	18%	14	82%		0%
3	Business Owners Policy	3	18%	14	82%	4	24%	1	6%		0%
4	Automobile Insurance	17	100%		0%	3	18%	12	71%		0%
5	Worker's Compensation Insurance	17	100%		0%	2	12%	14	82%		0%
6	Wrap-Up Insurance	1	6%	16	94%	1	6%		0%	1	6%
7	Erection all risks (EAR)	16	94%	1	6%	3	18%	14	82%		0%
8	Employer's Liability Insurance	13	76%	4	24%	2	12%	10	59%		0%
9	Contractors Professional Liability	9	53%	7	41%	1	6%	10	59%		0%
10	Product liability insurance	13	76%	3	18%	5	29%	7	41%	2	12%
11	Commercial General Liability Insurance	9	53%	8	47%	7	41%	5	29%		0%
12	Contractors third party Liability Insurance	14	82%	3	18%	3	18%	13	76%		0%
13	Operations-Premises Liability Insurance	6	35%	11	65%	5	29%	5	29%		0%
14	Elevator Liability Insurance	5	29%	12	71%	5	29%	3	18%	2	12%
15	Completed Operations and Products Liability Insurance	5	29%	12	71%	3	18%	5	29%		0%
16	Contractor's/Owner's Protective Liability Insurance	2	12%	15	88%	5	29%	2	12%	1	6%
17	Contractual Liability Insurance	5	29%	12	71%	7	41%	3	18%	1	6%
18	Explosion, Collapse, or Underground Liability Insurance	10	59%	7	41%	5	29%	4	24%		0%
19	Broad-Form Property Damage Liability Insurance	6	35%	11	65%	3	18%	5	29%	1	6%
20	Personal Injury Liability Insurance	16	94%	1	6%	4	24%	11	65%		0%
21	Umbrella Excess Liability Insurance	3	18%	14	82%	1	6%	1	6%	4	24%
22	Builder's Risk Insurance	7	41%	10	59%	4	24%	4	24%	1	6%
23	Equipment Floater Insurance	3	18%	13	76%	6	35%	1	6%	1	6%
24	Key Man Insurance	2	12%	15	88%	4	24%		0%	4	24%

25	Damage caused to a crane and contract works insurance	11	65%	6	35%	4	24%	7	41%	1	6%
26	Contractors' plant insurance	16	94%	1	6%	2	12%	14	82%		0%
27	Machinery inherent defects insurance (MIDI)	3	18%	14	82%	5	29%	1	6%	3	18%
28	Material Damage cover for existing structures	8	47%	9	53%	5	29%	6	35%	1	6%
29	Decennial Insurance	1	6%	15	88%	4	24%		0%	1	6%
30	Payment Bond	14	82%	4	24%		0%	14	82%		0%
31	Bid Bond	17	100%		0%	2	12%	15	88%		0%
32	Advance payment guarantees	17	100%		0%	1	6%	16	94%		0%
33	Performance Bond	17	100%		0%	1	6%	16	94%		0%
34	Retention money bonds	10	59%	7	41%	6	35%	6	35%	1	6%
35	Maintenance bonds	14	82%	3	18%	6	35%	9	53%		0%
36	Company surety ship	1	6%	14	82%	5	29%	1	6%	1	6%
37	Delay in start-up insurance (DSU)	3	18%	13	76%	3	18%	2	12%	3	18%
38	Property fire insurance	16	94%	1	6%	3	18%	12	71%		0%
39	Burglary insurance	17	100%		0%	3	18%	12	71%		0%
40	Collateral Warranty	5	29%	12	71%	5	29%	4	24%		0%
41	Directors and officers insurance	5	29%	11	65%	3	18%	4	24%	3	18%
42	Integrated project insurance		0%	16	94%	3	18%	1	6%	1	6%
43	Flood Insurance	14	82%	3	18%	9	53%	6	35%		0%
44	Latent defects insurance	2	12%	14	82%	4	24%	3	18%	1	6%
45	Legal expenses insurance	3	18%	13	76%	3	18%	3	18%	4	24%
46	Legal indemnity insurance	6	35%	11	65%	1	6%	4	24%	4	24%
47	Office combined (contents) buildings Insurance	12	71%	5	29%	3	18%	11	65%		0%
48	Residual value insurance	3	18%	13	76%	4	24%	3	18%	3	18%
49	Goods in transit and Marine Insurance	17	100%		0%	2	12%	14	82%		0%
50	Major Medical Insurance	13	76%	4	24%	3	18%	11	65%		0%
	Total no. of Respondents	**17**									

Figure 4-7 below summarizes the tabulated data in table 4-44 above showing those policies which got less than 50% of familiarity response by the insurance companies. Among the policies it is belived decennial insurance should have to be a familiar policy by all insurance companies since it will cover construction defects liability of the contractor for 10 years after construction is completed as discussed in the literature review part of this thesis. The response of rating the importance of the policies goes in line with their familiarity as it can be observed from table 4-44 which implies there is a good consensus

by the insurance companies on the importance of the majority of policies related to the construction sector.

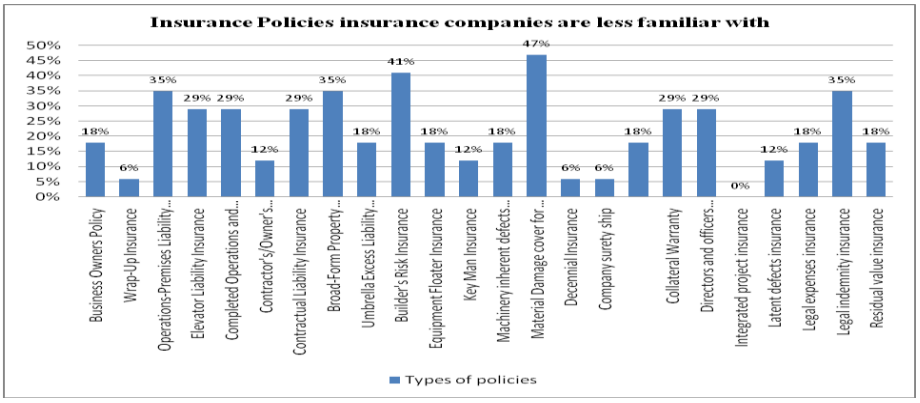

Figure 4.7 Less Familiar Insurance Policies

Question 5- Does your insurance company conduct a research to identify the need for different policies in the construction industry?

Table 4-45 below presents majority of the insurance companies do not conduct a research to identify the needs for different policies in the construction industry; which indicate a core area for improvement.

Table 4-45 Research conducting by insurance policies

Insurance companies' response	Frequency	Percentage
Yes	5	31%
No	11	69%
Total	**16**	**100%**

Question 6- Does your insurance company makes any effort to popularize relevant construction related policies among parties in the construction industry?

Table 4-46 Effort by the insurance companies to popularize insurance policies in the construction industry

Insurance companies' response	Frequency	Percentage
Yes	11	69%
No	5	31%
Total	**16**	**100%**

The table 4-46 above shows that majority of the insurance companies make an effort to popularize construction related policies among parties in the construction industry.

Question 7- For yes respondents for question 5 above, how do you advertise and impress concerned parties about the need for relevant construction insurance policies?

Table 4-47 Ways of Advertising and Impressing Concerned Parties about the Need for Relevant Construction Insurance Policies by Insurance Companies

No.	Insurance companies' response	Frequency	Percentage
1	Personal approach by inviting the contractors and discussing the coverage of our services to reputable grade 1 & 2 contractors	2	14%
2	Participate in workshops, construction exhibition and sponsoring such events	3	21%
3	At personal sale time we advise customers to have such type of insurance and during underwriting branch managers clarify about the need of other appropriate policies	2	14%
4	Media advertisement and Sales promotion	4	29%
5	While collecting data regarding uncovered losses during construction we try to consult contractors	1	7%
6	By organizing big clients we have given training especially on risk reduction and safety	1	7%
7	Calling conference for all concerned bodies	1	7%
	Total	**14**	**100%**

Looking at the ways of advertising insurance policies to the construction industry by insurance companies from table 4-47 above 'media advertisement and sales promotion' comes in first place and 'participating in workshops, construction exhibition and sponsoring events' is the second most used method whereas advising customers at personal time comes third. Training, calling conference and personal approach are the least used methods. But the least used methods are more promising than the most used methods currently especially training and conference to get the desired result of advertising and impressing concerned parties in the construction sector about the need for relevant construction insurance policies.

4.9.2 Efficiency in terms of Claim Response

Question 1- Do you have any damage occurred in your construction projects and get compensated/denied by an insurance company for your insurance claims?

Table 4-48 Submission of Claim Request to Insurance Companies by Construction Parties

Response	Employers		Consultants		Contractors		Overall	
	Freq.	%	Freq.	%	Freq.	%	Frequency	Percentage
Yes	7	33%	6	20%	42	60%	55	45%
No	14	67%	24	80%	28	40%	66	55%
Total	**21**	**100%**	**30**	**100%**	**70**	**100%**	**121**	**100%**

It can be observed from the table above more than half of the construction parties have claimed for damage occurred to them in projects.

For yes respondents of question-1 this question was forwarded; 'please indicate the level of your satisfaction on how your claim was responded by the insurance company'.

Table 4-49 level of satisfaction of construction parties on how their claim was responded by the insurance companies

Response	Employers		Consultants		Contractors		Overall	
	Freq.	%	Freq.	%	Freq.	%	Frequency	Percentage
Highly satisfied	0	0%	1	17%	5	14%	6	12%
Partially Satisfied	0	0%	3	50%	23	62%	26	52%
Satisfied	3	43%	2	33%	5	14%	10	20%
Dissatisfied	4	57%	0	0%	4	11%	8	16%
Total	**7**	**100%**	**6**	**100%**	**37**	**100%**	**50**	**100%**

The result summarized in table 4-49 shows majority of the respondents are partially satisfied indicating a need to increase in efficiency of responding to claims by insurance companies.

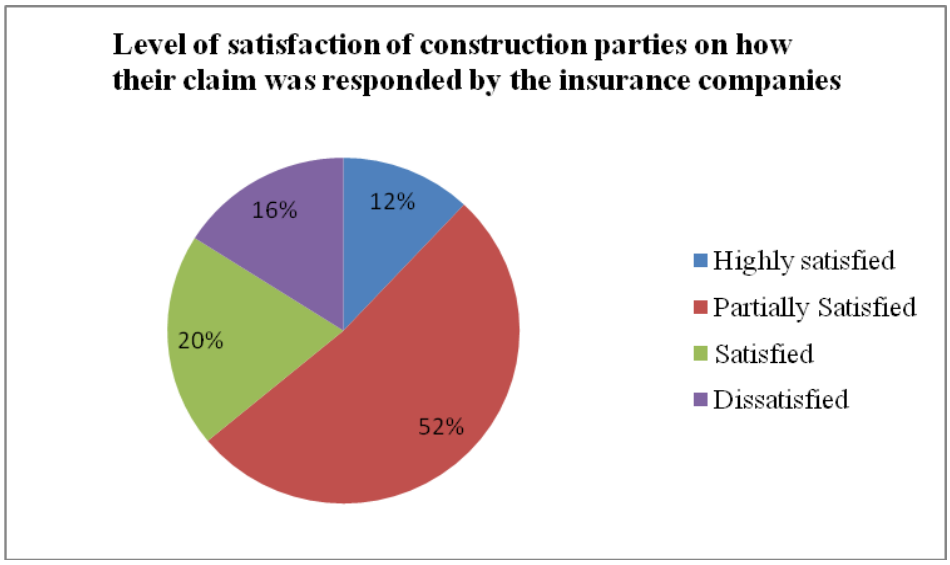

Figure 4.8 level of satisfaction of construction parties on claim response by insurance companies

Question 2- How do you evaluate the efficiency of the insurance companies in responding to your claims? Explain any complain and urge you have concerning insurance claim response by the insurance companies.

Table 4-50 Evaluation of construction parties on how their claim was responded by insurance companies

S/No.	Response	Employers		Consultants		Contractors	
		Freq.	%	Freq.	%	Freq.	%
1	It is average. Detailed knowledge of construction activity, risk and policy are required.					2	
2	Insurance companies are more focused on how to attract new customers and they are poor on keeping their old ones. Especially, if the old customer comes with claims they become totally different. Once the claim is approved they cut many percentages of the approved claim providing various reasons which leads to dissatisfaction.			5		3	
3	Workmen's compensation insurance contract limit is maximum 18 months after accident for claim but Practically medical treatments can extend more than that.					1	
4	Urgent responding is unavailable for claims settlements and any other related supporting documents. Mostly it takes more time on the process. It is time consuming and tedious. Very sluggish and too bureaucratic. The claim settling process is tiresome especially if the insurance was purchased recently.			3		7	
5	Mostly they prefer less bidder during tendering on vehicle insurance					1	

Table 4-50 above clearly demonstrates what aspects of the claim settlement process of insurance companies need improvement in terms of the aspects listed in the table.

Question 3- Please indicate below the percentage of major compensations effected by your company to claims presented by Employers/Clients, Contractors and Consultants for damages in relation to construction insurances in the past five years?

Table 4-51 Percentage of major compensation by insurance companies to construction parties in the past five years

No. of Company	Consultant	Contractors	Employers
1	NR	NR	NR
2	0%	0%	NR
3	NR	NR	NR
4	NR	NR	NR
5	NR	NR	NR

6	NR	100%	NR
7	NR	NR	NR
8	NR	NR	NR
9	0%	27.78%	1.39%
10	0%	68.4%	54.6%
11	10%	10%	80%
12	NR	NR	NR
13	0%	0%	10%
14	0%	0%	100%
15	NR	NR	NR
16	NR	NR	NR
17	0%	0%	0%

Where; NR in the table stands for No Response

The majority of insurance companies do not respond to question 3 as shown above on table 4-51 due to the fact that the companies do not have the database for keeping record of their accomplishments. Hence it is difficult to take the responses for the few respondents and generalize for the whole population. Though it can easily be observed among the three respondents who give response only one of them responds more than 50% of the claims.

Question 4- Do you have any dispute with Employers/Clients, Contractors and Consultants because of disagreement on the amount of compensations, based on liability or other?

Table 4-52 Encountered dispute by insurance companies with construction parties on claim settlement

Insurance Companies' Response	Frequency	Percentage
Yes	7	64%
No	4	36%
Total	**11**	**100%**

Table 4-52 above clearly demonstrates dispute is encountered by most of the insurance companies with construction sector customers because of disagreement in claim settlement issues.

Question 5- For yes respondents to question-4above; please indicate the percentage of major disputes in the past five years?

Again, the majority of insurance companies do not respond to this question as shown on table 4-53 below due to the same reason as question No.3. Hence it makes it difficult to take the responses for the few respondents and generalize for the whole population. Also it

can easily be observed from some of respondents who give responses the percentage of dispute is high which puts the claim responding process efficiency of insurance companies in question.

Table 4-53 Percentage of major dispute insurance companies encountered with construction parties in the past five years

Company	Consultant	Contractors	Employers
1	0 %	0 %	0 %
2	NR	NR	NR
3	NR	NR	NR
4	NR	NR	NR
5	NR	NR	NR
6	NR	NR	NR
7	NR	NR	NR
8	NR	NR	NR
9	0 %	9.72 %	0 %
10	0 %	16.20 %	21 %
11	10 %	10 %	80 %
12	NR	NR	NR
13	0 %	0%	5 %
14	0 %	0%	100 %
15	NR	NR	NR
16	NR	NR	NR
17	0 %	0 %	0 %

Where; NR in the table stands for No Response

Question 6- What are the reasons that you consider are constraints for you to make efficient claim responses to construction clients?

Table 4-54 Reasons considered as constraints for making efficient claim responses to construction clients listed by insurance companies

No.	Insurance companies' response	Frequency	Percentage
1	Third party liability issue and the insurance awareness of both the client and the public.	1	4%
2	Due to less number of professional assessors, reporting the extent of damage delays most of the time.	2	8%
3	Awareness gap regarding construction insurance policies provisions and exceptions from both sides.	3	13%
4	Difficulty of removing machineries from place of accident.	2	8%
5	Disagreement between insured contractor and employer since unless the contractor admits liability insurers can not settle a claim.	3	13%
6	Delay in fulfilling the necessary documents by the insured.	2	8%

7	Knowledge gap of the insurance industry about the construction work	3	13%
8	Lack of appropriate civil engineers and generally manpower	2	8%
9	Complexity of the business itself	1	4%
10	Policy complex language	1	4%
11	Due to bad underwriting	1	4%
12	Not genuine claim request (fraudulent claim)	1	4%
13	Readiness of employer for discussion	1	4%
14	The insurance industry is not well developed	1	4%
	Total	**24**	**100%**

As it can be observed from Table 4-54 above awareness gap regarding construction insurance policies provisions and exceptions from both sides; disagreement between insured contractor and employer since unless the contractor admits liability insurers can not settle a claim and knowledge gap of the insurance industry about the construction work are the most considered reasons as constraints for making efficient claim responses by insurance companies to construction clients.

4.9.3 Efficiency in terms of Premium Fixing

Question 7- Do you think the amount of premium requested for typical construction insurances is reasonable and affordable to the extent of the coverage?

Table 4-55 Respondents opinion on affordability for premium amount of typical construction insurances

Responses	Insurance Companies		Consultants		Contractors		Overall	
	Freq.	%	Freq.	%	Freq.	%	Frequency	Percentage
Yes	13	81%	14	64%	31	55%	58	62%
No	3	19%	8	36%	25	45%	36	38%
Total	**16**	**100%**	**22**	**100%**	**56**	**100%**	**94**	**100%**

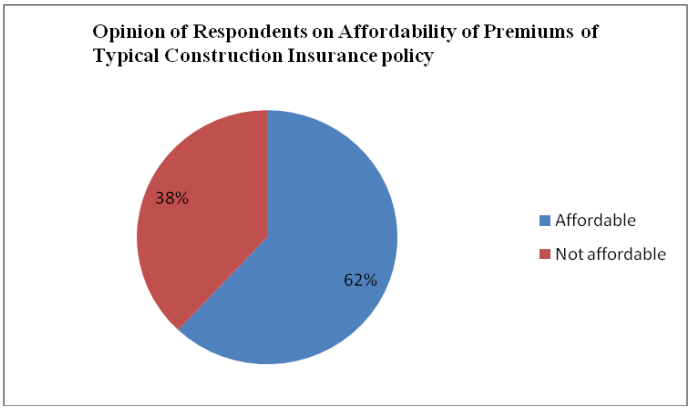

Figure 4.9 Respondents opinion on affordability for premium amount of typical construction insurances

From the summary of table 4-55 above and figure 4-9 it becomes obvious that majority of the respondents believe the amount of premium requested for typical construction insurances is reasonable and affordable to the extent of the coverage.

Question 8- How do you fix the premium of a typical project's risk insurance?

Table 4-56 below present insurance companies' response on the methods they use for fixing the premium for a typical construction project.

Table 4-56 Insurance companies way of fixing premium of a typical project's risk insurance

No.	Methods of Fixing premium	Frequency	Percentage
1	Detail study of the project	13	76%
2	Profitability during the past year	7	41%
3	Claims history	12	71%
4	Expert estimate	10	59%
5	Location of the project	12	71%
6	Net worth of company	6	35%
7	Previous Experience	12	71%
8	Principal type of construction	11	65%
9	Contract amount	13	76%
10	Others	14	82%

The following table 4-57 below shows other ways insurance companies listed as their means of fixing premium for construction insurance policies in response to question 8 above; and figure 4.10 presents the result summary.

Table 4-57 Insurance companies other listed ways of fixing premium of a typical project's risk insurance

Limit of Liability Required	Proposal Form
Reinsurance Treaty Condition	Pre-Risk Survey Form
Competitive Market Conditions	Policy Endorsement
Insurers Own Strategic Goal or Objective	Cover Notes
Value Per Meter Square	Basis of Rates
Business Relation With The Insured	Period of Insurance
As Per The Company Rate With Flexibility Based On Stiff Market Competition	Cancellation of Policies

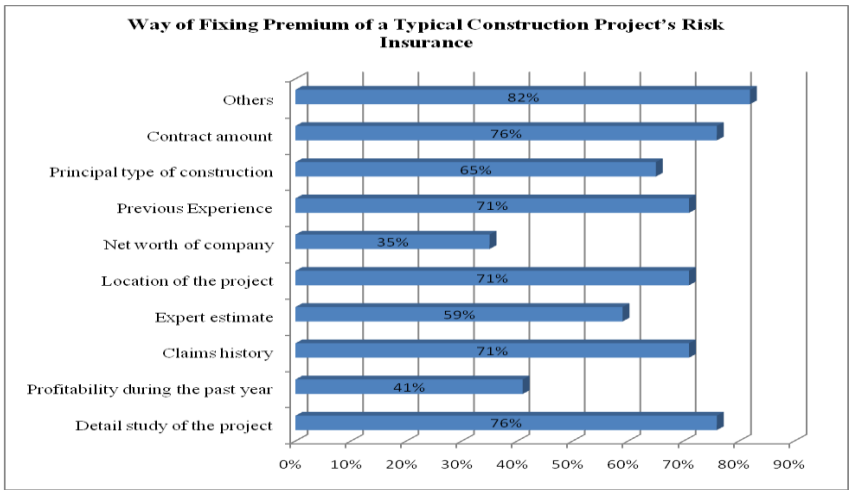

Figure 4.10 Methods of Fixing Premium

Premiums are based primarily on three factors: the employer's safety experience on prior construction projects, to the degree of risk involved, and the geographic location (Hinze, 1990). The result shows that most insurance companies uses majorly other ways listed in table 4-57 and shown on figure 4.10 taking 85% of the overall responses.

Detail study of the project and contract amount comes second both with 76% response rate methods of fixing premium replied by respondents which could be considered as implying a good practice for fixing premium. But this result does not align with the rest of findings of the research earlier on this chapter on the risk assessment process of insurance companies which implies less use of detail aspects of a specific project that needs to be considered in their risk analysis which is a scenario in need of improvement since the effect goes to premium fixing and risk management process.

Question 9- What is your belief of the remedy to make construction related policy premiums less expensive?

Respondents who belief premium of typical construction insurances is not reasonable and affordable to the extent of the coverage were asked for their belief of the remedy to make construction related policy premiums less expensive and their response is summarized in table 4-58 below.

Table 4-58 Respondents belief of remedy to make construction policy premiums less expensive

Contractors' response	Freq.	Consultants' response	Freq.	Insurance companies response	Freq.
Identifying the risks accurately and reasonably	3	Increase construction firms knowledge of insurance and enforcing them to have	0	No proposal for less expensive premiums since the premium in our context is still cheap; and there is high premium undercutting due to abnormal competition.	3
Extensive risk analysis for similar kinds of projects should be done by insurance companies before deciding the premium.	1		0	Risk management; professional experience, company experience, previous claims and previous project success history.	1
Increasing the number of insurance companies for competition would result less premium	2		0	when the construction company provided the required detail information on the subject of the insured	1
preparing price list for some general items of insurance policies	1		0	Improving controlling mechanism for the construction safety measures, quality, design etc. by the government	1
Quality control on the project work	1		0	By creating awareness and training to contractors for policies to improve their knowledge to get compensation from insurance companies in case damage happens. Accordingly reasonable premium will be collected.	1
Insurance companies have to visit the project site before giving insurance coverage	2		0	Company's claim record	1

and put into consideration probability of occurrence and minimize the premiums rather than using a standard amount					
Increasing the number of customers by enhancing awareness of the construction industry, through seminars	1			The contractors and owners need to be more open to insurance companies to have clear contract terms.	1
stakeholders should minimize risk	1			The success of construction agreement in different projects, when the amount of claims decreases and generally the claim ratio.	1
Insurance companies should be responsible to give enough information and training for insurance user	1			Changing premium equivalent to the risk	1
				Uncertain price competition among insurance companies	1
				Contractor's lack of awareness about the cover's need	1

Question 10- Policy Implementation Gap Identification

Ethiopian building proclamation No.624/2009 was proclaimed followed by building regulation No.243/2011 and building Directive 5/2003 of Ministry of Urban Development and Construction. Article 26(3) and article 27(2) of the proclamation states respectively for contracting consultants and contractors to provide an insurance cover before the start of a project which will stay valid for a minimum period of one year from the date of completion of the project. The insurance covers are compulsory and meant to provide compensation for any damages resulting from faulty designs and construction quality defects from faulty construction by consultants and contractors respectively. But the proclamation is not being fully enforced in practical implementation. What do you think is the gap for implementing the proclamation and your suggestion of what needs to be done?

Table 4-59 Respondents opinion of the gap for implementing the proclamation and their suggestion of what needs to be done

Response	Contractors'		Consultants'	
	Freq.	%	Freq.	%
The insurer shall have enough knowledge to determine	1			

exact construction risks and required insurance policies so that enforcement would be simple as the insurer can force for the implementation through governmental institutions.				
lack of awareness of the rules and regulations	1			
lack of commitment of regulatory bodies to enforce	4			
lack of coverage for risk/insurance related expenses	1			
capacity of clients and contractors	1			
Even though different insurance requirements are laid down in general conditions of contract; due to poor follow up of first providing and then renewal of policies of contractors by consultants and clients I believe strict follow up and forcing by the municipality and high degree of communication between insurance companies and municipality by requiring insurance companies to report to the municipality expired insurances can give a better solution	1			
lack of enforcement by the government	4		2	
Proper follow up of clients on contractors & consultants to implement the proclamation and take action if not by banning this firms from participating in other 1 or 2 consecutive tenders or putting financial punishments	2			
Parties do not require arbitration based on articles of the proclamation but liability must be only in civil codes care.	1			
Frequent communication/meeting must be conducted with all stakeholders that the benefit is all round until it becomes to picture.	1			
lack of follow up by the responsible authority	1			
Use rules and regulations during updating their license	1			
The consultant do not properly administer the contract through the project progress and after completion of the project	1			
Lack of proper construction contract management from all the parties	1			
The ministry of construction has to create awareness to the concerned bodies regarding insuring the work.			3	
Presence of low attitude regarding insurance cover			2	
Contracting parties are not willing to pay the related premium			1	
Total	**21**		**8**	
Percentage from total No. of respondents		**30%**		**27%**

As shown in table 4-59 above the foremost gaps mentioned by respondents are lack of enforcement and lack of commitment to enforce by the government authority is the main gap beside other reason. It can also be observed that most parties do not respond to this question as they are not aware of the proclamation giving their response as having no idea on the matter. Which indicates the government does not work on the proper communication of the proclamation to the concerned bodies.

- *It should be noted that by the time of this study it was found out that the Addis Ababa City Municipality has started implementing the proclamation by making Performance bond and Professional Indemnity insurance a mandatory criteria for getting a building permit starting from Ginbot 1 2008 E.C. But it should also be noted that this enforcement is made immediately after the accidental collapse of the G+4 building around Summit area in Addis Ababa since the mishap was disastrous and highly alarming to the government which clearly shows the initial lack of commitment to enforce the proclamation by the government authority on the proper platform. Also the implementation should be in county wide.*

4.10 INTERVIEW RESULTS, DISCUSSION AND INTERPRETATOIN

A qualitative research interview seeks to cover both a factual and a meaning level, though it is usually more difficult to interview on a meaning level (Kyale, 1996). Interviews are particularly useful for getting the story behind a participant's experiences. The interviewer can pursue in-depth information around the topic. Interviews may be useful as follow-up to certain respondents to questionnaires, e.g., to further investigate their responses (McNamara, 1999).

For the purpose of this research a standardized, open-ended interview type is followed where mainly the similar open-ended questions are asked to all interviewees. The interview is conducted with three relevant authorities to the subject matter of the research work namely Ministry of Construction (MoC), Ministry of Water and Energy (MoWE) and National Bank of Ethiopia (NBE); where the authorities are presented by concerned departmental authority figures and advisors of the Ministers.

Part 1: Responses to General Questions for All Authorities

The first part of the interview questions is general to all authorities and tries to find out the level of awareness of the authorities to the risk inherent in the nature of construction

projects and the importance of insurance and their familiarity to construction related insurances.

1. Responses on question asked to find out their opinion over the nature of construction as risky, risk management and the use of insurance as a vital risk transfer tool; and how important they think is the role of insurance in construction undertakings of Ethiopian construction sector.
   - While all the three authorities are well aware that construction is risky; and risk management is very important aspect of construction project management they describe insurance has its own position in the realm of risk management where it can never precede the necessary risk mitigation and quality control mechanisms that are in need of being implemented on projects. When they express their opinion over the use of insurance as a vital risk transfer tool; they admit that the attitude and emphasis given to insurance is less than adequate and there is lack of awareness about insurance in general in the construction industry.
   - When comparing the responses of the authorities and considering questionnaire response of water works contractors it is observed that the awareness about insurance in the water sector is way behind the other sectors of construction in Ethiopia which calls for a special attention.
2. When authorities are asked on their belief on that insurance is important and should be highly practiced in the construction sector of Ethiopia; their responses shows that:
   - They all believe it is important and should be highly practiced in the construction sector of Ethiopia mentioning the following reasons;
     - Recent international labor organization (ILO) report shows that construction sector accident is number one on the list. And also the number of accidents in Ethiopia related to construction is being highly public currently. Hence to address liability issues insurance is very important.
     - There is delay in tremendous water projects and if contractors have insurance this case would be improved since the can show more fidelity to the agreed completion time of their contract.

3. When asked if they agree with the idea of making some selected specific insurance coverage mandatory to construction contractors and consultants and which of the construction related policies are considered very relevant by their authority that they consider should be mandatory for consultants and contractors;
    - Even though policy relevancy may vary depending on the project type an authority from NBE considers professional liability policy should be mandatory to all consultants and before the insurance becomes mandatory a clear accountability of professionals should be set by law so that it will be known for what accountability they need to provide the insurance cover.
    - Ministry of Water and Energy respond that they are not familiar with insurance policy types to give their opinion on which policies should be considered mandatory.
4. In the developed world Professional Indemnity (PI) insurance is a must to purchase by consultants. Do you think it is timely to make this insurance policy mandatory in Ethiopia?

    All interviewed authorities believe that it is timely to make PI policy mandatory in Ethiopia; mentioning the following points as a reason:
    - The construction sector quality should be highly considered both in terms of design and construction.
    - There are a lot of significant defects and damages are happening on construction projects due to defects on design of projects
    - The quality of works is Sub-standards
    - Still there is no system to penalize or accuse consultants here in Ethiopia
    - All projects in Ethiopia are highly exposed for delay, poor quality and high completion cost

    And for the question forwarded to ministry of construction on what measure they are planning to take and/or already taken by their authority on the insurance policy a response is not obtained.

5. **Questions**: On the way of this study it is observed that there is an awareness gap about insurance in the construction sector including the regulatory bodies. Insurance companies are not doing much work to introduce their products to the construction

sector. Whose mandates do you belief it is to give information on insurance products and training to the construction industry stakeholders about insurance?

- NBE authorities' response: "it is mainly the mandate of insurance companies but also NBE has responsibility to create the awareness. Insurance companies association can create the awareness in cooperation with insurance companies. In addition banks also should create financial awareness. The work should be done in collaboration".
- Ministry of Water and Energy respond: "Insurance companies in collaboration with NBE should have to create the awareness about insurance to government authorities; although insurance companies have their weakness in making the public familiar with their products and making an influence on the government".
- Ministry of construction responds that insurance is important to the construction sector due to the following reasons;
  - The contractors will be saved from unexpected costs due to damage.
  - There will be responsible body for any risk that may rise.
  - The construction safety measures will be properly implemented.
  - The country as whole will benefit more due to damage minimization.
  - Actors in the construction sector will get equivalent value as of the damage they face.

Part 2: Respondents responses to Questions forwarded for Ministry of Construction; and Ministry of Water and Energy

The two authorities are in charge of giving license to construction contractors, consultants and professionals in Ethiopian construction industry. Where Ministry of Construction handles those in the category of building, road and general and specialized construction works side; Ministry of Water and Energy handles those on water works construction and drilling contractors, consultants and professionals. This part presents their responses to questions forwarded for them and discusses their interpretation.

Question 1: Are there policies which you already have made and/or you are planning to make mandatory to be purchased by consultants and/or contractors by way of regulation?

- Ministry of Water and Energy respond: "No such plan have been made so far".
- Ministry of Construction gives no response for this question.

Question 2: Do you have any plan at license giving to contractors and consultants to require them to have some selected specific insurance coverage?

- Ministry of Water and Energy respond: "if this research have been made a bit earlier or the issue of insurance have come to light we would have been able to incorporate insurance as one criteria since license giving criteria for water works contractors and consultants is revised recently at the end of 2008 E.C but we take this interview as an awakening alarm and dare to incorporate it in the criteria the soonest possible". Besides the communication directorate of the Ministry promised to raise the issue in political panels with political leaders and need the result of this research to use for reference.
- Ministry of Construction gives no response for this question since setting a date for interview was not possible until the completion of this thesis.

Question 3: It is found from the questionnaire survey responses of this study that formal risk assessment is not being conducted by construction companies in Ethiopia. Therefore, major construction companies should be convinced that proper risk management is important. And in major contractors organizational chart there should be an independent department/division/ in charge of risk management and insurance. What influence can the ministry bring to the industry in line with this?

- Ministry of Construction gives no response for this question since setting a date for interview was not possible until the completion of this thesis.

Question 4: There is a belief by majority of the respondents of questionnaire survey conducted for this research that the government shall introduce a national construction council which deals with cost and risks with policy makers and stakeholders to advise to stakeholders on issues related to construction in general; while insurance could be one of the issues. What is your opinion?

- Ministry of Construction gives no response for this question since setting a date for interview was not possible until the completion of this thesis.

Question 5: Ethiopian building proclamation No.624/2009 was proclaimed in 2009 G.C followed by building regulation No.243/2011 and building Directive 5/2003 of Ministry of Urban Development and Construction. Article 26(3) and article 27(2) of the proclamation state respectively for contracting consultants and contractors to provide an insurance cover before the start of a project which will stay valid for a minimum period of one year from the date of completion of the project. The insurance covers are compulsory and meant to

provide compensation for any damages resulting from faulty designs and construction quality defects from faulty construction for consultants and contractors respectively. But the proclamation is not being fully enforced in practical implementation.

i) What do you think is the gap for implementing the policy since it is not being fully in force?
ii) Do you have proper follow up scheme on contractors and consultants to enforce policies?
iii) What penalty measures do you have?
iv) Many respondents to the questionnaire of this study are not well familiar with this proclamation. It seems there is a communication gap to the contractors and consultants to make them familiar. What are you doing to alleviate this problem?

- Ministry of Construction gives no response for these questions since setting a date for interview was not possible until the completion of this thesis.

☞ *A lot of attempt is made which consumes much of the time dedicated to the data collection and even analysis of results period of this research to contact the concerned authorities of Ministry of Construction on questions directly forwarded for them in the interview questions. But it was not possible to arrange and conduct the interview with them due to the continuous unsuccessful appointments given by the authority figures. Even though a response is not gathered for the questions it is believed that the forwarded interview questions both in soft and hardcopies will sever as an alarming question.*

Part 3: Summary of Responses on Questions forwarded to National Bank of Ethiopia

The questions in this part are directly forwarded to the national bank of Ethiopia since it is its power and duty of NBE to regulate the legal framework and statues within which insurance companies in Ethiopia operate, their supervision and also the continuous monitoring of insurance companies to ensure that they are operating in accordance with the insurance proclamation and regulations issued by the authority.

Question 1: Do you have minimum standards for policies and the ways in which they may be advertised and sold; so that the languages will not be complex making it for buyers difficult to purchase?

Response: The origin for the policies is from England and many countries are currently using it. It is difficult to make the terms of the policy by changing them because of the

legal connotation they have. But rather than changing them it is better for insurance companies to provide a memo along with the policies which clearly explains what is covered and not covered. Since the buyers have a weakness of reading the policies properly and the sellers also does not know the policy terms very well; making it clear will help reducing the claim disputes later.

Question 2: As it is found out by informal discussion with insurance companies for the purpose of this research; It is believed by earlier established insurance companies in Ethiopia that a limited margin shall be established by NBE for all insurance companies for premium fixing in which minimum margin is known for each policies premium; then after the competition base for the companies will be based on quality of service provided for customers. What is your opinion and belief towards this point?

Response: "Concerning this issue it is the mandate of the insurance companies to set their own minimum margin. As a regulatory body we check their financial stand from their profit loss report. NBE does not have a mandate to provide such tariff since the country's law of does not allow this because it does not allow the customers freedom".

Question 3: Insurance companies need to incorporate skilled professionals of civil, hydraulic and geotechnical engineers for the government to mark them as qualified for construction related insurance service job. Because insurance is a huge sector insurance companies need to have a department with enough knowledge on activities undertaken by construction companies and related resources mobilized to enable them fix premiums in line with possible risk. What is your belief and opinion over this?

Response: the authority replied that 'there should be a huge demand by the sector to do this. Through time when demand increases it would be possible to incorporate all the necessities but the current business demand does not allow this'.

Question 4: What influence is NBE willing to make on the concerned government authorities about insurance to the construction sector?

Response: "Our mandate is to regulate the insurance industry to be healthy and stable. We can give advice to the government only if the Ministry of Construction or the ministry of Water and Energy raise the issue and invite us to give advice. But we cannot directly take charge to initiate and influence on the matter".

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

1. Generally not at practical level but at opinion level, there is awareness by majority of parties and also relevant authorities that construction is risky; and risk management is very important aspect of construction project management and insurance is an important risk transfer tool for the construction sector. but there is a huge awareness gap regarding construction insurance policies provisions and exceptions from both construction firms and insurance companies sides; and also there is knowledge gap in the insurance industry about the construction work.
2. There is an absence of independent risk analysis departments or a practice of using independent risk consultant or risk manager within the organization structure of contractors and there is less use of advanced risk analysis methods by parties in the construction industry. Formal risk analysis for a particular project is not being exercised by majority of the parties in the construction sector. Besides, there is an overall less practice of preparing risk response strategies for projects and the practice of using risk transfer through purchasing insurance policy is less.
3. Even though, all insurance companies conduct risk analysis of individual construction projects for provision of insurance cover; there is less use of detail aspects of a project that are required to be considered in their risk analysis whose effect goes to the premium fixing process.
4. Although all Consultants believe it is timely to make Professional Indemnity (PI) insurance policy mandatory in Ethiopia; there are lots of consultants who do not have PI policy while conducting their business.
5. There is an attitude by construction firms that paying premium is unnecessary cost due to the less emphasis they give to insurance; while the fact is the premium that insurance companies currently demand is not expensive.
6. Majority of the contractors believe Workers compensation Insurance should be mandatory for all of them because of the frequency of accidents happening on construction sites currently and contractors would not hesitate to have the policy if an equal cost ground for competing in bid is created for them.

7. Insurance companies are well familiar with most of the important insurance policies related to construction. Insurance companies need to arrange training and conference and use other feasible ways to advertise and impress concerned parties in the construction sector about the types and the need for relevant construction insurance policies they are marketing.
8. There is a need to increase the efficiency of claim responding by insurance companies by improving detailed knowledge of construction activity, risk and policies; and providing a timely less bureaucratic claim settlement.
9. The study result indicated that majority of the parties in the construction sector are not familiar with Ethiopian building proclamation No.624/2009 implying that the government does not work on the proper communication about the proclamation to the concerned parties. Also there is lack of enforcement by government authorities on the proclamation and the subsequent regulation and directive.

5.2 RECOMMENDATIONS

1. Parties in the construction industry need to have a concrete knowledge about risk management and insurance as a risk transfer mechanism to make it practical part of their construction undertakings. A work of awareness creation should be done by insurance companies, concerned government authorities and professional associations from both the insurance and construction industry on risk management and insurance using training, seminars etc.
2. Contractors should allow reasonable percentage in their bid cost for insurance related expenses. Insurance has to be fully implemented by all parties and to minimize the cost of insurance coverage it has to be brought into consideration during bid cost assessment. Clients should also need to consider the procurement of relevant insurance policies as the condition of award of a tender.
3. There should be department in charge of risk management and insurance in every construction company and contract administrators of projects should strictly follow up the implementation of contractual clauses related to insurance included in contract documents.
4. The construction work insurance is very detailed and needs capable professionals in dealing with risk assessment. The insurance industry is highly expected to improve on this regard and insurance companies need to be supported by the

construction industry administering authorities since currently they do not have competent personnel to identify all construction risks accurately. In addition, overall study based work should be the main ideology behind insurance companies.

5. Insurance companies need to decrease the bureaucracy in their process of claims settlement which is complained by most respondents to be time consuming and tedious in order to provide urgent response for clients' claims so that customers from the construction sector will be attracted and encouraged to have insurance.
6. For reducing the complexity of insurance policy language it is advisable for insurance companies to provide a memo along with the policies which clearly explains what is covered and not covered; since making it clear will help reducing dispute that arise as a result of misunderstanding and ease the settlement of claim disputes later on.
7. Policies promotion work by insurance companies on their products to the construction industry requires an improvement in terms of detail, clarity and widely reaching all parties. Also insurance companies have to visit the construction project site before giving insurance coverage and put into consideration probability of occurrence for fixing premiums and minimizing the occurrence of risk by providing follow up and expert advice from their past experiences.
8. The government should oblige some selected types of insurances such as Third party liability insurance; Professional liability insurance; Employer liability and workers compensation as a mandatory to perform construction activities by consultants and contractors. In order to make insurance mandatory prior works of determining accountability and liability issues need to be addressed to identify what cover would be adequate in each type of policy.
9. Professional indemnity policy should be a criterion at license renewal period for Consultants. Also updating the controlling and licensing procedures for a contractor is essential by considering their history of managing their public and employer liabilities through insurance as one of the criteria. Consistent and reliable regulatory follow up is required for strict implementation of proclamations, regulations and directives rectified by the government to protect public interest and preserve nation's resource.

In conclusion further research topics can focus on the issues of what should be modified in the existing proclamations by Ethiopian government about insurance, Detail study of very important construction insurance policies such as Professional indemnity and others to reach at a standard form that explicitly show what the client should be protected of; important perils that a policy issued from any one of the insurance companies should not exclude which are to be standard for what should be indemnified; validity period special and alternative risk transfer solutions.

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APPENDIX

APPENDIX A

Appendix A-1 Questionnaire to Employers

Dear Respondent,

I the undersigned am a postgraduate student in Addis Ababa University, Institute of Technology; Department of Construction Technology and Management. I am currently doing my Masters of Science (Msc.) degree research thesis on the title "***Study of Insurance Practices in Ethiopian Construction Industry.***"

The aim of this questionnaire is to evaluate employers/owners in Ethiopian construction industry with regard to the practice of construction related insurances.

To this end, I kindly request you to complete the following questionnaire carefully and honestly since your response is of the utmost importance to the successful completion of the research.

All the information you provide will be kept in strict confidentiality and it will be used only for academic research purpose.

Thank you in advance for your kind response.

If you have any questions and comments, you are welcome to contact me at the address stated below.

Best Regards,

Tigist Gonfa

0922 32 93 46

tgstgnf@gmail.com

Part 1: Background Information

1. Company Name (optional):----------
2. Type or origin of your organization

   Private Project Owner/Client [ ] Governmental Client [ ]

   Others (please specify) ----------
3. Year of establishment: <= 5 years [ ] 6-10 years [ ] 11-15 years [ ] >15years [ ]

   Others (please specify) ----------
4. In your company/agency, which position in the organizational level you are?

   Top management [ ] Middle management [ ] Expert [ ] others ----------
5. Your years of work experience _____

Part 2: Risk Management practice

6. Do you have a formal risk analysis practice in your organization for construction/design projects' management?

   Yes [ ] No [ ]
7. If your answer to the above question is yes, who performs in your organization the risk analysis? (Please check ALL that apply)

   Risk manager within your organization [ ] Insurance broker(s) [ ]

   Departmental personnel [ ] Independent risk consultant [ ]

   Design/Supervision Consultant [ ]

Other (please specify below):

---

8. If you conduct a formal risk assessment, what does the process consist of? (Please check ALL that apply)

- Just adding a percentage to budget/cost to cope with uncertainties [ ]
- Identify major risk factors and quantify their impact subjectively [ ]
- Use of various mathematical tools: such as sensitivity analysis, net present value etc.[]
- Identify risk factors and quantify their impact using probability of occurrence, range of risk costs and simulation [ ]

Other (please specify below): ----------

Part 3: Construction Insurance practice

9. What is your opinion concerning the role of insurance in construction undertakings in the construction sector of Ethiopia?

Very important [ ] Important [ ] Average [ ] Low [ ] none [ ]

10. Do you normally interact with insurance companies in risk identification, allocation and required insurance policies before or during construction?

    Yes [ ] No [ ]

11. Do you consider construction insurance provisions in your contract conditions in the selection of Contractors/Subcontractors and Consultants?

    Yes [ ] No [ ]

12. Do you purchase insurance policies as part of your construction risks management in your projects and also at head office level to protect your business?

    Yes [ ] No [ ]

13. If your answer to the above question is No, then please list your reasons for not being insured?

    ---

14. If your answer to question No.12 above is yes, what are the policy types that your firm purchases for its different projects and at head office level? (Please check ALL that apply)

    - Vehicle Insurance [ ] - Wrap up liability Insurance [ ]
    - Employer's Liability Insurance [ ] - Major Medical Insurance [ ]

    Others (please specify) ---

    ---

15. Who assists with the insurance purchasing decision? (Please check ALL that apply.)

    - Internal staff [ ] - Design/Supervision Consultant [ ]
    - Committee [ ] - Outside risk management consultant [ ]

    Other (please specify): ---

16. Among construction related insurance policies list those you believe are very relevant and should be purchased by employers in the order of their importance from the most to least.

---

17. What are the factors that you consider are hindrances for your firm to purchase insurance policies important to your projects and business? (Tick all those applicable)
    - Rising cost of premiums [ ]
    - Fewer companies willing to insure [ ]
    - Complex policy language [ ]
    - Lack of proper coverage or exclusion [ ]
    - High collateral demands by insurance companies [ ]
    - Lack of knowledge in insurance [ ]
    - Impact of reinsurer cost on the premium [ ]
    - Absence of compulsory requirements [ ]

Other (please specify below):

Part 4: Insurance Companies Efficiency

18. Do you have any damage occurred in your construction projects and compensated/denied your insurance claims by insurance companies?

    Yes [ ] No [ ]

19. If your answer is yes, please indicate the level of your satisfaction on how your claim was responded by the insurance company.

    Highly satisfied [ ] Partially Satisfied [ ] Satisfied [ ] dissatisfied [ ]

20. Explain any complain and urge you have concerning insurance claim response by the insurance companies? ----------

---

---

21. Is there any policy which you have asked from an insurance company but you failed to purchase due to the reason that they do not have that insurance policy?

    Yes [ ] No [ ]

    If your answer is yes please list them below:

Part 5: Recommendation

22. What are your overall suggestions on improving Construction Risks Management through Insurance practices in the Ethiopian construction industry?

---

23. Any other comments you wish to provide:

I sincerely appreciate your timely response and cooperation.

Thank You!!

Appendix A-2 Questionnaire to Consulting Firms

Dear Respondents,

I the undersigned am a postgraduate student in Addis Ababa University, Institute of Technology; Department of Construction Technology and Management. I am currently doing my Masters of Science (Msc.) degree research thesis on the title "***Study of Insurance Practices in Ethiopian Construction Industry.***"

The aim of this questionnaire is to assess where Ethiopian construction *consultants* currently stands with regard to the practice of construction related insurances.

To this end, I kindly request you to complete the following questionnaire carefully and honestly since your response is of the utmost importance to the successful completion of the research.

All the information you provide will be kept in strict confidentiality and it will be used only for academic research purpose.

Thank you in advance for your kind response.
If you have any questions and comments, you are welcome to contact me at the address stated below.

Best Regards,

Tigist Gonfa
0922 32 93 46
tgstgnf@gmail.com

Part 1: Background Information

1. Company Name (optional):----------
2. In which one of the following classes of consultants is your firm? (Please tick in the box)

Consulting architects and Engineers [ ] Consulting Engineers general [ ]

Consulting architect [ ] Consulting Engineers specialized [ ]

If any other (please specify) ----------

3. Type or origin of your organization

Domestic Consultant [ ] Foreign Consultant [ ]

4. Years of establishment: <= 5 years [ ] 6-10 years [ ] 11-15 years [ ] >15years [ ]

Others (please specify) ----------

5. If you are a Foreign Consultant, how long has your organization been involved in the Ethiopian construction sector?

Less than 5 years [ ] 6-10 years [ ] More than 10 years [ ]

6. In your company/agency, on which position of the organizational level you are?

Top management [ ] Middle management [ ] Expert [ ] others ----------

7. Your overall years of work experience _____

Part 2: Risk Management practice

8. Do you have a formal risk analysis practice in your organization for construction projects' management?

Yes [ ] No [ ]

9. If your answer to the above question is yes, who performs in your organization the risk analysis? (Please check ALL that apply)

- Risk manager within your organization [ ]
- Insurance broker(s) [ ]
- Departmental personnel [ ]
- Independent risk consultant [ ]
- Design/Supervision Consultant [ ]

10. As part of construction risk management after identification and classification of the probable risks and analyzing their impacts on the project objectives a proper risk response strategy should be developed; which includes risk mitigation; risk retention; risk avoidance and risk transfer. Also it is important to make risk allocation which is the apportionment of risks to those project/contracting parties who can best manage them and its objective can vary depending on unique project goals.

List below what measures you took to as your risk response strategy to manage risks in your construction projects?

---

11. Do you normally interact with insurance companies in risk identification, allocation and required insurance policies before or during design/supervision of projects?

Yes [ ] No [ ]

Part 3: Construction Insurance practice

12. Do you consider construction insurance provisions in your professional service to the Employers/Contractors?

Yes [ ] No [ ]

13. If your answer to the above question is yes, what are the policy types that your firm purchases for its different projects and at head office level? (Please check ALL that apply)

-Professional Indemnity Insurance [ ] - Workers Compensation Insurance [ ]

-Vehicle/Automobile insurance [ ] - Employers Liability Insurance [ ]

Others (please specify) ----------

---

14. Do you have professional indemnity insurance for the services you deliver?

Yes [ ] No [ ]

If your answer is No, please indicate your reasons hereunder:

---

15. In the developed world Professional Indemnity (PI) insurance is a must to purchase by consultants. Do you think it is timely to make this insurance policy mandatory in Ethiopia?

Yes [ ] No [ ]

Please explain your reason for saying yes or no for the question above.

---

16. While preparing Terms of Reference (TOR) or selecting contractors for a project do you consider insurance policy as one of the criterion?

Yes [ ] No [ ]

17. Do you ask contractors timely for renewal of their insurance policies especially performance and advance guarantee bonds?

Yes [ ] No [ ]

18. What is your opinion concerning the role of insurance in construction undertakings by the construction sector of Ethiopia?

Very important [ ] Important [ ] Average [ ] Low [ ] none [ ]

19. If your firm purchases insurance policies; what are the reasons that you provide the insurance covers? (Tick all those applicable)

- To meet the demand of the client [ ]
- To transfer risk [ ]
- To reduce the impact of any disaster during construction[ ]
- To meet tender and contract requirement [ ]
- Recommendation of insurance advisor [ ]

Other (please specify below)

---

20. What are the factors that you consider are hindrances for your firm to purchase insurance policies important to your projects and business? (Tick all those applicable)

- Fewer companies willing to insure [ ] - Complex policy language [ ]
- Lack of proper coverage or exclusion [ ] - Lack of knowledge in insurance [ ]
- - Rising cost of premiums [ ] - Absence of compulsory requirements [ ]
- Impact of reinsurer cost on the premium [ ]
- High collateral demands by insurance companies [ ]

Other (please specify below):

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21. What types of insurance policies do you recommend for contractors to have? (Please specify below)

---

22. Ethiopian building proclamation No.624/2009 was proclaimed followed by building regulation No.243/2011 and building Directive 5/2003 of Ministry of Urban Development and Construction. Article 26(3) and article 27(2) of the proclamation states respectively for contracting consultants and contractors to provide an insurance cover before the start of a project which will stay valid for a minimum period of one year from the date of completion of the project. The insurance covers are compulsory and meant to provide compensation for any damages resulting from faulty designs and construction quality defects from faulty construction by consultants and contractors respectively. But the proclamation is not being fully enforced in practical implementation. What do you think is the gap for implementing the proclamation and your suggestion of what needs to be done?

Part 4: Claim Response

23. Do you have any damage occurred in your construction projects and compensated/denied by insurance companies for your claims?

    Yes [ ] No [ ]

24. If your answer is yes, please indicate the level of your satisfaction on how your claim was responded by the insurance company.

    Highly satisfied [ ] Partially Satisfied [ ] satisfied [ ] dissatisfied [ ]

25. How do you evaluate the efficiency of the insurance companies in responding to your claims? List below any complain and urge you have concerning their way of claim response?

---

26. Do you think the amount of premium requested for typical construction insurances is reasonable and affordable to the extent of the coverage?

Yes [ ] No [ ]

27. What is your belief of the remedy to make construction related policy premiums less expensive?

Part 5: Recommendation

28. What are your overall suggestions on improving Construction Risks Management through Insurance practices in the Ethiopian construction industry?

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29. Any other comments you wish to provide:

I sincerely appreciate your timely response and cooperation.
Thank You!!

Appendix A-3 Questionnaire to Contractors

Dear Respondents,

I the undersigned am a postgraduate student in Addis Ababa University, Institute of Technology; Department of Construction Technology and Management. I am currently doing my Masters of Science (Msc.) degree research thesis on the title "***Study of Insurance Practices in Ethiopian Construction Industry.***"

The aim of this questionnaire is to assess where Ethiopian *construction contractors* currently stands with regard to the practice of construction related insurances.

To this end, I kindly request you to complete the following questionnaire carefully and honestly since your response is of the utmost importance to the successful completion of the research.

All the information you provide will be kept in strict confidentiality and it will be used only for academic research purpose.

Thank you in advance for your kind response.
If you have any questions and comments, you are welcome to contact me at the address stated below.
Best Regards,

Tigist Gonfa
0922 32 93 46
tgstgnf@gmail.com

Part 1: Background Information

1. Company Name (optional):----------
2. In which one of the following categories is your company? / Pleas tick in the box/

   General Contractor [ ] Building Contractor [ ]

   Specialized Contractor [ ] Road Contractor [ ]

   Water Works Construction Contractor [ ]

If any other (please specify) ----------

3. What is the grade of your contracting firm? ----------
4. Type or origin of your organization

   Domestic Contractor [ ] Foreign Contractor [ ]

5. Years of establishment: <=5 years [ ] 6-10 years [ ] 11-15 years [ ] >15years [ ]

Others (please specify) ----------

6. In your company/agency, on which position of the organizational level you are?

Top management [ ] Middle management [ ] Expert [ ] others ----------

7. Your years of work experience _____

Part 2: Risk Management practice

8. Do you have a formal risk analysis practice in your organization for construction projects' management?

   Yes [ ] No [ ]

9. If your answer to the above question is yes, who performs in your organization the risk analysis? (Please check ALL that apply)

   - Risk manager within your organization [ ] - Insurance broker(s) [ ]
   - Departmental personnel [ ] - Independent risk consultant [ ]
   - Design/Supervision Consultant [ ]

Other (please specify below):

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10. If you conduct a formal risk assessment, what does the process consist of? (Please tick ALL that apply below)

    - Just adding a percentage to budget/cost to cope with uncertainties [ ]
    - Identify major risk factors and quantify their impact subjectively [ ]

- Use of various mathematical tools: such as sensitivity analysis, net present value etc. [ ]
- Identify risk factors and quantify their impact using probability of occurrence, range of risk costs and simulation [ ]

Other (please specify below):

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11. As part of construction risk management after identification and classification of the probable risks and analyzing their impacts on the project objectives a proper risk response strategy should be developed; which includes risk mitigation; risk retention; risk avoidance and risk transfer. Also it is important to make risk allocation which is the apportionment of risks to those project/contracting parties who can best manage them and its objective can vary depending on unique project goals.

    List below what measures you took to as your risk response strategy to manage risks in your construction projects?

    ---

12. Do you normally interact with insurance companies before or during construction in risk identification, allocation and to negotiate on drafts of required insurance policies?

    Yes [ ] No [ ]

Part 3: Construction Insurance practice

13. Do you purchase insurance policies as part of your construction risks management in your projects and also to protect your entire business?

    Yes [ ] No [ ]

14. If your answer to the above question is No, then please list your reasons for not being insured?

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15. If your answer to the above question is yes, what are the policy types that your firm purchases for its different projects and also at head office level? (Please check ALL that apply)

- Contractors' all risks (CAR) [ ]
- Performance Bond [ ]
- Contractors Professional Liability [ ]
- Employer's Liability Insurance [ ]
- Contractors third party Liability Insurance [ ]
- Worker's Compensation Insurance [ ]
- Vehicle Insurance [ ]
- Advance payment bond [ ]
- Erection all risks (EAR) [ ]
- Major Medical Insurance [ ]
- Bid bond [ ]

Others (please specify) ----------

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16. Who assists with the insurance purchasing decision? (Please check ALL that apply.)

Internal staff [ ]

Design/Supervision Consultant [ ]

Outside risk management consultant [ ]

Insurance broker [ ]

Committee [ ]

Other (please specify below):

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17. What is your opinion concerning the role of insurance in construction undertakings in the construction sector of Ethiopia?

Very important [ ] Important [ ] Average [ ] Low [ ] none [ ]

18. If your firm purchases insurance policies; what are the reasons that you provide the insurance covers? (Tick all those applicable)

- To meet the demand of the client [ ]
- To transfer risk [ ]
- To reduce the impact of any disaster during construction [ ]
- To meet tender and contract requirement [ ]
- Recommendation of insurance advisor [ ]

Other (please specify below)

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19. Do you have sufficient allowance to consider in your construction bid cost for insurance policy coverage?

    Yes [ ] No [ ]

    If yes, Please specify the usual range of percentage of contract price in your cost analysis for insurance coverage.

    ---

20. Do you require insurance policy as a criterion for selection of sub-contractors for a project?

    Yes [ ] No [ ]

21. What are the factors that you consider are hindrances for your firm to purchase insurance policies important to your projects and business? /Tick all those applicable/

    - Rising cost of premiums [ ] - Lack of knowledge in insurance [ ]
    - Impact of reinsurer cost on the premium [ ] - Fewer companies willing to insure [ ]
    - Lack of proper coverage or exclusion [ ] - Complex policy language [ ]
    - High collateral demands by insurance companies [ ]
    - Absence of compulsory requirements [ ]

Other (please specify below):

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22. Please specify below if there is/are there any insurance policy(s) that you believe should be compulsory by law for all contractors?

    ---

23. Ethiopian building proclamation No.624/2009 was proclaimed followed by building regulation No.243/2011 and building Directive 5/2003 of Ministry of Urban Development and Construction. Article 26(3) and article 27(2) of the proclamation states respectively for contracting consultants and contractors to provide an insurance cover before the start of a project which will stay valid for a minimum period of one year from the date of completion of the project. The insurance covers are compulsory and meant to provide compensation for any damages resulting from faulty designs and

construction quality defects from faulty construction by consultants and contractors respectively. But the proclamation is not being fully enforced in practical implementation. What do you think is the gap for implementing the proclamation and your suggestion of what needs to be done?

Part 4: Insurance Companies Efficiency

24. Is there any policy which you have asked from insurance companies but you failed to purchase due to the reason that they do not have that insurance policy?

    Yes [ ] No [ ]

    If your answer is yes please list the name of the policies below:

    ---

25. Do you have any damage occurred in your construction projects and get compensated/denied by an insurance company for your insurance claims?

    Yes [ ] No [ ]

26. If your answer is yes, please indicate the level of your satisfaction on how your claim was responded by the insurance company.

    Highly satisfied [ ] Partially Satisfied [ ] satisfied [ ] dissatisfied [ ]

27. How do you evaluate the efficiency of the insurance companies in responding to your claims? List any complain and urge you have concerning their way of claim response?

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28. Do the insurance companies visit the project site before issuing the insurance coverage and during construction?

    Yes [ ] No [ ]

29. Do you think the amount of premium requested for typical construction insurances is reasonable and affordable to the extent of the coverage?

    Yes [ ] No [ ]

30. What is your belief of the remedy to make construction related policy premiums less expensive?

Part 5: Recommendation

31. What are your overall suggestions on improving Construction Risks Management through Insurance practices in the Ethiopian construction industry?

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32. Any other comments you wish to provide:

I sincerely appreciate your timely response and cooperation.
Thank You!!

Appendix A-4 Questionnaire to Insurance Companies

Dear Respondents,

I the undersigned am a postgraduate student in Addis Ababa University, Institute of Technology; Department of Construction Technology and Management. I am currently doing my Masters of Science (Msc.) degree research thesis on the title "***Study of Insurance Practices in Ethiopian Construction Industry.***"

The aim of this questionnaire is *to assess the familiarity of insurance companies in Ethiopia to construction related insurance policies that are being used in countries across the world; to identify which of the construction related policies they provide; to find out the most purchased policies by parties in the local construction industry; to assess the efficiency of local insurers in responding to clients' claims from the construction sector; the way construction related insurance premiums are being fixed by insurers and to gather the companies suggestions of what needs to be done to improve the insurance practice of the Ethiopian construction industry of Ethiopia.*

To this end, I kindly request you to complete the following questionnaire carefully and honestly since your response is of the utmost importance to the successful completion of the research work. All the information you provide will be kept in strict confidentiality and it will be used only for academic research purpose.

If you have any questions and comments, you are welcome to contact me at the address stated below.

Best Regards,

Tigist Gonfa

09 22 32 93 46

tgstgnf@gmail.com

Part 1: Background Information

1. Company Name (optional): ----------
2. Year of establishment of your company:

   <= 5 years [ ] 6-10 years [ ] 11-15 years [ ] >15years [ ]

3. In your company/agency, at which position in the organizational level are you?

   Top management [ ] Middle management [ ] Expert [ ] other ----------

4. Profession/Job title_____
5. Your years of work experience: _____

Part 2: Awareness to Risk

6. Do you analyze the risk associated with individual construction projects in your provision of construction related insurance services to Employers (construction owners), Contractors and Consultants?

   Yes [ ] No [ ]

7. What are the methods you use for risk analysis?

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8. Do you normally interact with construction companies before and during construction in their risk identification and allocation process and while drafting insurance policies for their project risks?

   Yes [ ] No [ ]

9. Does your insurance company visit the project site before issuing the insurance cover and during construction to control or minimize the occurrence of risks in the construction projects?

   Yes [ ] No [ ]

Part 3: Construction Insurance Practices

10. What types of insurance policies do you offer to the construction industry? (Please list below all the policies your firm provides or you can attach their list in a separate sheet at the back of the questionnaire).

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11. Do construction contractors ask you to review insurance requirements in their contract specifications?

    Yes [ ] No [ ]

12. Are there some types of insurance covers that you think are not adequately included in construction contracts? (please specify below)

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13. Does your company conduct a research to identify the needs for different policies in the construction industry?

    Yes [ ] No [ ]

14. Does your company make any effort to popularize relevant construction related policies among parties in the construction industry?

    Yes [ ] No [ ]

15. If your answer for the above question is yes, how do you advertise and impress concerned parties about the need for relevant construction insurance policies? (please specify below)

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16. Among the following list of construction related insurance policies which are found from different sources of literature being marketed in different countries across the world tick (√) on those policies you are familiar with. And also tick (√) on the corresponding columns to indicate the importance of each policy as important (I) on those you believe are important to be provided by insurance companies in Ethiopia; as very important (VI) or as not important (NI) for Ethiopian context.

No.	Name of Insurance policy	Familiar? tick (√) for yes and tick (x) for No	Important (I)	Very Important (VI)	Not Important (NI)
1	Construction Works Insurance [Contractors' all risks (CAR)]				
2	Professional Indemnity Insurance				
3	Business Owners Policy				
4	Automobile Insurance				
5	Worker's Compensation Insurance				
6	Wrap-Up Insurance				
7	Erection all risks (EAR)				
8	Employer's Liability Insurance				
9	Contractors Professional Liability				
10	Product liability insurance				
11	Commercial General Liability Insurance				
12	Contractors third party Liability Insurance				
13	Operations-Premises Liability Insurance				
14	Elevator Liability Insurance				
15	Completed Operations and Products Liability Insurance				
16	Contractor's/Owner's Protective Liability Insurance				
17	Contractual Liability Insurance				
18	Explosion, Collapse, or Underground Liability Insurance				
19	Broad-Form Property Damage Liability Insurance				
20	Personal Injury Liability Insurance				
21	Umbrella Excess Liability Insurance				
22	Builder's Risk Insurance				
23	Equipment Floater Insurance				
24	Key Man Insurance				
25	Damage caused to a crane and contract works insurance				
26	Contractors' plant insurance				
27	Machinery inherent defects insurance (MIDI)				
28	Material Damage cover for existing structures				

29	**Decennial Insurance**				
30	**Payment Bond**				
31	**Bid bonds**				
32	**Advance payment guarantees**				
33	**Performance Bond**				
34	**Retention money bonds**				
35	**Maintenance bonds**				
36	**Company surety ship**				
37	**Delay in start-up insurance (DSU)**				
38	**Property fire insurance**				
39	**Burglary insurance**				
40	**Collateral Warranty**				
41	**Directors and officers insurance**				
42	**Integrated project insurance**				
43	**Flood Insurance**				
44	**Latent defects insurance**				
45	**Legal expenses insurance**				
46	**Legal indemnity insurance**				
47	**Office combined contents buildings Insurance**				
48	**Residual value insurance**				
49	**Goods in transit and Marine Insurance**				
50	**Major Medical Insurance**				

Part 4: Premium Fixing

17. Do you think the amount of premium requested for typical construction insurances is reasonable and affordable to the extent of the coverage?

    Yes [ ] No [ ]

18. How do you fix the premium of a typical project's risk insurance?

    (Tick all those applicable)

- Detail study of the project [ ]
- Net worth of company [ ]
- Profitability during the past year [ ]
- Previous experience [ ]
- Claims history [ ]
- Principal type of construction [ ]
- Expert estimate [ ]
- Contract amount [ ]
- Location of the project [ ]

(Others please specify) ----------

19. What is your belief of the remedy to make construction related policy premiums less expensive?

Part 5: Claim Response

20. Please indicate below the percentage of major compensations effected by your company to claims presented by Employers/Clients, Contractors and Consultants for damages in relation to construction insurances in the past five years (total number of compensation/total number of claim) x 100:

a) Employer/Client---------- % c) Consultants---------- %

b) Contractors ---------- %

21. Do you have any dispute with Employers/Clients, Contractors and Consultants because of disagreement on the amount of compensations, based on liability or other?

Yes [ ] No [ ]

If your answer is yes, please indicate the percentage of major disputes in the past five years:

a) Employer/Client---------- % c) Consultants---------- %

b) Contractors ---------- %

22. What are the reasons that you consider are constraints for you to make efficient claim responses to construction clients?

Part 6: Recommendation

23. What are your overall suggestions on improving construction Insurance practices by parties in Ethiopian construction industry?

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24. Any other comments you wish to provide:

I sincerely appreciate your timely response and cooperation.
Thank You!!

Appendix A-5 Interview Questions

Interview Questions to Government Authorities

Name of Authority: _____

Your position: _____

General Questions for All authorities

1. What is your opinion over the nature of construction as risky, risk management and the use of insurance as a vital risk transfer tool?
2. How important do you think is the role of insurance in construction undertakings of Ethiopian construction sector?
3. Do you believe that insurance is important and should be highly practiced in the construction sector of Ethiopia? Why?
4. In the developed world Professional Indemnity (PI) insurance is a must to purchase by consultants. Do you think it is timely to make this insurance policy mandatory in Ethiopia? If yes what measure are you planning to take and is taken (MC)?
5. On the way of this study it is observed that there is an awareness gap about insurance in the construction sector including the regulatory bodies. Insurance companies are not doing much work to introduce their products to the construction sector. Whose mandates do you belief it is to give information on insurance products and training to the construction industry stakeholders about insurance?
6. Do you agree with the idea of making some selected specific insurance coverages mandatory to construction contractors and consultants? What preconditions do you think should be made before making insurance mandatory?
7. Which of the construction related policies are considered very relevant by your authority that you consider should be mandatory for consultants and contractors?

Questions Only for Ministry of Construction and Ministry of Water and Energy

8. Are there policies which you already have made and/or you are planning to make mandatory to be purchased by consultants and/or contractors by way of regulation?
9. Do you have any plan at license giving to contractors and consultants to require them to have some selected specific insurance coverage?
10. It is found from the questionnaire survey response of this study that formal risk assessment process consists of identifying risk factors and quantifying their impact using probability of occurrence, range of risk costs and simulation. But formal risk

assessment is not being conducted by majority of construction companies in Ethiopia. Therefore, major construction companies should be convinced that proper risk management is important. And in major contractors organizational chart there should be an independent department/division/ in charge of risk management and insurance. What influence can the ministry bring to the industry in line with this (MC)?

11. There is a belief by major of the respondents of questionnaire survey conducted for this research that the government shall introduce a national construction council which deals with cost and risks with policy makers and stakeholders to advise to stakeholders on issues related to construction in general; while insurance could be one of the issues. What is your opinion (MC)?
12. Ethiopian building proclamation No.624/2009 was proclaimed in 2009 G.C followed by building regulation No.243/2011 and building Directive 5/2003 of Ministry of Urban Development and Construction. Article 26(3) and article 27(2) of the proclamation state respectively for contracting consultants and contractors to provide an insurance cover before the start of a project which will stay valid for a minimum period of one year from the date of completion of the project. The insurance covers are compulsory and meant to provide compensation for any damages resulting from faulty designs and construction quality defects from faulty construction for consultants and contractors respectively. But the proclamation is not being fully enforced in practical implementation. What do you think is the gap for implementing the policy since it is not being fully in force (MC)?
    - Do you have proper follow up scheme on contractors and consultants to enforce policies
    - What penalty measures do you have?
    - Many respondents to the questionnaire of this study are not well familiar with this proclamation. It seems there is a communication gap to the contractors and consultants to make them familiar. What are you doing to alleviate this problem?

Questions Only for National Bank of Ethiopia

13. Do you have minimum standards for policies and the ways in which they may be advertised and sold; so that the languages will not be complex for buyers difficult to purchase?

14. As it is found out by informal discussion with insurance companies for the purpose of this research; It is believed by earlier established insurance companies in Ethiopia that a limited margin shall be established by NBE for all insurance companies for premium fixing in which minimum margin is known for each policies premium; then after the competition base for the companies will be based on quality of service provided for customers. What is your opinion and belief towards this point?
15. Insurance companies need to incorporate skilled professionals of civil, hydraulic and geotechnical engineers for the government to mark them as qualified for construction related insurance service job. Because insurance is a huge sector insurance companies need to have a department with enough knowledge on activities undertaken by construction companies and related resources mobilized to enable them fix premiums in line with possible risk. What is your belief and opinion over this?
16. What influence is NBE willing to make on the concerned government authorities about insurance to the construction sector?

Thank You!

APPENDIX B

List of Insurance Policies Provided By the 17 Insurance Companies in Ethiopia

Table B-1 below shows list of all insurance policies including construction related and others collected from the company profiles, brochures and responses of insurance companies showing the frequency of each policy being provided out of the 17 insurance companies.

Table B-1 List of insurance policies Ethiopian insurance industry currently provides

No.	Types Of Policies Insurance Companies Provide				Frequency	Percentage
1	Cargo Insurance (Land, Sea and Air transit covers)					
		·Marine cargo			13	76%
		·Goods In Transit (GIT)			10	59%
		·Marine hull-pleasure boats			1	6%
2	Property Insurance					
		·Standard Cover			1	6%
		·Standard Cover with allied perils			1	6%
		·Fire and allied perils Insurance /fire and lightning/			14	82%
		·Burglary and house breaking			13	76%
		·All risks' Insurance			12	71%
		·Plate Glass Insurance			13	76%
		·Householder's Comprehensive			1	6%
		·Motor Insurance				
			Commercial Vehicles		17	100%
				Third party Compulsory		
				Comprehensive		
			Private Vehicles		17	100%
				Third party Compulsory		
				Comprehensive		
			Special Vehicles		1	6%
			Motor Trader's Comprehensive		1	6%

			Agricultural Machinery and Implements	1	6%
3	Engineering Insurance				
		·Contractor's All Risks' Insurance (CAR)		17	100%
		·Erection All Risks' Insurance (EAR)		16	94%
		·Contractors Plant and Machinery (CPM)		17	100%
		·Machinery Breakdown Insurance		13	76%
		·Boiler Explosion and pressure vessel Insurance		13	76%
		·Electronic Equipment Insurance		12	71%
		·Delay in startup (DSU)/Advance loss of profit (ALOP)		11	65%
		·Civil Engineering Completed Risks (CERC)/ Decennial (10yr) Insurance		1	6%
		·Machinery (M) Insurance		1	6%
		·Machinery loss of profit (MLOP)		1	6%
		·Deterioration of Stock (DoS) Insurance			0%
		·Condominium Insurance		1	6%
		·Consequential loss		3	18%
4	Liability Insurance				0%
		·Public Liability		13	76%
		·Professional Indemnity		14	82%
		·Product liability		10	59%
		·Inland carrier liability		10	59%
		· Workmen's Compensation (Employer's Liability)		15	88%
		·Combined liability		1	6%
		·Carrier's legal liability insurance		1	6%
5	Pecuniary				0%
		·Business Interruption Insurance			0%
		·Fidelity Guaranty		14	82%
		·Money Insurance		14	82%
6	Bonds				
		· Bid bond		15	88%
		· Performance bond		16	94%
		· Supply bond		13	76%
		· Customs bond		14	82%
		· Maintenance Bond		12	71%
		· Advance payment		16	94%
		·Retention and Release Bond		10	59%
7	Medical				

		· Individual Medical insurance	1	6%
		· Group Medical Insurance	2	12%
8	Riders (Supplementary Contracts)			
		· Accidental Death Benefit (ADB)	3	18%
		· Accidental Death and Dismemberment Benefit (AD&DB)	3	18%
		· Supplementary Accident Insurance (SAI)	3	18%
		· Comprehensive Accidental Insurance (CAI)	3	18%
		· Waiver of premium Benefits (WOP)	2	12%
		· Funeral Expense Cover	1	6%
		· Terminal Illness/Dread disease Cover	1	6%
		· Permanent Disability Benefits	2	12%
9	Term			0%
		· Individual term Life Assurance	2	12%
		· Group Level Term Assurance	2	12%
		· Group Yearly Renewable Term Life Assurance	2	12%
10	Other Covers			
		· Personal Accident Insurance (Individual and Group Personal Accident-GPA)	13	76%
		· Travel Health	6	35%
		· Emergency Travel Health Insurance	1	6%
		· Aviation Insurance	2	12%
		· Energy Insurance	1	6%
		·Group Endowment Insurance	2	12%
		· Mortgage Protection	1	6%
		· Whole Life Insurance	1	6%
		· Ordinary Endowment Insurance	2	12%
		· Pure Endowment Insurance	1	6%
		· Anticipated Endowment Insurance	2	12%
		· Endowment Annuity Insurance	1	6%
		· Education Endowment Insurance	2	12%
		Total	**17**	