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Abbreviations and Note

Mo WUD= Ministry of works and Urban Development (Ethiopia)

PPA= Public Procurement Agency (Ethiopia)

FIDIC=Fédération Internationale des ingénieurs conseils

ERA= Ethiopian Road Authority

AACRA= Addis Ababa City Road Authority

CRBC= China Road and Bridge Corporation

BOQ=Bill of Quantity

SOR=Schedule of Rate

BOT= Build, Operate and Transfer

BOOT=Build, Own, Operate and Transfer

WB=World Bank

OPEC=Organization of Petroleum Exporting Countries

SIETCO=China Sichuan International cooperation co, ltd

DRE=Dispute Review Expert

ROW=Right of Way

CPM=Critical Path Method

PERT=Program Evaluation and Review Techniques

Abstract

Claims in international civil engineering projects sometimes will have impact on implementing the contract successfully., in order to observe and evaluate the contract claim situation in Ethiopia, and give guideline to all the contractual roles to settle the claims comfortably, this paper devote the research and literate review to find the key problems in contract claim management and give recommendation accordingly.

With this focused objective, this paper presents a research analysis based on randomly selected data from international construction organization that work in Ethiopia. The contract claim case studies analyzed by sampling survey scientific research method that follows a research strategy of specific to general. In the beginning, the paper analyzes the elements of contract claim administration, and then provides the general overview of the contract claim. Finally, it numerates the claim causes usage through cases studies selected in Ethiopia under different contract condition of Mo WUD, PPA and FIDIC. In addition to these discussions, analysis of other secondary data and recommendations forwarded to explain how claims should handle properly.

During the thesis research period, there were 15 simple random selected projects have been studied as a case studies. From studied projects, the time extension in average, exceed 117.7% of its original contract completion time and the cost compensation increase 34.8% comparing to its initial contract value. Thus, the main causes of the majority contract claim problem lies on the failure in contract claim management and on unforeseen circumstance like variation, adverse climate, right of way problems, etc.

Finally this thesis contributes to the improvement of contract claim management in Ethiopian construction industry and open ways for further researches related to claim management.

Key words: claims, international construction contract, contract claim management

Chapter 1 Introduction

1.1 General

During the execution of international civil engineering contract, sometimes it is very difficult for the contractor to finish the project under the contractual conditions because of some kinds of actual limiting factors like financial shortage, availability of special material in the market and skill manpower problems. That is why contractual claim which includes time and cost compensations for the contractor becomes more and more important in the international contract execution procedures and the proper handling of claims will certainly influence project implementation.

International civil engineering contracts sometimes suffer a delay or the project fails to complete within contractual time because of the complexity and diversity of the claim procedure. But for the contractor, the different is if a project is delayed because of its failure implementing and the actually work program is herewith far away to satisfy the goal of the preplanning, the engineer have the authority to order the contractor to expedite the work progress according the provision of the contract. In this case, the contractor losses his right to ask for time extension and compensation caused by work delay from the client. If the contractor finally failed to achieve the contractual completion time, he has to pay the liquidated damages to the client according to the condition of the contract document. The same situation applies to the cost claim¹, if the contractor fails to ask for the losses caused by various reasons contractually and timely, he will lose his entitlement for financial compensation which eventually affects the project implementation due to shortage of working capital.

While, the employer may frequently receives various compensation requests from his contractor during the execution of the contract. It is certainly important

¹ Claim in contract management, a demand by one party for additional payment to which he is entitled under the contract, or for damages for *breach* of contract due to faulty workmanship, failure to supply goods on time etc. A contractual claim is a claim that can be settled within the terms of the contract without recourse to legal proceedings (Nujikas Davies & Erkki Jokiniemi, 2008, Dictionary of Architecture and Building construction)

for him to defend the claim based on the instruction of the engineer to escape extra financial loss, and protect his shareholder's investment benefit.

Due to the different role represented in the contract implementation, the engineer which is delegated by the employer has to ensure the project completion with a small fund as possible. He must be competently and professionally provide his comments in any kind of arose claims to make the project goes smoothly.

Therefore, it is very important for the contractor to ensure the claim following the effective method and procedure. The engineer has to provide his adjustment accurately and timely to the employer so that the project will be carried out under harmonious contract environment.

With the rapid development of construction industry in Ethiopia, more and more international contractors are involved into this prosperous construction market. However, due to the construction technology and contract management problems, sometimes projects faces many kinds of claims arousal from all contractual parties and the loss to the involved parties who lacks a contract claim cognitive becomes more and more impressing. Therefore, Claims has become more and more important and imminent in the international construction contract environment.

It is important for the contractual roles to properly understand the meaning of construction contract claim. As it is known that the central meaning shared by the word of claim is "a legitimate or asserted right to demand something as one's rightful due" (American conventional dictionary, 2007), Since the surface meaning of claim is sometimes sensitive for both employer and engineer to accept claim request for the reason that the dry meaning of claim resides with an express of serious demand.

This thesis analyzes the summarized contractual claims under different conditions in Ethiopia and provides some cases which are adopted by various contract administration management methods. Finally it will help the contractual parties to understand the cause-effect relationship of claim and to accept and resolve it comfortably during the execution of the construction contract.

1.2 Problem statement

Contract claim require a proper claim administration in construction industry. Therefore, all the involved contractual parties should possess the knowledge and necessary experience to deal with claims arising during the contract implementation.

In addition, the external environment, government policies, institutional capacity and the integrity of the contractor should be considered.

In Ethiopia, after nearly one year intensive interviews and wide scope investigation of claim problems in different enterprise relevant for my study. After assessing nearly twenty projects, the author found out that; contract claim sometimes is not properly administered because of the following reasons:

- 1) Contractor's capacity to timely submit their intent and documentation is very weak, usually after facts and defensive had happened i.e. when failure occurred.
- 2) Power and duties of the Engineer and even the Employer to approve claims especially when financial is limited and has to pass a long bureaucratic chain.
- 3) Engineer's comments are not usually against Employer's good will
- 4) No good culture and practice of dispute resolution procedure for amicable settlement, arbitration and litigation.
- 5) Claims requests submitted by the contractor might not solved in a long time period due to the improperly supervision and consulting of the engineer.
- 6) Claims to the projects which are invested by private organization are very difficult to get resolution due to the employer's misunderstanding of the contract conditions.
- 7) Project management shortcoming such as delay, unclear or inadequate instructions, delays in delivery of material, tools and equipment, provision of poor tools and equipment, unbalanced work force and non flexible assignment, using of wrong methods of work, bad advance planning and allocation of resource, failure to delegate authority from senior to lower level supervisions affects the contract performance.

As it is discussed above, we know the major reasons of contract claim is contract management problems or inadequate concerns to claims which are arise from different resource. Therefore claims can be avoided as the contract administration capacity increased.

1.3 Research questions

The research mainly focuses on explaining how the contract claims management situation in Ethiopia affects international construction companies? Besides, it explores to answer additional supportive questions like; what causes the contract claims and what are the contract claim conditions applied and what are their interpretation and related resolution.

Through some random case selection and analysis, general problem and findings can be summarized. After answering the questions; conclusion and recommendations will be drawn accordingly.

1.4 Objective of the study

The main objective of this thesis is to discuss the methods of claim under different conditions and to give recommendations through analyzing some case studies. With this ultimate goal, the study will have the following specific objectives.

- Discuss the contract management effect on claims
- Provide the general overview of contract claims
- Evaluating and discussing the current contract administration situation in Ethiopia, and comment on different claim conditions as sited in Mo WUD, PPA and FIDIC
- Analyzing some international claim cases.
- Through these case studies, it will make the reader to have the general knowledge of contract claim and feel comfortable to deal with various claims cases under different contract conditions.

1.5 Methodology

This study starts with determining the elements of contract claim conditions and observing contract management effect on claims by literature review scientific research method, and then as shown in Fig 1, from specific to general, the paper provided the general overview in contract claim, and focused on the contract claim in Ethiopia under different contract environment. In parallel, data collection from different international construction companies has been conducted to have a deep understanding on the claim issues and support in analyzing the secondary data used in the research.

In addition, some cases are randomly selected and studied to understand the causal-effect relationship of claims in international construction companies. In these analyses to the selected cases, hypothesis research method had been applied to indentify the most important influence variable related to the time extension and cost compensation claims.

After obtaining the necessary results from the case study, analysis of the results followed accordingly.

Finally, based on the findings of the research analysis, conclusion & recommendation had been drawn and forwarded.

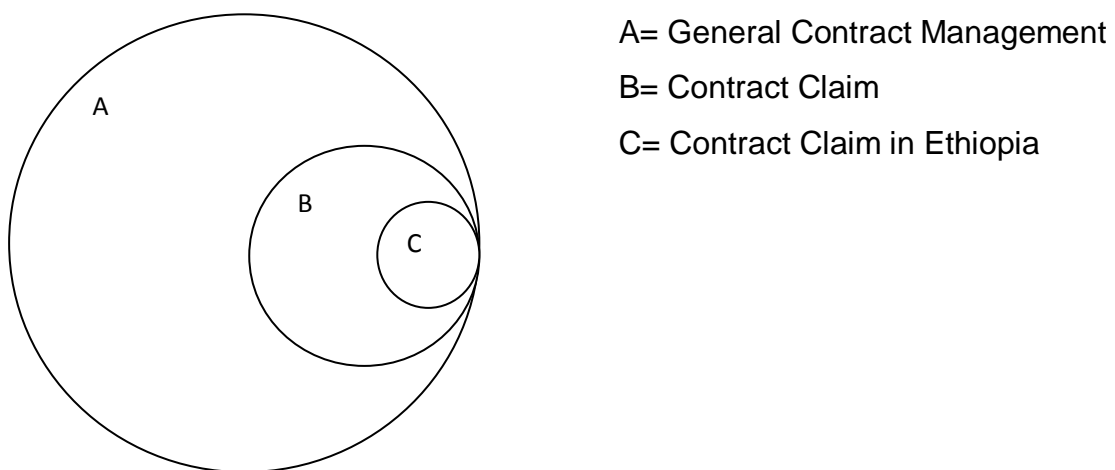


Fig 1 Research strategy method

Before conduction of this research, based on the general plan of thesis, the author had drawn a general process of research formulation which is as shown in following Fig 2:

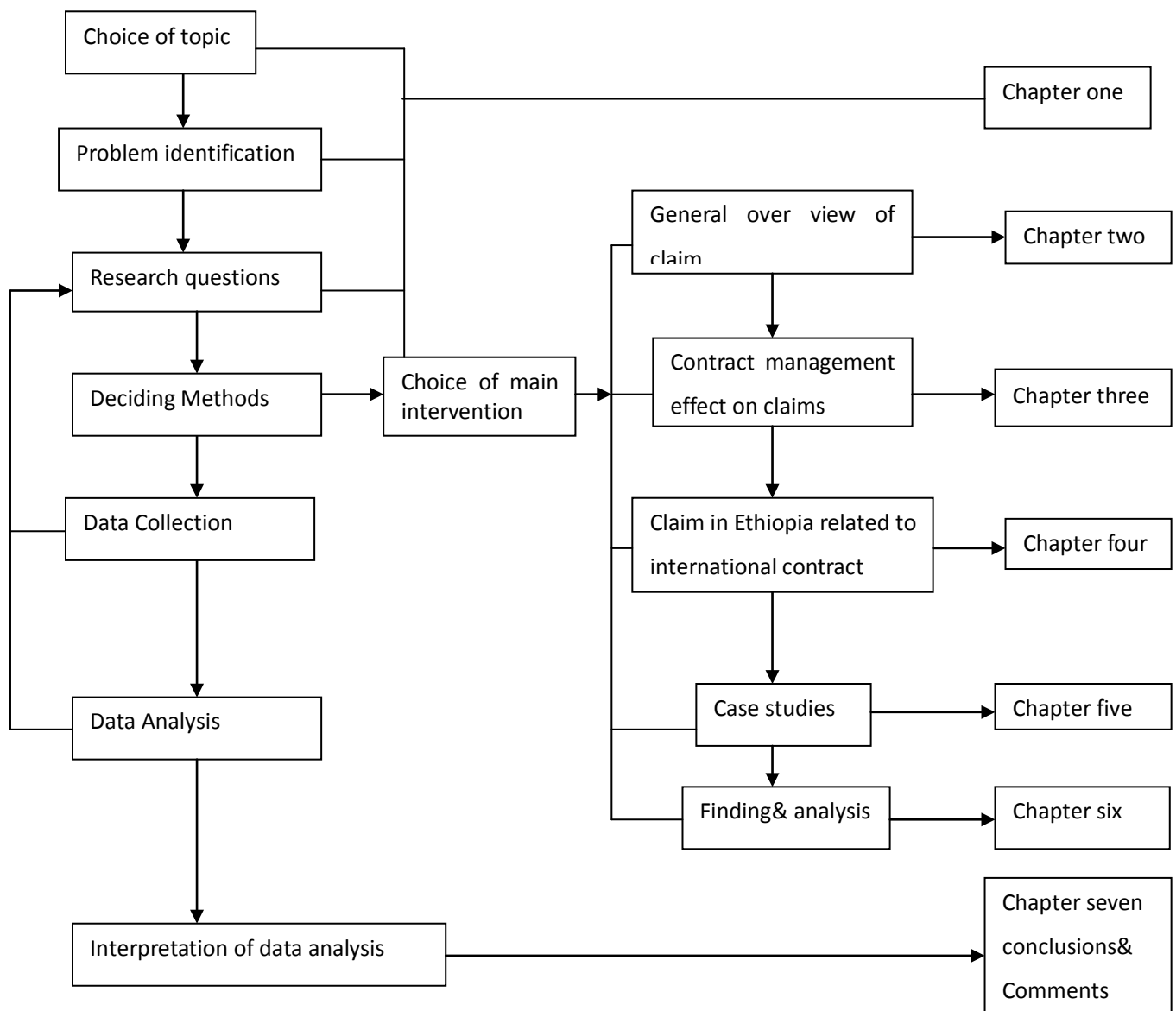


Fig 2 General process of research formulation

The data I have used in this thesis is primarily found from previous MSc. Thesis works, Ministry of work and urban development of Ethiopia, FIDIC,, academic journals, etc. Besides, I have interviewed different project managers, and collected information to use their project as my case study.

1.6 Limitations

During this paper preparation period, the data collection were limited in small numbers of cases from different enterprise adopted general contract condition of Mo WUD, PPA and FIDIC respectively. This makes the research result analysis inadequate of persuasion. The biases and inaccuracies' of data cannot be checked since the data came from few cases, it doesn't represent the whole situation of contract claims and this is the common shortcoming of secondary research method.

1.7 Significance of the study

Normally, a great loss of money and time happens when incompetent contract parties failed to counter claims because of poor contract claim administration. The main reasons for these could be the nature of the jumbled project management or lack of contract administration knowledge in case of claims arise

Contract claims in Ethiopian construction industry have its own characteristics because of the specified contract document application. FIDIC; Mo WUD and PPA are primary adopted for the general conditions in Ethiopian international contract. This thesis analyzed claim arising in the above mentioned different contract management environment and accordingly gave comments by using sufficient cases studies.

In addition, the thesis also focus on the problems that caused contract claim and provide a proper resolution to different problems encountered during the contract execution.

Last but not least, this paper will provide base line knowledge to international construction companies which work in Ethiopia and also give a profound data for researchers who want to study further on the nature of contract claim in relation to international and domestic construction organization.

Chapter 2 Contract claim

2.1 General literature review

In order to explore the further observation of claim situation in Ethiopia, I conducted further research on the related contract claim studies.

After the change of government in 1991, however, a steady increase in project was observed in the civil construction sector. Not only was there steady growth in the number of engineering projects finance locally, but the contribution of foreign financing agencies as well as the participation of international contractors as well as consultants in major civil engineering projects also increased (Girmay Kahssay;, 2003).

These days, the type of project procurement system and improper claim administration raises more problem, for instance among 15 completed projects studied, project delay was up to 500% of its contractual time and the cost increases to more than 80% of its contractual sum were encountered. Abdissa Dessa explains the main causes for these problems as improper project management and claim administration (Abdissa Dessa, 2003). However, there are more problems happen in international contract that he didn't mention such as material delivery delay from abroad, climatic changes, misunderstanding in communication language between foreign companies and local clients, subcontractors , and many more reasons.

The above two researches were presented by Girmay Kahssay and Abdissa Dessa in year 2003 are related to the investigation of contract claim situation in Ethiopia, and in both of their papers, they elaborated the problems using primary and secondary data to describe claim problems encountered in Ethiopian construction projects and identified the main causes of claim sufficiently.

This research contributes more to Ethiopian contract claim research by exploring case studies regarding to the current international construction organizations claim problems. This closes the gap further left by the two researchers when they conduct research more on the domestic and international contract.

The above mentioned papers and other relevant documents related to contract claims issues have helped me to understand the overall picture of claim

administration in Ethiopia. In addition, the paper analyzed contract management and tender method effected on claims, detailed interpretation to the claims clauses in Mo WUD, PPA and FIDIC which are not covered by the previous research.

Claims are inevitable facts during the execution of construction contracts, therefore, how to handle and treat the arising contract claims have become an independent subject, due to its influence and relation to huge amount of finance of the project.

Especially, claims in international contract environment have been given more concerns with the global economic development, as more funds comes for the construction activities from the global financiers.

In Ethiopia, with the assistance of World Bank or other international organization, the government has invested more and more on large-scale civil engineering projects. Due to unforeseen incidences and contract management problems, these projects sometimes face many kinds of claims. How to solve these problems and minimize or avoid contract claim loss has become a critical task.

2.2 Definition and classification of contractual claims

2.2.1 Definition of contractual claim

Contractual claim is a claim that can be settled within the terms of the contract without recourse to legal proceedings (Nujikas Davies & Erkki Jokiniemi, 2008, Dictionary of Architecture and Building construction)

During the execution of the contract, one party might request for compensation or any entitlement persuading to the contract condition, regulations and related laws from another party due to his fault or breach of agreement or the clauses which bond in the relevant legal documents.

2.2.2 Major Causes for Claims

During the execution of the contract, sometimes claims might show up due to the following factors.

- Ambiguities in the contract document: like inaccurate design information, inadequate design information and incomplete tender information

- Inadequate contract administration: Capacity & willingness of parties to administer the contract such as slow decision making, irresponsibility of the contract administration parties.
- Changed circumstances like inadequate site investigations, uncontrollable external events and unclear risk allocation, etc.
- Extra work or variation orders
- Delays: may cause by slow client response (decisions), unrealistic time targets, changed conditions, etc.
- Poor communications
- Inappropriate contract type

Generally, potential contract claim can arise within the systems of external factors like weather, market and politics etc, contract and project management teams, the interaction is shown as Fig 3:

Figure3 illustrates the many interacting potential sources of claims in construction scenarios, contract claim or conflicts can arise both within systems such as A, B and C, as well as at the interfaces of such source systems such as D, E, F and G. Analyzing further, claim or conflict may be discerned with and between subsystems like B1 to B4, D1 to D4. The potential for contract claim or conflicts is further magnified when incorporating the next layer of subsystems, such as joint ventures and subcontractors (Mohan M. Kumaraswamy, 1997).

Common resource of contract claim can be clearly explained by Fig 4, in this figure, we may find out the claim can be caused basically by single influence factor like unrealistic tender price, uncontrollable external events and inappropriate contract type or their interface and other complexity problems, it is difficult to eliminate all these contract claim factors in one time, so the author suggest the contract parties to give the right attitude to the facts that we must face during the execution of contract. In case of the contract claim shows up, find the key problem and then give an immediate resolution to minimize the loss to all the involved parties.

Figure 4 provides such an overview, with a differentiation of the proximate causes from the perceived underlying root causes that give rise to construction claim in general(Mohan M. Kumaraswamy, 1997).

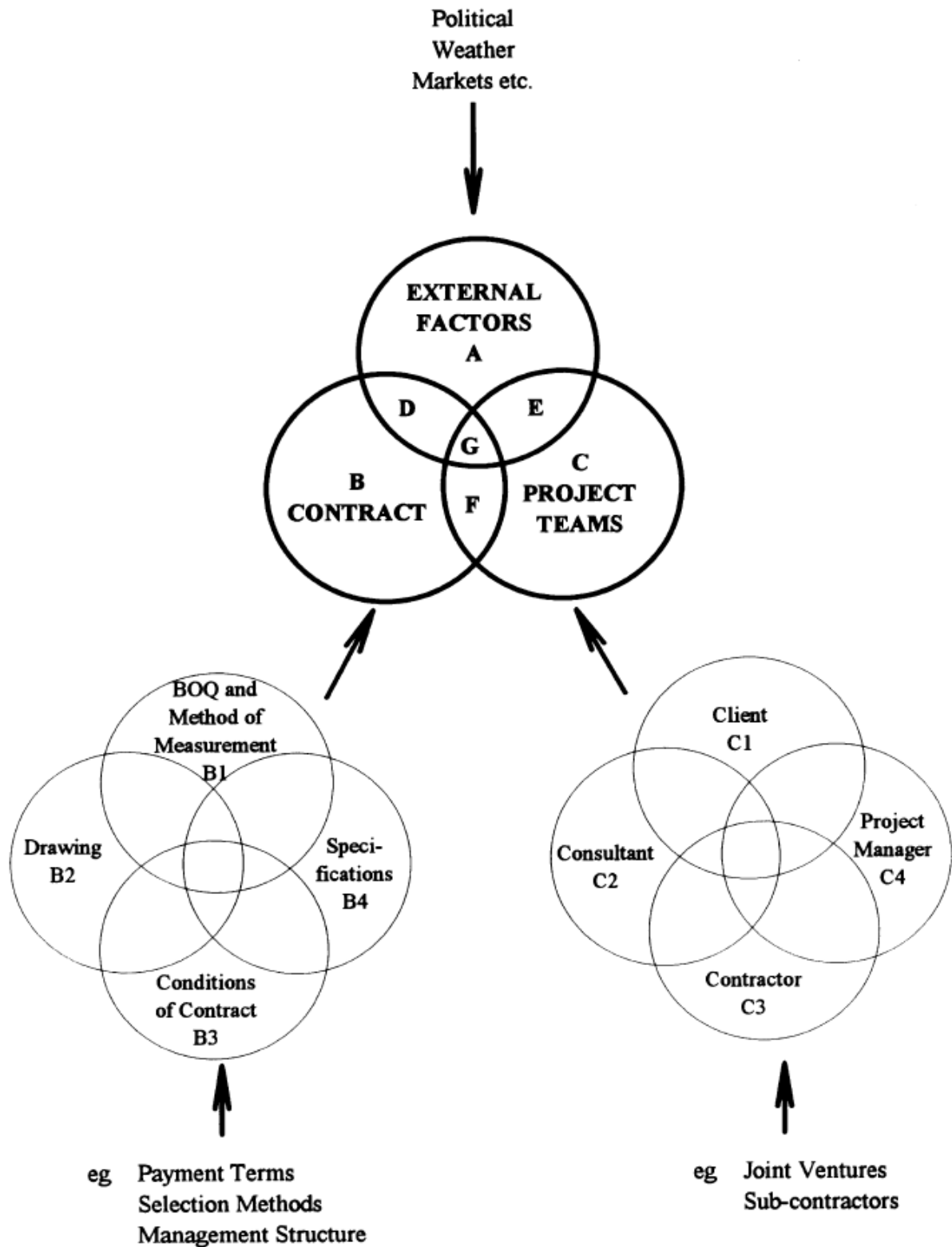


Fig 3 Potential source of contract claim

Source: Conflicts, claims and disputes in construction

(By Mohan M. Kumaraswamy, 1997. Hongkong University.)

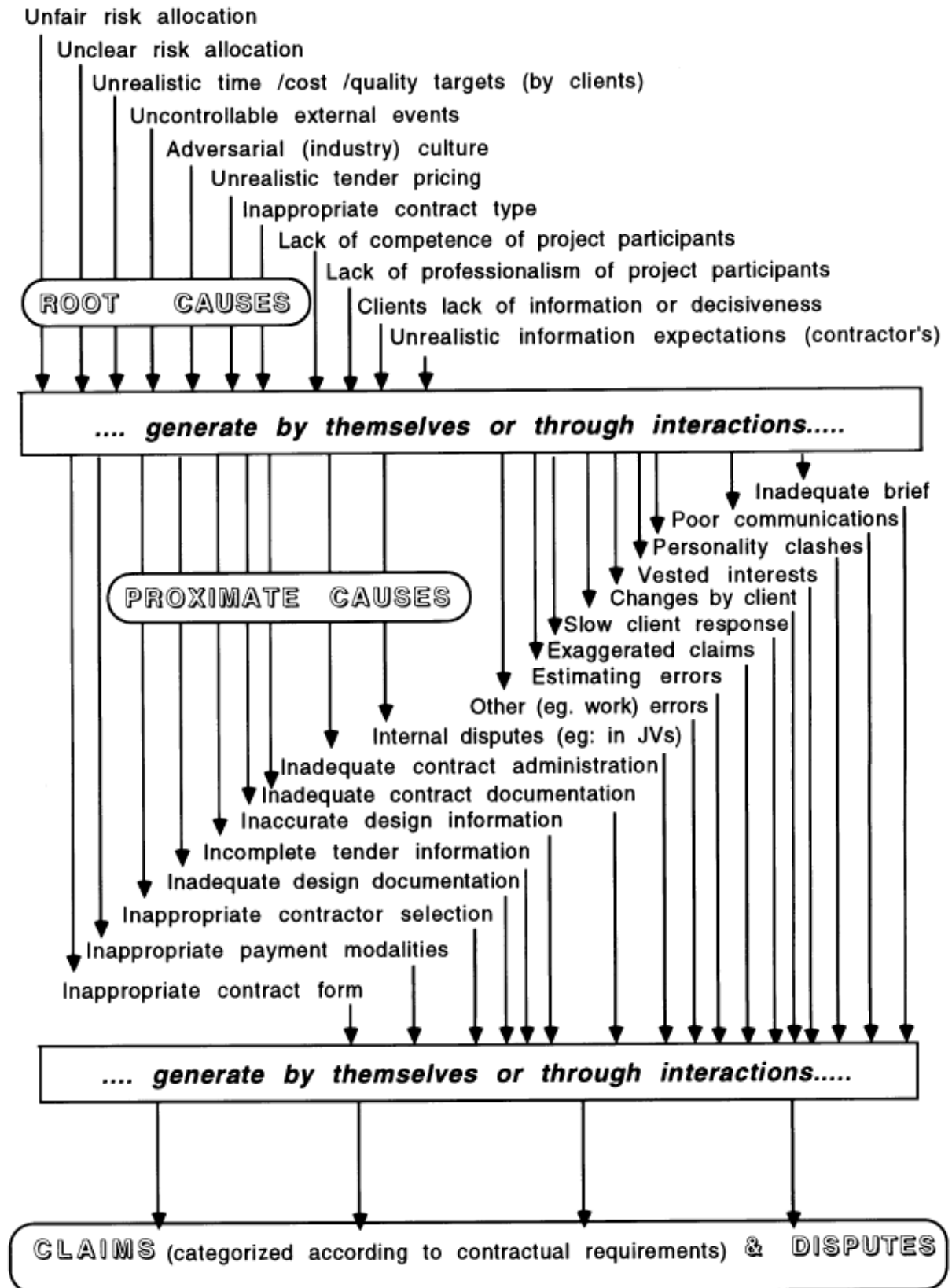


Fig 4 Common resource of contract claims

Source: Conflicts, claims and disputes in construction

(By Mohan M. Kumaraswamy, 1997. Hongkong University.)

2.2.3 Classification of contract claims

A classification of the 'common' categories of construction claims encountered in a particular country can be influenced by the claim category heads that are permissible and 'popular' under the prevalent conditions of contract. 'Popularity' of usage of particular claim category heads, while supposedly based on justifiable causes, is also enhanced by the perceived potential of 'success' in obtaining compensation. This is borne out by anecdotal evidence of some claims being shifted from one category that yield only 'extra time' and 'cost' compensation (say, for non-possession of site). (Mohan M. Kumaraswamy, 1997)

1) Claims for delay

Delays on construction projects can be complicated and difficult to analyze (F. Lawrence Bennett, 2003). As Simon (1989) describe delay,

..... is probably the single most devastating area of claims and potential losses that any party to the construction process may face. The expression that time is money is of great significance to each party, be it the owner who is financing a project, a contractor who is building at a fixed or guaranteed price, an architect or engineer administering the contract at a percentage of a fixed cost or any other related entity. Although time plays such a significant part in the determination of the entity's survival, the basic proposition the encountering a delay or suspension does not automatically entitle one to damage or equitable adjustment of the contract prices. Not all delays are compensable.

(F. Lawrence Bennett, 2003, p, 289)

The word "delay" (according to American conventional dictionary, 2007) refers to "be later or slower than expected or desired".

Definitions of construction delay: a real delay may be defined as a period during which a contractor cannot employ his men or machines or staff at their normal intended output, having regard to the nature and amount of work which is available under the agreed program of working or under any practicable re-arrangement of that program.

A delay can affect a portion of the work, or the whole of the work. In case of the delay facts happened, the contractor should record the details and inform

employer and the engineer for further observation.

2) Types of delays

Types of delays are many and varied but they can be grouped in to four broad classifications, according to how they operate contractually. They are:

- A) Non-excusable delay
- B) Excusable delay
 - a) Compensable delays
 - b) Non compensable Delays
- C) Concurrent delays

A) Non-excusable Delay

Delays which could have been foreseen or avoided by due care of the contractor are inherently the contractor's responsibility and no time extensions allowed.

- Underestimates of productivity
- Inadequate scheduling or management
- Construction Mistakes
- Normal weather
- Equipment breakdowns or
- Just plain bad luck

B) Excusable Delays

A delay is caused by factors which are not foreseeable or the delay beyond the Contractor's reasonable control.

Force Majeure

- Acts of God (e.g. flood, earthquakes)
- Strikes
- Unusually severe weather
- Fire
- Unusual delays in transportation

Excusable delay should meet the following three criteria:

- Beyond the contractor's control; and
- Without contractor's fault or negligence; and
- Not foreseeable.

C) Compensable Delays

Compensable delays are delays, suspensions, or interruptions to all or part of work caused failure to act resulting from the Employer's breach of an obligation, stated or implied in the contract.

Some examples are:

- Failure to properly and timely perform certain work which necessarily precedes the work of a contractor.
- Interfering with a contractor's schedule and ordering
- Supplying erroneous information
- Failure to disclose information
- Failure to provide timely inspection
- Interference with the responsibility of the contractor
- Requiring the contractor to perform one particular method
- Failure to timely process invoices, change orders or amendments, and contractor submittals.

D) Concurrent Delays

Concurrent delay occurs when both the Employer and the contractor are responsible for the delay.

The rights of the parties will be determined solely in accordance with the critical path delays

To avoid delay problems and potential acceleration claims, it is best to:

- Award time extensions timely;
- Not order early (or inappropriate) completion;
- If notice of claim is given, respond timely and specifically; and
- Advise the contractor that you will extend its time if justified.

Claims are frequently presented by contractor for delay. Apart from simple cases where, for instance, the engineer has had to order a machine to stop working for some reason and the contractor might not use the machine on other work place. In this case the engineer might not consider the consequence he put on the contractor that results both economical loss and time delay.

Claims related to delay may present many difficulties. At first, it must be stated that there are few precise rules to apply and few clear-cut legal cases to quote. However, some comments and suggestions might be thrown on the cause of general problem by the following facts

A valid delay claim must comply with all three of the following conditions:

- 1) the delay must have been real
- 2) the cause of the delay must be outside the contractor's liabilities and risks;
- 3) The delay must have caused loss or extra expenditure to the contractor which has not been made good to him or elsewhere under the contract.

In addition, we should pay attention to the causes of the delay, if it is a single factor influence, the time limitation will be easily accounted and the claim settlement will be very clear to all the parties, while, if the delay cause is consecutively and compliable, it needs the contract administration engineer to follow the whole procedure of the case therefore to provide reasonable justification in the end.

3) Liquidated damages related to contract delay

All the standard forms provide for payment of agreed damages by the contractor when completion is not within the contract or extended contract time. These payments are known as liquidated damages.

The appendix to the contract should record the amount to be paid for each day, week, or other period for which completion is delayed. This amount must be a genuine pre-estimate of the employer's damages and the rate agreed should represent the likely financial loss or cost incurred by the employer if delay occurs. If the amount is not a genuine pre-estimate of damage it may be held by the courts to be a penalty. In such a case the employer can only recover his actual loss, not the amount of the penalty. The liquidated damages inserted in the appendix to a contract for the construction of a wharf should be related to the expected loss of profit of the wharfing for each day that he is deprived of possession of his new wharf.

When no liquidated damages are agreed upon in the contract, the employer can still recover damages should the contractor fail to complete on time. Also when by reason of his actions the employer has lost all right to claim liquidated damages laid down by the contract he would still retain the right to claim damages if the work are not completed in a reasonable time. In both instances these damages are limited to the amount of loss which the employer can prove and in the latter instance should in any case not exceed the amount of liquidated damage fixed by the contract (John A.Milne, 1980).

4) Claims for cost compensation

Cost claim includes the actual expenditure during the contract implementation and the profit of the contractor. Single cost claim request may relate to many other activities of the project execution. Therefore, the contractor must make clear the workmanship and procedure of every minor work which described in the contract specification and apply the exact claim clause accordingly.

It should be emphasized that the cost claim must be submitted immediately after the claim facts occurred. If the claim requests are not settled by the engineer timely or the contractor delayed to delivery his claim request, with the execution of the contract, there will be more and more single claim case accumulated up to the completion time of the project. Finally, due to great deal of investigation works, complexity data collection and other relevant influencing factors, the claims settlement will become very difficult and then it will finally directly affect the claim result.

2.3 Proper procedure of claims

2.3.1 Claim process under FIDIC contract situation

According to the item 53.1 under FIDIC conditions, the contractor shall give notice of his intention to the engineer, with a copy to the employer, within 28 days after the event giving rise to the claim has first arisen. If the claim event is a continuing effect, the contractor should send to the engineer an account giving detailed particulars of the claims and the accumulated amount of the interim accounts. In case where the interim accounts are sent to the engineer, the contractor shall send a final claim within 28 days of the end of the effect resulting from the event and copy to the client pursuant to substantiation item 53.3. And then the engineer will give an estimate according to the requirement of the contractor and make a decision.

Usually, the claim administration process for the contractor is summarized as the following steps:

- Intent of the claim
Notice of an intention to be made specifically indicating the clause particular and submit adequate details of anticipated effects.
- Submission of Claim proper

Detailed submission would be necessary even if the engineer did not accept the claim in principle, should the contractor be dissatisfied with such a decision then the dispute can be referred to arbitration.

- Analysis and Recommendation of Award
After the engineer receive the contractor time extension request. He should immediately launch on the investigation of the mentioned events. And then analyzing contractor's intention compare to the actual account. Finally he should give his primary recommendation to the contractor within the contractual time.
- Negotiation & final Award
- Claim Closure

2.3.2 Claim process under Mo WUD and PPA

1) Claim Submittals

- Description of the work performed, delayed or impacted
- Full and complete submittal of the factual
- Causes
- Quantified impact (Cost and schedule quantification)
- Contractual basis for entitlement
- Documentary evidences
- Requested relief (proposed resolution from the contractor)

Mo WUD contract condition clause 70(3) prescribe that the contractor should within a reasonable time, give written notice to the engineer of the happening of any of the events. While,

PPA contract condition clause 32.1 describe that The Contractor shall warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work increase the contract price or delay.

2) Requested Schedule Extensions

- Claim for time extension with financial compensation
- Claim for time extension without financial compensation
- Directed Acceleration
- Constructive Acceleration

- If the extension is justified, the contractor will be entitled to compensation for acceleration
- If the extension is not justified, the contractor has to maintain its schedule at its own cost.

3) Claim Analysis

➤ Fact Findings:-

When the contractor submits his claim request, the engineer should collect the relevant evidence to identify and evaluate the claim request.

➤ Analysis: -

The engineer should take time to analyze the inquiry and subject himself to more discussion with the contractor in order to clarify the claim request.

➤ Technical Validity:-

After the engineer analyze the inquiry, he might need to refer technical references to check up whether it support the claim request

➤ Contractual Entitlement

➤ Confidentiality (secured)

➤ Quantification (labor, material, equipment, insurance, overhead & profit, critical path significance, time, impact on efficiency)

➤ Negotiation (reaching on a fair & equitable resolution)

➤ Award or Rejection

4) Counter claim and claims resolution

PPA contract condition provisions regarding to the dispute arising:

Clause 24.1 if the contractor believes that a decision taken by the engineer was neither outside the authority given to the engineer by the contract or that the decision was wrongly taken, the decision shall be referred to the adjudicator within 14 days of the notification of the engineer's decision. Clause 25.1 prescribes that the adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute. While,

Mo WUD contract condition provision regarding to the dispute arising:

Clause 67 if any dispute or difference of any kind whatsoever shall arise between the employer and the contractor in connection with or arising out of

the contract, or the execution of the work whether during the progress of the work or after their completion and whether before or after the termination, abandonment or breach of the contract, it shall in the first place be referred to and settled by the engineer who shall within a period of ninety days after being requested by either party to do so give written notice of his decision to the employer and the contractor, subject to appeal to MoMUD or its authorized representative. While, if the engineer fail to give notice of his decision as foresaid within a period of ninety days after being requested as aforesaid or if either the employer or the contractor be dissatisfied with any such decision then and in any such case either the employer or the contractor may within ninety days after receiving notice of such decision or within ninety days after the expiration of the first named period of ninety days; as the case may be required that the matter or matters in dispute be referred to MoMUD or his authorized representative hereinafter provided. The decision of the Ministry or his authorized representative shall be final and binding.

2.4 Principle of claims assessment and judgment

Amicable negotiation, justice and reasonable are the basic principle of contract claims, amicable negotiation request the contractor and the engineer settle the arising claims cooperatively and friendly, justice request the contractor claims with sufficient evidences, adequate related data and referring contract supporting documents; while the engineer and the employer should resolute the problems according to the provision of the contract based on the actual facts; reasonable request both of the claim applicant and the compensation disposer regard to the actual situation of the project and then find out the best solution of the problem to ensure the contract can be completely successful(Liu Yi, 2007).

2.5 Claim evaluation and assessment method

Claim evaluation and assessment include two aspects: the contract claim related to time and the contract claim related to cost compensation.

2.5.1 Methods of dealing with contract delay claims:

One of the main reasons why claims situations will persist is the project designer's accepted inability to fully provide for all eventualities. This means that changes will be made to the contract as it proceeds, and where these involve additional work, adjusted payments will be necessary. Disagreement on the level of these payments will be a typical source of claims. As well as changes to the payments made, these variations may also result in delays to the works and where these delays have a knock-on effect on the project as a whole, they may give rise to extra costs. These results from the contractor's prolonged presence on site and generate additional overhead costs for the extended period. There are, of course, factors other than varied work that may delay the project and it is also generally recognized that delay may be attributed to the employer, to the contractor or to neither party (R.A.Harris & S.Scott ,2001).

Methods:

1) Bar chart method

Bar chart method applied for the scheduling and control of project. It is used to illustrate duration and time sequence of the activities in a project. Begin, end and duration of the project activities are entered into a calendar in form of a bar. The control of actual and planned value is realized by differentiating between actual planned bar in the representation.

Deviation from the planned status can easily detect by means of the calendar entries (www.informatik.uni-bremen.de).

2) Critical path method(CPM)

Critical path method is a mathematically based algorithm for scheduling a set of project activities. It is an important tool for effective project management.

CPM calculates the longest path of planned activities to the end of the project, and the earliest and latest that each activity can start and finish without making the project longer. This process determines which activities are "critical" (i.e., on the longest path) and which have "total float" (i.e., can be delayed without making the project longer). In project management, a critical path is the sequence of project network activities

which add up to the longest overall duration. This determines the shortest time possible to complete the project. Any delay of an activity on the critical path directly impacts the planned project completion date (i.e. there is no float on the critical path). A project can have several, parallel, near critical paths. An additional parallel path through the network with the total durations shorter than the critical path is called a sub-critical or non-critical path(www.informatik.uni-bremen.de)..

3) Program evaluation and review techniques(PERT)

PERT is a method to analyze the involved tasks in completing a given project, especially the time needed to complete each task, and identifying the minimum time needed to complete the total project.

The delay assessment can be clearly observed by using PERT method, one example as show in Fig 5:

PERT chart for a project with five milestones 1 through 5 and six activities A through F, the project has two critical paths: activities B and C, or A, D and F; giving a minimum project time of 7 days with fast tracking. Activity E is subcritical and it has a float of 2 days.

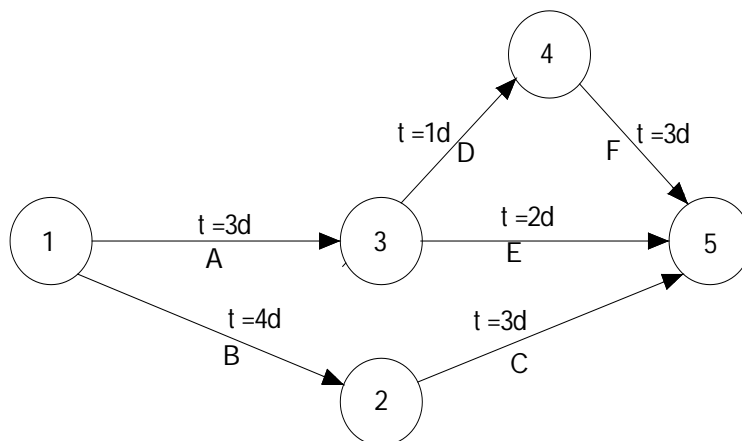


Fig 5 An example of PERT

In this case, the time extension request in activity E will be not acceptable.

2.5.2 Methods of dealing with contract cost claims:

Cost claim may arise in various reasons like variation, payment delay, and physical obstructions, etc.

Cost claim Method and its assessment:

- 1) Original contract price plus percentage profit

The engineer might give order to change his design based on his previous plan, in this case, the contractor may ask for cost compensation due to revised design according to the original contract price.

2) Providing new price base on original contract

The design change in great extend, if the contractor still apply the original contract price, the loss cannot be covered, therefore, the contractor needs to provide new price.

3) Providing new price base on current market

Due to market price has changed a lot, the contractor need to give new rate to variation to minimize his loss.

4) Extra loss plus over head and profit

In case of various reasons, if the contractor had been forced to suspend his work, he may ask for the extra loss plus over head and profit to remedy his contractual loss.

5) Negotiation base on actual loss

Normally, if the contractor and employer both willing to negotiate the loss and make compensation accordingly, it will be good for executing of contract and improving their further relationship.

2.6 Claim following up and evaluation

Once the claim report has been submitted, in spite of the contractor, the engineer and the employer, all the involved parties must follow up the case and immediately give their comments or make an evaluation report accordingly to avoid the claim settlement delay that causes further loss.

Every project has its own management system. Sometimes, losing control in one part of the management team may finally lead to a great loss in time and money. The communication problem among different bodies in the organization could lead to a delay in addressing the problem on time and submission compensation request.

2.7 International contract claims in Ethiopia

In Ethiopia, contract claims involve both the cost compensation and time extension request in international contract.

As the case studies, these claims related to right of way problems especially impacting in more than 90 percent of Addis Ababa city road construction projects, rainy season problem which it has 100 percent influence to the entire outdoor municipal projects, contract management problem such as employer's fault, design errors, incompetent project administration, misunderstanding of the condition of the contract and so on.

Some of the claims amounting range in huge number even excess the original contract price. Therefore, it is urgent and very necessary to awake the contractual parties and relevant organizations to focus on these critical problems and find out the right approach to different situation which may encountered during the contract management.

2.8 Resolution to contract claims

Resolution of contract claim is an important task for all the contractual parities. The mechanism for contract claim resolution can be specified in the original contract or, less desirable, decided when a dispute arises.

The most prominent method for contract dispute resolution is adjudication in a court of law. This process tends to be expensive and time consuming since it involves legal representation and waiting in queues of cases for available court times. Any party to a contract can bring a suit.

In adjudication, the dispute is decided by a neutral, third party with no necessary specialized expertise in the claim subject. After all, it is not a prerequisite for judges to be familiar with construction procedures.

Legal procedures are highly structured with rigid, formal rules for presentations and fact finding. On the positive side, legal adjudication strives for consistency and predictability of results. The results of previous cases are published and can be used as precedents for resolution of new disputes.

Negotiation among the contract parties is a second important for contract claim resolution. These negotiations can involve the same sorts of concerns and issues as with the original contracts. Negotiation typically does not involve third

parties such as judges. The negotiation process is usually informal, unstructured and relatively inexpensive. If an agreement is not reached between the parties, then adjudication is a possible remedy.

A third dispute resolution is the resort claims to arbitration or mediation and conciliation. In these procedures, a third party serves a central role in the resolution. These outside parties are usually chosen by mutual agreement of the parties involved and will have specialized knowledge of the dispute subject. In arbitration, the third party may make a decision which is binding on the participants. In mediation and conciliation, the third party serves only as a facilitator to help the participants reach a mutually acceptable resolution. Like negotiation, these procedures can be informal and unstructured.

Finally, the high cost of adjudication has inspired a series of non-traditional contract dispute resolution that have some of the characteristics of judicial proceedings. These resolutions include:

- **Private judging** in which the participants hire a third party judge to make a decision,
- **Neutral expert fact-finding** in which a third party with specialized knowledge makes a recommendation, and
- **Mini-trial** in which legal summaries of the participants' positions are presented to a jury comprised of principals of the affected parties.

Some of these procedures may be court sponsored or required for particular types of disputes (Gashaw Yayehyirad, 2006).

In general, it is important to note that the most important resolution for reducing costs and problems in dispute is the reasonableness of the initial contract among the parties.

Chapter 3 Contract management effect on claims

3.1 Major elements of construction contract claim management

The major elements of construction contract claims management are site management, documental administration which will be discussed below:

3.1.1 Site management

Proper site management is very important to improve the performance of physical works. Site management mainly involves site office construction records, reports to the head office and payment certificate preparation.

Construction record ² : - is a regular documentation of one work accomplishment and resource utilized at how much cost and how long a period. Normally, the report procedure may have four steps: daily reporting, weekly reporting, monthly reports and quarterly reports.

Daily report is a historical record which describes events of the contractor's day-to-day operations, the record should be sequentially numbered beginning from the first day of the project commencement. It is the site representative's responsibility to prepare the daily report because the record only describes the existing event details and it is critically important for further claim or dispute. The report should contain the project progress, major items of materials delivered or removed or installed, equipment and labor deployed; work stoppages, interruption, delays and conflicts, weather condition, accidents, injury and safety, direction or instruction from the engineer.

Finally, the recorder should give his comments, the comments may includes analysis of the potential cause of claims, for instant, the reason for suspending of the work, the weather effect on the contractor's operation, conflicts and resolutions.

Monthly report is more comprehensive which need a formal outline including

² Project record keeping is not just the contractor's responsibility. Each party must maintain appropriate documentation, from minutes of discussion to variation, distribution of such records to those authorized and needed to know is also a wise means of minimizing misunderstanding and conflicts. Site diaries should kept by the responsible supervisors appointed by each of the parties and should be factual and brief. (*F. Lawrence Bennett, 2003, The Management of Construction: A project Life Cycle Approach*)

cover page, project layout and data and main report. Monthly report should be submitted to the head office.

Main report of the monthly report may contain: introduction, construction activities that have been carried out, materials and production, financial status, quality and supervision, project actual progress comparing to preplanning, relevant supporting documents, planning for next months and remarked problems encountered and action to be taken, equipment and manpower inquiry on site.

Payment certificate preparation is another important factor for the project site management. It is the engineer's obligation to insure the contractor's payment statement, to prepare the payment certificate, the contractor need to refer the contract documents, bill of quantities, drawing, specification and contract condition, site instruction and price confirmation for the variation order (Fiker Alebachew, 2007).

Normally, the interim certificate should contain the total work properly executed, the total value of material and goods delivered, the amount of deduction and retention, previous payment and claims assessed. If the employer failed to pay the contractor in contractual time, the contractor has the right to suspend the work and claim for his loss due to delay of payment, the contractor may take action to request his entitlement until terminate the contract.

3.1.2 Document administration

Contract document is any written, drawn or computerized document that forms part of packages on which a contract based (Nujikas Davies & Erkki Jokiniemi, 2008). This includes agreement document, drawings, site construction record especially material test, equipment situation, labor change, site diary, letters, meeting minutes document, weather condition record, contractual correspondence, client correspondence, consultant correspondence, insurance certifications, etc. Besides, facsimiles, email, computer tapes, calculations shop drawings specifications, material samples, renderings, photography, slides, field reports, specification addenda,, contract modifications, invoices, financial statements, audit records, and time records, should be managed properly. Thus, Part of good office management is document control and record keeping (Fredrick .S. Merritt & Jonathan T.

Ricketts, 2001).

Document administration is very important for contract claim because the entire relevant document presented could be used as the evidence to the claim request. Documental administration will also show the management level of the company and it improves efficiency of the work.

3.2 Construction Contract and its relation to claims

Contract, contractual agreement; is a legally enforcing agreement between two or more parties regarding provision of goods, work or services, the scope of work included therein (Nujikas Davies & Erkki Jokiniemi, 2008). Construction contract and claims have close relation to understand the cause and effect of claim arousal and resolution.

3.2.1 Construction Contract

According to building design and construction hand book (2001), contract form is the written document signed by the client and contractor, which is the legal instrument binding the two parties. This contract defines the relationships and obligations that exist between the client and contractor. It also incorporates other contract documents by reference.

The contract for the construction binds the contractor to construct the activities described and the employer pays for the works which the contractor had done accordingly. It describes comprehensively what the project is, how payment is to be arranged, etc. The construction jobs are often complex, that involves the contractor in many different operations that require him such as to buy hundreds of different manufactured item and material, to employ a wide variety of men and machinery, etc. Therefore, to manage the construction process properly, the contract itself comprises a number of documents such as (R.J.Marks, A.Grant and P.W.Helson, 1965):-

- 1) The contract drawings, which pictorially show the works to be done, their dimensions, levels, the basic request for the materials, etc;
- 2) The specification, which describes in words the works to be built, the quality of material and workmanship to be used, and methods of testing etc.; a written or printed description of work to be done, forming part of the

contract and describes the additional information which are not shown in the drawings, specification is considered as the remedy instruction to the drawings and mandatory executed.

- 3) The bill of quantities, which sets out the expected measure of each operation of construction as calculated from the drawings, classified according to the trade or location within the proposed works. Normally, the BOQ should content the job number, description, quantity, unit, unit rate and the summery price.
- 4) The general conditions of contract, which define the liabilities, responsibilities, and rights of the employer, contractor and engineer, and covers such matters as methods of payment, dispute resolution, insurance, liability of parties to the contract, etc.; in Ethiopia, Mo WUD, PPA and FIDIC are adopted as the contract general conditions by most of the international construction contract.
- 5) The tender³, which is the signed financial offer of the contractor to construction the work in accordance with the above mentioned documents.
- 6) Any letter of explanation, which are agreed between the parties to the contract as elucidating or amplifying their intentions with regard to the foregoing matters.
- 7) The bond or insurance: the bond and insurance can provide guarantee to the contract parties.
- 8) The legal agreement, which is signed by both parties, confirming their respective intention to have a contract between them as defined by all the foregoing documents. The agreement should clearly describe the contractual parties, the contents and implementation method, etc.

The construction contract documents must be seriously examined before commencement of the project execution. And it should be signed based on equality, impartiality and unbidden.

The signed parties may revise some of the clauses which are ambiguity described in the contract documents or request compensation later for their loss due to error of paper works.

³ Tender is a written offer to carry out work or supply goods or services in given condition at a stated price; bid (Nujikas Davies & Erkki Jokiniemi, 2008, Dictionary of Architecture and Building construction).

3.2.2 Methods of tendering and its effect on claims

A contractor is selected on the basis of the construction program, technical execution capacity, financial capability, etc. Normally, the following methods may be used to select competent contractor from the sector:-

a) Open tendering

The client advertises the brief project details that provide key information about the proposed works for the local or international public press, and invites interested contractor to apply for the relevant contract documents.

This kind of tendering procurement method stipulates that the lowest submittal win the tender, the contractor has to decrease his price in order to win the contract competition. Sometimes the contractor ignores the profit during the preparation period of the tender and later the contract claim will be aroused due to price escalation or the contractor's compensation request, etc.

b) Selective tendering

The client may invite a short list of contractor to provide their proposal documents for the construction work.

The employer will provide the good price to the limited number of the invited competent contractor in selective tendering method and expect the contractor to offer a better service. However, if the contractor failed to satisfy the employer's expectation, his claim request could be easily rejected by the employer, and it will be difficult to get the final resolution.

c) Serial tendering

The client may have continuous phase construction program and contractors might be invited to participate in the tender competition on the basis of a normal BOQ, and on the understanding that a series of contracts for similar work will be left to the successful contractor on the conditions contained in that BOQ.

In this case, the works might be given to successful contractor, who is good at the similar project in case of the project suffer great change during the execution. The variation types could be beyond the performance capacity of the contractor, and this will bring a complexity to the contract claims aroused by both the employer and the contractor to find a reasonable solution or to terminate the contractual relationship.

d) Negotiated tendering

Negotiated contract are usually signed for particular reasons such as when the work require a high degree of technical competence or capability to complete the works within the required period of time.

This kind of tendering applied to the special works like nuclear station, military works and emergency assistance projects or tender procurement due to good relationship between the investor and the executor. The price of the contract is usually higher comparing to the common contract because of the professional performance request. Due to the nature of the contract, claims to this type of tendering may not be accepted by the employer. Therefore, the contractor must be very careful before deciding to take this kind of contract to avoid the further loss from a failure to execute the task.

3.2.3 Classification of contract and its causes to claims

1) Fixed-price contracts:

a) Bill of Quantities(BOQ)contract:

The total sum tendered under a bill of quantities contract is the sum of the individual items as priced in the bill, including any prime costs, lump sums and provisional sums. The quantities placed against the items showing the amount of work to be done are, for the purpose of tendering, quantities measured from the contract drawing, the quantities are not approximate, they are exact, being measured as accurately as possible from the drawings, when the work is constructed the quantities are replaced by the measurement of the actual quantity of work the contractor carries out under each items. But if the construction closely follows the design the total price paid by the employer will not be far different from the total sum tendered (R.J.Marks, A.Grant and P.W.Helson, 1965).

In BOQ contract, the activities quantities surveyed roughly based on the design in tendering preparation period, in the contractor's later implementation, if the actual amount is far beyond the quantities which described in the original contract documents, the contractor may claim accordingly to cover his extra loss in executing the surplus works.

b) Schedule of Rate (SOR) contract:

Some civil engineering operations are not possible to put into the bill of quantities, measurement of quantities based on the contract drawings when it is needful to commence the work before the design and contract drawing are ready. In this case, the contract can be based on a schedule of rates. Therefore SOR contract's quantities against the individual items are either not inserted or entered in estimated amounts or in round-figure provisional quantities. More items are scheduled for temporary work than usually appear in a bill of quantities because the amount of temporary work the contractor has to undertake is uncertain. The remainder of the scheduled items tends to describe operations by the contractor rather than outputs and the number of items is less than in a bill of quantities. There is no implied guarantee given that all or any of the work scheduled will in fact be carried out. Therefore, each item must carry its own overheads and bring the contractor adequate reward if undertaken in large or small quantity, irrespective of the amount of work done under other items.

The schedule of rate contract, when properly drawn up, is an extremely useful contract to have where the full extent of the work to be done cannot be foreseen. It can be made quite fair to the contractor, but it does not, of course, give the same assurance in regard to total cost to the employer as does a BOQ contract. It is clear that SOR contract could not provide the exact amount for the contractor as BOQ contract is, it need the contractor submit his extension request later according to the actual works he had done, therefore, the contractor must clearly ensure his request following the condition of the contract to avoid the contract claim in further.

c) Lump-sum contracts:

When the construction work is not very large, the work required can be precisely described in all its details, there are no great risks attached to its performance and no large or numerous alternations are called during its execution, the lump-sum contract will be quite well provided. Naturally, the works to be built must be entirely specified and dimensioned before the contractor can offer a lump sum, and this type of contract is therefore far more suited to above ground structures than below-ground structures, to avoid subsequent problem. The specification and drawings need to be complete in every detail before a lump sum is offered (R.J.Marks, A.Grant and P.W.Helson,

1965). .

The advantages offered by lump sum contracts are that they avoid a lot of detailed accounting and measuring work. The contractor gives the employer assurance of a fixed total price while the employer gives the contractor a clear straight forward job to do.

The disadvantage of lump-sum contract is that of the employer or the engineer wants an alteration of design or some additions during the execution of the contract will make the job runs into unforeseen troubles. In this case, the contract claim may arise accordingly and request to cover the changed condition loss to the contractor.

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2) Cost reimbursement contract:

a) Cost plus percentage contracts

Cost plus percentage contract is defined as the contractor is paid the actual expenditure he incurs in the purchase of materials and employment of labor and plant and he is paid a percentage over and above this to reimburse him his overhead expenses and profit.

This type of contract is unpopular currently because it is difficult to make contractor work efficiently, the engineer has to control even day to day work and supervise everything happen on site. In order to authorize payment, the employer needs to check every invoice, time sheet, plant record, material delivery record etc, with a great deal of paper work to release the payment to the contractor. Therefore, payment delay will be caused; besides, the contractor sometimes may submit inappropriate papers like illegal invoice, unreal construction records and time sheet to the engineer in order to get more money. These facts may cause contract claims for the paper work tussle.

b) Cost plus fixed fee contract

Cost plus fixed fee contract require the contractor is paid his actual cost, but the fee which is intended to cover his overheads and profit is fixed. This fixed fee may be tendered in competition with other contractors, or it may be negotiated between employer and contractor.

This kind of contract is easily implemented because of its simple procedure, while, the contract claim problem may be come from the identification of the actual amount which the contractor had executed in case of the adding or

reducing works by the employer.

c) Target contracts

Target contract is much like the cost plus fixed fee contract but the profit to the contractor increases if the final cost of the work is less than the estimate, and decrease if the final cost is more.

It is a kind of remedy to the shortcoming of cost plus fixed fee contract, but the application of this contract is limited in execution of simple civil works.

3) Direct labor contract:

When the employer have sufficient machineries and have a professional supervisor, he might not need to employ a civil engineering contractor to execute the work. Rather it might be preferable to give the labor contract independently. A large amount of modestly sized engineering work is undertaken by direct labor contract, particularly remedial or maintenance work. In Ethiopia, based on the data of 1987 EFY's work program of capital Budget projects which were undertaken by ERA and Regional Administrations. Direct labor contract take 54% of the percent of used contract from the total type of contract (Fiker Alebachew, 2007).

Some of the contract claim arose in payment delay issues, unclear liabilities in contractual document or project management problems.

4) Special contract:

a) Turn-key Contract

A turn-key contract is an integrated contract in which all works pertaining to various disciplines such as civil, electrical, mechanical etc. They are in the hands of a single contractor, called the main contractor. The main contractor can sublet the contract to sub-contractors who are specialists in their respective fields.

In this contract, the main advantage to the owner is that he need not coordinate the work of different contractors. The main contractor is responsible for all kinds of jobs starting from planning to commissioning stage. The owner takes over the entire work which is fully operational and of proven performance from the main contractor (R.J.Marks, A.Grant and P.W.Helson, 1965).

b) Package Contract

In a package contract, two or more related jobs, each of which could form a separate contract are combined in a single contract. In the field of civil engineering, generally, design and development are combined with construction and supply or maintenance.

In this type of contract, plan of work and standards are established and the work is carried out accordingly by the contractor. The main contractor is responsible for safeguarding the owner's interest. For this reason, prior approvals of design and technical aspects have to be taken from the owner first. Responsibility for correctness of the design lies with the main contractor.

c) Negotiated Contract

In this type of contract, negotiation across the table takes place between representatives of the owner and the main contractor for project cost and other conditions of contract. In this type of contract, detailed project specifications are arrived at by discussions between the owner and the main contractor.

A negotiated contract involves extended discussions for finalization as a competitive contract. Most of the consultancy projects of World Bank are negotiated contracts (R.J.Marks, A.Grant and P.W.Helson, 1965).

d) Continuing Contract

In this type of contract, new or additional work is awarded to the contractor on the basis of agreed terms and conditions of an existing contract. Such contracts do not require re-tendering and hence can save time and money.

e) Built Own and Transfer (BOT) contract

BOT contract is built, operate and transfer contract. It can be found under a considerable variety of different acronyms like BOOT (Built Own Operate Transfer), DBFO (Design Built Finance Operate). This type of project procurement is characterized by non-recourse finance, which means the finance of the project is undertaken not by the employer but by the concessionaire of the project who will operate it once completed for a period of 15 years up to 40 years before transfer..

Precisely because the funders stand to lose their money if the project failed, they will be very concerned to ensure that a great majority of risk placed upon the project company is passed through to the contractor under the construction sub contract, at the same time, the contractor in such project will find that the opportunity for him to claim for extra time and money are extremely limited

(Abdissa Dessa, 2003)

3.3 Responsibilities of Contractual parties in contract claim management

Contracts for constructional work are normally made between two parties. The party who commissions the work is usually referred to as the employer and party who construct the work as the contractor. The employer might be a corporate organization; such as a government department, local authority, statutory board or limited liability company. It is essential that all contracts are stamped with official seal especially for contracts involving large sums of money. The employer will pay and give possession of the site to the contractor. The standard form of contract delegates the employer's other positive duties and powers to his agent. This agent may be either a consulting engineer in private practice, or the principal of a specialist department within the employer's organization. The consulting engineer in addition to his duties as agent of the employer, is given by the contract further wide power by both employer and contractor, and in some matters he has absolute discretion. As a consequence of this special position of his agent, the employer must not obstruct or interfere with the issue of a certificate is the formal expression of a judgment, valuation or decision by a professional adviser, set forth in the terms prescribed in the contract conditions, should orders be given by the employer direct to the contractor they would not be strictly admissible as variations under the existing contract, and could be held by the contractors to constitute either a fresh contract or an implied promise to pay reasonable remuneration(Lei Jun Qing,1996)

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1) The employer's responsibilities and duties:

In general, the employer denotes the individual or organization for which something is to be built or furnished under contract, he is thus the purchaser, who pays for the goods or services.

The employer has the right to accept or reject any bid, and cancel the bidding process and reject all bids during the award of contract period. During the construction time, the employer may reserve his right to change the design as his own will and give the order to the contractor through the engineer. The

employer should hand over the site and required information once he has reached agreement with the contractor, during the execution of the contract, the employer may give timely instruction and compensation approval to his contractor through the engineer, finally, the employer should take over section of work when it substantially completed and give the final acceptance certificate to his contractor as per provision of the contract.

2) Engineer's responsibilities and duties:

The engineer referred to throughout the contract will be a civil engineer appointed by the employer to design and supervise the works and act as the employer's agent. The efficiency of engineer and ultimately the success of the contract will be influenced by the quality of the employer's instructions, it is the engineer's responsibility and duty to do all within his power to ensure that the instruction received describe his client's requirements in sufficient detail to enable the design and supervision of the works to be performed effectively, and this cannot be achieved without the willing co-operation of the client. The importance of this co-operation increases with the size and power of the employer's organization. To aid the employer, the engineer should prepare a comprehensive list of possible requirements at the commencement of the preliminary negotiations, so that those mutual reproaches do not caused by the miscommunication of client and consulting engineer during the consequent stages of the contract.

With the larger corporations, and local authorities, the engineer may find himself acting as a conciliator and coordinator between the different departments of the industrial concern, and between the local authorities and various ministries. One group being concerned with cost, another with function, and a third with appearance. These additional duties which do not come within the scope of his terms of engagement may impose a heavy burden on the engineer. In such a case, the client in his own interest should be persuaded to nominate one department head to take the responsibility for all coordination.

3) Contractors:

The vast majority of all construction works are carried out by contractors, who could be limited liability companies, apart from a proportion of the very small firms engaged in building and maintenance. In the case of contracts of a great magnitude, this company may be a consortium or a syndicate of contracting firms who have formed a temporary alliance for the purpose of tendering for and carrying out a single undertaking, or several of a like nature.

The contractor undertakes to construct or perform the works for a sum of money in accordance with the engineer's instructions and under his supervision, usually within a stated period of time. In addition to complying with the engineer's instructions the contractor must carry out the works in conformity with the laws of the country in which he contracts and any local regulations and by laws; and must give all notices and pay all fees arising from these laws and regulations. Failure to do so will make the contractor liable for all penalties and additional costs of alterations arising from the breach of these laws. The accounts for such fees will be included in the interim valuations and when reckoning the final cost of the contract. Should the regulation necessitate alterations to the engineer's design and details, the contractor should apply to the engineer for directions; for it is sometimes possible for the engineer to negotiate with the authority administering the regulation and obtain approval of his original design, and an agreement not to enforce a particular by law. If the engineer takes upon himself the responsibility of serving notices, and fails to follow the correct procedure, the contractor can claim recompense for any penalties and the additional costs of alterations incurred, from the employer, who could seek redress from the engineer (China construction industry press, 2006).

4) Subcontractor

Besides being responsible to the employer for the correctness of his own work, the contractor is liable also for the work of his subcontractors, and for any defects in the materials or goods supplied by merchants and manufacturers. This liability is incurred equally in respect of the work of his own subcontracts and those nominated by the engineer or the employer. The wording of the clauses found in standard form of contract, however, relating to these

obligations differentiates between its own subcontractor and those nominated subcontractors.

3.4 Conclusion

Construction management involves many people with diverse interests, talents and backgrounds. The employer, the professional consultant and the contractor comprise the primary triad of parties, but others, such as subcontractor, material suppliers, bankers, insurance and bonding companies, attorneys and public agency officials, are vital elements of the project team whose interrelated roles must be coordinated to assure a successful project, throughout the project life cycle, from the time the employer first contemplates launching a construction project to the completion time, many months or years later, when the completion project is ready for use, the tasks carried out by the various parties vary in type and intensity(F.Lawrence Bennett,2003).

As it is above discussed, different contract party has its own responsibility and duty during the implementation of the contract. In addition, form of contract will also impact on the result of the contract claims. Therefore, the suitable contract selection and well understanding of contract entitlement will help to mitigate the further contract claims.

Chapter 4 Claims in Ethiopian international contract

4.1 General

Claims are intended based on the differing of site condition such as underground or other physical obstructions, variation⁴ order for adding additional or reducing works, or the other reasons which may cause the difficulty of performance or project delays. The employer's default and the other society reason such as strike, war may also cause contract claims.

For example, according to the case study I conducted, more than 50 percent claim In Ethiopia arose due to deficiency in contract document in ERA international contract road construction section. The other problems such as changed conditions, administration, and third party action take the remaining proportion for causes of claim This survey result can provide important information to us that in Ethiopian international construction contract environment; claims can be mitigated in case of contract administration conscious increasing.

4.2 Special contract claims characteristics in Ethiopia

In Ethiopia, contracts are normally adopted from MoWUD, PPA and FIDIC as it's quoted for general conditions. MoWUD and PPA are different types of contract documents that closely refer to FIDIC, but they have different interpretation of contract. Therefore, using these different standards may lead to different contract procedure. This is a very outstanding characteristic in Ethiopian international contract procurement.

In addition, due to Ethiopian geographical location, it has three months rainy season period, because of the special climate condition, sometimes; contract

⁴ During the execution of the construction contract, one matter that requires careful documentation and through communication is the case of changes in the work. In any but the smallest and simplest of project, it is common that some changes will be made. Changes, also known as variation, arise for many reasons: the owner may decide to add some new items to the project delete some portion of it or add to, reduce or modify an already defined part of the job. Unexpected site conditions discovered during the course of construction, including soil conditions, archaeological findings, endangered species or hazardous materials, may require a change. Discrepancies may be discovered in the contract documents. Codes or regulations may change after the contract is signed, requiring a change in the contract (*F. Lawrence Bennett, 2003, The Management of Construction: A project Life Cycle Approach*)

claim will come with the pleasant rain for its bringing the interruption influence to the project arrangement. Weather condition influence the contract implementation may be another special outstanding characteristic in Ethiopia. In Ethiopian construction industry, we can see many famous international contractor such as CRBC (China), Varnero (Italian) and J&P (Spain) and the other local tycoon enterprises such Mideroc, Sunshine and Enye, etc. All these companies come from different world and create a multiform construction market deriving from their different cultural background. Due to this situation, we can easily observe that another contract problem may happen, all those contractors want to survive in the same market, and it is certainly to lead an equitable competition because of their companies' different hierarchy and capacity. Sometimes, when the lowest tender won by a contractor who doesn't have competent with machinery capacity, skilled manpower, etc. many claims might arise during the execution of the contract.

It is obvious to observe in Ethiopia that the unstable market for the main construction materials like cement, RC bar, etc, has become most important claims arising factor in contract implementation. The material price escalation in great extent will bring unforeseeable loss to the contractor or decrease its profit hereby reducing the number of interested contractors to participate in the tender. It will also easily bring further contract claims to the employer in case of the contract signed under a low bid price.

The modern Ethiopian construction industry development is limited in the low level of construction technology and poor project management system, the knowledge of the site supervision engineers and skill of the workers should be improved to satisfy the requirement of new techniques and properly contract administration.

4.3 Interpretation of Mo WUD, PPA and FIDIC in Ethiopia

Understanding the interpretation of contract condition very well will help the contractual parties to handle various claims easily, for instance, once the claim is identified, the contractor needs to quote the exact clause that is described in the contract documents and should request his entitlement properly. And the

employer might counter the claim request using the relevant clauses. If the clauses are accurately quoted, then the claim may easily persuade and accepted.

MoWUD, PPA and FIDIC are normally applied to the general condition of international contract in Ethiopia, therefore, for the Ethiopian civil engineers, it is very important to grasp the meaning of these documents words by words for easily taking care of the contract claim.

Particularly, FIDIC has different version for different purpose use; the red book is adopted as general condition of the civil engineering contract. Yellow book is adopted as equipment and machinery supply contract and most of this kind of contract payment model is License of Credit; white book is adopted as client and engineer model service agreement; sliver book edited base on yellow book and it is adopted as condition of contract for design-built and turnkey project.

Due to FIDIC red book version is suitable for all the civil engineering projects, therefore, when we talk about FIDIC, we imply the red book if without special explanation. Red book is widely quoted to the general condition of the international contract in the world (FIDIC, 2006).

To give the general use guide of these documents, the contractor and the employer entitlement had been numerated in the appendixes.

4.4 Current contract claim management situation in Ethiopia

Contract claim management involves contract office paper work and contract site implementation.

Contract office paper work should include but not limited to contract document administration, work performance record documentation, contract variation order, correspondence files, project meeting minute's collection and other relevant documental settlement.

Contract site implementation indicates site management such as material test and delivery record, machinery status; project activities supervision, worker motivation and work progress control.

In Ethiopia, contract claim management currently has the following problems:

1) According to the case studies which the author conducted, contract

document administration are sometimes ignored or conducted without proper professional management. For instance, some projects construction time are delayed by more than two years, because of the variation or complexity instruction to some work activities. And sometimes project detail drawings may have more than two versions, sometimes some of the original drawings lost before completion the project and most of the time (from the case studies) the private clients don't request the final actual completion drawings from the contractor after they accept the project. Changes and improvements will not be kept as a record in case they are needed for maintenance or further construction.

- 2) Work performance records don't have detailed site construction problems and actual settlement measurement, for instance, due to site instruction from the resident engineer, some structural design might be changed or some substandard material might be changed to be used in some essential places. All these important information should be strictly recorded in case of serious work defects and further investigation might require. Actually, the contractor only executes the order without any provable records.
- 3) It is the engineer's responsibility to prepare the meeting minutes for all important agenda discussed or any decision have been reached between the contractor and the employer. However, as observed form the case studies, the majority of contractor didn't receive meeting minutes from the engineer or couldn't receive it on time. Some contractors themselves prepared the meeting record but failed to get the authorized approval from the employer. These important meeting decisions could be used as evidence for further contract claim. Without the engineer's confirmation, these documents will be useless for the contractor to request its right accordingly.
- 4) Site construction facilities are too simple and crude; from the studied cases 90% percent of the construction sites have this kind of problem. This makes some contract paper works which are expected to be completed on site but because of the poor conditions of the site, it has to be brought to head office and undergo long time bureaucratic procedure. And this may cause unnecessary delay or loss to the project.
- 5) There is no clear site record for the important activities such as material

delivery and test, concrete casting, and so on. From the case studies, more than 80 % of the investigation contractors don't have site diary.

- 6) There is no proper site inspection and any quality control exam from relevant professional government authorities.

In general, some of the common contract management problems happen not only in Ethiopia but also in the countries like China. In order to minimize the loss due to contract management error, it is needed for all the involved parties to work together and improve recognizing the importance of contract management.

4.5 Claim problems statement and resolution in Ethiopia

Construction contract claims problems in Ethiopia could be enumerated in general as we above discussed; meanwhile, we should also colligate the special characteristic of the contract claim environment in Ethiopia and find out the contract problems that are commonly encountered by the contractor during the contract execution.

1) Incompetent subcontractor

As it happens in other countries, to have higher grade construction license in Ethiopia, is very difficult mainly of lacking sufficient construction machineries and financial capacity (including getting insurance bond). In this case some lower grade sub-contractors borrow license from higher-grade contractors to participate in the construction bid and execute the work.

Therefore, sometimes projects might be delayed when they are handled by incompetent subcontractor who lacks project management capacity or when the main contractor excessively relies on his subcontractor to execute the contract using his name. In this case, when the subcontractor finally failed to do the work properly, the main contractor will be subjected to take the full responsibility for all claims issues and their remedies.

To explain more with example, I can mention my own experience when I work as project manager for main contractor (CRBC) in Merkato Addis Ababa shopping center. This project is located in the urban center of Addis Ababa, Merkato, with the construction cost amounting to 42 million Birr; CRBC (the

main contractor) gave its labor contract to one Chinese subcontractor called Xiamen HeXing Construction Company. During the execution of contract, the subcontractor failed to achieve the goal of the contractual time and quality requirement because of many problems like shortage of finance, manpower and management capacity. Moreover, the employer was not satisfied with the quality of the workmanship. Therefore, the main contractor (CRBC) was subjected to fix the problems as per the initial agreement. Unfortunately, the failure of the subcontractor finally brought a loss of 3.96 million excluding the retention 2 million which the employer decides to forfeit for the work defect. Besides, the project was suffered 2 years delay.

Therefore, I conclude that the contract management should focus on inspection for selecting qualified contractor and subletting should be supervised and approved by the employer. Total subletting should be forbidden in large size projects especially the international contract.

2) Resource shortage

Resource shortage includes lack of physical materials, skilled manpower, and shortage of relevant reference standard for different quality level of workmanship requirement. For instance, construction material shortage has become one of the main reasons for claim arousal, especially since 2002/2003, as the government policy helps the construction industry to boosts in a very rapid rate. If we consider cement, it has become a source of dalliance and price escalation adjustment claim in many construction projects. Besides, shortage of detailed construction standards and specification sometimes subjects both contractor and employer into dispute on workmanship quality and the procedure to process the special work needed.

Sometimes, international construction firm might be needed to bring skilled manpower from abroad to meet the higher standard of contract. However, such kind of move might cost the contractor a lot of money. Therefore the contractor is subjected to use the local manpower and the quality of work might not be good as the expectation of the employer. Thus, this cause claims from both the employer and engineer.

3) Design changes

Sometimes, due to poor design professional coordination, and employer's unrest interests, subjects the engineer order for design changes. These kinds of design changes bring new ideas; additional material requirement, etc might require special workmanship skill and extra cost to the contractor.

The main problems seen in the three project⁵ in Addis Ababa which one international contractor execute currently, the engineer's design starts with poor information collection from the actual site during the design stage. To give example, sometimes, in case of underground municipal obstructions like electrical and water line was not observed and marked in the plan, might block the construction work and cause delay for the project consequently. Moreover, to settle the damage for adjacent property might bring extra cost to contractor and thus, the contractor might raise claim for compensation and time delay.

Besides, sometimes design contradiction from different design professionals might bring new idea which was not described in the original contract. The conflict between the contract bill of quantity and the actual design bring the adding or reducing to the contract amount. These kinds of problems may cause variation and time extension claim.

Design change may make the contract quantity altered in great extent, sometimes; due to resource shortage situation in Ethiopia, the contractor may prepare the material by importing from abroad, in this case, design change will make the imported material quantity become inadequate or redundant. The loss is obvious and further contract claim may be inevitable.

4) Lack of specialties services:

The other problem is availability of construction specialties (like Baur-Midrock foundation specialists, etc). Lack of special skill needed to satisfy the work requirement might be a cause for claims raised due to poor work performance. For instance, a high-rise building construction might require employing special foundation contractors, but due to availability of specialties in Ethiopia, the work might be given to general contractor, who might not have the special

⁵ The Merkato Gebeya Gebeya Shopping Center (42 million Birr), Edget Bandenet Shopping center (29 million), Ambasel Head office (19 million)

knowledge about the work, and this might result poor performance and that doesn't satisfy the standard of work requirement. Therefore, such problems raise claim and delay.

5) Communication problems:

Communication problems related to contract information management, with more and more international contractor from different countries come and join Ethiopian contraction industry, language has become one problem during the execution of the contract, sometimes, the foreign supervisor's instruction cannot be implemented because of the ambiguity explanation to the workers or the worker's misunderstanding the order.

Another problem arose by communication may happen inside one or more organizations due to inadequate information exchange. For instance, the site office fails to transfer claim data to head office may cause the paper delivery delay and invalidation.

6) Poor Facilities on site:

Site office should be furnished as per basic requirement of the office standard, while, as my studies, most of the project offices are not equipped or lack of stationary materials in Ethiopian construction site. The site engineer could complete his paper work on site. In this case, sometimes, the claims facts may lost the exact record, consequently, it will bring extra difficult to collect the required data in future.

7) Lack of professional inspection:

The works have been done by the contractor should be supervised by more professional experts; they might come from the engineer and employer, the relevant government supervision authorities or other society functional organizations.

Professional inspection can reduce the possibility of the work defects and improve the quality level of the work performance. Proper inspection also can minimize the further claim cost due to contract failures.

In Ethiopia, the professional inspection to construction site is normally limited within the contractual parties and small scope of the works; this may obstruct

the improvement of construction technology.

4.6 Conclusion and recommendations

As it is discussed above, in Ethiopian international construction contract environment, there are some negative factors which had already impeded the further development of the construction industry. These problems could be mitigated in case of the involved parties give more attentions. Therefore, the author would like to recommend the following points accordingly:

- To improve the supervision level of the sub contractor and encourage the special contract services like give special license to different construction majors, establish the litigation standard for different workmanship.
- To develop more nature resource, and integrate the current market for the balance of the whole industry requirement. Large scale project should ensure the finance allocation and material supply before the project commencement.
- To provide information exchanges services, train and improve the communication capacity of the local workers.
- To establish the standard for project office, create an comfortable work environment on site.

Ethiopian construction contract claim management problems can be mitigated in case of the effort of the entire contract involved parties. We can easily observe that there is no doubt that project management skills improvement will certainly helpful for Ethiopian construction industry to be directed into the right and healthy way.

In addition, the contract administration capacity development needs more and more professional engineers to join the construction sector. The government should pay more attention to this field and provide more assistance such as the government could give construction quality check up service or inspectional supervision on main construction stages, revising and continuously improving the contract standard to guarantee high quality work and exploit the advance construction technology.

Chapter 5 Case study

5.1 Case study on contract form adopted from MoWUD

5.1.1 Case study on Megenagna–British Embassy–Ginfele–Arat killo and Kebena– Minelik Hospital Road Project

1) Brief information of the case:

Project: Megenagna–British Embassy–Ginfele–Arat killo and Kebena– Minelik Hospital Road Project

Employer: Addis Ababa City Road Authority

Consultant: BEZA consultant engineering Plc

Contractor: CRBC

Financial resource: Ethiopian government and china government

Contract Period: 30 Calendar Months (912 days)

Date of Signing of Contract: May 15, 2006

Date of Commencement: May 15, 2006

Mobilization Period: 30 Calendar days after the date of commencement (included in the contract time)

Contractual Date of Completion: November 15, 2008

Contract Amount: Birr 128,964,473(out of which Birr 55.255 million shall be covered by the China Government)

Project location: Addis Ababa

Project status up to now: ongoing

The work comprises a total length of 8.5 km road inside the city of Addis Ababa with a typical design width of 30 – 40 meter, having four lane and side walk on both left and right side carriage ways. The project also comprises longitudinal side drains along the whole stretch, two bridges at Kebena and Ginfele rivers and six other slab culverts.

2) Claim statement:

According to the contractor's project report, since the commencement of the project until June 2007 the total work executed including material on site amounted to Birr 16,878,211. This makes the percentage of works executed

until June, 2007 only to be around 13%. The actual accomplishment for the permanent work based on the contractor's planned activities is only 11.5%. On the other hand, the percentage of time elapsed, as of June 30, 2007 is 45 % (i.e. 410 calendar days out of the contract time of 912 calendar days) of the contract time. In accordance with the contractor's original master work program the scheduled cash flow until end of June 2007 was Birr 109.6 million. The difference between the work executed and on monetary basis and the programmed cash flow revealed the fact that the project is behind the original schedule.

During the period of May 15, 2006 to June 30, 2007, the contractor described that he had encountered serious problems related to taking over of the site (Rights-of-way problem), late approval of drawings and frequent design changes and exceptionally adverse climatic condition.

The contractor thereby has incessantly tried to notify the Engineer and the Employer, through a series of correspondences and discussions, that the project was suffering a delay. Different notices of claims associated with the above mentioned factors were submitted to the engineer.

In the contractor's claim report claims due to delay in approval of drawings and design change; claims due to fault of the employer failed to possession of site; claims due to resurvey are outstanding causes of delay and financial loss. The contractor have enumerated the facts and supporting document to evidence his contractual entitlement request for the time extension of 545 days and compensation claim birr amounting to 262,255,734.6 in the period of May 15, 2006 to June 30, 2007 only.

Contractor quoted Mo WUD (1994) sub-clause 6.3 disruption of progress; 6.4 delays and cost of delay of drawings; clause 7 further drawings and instruction; sub-clause 40.1 suspension of work; clause 44 extension of time for completion; sub-clause 51.1 variation describing delay detail facts associated with provision of survey control data, design change and approval of working drawings, letters, site record and other supporting documents such as meeting minutes were attached to the report, the related issues affect on project progress thereafter analyzed; the contractor request time extension of 215

days and contract financial loss amounting to 13,136,069.8 birr.

In parallel, pursuant to Mo WUD (1994) clause 41 commencement of works; sub-clause 42.1 possession of site; clause 43 time for completion; clause 44 extension of time for completion, the contractor claims the employer failed to give possession of site for time extension 330 days and financial loss amounting to 13,119,664.80 birr.

3) Case analysis and conclusion:

Therefore from the above case study we can observe that with 45% of contract time was elapsed, only 13% of the work was executed due to various delaying reasons as mentioned in the above. On the other hand, the cost compensation claimed was 15.6% of the original contract price. The main reasons for these huge losses were caused by lack of proper design approval and default of the employer to prepare possession of site.

As we discussed in the above chapters, claim report should prepare based on the facts collected on site, finally, whether the claim requests are accepted or not by the engineer should depend on the data description and the suitable quoted specification. These provisions we can find out from the above claim report, therefore, the claims statement finally had been approved by the engineer after its submission.

5.1.2 Case study on Ring road phase III

Wingate Interchange–Gojam Road Project

1) Brief information of the case:

Employer: Addis Ababa City Road Authority

Consultant: Renardet in Association with Unicone Consultant

Contractor: CRBC Addis Engineering PLC

Contract Period: 900 Calendar Days

Date of Signing of Contract: May 8, 2006

Date of Commencement (according to the contract): June 5, 2006

Actual commencement date: Oct. 13, 2006

Contractual Date of Completion: Nov. 8, 2008

Contract Amount: Birr 289,712,533.25 (without VAT and Contingency)

Project status up to now: ongoing

The work comprises a total length of 4.08 km road with a typical design width of main road 22m–44m and frontage road 13.2m, including sidewalks. The project also comprises longitudinal side drains along the whole stretch, one viaduct (Tinishu Akaki), two overpass and various culverts.

2) Claim statement:

Since the commencement of the project until June 30, 2007 four payment certificates were submitted and the total work executed amounted to Birr 31.20 million. This makes the percentage of works executed 10.8 %. This is however, on monetary basis. The actual physical accomplishment based on the planned activities is higher than the percentage on monetary basis. The percentage of time elapsed, as of June 30, 2007 is 28.67% comparing to the original contract completion time. The difference in percentage between the works executed and time elapsed shows the fact that the project is by far behind the original schedule.

During the period covered in the contractor's claim from June 8, 2006 up to June 30, 2007, the contractor encountered serious problems related to Rights-of-way problem, default of the employer and frequent design variation. Different notices of claims associated with the above mentioned factors have been submitted to the engineer.

The project delay has incurred huge amount of unforeseen expenses on the part of the Contractor's overhead and direct costs.

In the contractor's claim statement, claims due to delay of drawing approval and design variation, claims due to right of way problem and claims due to adverse climate are quoted according to the contract condition.

The contract claim for time extension is 392 days while compensation request amounting to birr 21,331,726.64 during the claim period of June 8, 2006 up to June 30, 2007.

a) Claims due to failure to give possession of site:

The contract agreement was signed on May 8, 2006 bearing in mind that the

relocation will be completed before the site is handed over to the contractor and the work would be commenced as of June 4, 2006 according to the appendix to Agreement.

Since the contractor couldn't get the required survey control points, it was not possible for the contractor to take over the site and commence the work as per the contract time. Even though the site was not handed over to the contractor, the contractor hereby in cooperation with the employer and the engineer has made all his efforts to complete the preparatory works so that immediate commencement of the work during the dry season would be possible. This was showed by timely deploying the necessary project manpower, by preparing and issuing the work program, by providing the necessary engineer's facilities, by carrying out the survey to identify properties within the route corridor and by deploying independent land survey consultant to re-establish the missing control points. Due to the above mentioned problems, the site was not possessed by the Contractor until Oct. 13, 2006 when 188 days has passed after the signing of the contract. The contractor has made different correspondences regarding this and informed the Engineer this to be claim notification pursuant to Mo WUD sub- clause 17.

Moreover, the contractor couldn't start the work timely due to the outstanding ROW problems created by the existing houses, fences, electric poles, telephone poles and underground utilities after the site hand over is performed. The demolition of existing properties such as houses, building, fences, etc. and relocation of services like Tele and Electric lines have not been completed for the whole stretch.

It was unexpected that demolition of houses and other properties and relocation works on utilities existing within the R.O.W were not going on as anticipated.

It was the employer's responsibility to give the contractor possession of so much of the site as may be required to enable the contractor to commence and proceed with the execution of the works in accordance with the approved work program. It is only upon fulfillment of this condition that the contractor would be able to perform on full efficiency by deploying the required manpower and

equipment or otherwise devise some mechanism (extended working hour, additional rental of equipment, sub-contracting, etc.) for optimum utilization of available resources. The contractor has made his efforts to timely notify the existing ROW problems for several times so that it would have been possible to execute the work efficiently and as per the work program. This obvious factor entitles the contractor to both extensions of time and extra cost incurred pursuant to Mo WUD sub-clause 41 (1) of the standard conditions of contract.

The contractor thereafter request 300 days time extension and financial loss of birr amounting to 16,325,301.00.

b) Claims due to delay of approval of working drawing and design change

Issuing design drawings, approval of working drawings, making of design changes and provisions of supplementary drawings and instructions are fully the responsibilities of the engineer. Moreover, instructions and approvals should be given to the contractor in due time so as to avoid counter effects on the contractor's construction operation and cause any delay in the completion of the project.

The contractor has encountered two major problems in relation with the design issues which are the retaining wall and design change for drainage at different sections.

The contractor have properly prepared the shop drawing for the retaining wall work of the stretches from km 13+250–km13+530 and requested the engineer for the approval. But the approval was delayed and moreover the engineer gave another instruction which was contrary to the previous instruction given by the engineer itself. The contractor has tried to indicate the various reasons why the previous design should be accepted and adopted. Some of the main reasons were: the standard of design for retaining wall at both side of Ambo viaduct should be the same to maintain the same type of retaining wall at both sides, the batter slope used for the former Ring Road project is checked in all aspects of structural stability and moreover its performance is proved in the past seven years of service, the quantity of work would be reduced which makes it more economical for the client and the engineer was giving contradictory comments which created delay to commence the work.

Regardless of the efforts made by the contractor to start the retaining wall work, the engineer's instruction for design changes has significantly affected the progress of the work.

In addition to the retaining wall, the design alteration for the drainage pipe at four locations which were changed from pipe culverts to box culverts, has also contributed to the setback of the work. As it is well known, due to the design change of the drainage work, the volume of work and the complexity of the work to some extent will also be changed. During preparation of the shop drawing which suits to the change, certainly there will be suspension of the drainage work itself and at the same time the approach road of the sections. The contractor believes such facts are convincing enough and understandable by the engineer. Furthermore, since the volume of the work and the nature work is changed, additional time is required for the drainage works in particular and for the whole project in general.

In particular, the contractor request time extension 37 days for the delay of approval drawing and design change.

c) Claim due untimely rain

Generally speaking effect of bad weather, though it was not as critical as the claim particulars has significant negative impact on the project progress. It is well understood that the regular rainy season of Addis Ababa starts at June and ends at middle September. In year 2007 the rain has started as early as March and extended up to the time of the seasonal rain. The contractor therefore request excusable time extension 35 days due to the exceptionally adverse climatic condition has disrupted mainly earth works and drainage in the months of February, March, April, May and June 2007.

3) Case analysis and conclusion:

Therefore as we have in above, the cost compensation is 58.4 % of the original contract price and the time extension request was 44.7% of the original contract completion time up to the contract claim report submission date, the contract time already elapsed 70% compare to initial contract time. As we can see, the contract signed dated on May 8, 2006 but the actual commencement

dated October 13th, 2006. These show the project start to delay from the beginning due to the failure of the employer to handover possession of site. But, if the contractor failed to inform the engineer this delay officially, it may be difficult to get document evidence to support the claim request.

In addition, we can see from the case study that claims due to climatic change was another influencing factor for the delay. Climate change is a kind of continues influence factor for time extension claim, once it had brought delay to the project, data collection and timely report are both very important. Data collection needs the contractor get weather data from meteorology authority. While, timely report need the contractor provide time extension request to the engineer frequently base on the actual work suspension due to weather influence. Finally, contractor cumulates the total time delay result and submits to the engineer, and copy to the employer. The engineer will check the reference data provided by contractor and give time extension evaluation accordingly.

The main reason for financial compensation was caused by ROW problem, delay for design approval and extra variation works.

The financial compensation arose by design related issues amounting to birr 5,006,425. It takes 23.5% of the total cost compensation request, ROW problem cost claimed amount in birr 16,325,301. It takes 76.5% proportion of the total cost compensation. Therefore, we draw a conclusion that main cause of this claim is the problem of possession of site.

5.2 Case study on contract form adopted from PPA

5.2.1 Case study on 10 blocks residential housing projects around CMC area

1) Brief information of the case:

Employer: Different Private condominium organization

Consultant: Amare architect and Consultant PLC

Contractor: Chao yang construction group (Ethiopia agency)

Contract Period: 365 Calendar Days

Date of Signing of Contract: Dec 18, 2005

Date of Commencement (according to the contract): Dec 20, 2005

Contractual Date of Completion: Dec 18, 2006

Contract Amount: Birr 36,548,916.28 (without VAT and Contingency)

Project status up to now: terminated

Work description:

The contract is for the execution of the ten blocks of residential buildings comprising works shall be carried out as sub-structure and superstructure amounting to birr 36,548,916.28 and all necessary electrical installation and sanitary work accordance with the specification of the contract documents.

2) Claim statement:

During the execution of the contract, the contractor encountered national cement shortage, adverse weather condition and payment delay problem, delay to give possession of site, unforeseen obstructive and design related issues; the contractor submitted contract claim to the engineer and the employer accordingly, unfortunately, due to the employer's problem, those claims request couldn't get solution properly, the works were constantly suspended because of various reasons, the project progress hereby is far to satisfy the contract request. Up to Dec, 2008, the contractor only completed 80 percentage of structure part, this revealed that the contract implementation failure. In Feb, 2009, the contractor and the employers negotiated to terminate all the agreements.

With the contract files closure, let's see the contract execution procedure and the loss and gain to all the related parties.

The contractor claimed time extension 1108 days and financial loss in birr amounting to 8,756,873.48 together from the employers due to clause 21 possession of site; clause 28 extension of the intended completion date; clause 43 payment; clause 44 compensation events pursuant to PPA (2006).

In the contractor's claims report, due to delay approval of working drawing, the contractor requests 150 days of time extension. Due to the cement shortage, time extension request became 186 days, due to payment delay, time extension request 385 days; other delay issues together requested 387 days. The financial compensation focused on cement price escalation, design change and interest of payment delay.

While, because of the lack of knowledge of contract, the employer except to pay the

contractor the huge amount of compensation, in meantime, they have to retender and find other solution to complete the remaining contract.

3) Case analysis and conclusion:

As we discussed in above chapters, the private investment organization lack of professional contract claim knowledge had become very serious problem in Ethiopian construction industry and the contract failure due to contract administration problem should give more attention.

From this case, the contractor knows his contractual entitlement and request accordingly. Since the employer doesn't know their entitlement at all, they are subjected to answer for claim request aroused by the contractor.

Thus, this case study helps us to understand both contractual parties should understand their contractual rights and take action as soon as possible to escape further loss.

It is the author opinion that the engineer decision was right due to provision of the contract. Thus, from this case study we can learn that proper contract administration is very important.

5.3 Case study on contract form adopted from FIDIC

5.3.1 Case study on Nejo-Mendi Road Upgrading Project

1) Brief information of the case:

Employer: ERA

Consultant: Metaferia Consulting Engineers (MCE)

Contractor: CRBC

Funding resource: OPEC

Contract Period: 24 Calendar months

Date of Signing of Contract: 20th April 2004

Date of Commencement (according to the notice): 11th May, 2004

Actual commencement date: 18th August, 2004

Contractual Date of Completion: May 10, 2006

Contract Amount: Birr 147,768,639.37

Actual completion date: July 28, 2007

Project status up to now: completed

Project data:

The Project Roads starts at Nejo (approximately, 186.8km from Nekempte) on the Nekempte-Mekenajo-Nejo-Mendi-Assosa Road, goes through the town of Jiru, Gori, Dandi Gudi, Kiltu Kirl and terminates at Mendi. The estimated total length of the Project Road Sections is 73.5 km. The Project is located in the State of Oromia and passes mostly through rolling and also through rolling-to-hilly terrain of the region called, "Western Highlands". The road passes through six towns namely Nejo, Jiru, Gori, Dandi Gudi, Kiltu Kirl and Mendi. The project consists of construction of road Works, including earthworks, new pavement construction, rehabilitation of existing cross-drainage structures and bridges, new construction of cross-drainage structures and bridges, construction of retaining walls and protection works. Typical pavement width is 7.0 m and 1.5 m shoulders on either side of the carriageway in urban sections and 6.0m with 0.5m wide shoulders in rural sections

2) Claim statement:

The contractor, in his first claim submission of March 23, 2005, requested for a total of 365 days extension of time due to physical obstruction, on June 6, 2006 and March 13, 2007, the contractor submitted his claim requested 429 days calendar days of extension and reimbursement for additional entitlement of birr 36,098,211 and compromised some facts for technical arguments

The main delay causes which are basis for extension of time assessment covered within the contractor's submission are:

- initial delay in provision of revised and completed design (34days)
 - a) Delay in surveying
 - b) Delay in provision of design for permanent works
- adverse climatic condition (98days)
- delays due to earthworks variation (292days)
 - a) Increase in quantity of cut to spoil (262days)
 - b) Delay due to capping design change (30days)
- delay due to shortage of material for aggregate production(concurrent)
- shortage in cement(concurrent)
- shortage in fuel (5days)

Contractor has also enclosed herewith other financial remunerations due in the

contract from inception to date including those items not addressed or settled:

- survey and re-survey cost
- redesigning cost
- losses associated with engineer vehicles
- additional entitlement associated with sub base
- additional cost due to shortage in supply of cement
- additional cost for grouted stone pitching

The financial remuneration:

A) prolongation and acceleration costs as shown in table 5.3.1:

Table 5.3.1 Prolongation and acceleration cost compensation

No.	Description	ETB
1	Prolongation due to delay	5,047,613
2	Prolongation due to increase in earthwork	10,639,493
3	Prolongation-delay due to access-fuel	277,341
4	overhead	4,803,519
	Sub-total	20,767,966
5	Acceleration cost	3,224,580
	Sub-total	23,992,546.27
6	Vat	3,598,882
	Total	27,591,428

B) other financial matters as shown in table 5.3.2

Table 5.3.2 Other financial compensation

No.	Description	ETB
1	Additional entitlement for re-survey works	463,562
2	Re-design works	95,950
3	Cost associated purchase of engineer's vehicle	4,575,094
4	Design change in sub base	1,930,710
	Shortage of cement extra cost	291,165
5	Design change in grouted stone pitching	1,150,302
	Total	8,506,783

The total cost claims is therefore amounting to ETB 36,098,211.

The claims request based on FIDIC clause 12 not foreseeable physical

obstructions or conditions; clause 40 suspensions; clause 42 commencement and delays; sub-clause 43.1 time for completion; sub-clause 44.1 extension of time for completion; clause 51 alterations, additions and omissions; sub-clause 52.1 valuation of variations; clause 70 change in cost and legislation; the engineer have granted the contractor time extension request 345 days and ETB 2,944,554 financial reimbursement accordingly.

3) Case analysis and conclusion:

Therefore from the above case study we can observe that the claim request for cost compensation was about 24.4 % of the original contract price and the time extension request extends to 106.7% of the original construction completion time. The cost compensation worth's 36,098,211 birr and according to the provision of the contract conditions.

By using hypothesis scientific research method, we find out that in case of the contractor fail to complete the project within the given time, he has to pay for the liquid damage amounting to 14,776,863.9 birr. It is 41% of his cost compensation.

Thus, we can conclude that the time extension has become extremely important for the contractor and during the international contract execution; the contractor should identify more important claim factors to minimize his financial loss.

5.3.2 Case study on Awash-Hirna Road upgrading Project

1) Brief information of the case:

Employer: ERA

Consultant: Consulting Engineering Services (India) Ltd. Dana Consult PLC

Contractor: CRBC

Contract Period: 1096 days

Date of Signing of Contract: 1st June 1999

Date of Commencement (according to the notice): 8th June, 1999

Contractual Date of Completion: June 7, 2002

Contract Amount: Birr 256,542,439.10

Actual completion date: July 8, 2005

Project status up to now: completed

Project data:

The work on Contract comprised the upgrading of 140.7 KM of existing roadway from Awash to Hirna. The first 70 KM of alignment passed through the Great Rift Valley with the road varying from 900 metres above sea level at Awash to 1300 metres ASL at Mieso. From Mieso to Arba Raketi village, a distance of 35 KM the terrain changes to a mountainous area climbing to 2000 metres ASL. The 36 KM from Arab Raketi village to Hirna climbs from 2000 metres above sea level to 2650 ASL through mountainous terrain with very steep slopes. The upgraded roadway consisted of a 7 meter wide two lane carriageway road with 1.5 meter wide shoulders on each side, replacing in the main a narrower existing road with badly damaged surfacing. Any existing wearing course was to be reprocessed to constitute part of the new sub-grade followed by a newly constructed sub-base of varying thickness. Primarily the construction was to consist of a 150 mm thick layer of natural gravel lower sub-base, a 125 mm thick layer of crushed stone upper sub-base, 75 mm of Dense Bitumen Macadam and 40 mm of Asphalt Cement Wearing Course. As well as cleaning of existing culverts, there were some 1990 meters of pipe Culvert replacements and extensions and 8 no. Concrete Box Culverts for refurbishment or replacement. Earthworks of cut to fill, cut to spoil, and imported filling and topsoil amounted to some 900,000 M³. Further activities included remedial work to concrete bridge slabs, decks, girders, abutments and parapet walls, some 220,000 meters of ditch work, retaining wall and gabion work, provision of road markings, road furniture, cable and pipe ducts and plantation works of grassed areas and tree planting.

2) Claim statement:

The contractor claimed that various matters and events outside his control had caused serious delay, such as delayed possession of site, re-establishment of GPS point, re-location of quarry, large increase in quantity of sub base, non-availability of benchmarks, shortage of cement, design change in general and to culverts and structures in particular; disruption to the works due to the presence of obstructions and action of farmers and local inhabitants together with difficulties in obtaining rights of way to the site of the works and borrow areas; exceptionally adverse climatic conditions; as the result of such matters

and events, the contractor requested an extension of time for 755 days and additional cost in the sum of ETB 68,581,561.00.

Under the above circumstance, the contractor numerated the following contract provision to evidence his claim request:

Pursuant to sub-clause 14.2: the contractor should revise work program If at any time it should appear to the Engineer that the actual progress of the Works does not confirm to the program to which consent has been given under sub-Clause 14.1; the Contractor shall produce, at the request of the Engineer, a revised program showing the modifications to such program necessary to ensure completion of the work within the time for completion.

The above quotation is quite specific, but must however be read in conjunction with interfacing Clauses as to time for completion and extension of time including, but not limited to;

Clauses 41 to 46, 51 and 52

With emphasis added to the provisions and relevance of contract Clause 44 is to give the circumstance of the project delay disruption and dealing with extension of time.

The foregoing provisions are duly supplemented by contractual provision as to time for completion by way of reference to Clause 43;

a) Time for Completion

the whole of the works and, if applicable, any section required to be completed within a particular time as stated in the appendix to tender, shall be completed, in accordance with the provisions of Clause 48 within the time stated in the appendix to tender for the whole of the Works or the section, calculated from the commencement date, or such extended time as may be allowed under Clause 44.

b) Clause 44 is fully addressed later; however such Clause provides the contractual mechanism for an extension of time to be granted. Grounds for such an extension of time are summarized as;

- Extra work
- Other grounds referred to in these Conditions
- Exceptionally bad weather
- Employers' delay
- Special circumstances

Which constituent elements are variously related to the circumstances of delay causation and dealt with.

The Contractor's initial delay in the commencement of his Works was caused by delayed possession of the site of the works. Contractual references are made to General Conditions of Contract Sub-clause 42.1 Possession of site and access thereto and Sub-clause 42.2 Failure to give possession. The employer gave possession of mobilization areas in September, 1999 in accordance with the requirements of the program which had delayed nearly 8 months for the work performance. Non-available of benchmark refers to the general condition of contract sub-clause 17.1 which states the accurate setting out of the works in relation of the original points, lines and levels of references given by the engineer in writing, while contract documents "Benchmark List" Volume IIA gave the location of 168 No. benchmarks. In the event 130 No. could not be located, 21 No. were found in different locations and 14 No. were in their correct locations. The contractor hereby was forced to employ a team of professional land surveyors to install a whole new benchmark system which has involved him in expending additional cost.

In addition, arising from modification to the works a great increase in sub base quantities have proved to be necessary to complete the work compared with the contract quantities detailed in relevant items, for instant, the sub base contract bill quantity is 112,970 M³ has been revised to 268,266.80 M³ which has increased 137.5% in great extend. The need to accelerate by providing additional resources is a flawed argument in that pursuant to Sub-clause 8.1 of the General Conditions of Contract the contractor provided everything necessary including sufficient labor, plant and equipment to execute the works as tendered. Pursuant to Sub-clause 12.1 the contractor covered all his tender obligations with respect to the works required under the tender. Pursuant to Sub-clause 46.1 the contractor is not obliged to incur extra costs to enhance the progress of the works. Other design change and design delay, ROW problem described in the contractor's claims report pursuant to the relevant contract conditions accordingly.

3) Case analysis and conclusion:

It is obvious to observe that the above mentioned case was delayed mainly because of the ROW problem and design related issues. These problems are similar to the foregoing discussed cases. While,

Particularly, this project had been delay by shortage of material like cement, petrol etc. as we discussed in the above chapters, shortage of resource should be looked as one of the contract condition to the contractor before he commences the project, to avoid further contract claims, one experienced contractor must can foreseen what the contract situation he may counter consequently, therefore, the engineer had approve the contractor's cement and petrol price escalation request but rejected his time extension claim.

5.3.3 Case study on Mekenajo-Dengoro-Billa-Heha-Nejo road project

1) Brief information of the case:

Employer: ERA

Consultant: Rites Unicone JV

Contractor: SIETCO

Fund Resource: OPEC

Contract Period: 24 months

Date of Signing of Contract: April 20, 2004.

Date of Commencement (according to the notice): 11th May, 2004

Contractual Date of Completion: May 10, 2006

Contract Amount: Birr 138,601,822.00(Including VAT and Contingency)

Actual completion date: July 25, 2008

Project status up to now: completed

Project data:

Contract works comprises the construction of approximately 62km of road on the Mekenajo-Nejo-Mendi road upgrading project.

2) Claim statement:

A number of disputes arose during the contract period, these disputes were not settled during the construction period, finally, the contractor and employer decided to ask the assistance from DRE. The claim items are:

- Increase in earthwork

- Adverse climatic conditions
- Delay and additional cost due to riot
- Delay in drawing
- Lack of possession
- Increase in quantities of selected sub grade and side drains.
- Duty on engineer's car
- Problem with bench marks
- Late payment
- New rate for concrete
- Increase in bitumen work
- Road improvement km 168-186

Particularly, the contractor is of the opinion that insufficient bench marks were provided and that some of the bench marks were wrong, the contractor claims time cost due to delay for the cost of correcting bench marks and for the provision of further bench marks, the contractor claims ETB 49,393.50 in terms of clause 17 of the condition of contract and 28 days extension of time in terms of clause 44.1. The contractor claims that his work was delayed due to lack of drawings which is in terms of clause 6.4 and 44.1 of the general condition of contract, the contractor claims extension of time of 36 days, and additional compensation of ETB 5,548,378.80. the contractor claimed for delay and additional cost due to riot in terms of clause 12.2 and clause 20.4 of the general and particular conditions of contract time extension of 15 days and additional compensation of ETB 862,151.54. The contractor claimed extension of time, idle time, acceleration cost and a new rate for cut to spoil due to the increase in earthwork quantities for time extension of 625 days in term of clause 44.1 of general conditions of contract, on the grounds of extra or additional work. The amount of idle time claimed was ETB 40,024,500.74 in terms of clause 51 and 52 of the general conditions of contract, the acceleration cost claimed is ETB 8,952,307.67 in term of clause 51 and 52 of GCC, the cost that the contractor claims due to the new rate is ETB 42,649,229.19 and is claimed in terms of clause 52.2. The contractor alleges that due to payment delay he is entitled to suspension costs in terms of clause 69.4 and interest in terms of clause 60.10 and 60.14 of the conditions of particular application. The suspension cost claimed is ETB 1,704,425.81 and 7

days extension. The interest claimed by the contractor on the basis of late payment is ETB 16,564.20 and USD 135,250.84. the contractor also claimed that due to lack possession in km 126-130, km 182 to 186, km 184 to 185 for time extension request of 23day, cost compensation ETB 344,525.21; time extension 52 days and additional compensation ETB 1,326,603.58, time extension 91 days and cost 5,275,689.34 respectively pursuant to clause 42.2 and clause 44.1. The contractor paid duty on the vehicles thereby to claim this amount from employer of ETB 4,336,764.18 including 49% overhead costs.

3) Case analysis and conclusion:

According to decision of DRE, claims related to design change had been fully accepted based on the facts investigation, while, the contractor claimed in delay of payment was rejected after the assessment of the actual condition, the employer suspended the contractor payment pursuant to General condition of the contract clause 69.4, therefore, there was no additional cost and interest compensation addressed to this claim. It showed that time record of construction document is very important for both employer and contractor in case of the further claim calculated based on the time consideration.

5.4 Summary of contract claims problems in Ethiopia

From the above cases we can easily conclude that the contract claim commonly focus on delay of design and working drawings, ROW problems, adverse climate conditions; variation, payment related issues; etc. In spite of different conditions of contract applied accordingly, the contractor and the engineer both try to find the different explanation to the relevant contract documents hereby to defense the other in order to escape contract loss due to claims confirmation under an unbalance situation.

Finally, in case of the negotiation failed between the contractor and the employer mediated by the engineer, it should be like the above mentioned case to ask assistance from DRE or have to find another solution like legal arbitration. Meanwhile, contract claims nowadays have become more serious due to it relating to huge amount of monetary compensation which is even beyond the original contract price.

In the same time, we can also easily see that all the contract claims based on an abundant of evidences such as contract documents, related letters, and work performance record. Nobody can draw a conclusion without finding any facts before; therefore, the contract administration work during the execution of the contract should be concerned to every detailed issue for further compensation case preparation.

Time extension request and cost compensation are two important claim issues during the execution of the contract, in case of the contractor want to reduce his contract loss because of the complicate reasons, he must learn how to make these proper contract entitlement request easily accepted by the employer and engineer.

Chapter 6 Analysis and findings

The cases are selected randomly from different organizations, all the related data are factually collected from the contractor claim reports or the recommendation paper of the DRE in Addis Ababa.

The summarized claim items are shown in table 6. From the table computation result, we can find out that in the random sample projects, the time extension request vary from 44.7% up to 303.6% compare to the initial contract time, the cumulative average level is 117.7%; while, additional cost compensation from 3.02% up to 76.1%, the cumulative average level is 34.83% compare to the original contract price. The data analysis is shown as following Fig 6.

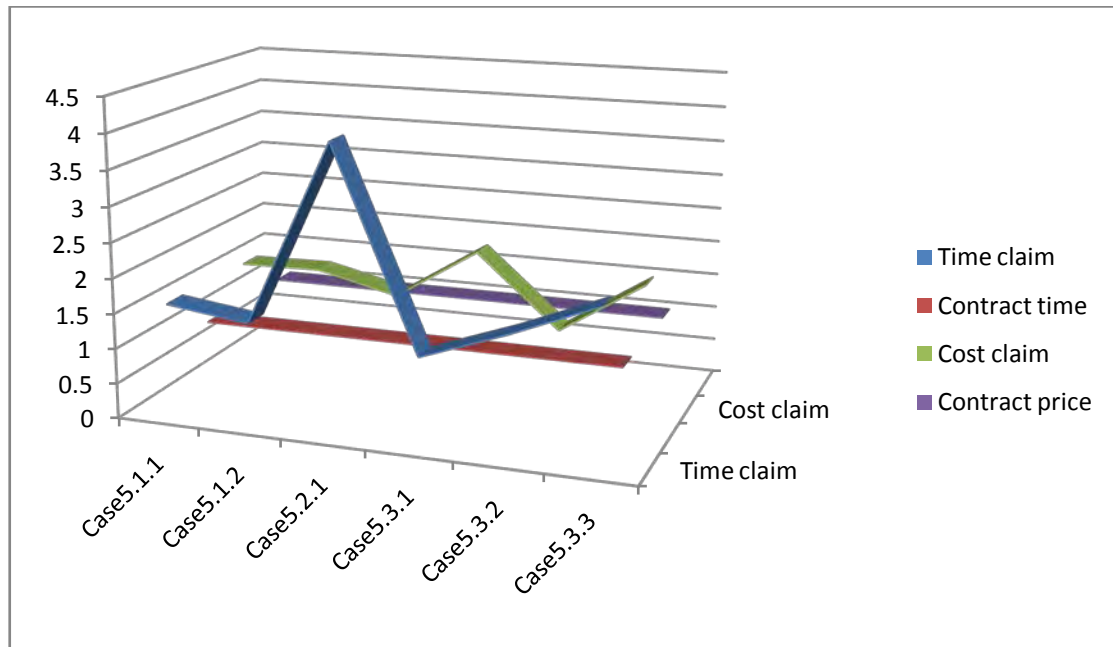


Fig 6 Case data analysis

In parallel, most of the claim arising from ROW problem, design related issues which take 18.12% and 12.9% proportion respectively in time extension claims during the contract execution, claims due to contract administration problem like ambiguities in contract document, slowing decision making and inadequate communication, etc takes 51.9% of the contract claim, the others like default of the employer, changed circumstance and unforeseen or uncertain condition during the execution of contract takes 17.08% of the total. Most of the cost compensation request due to design change and failure to give possession of site by the employer. the percentage data is shown as following Fig 7.

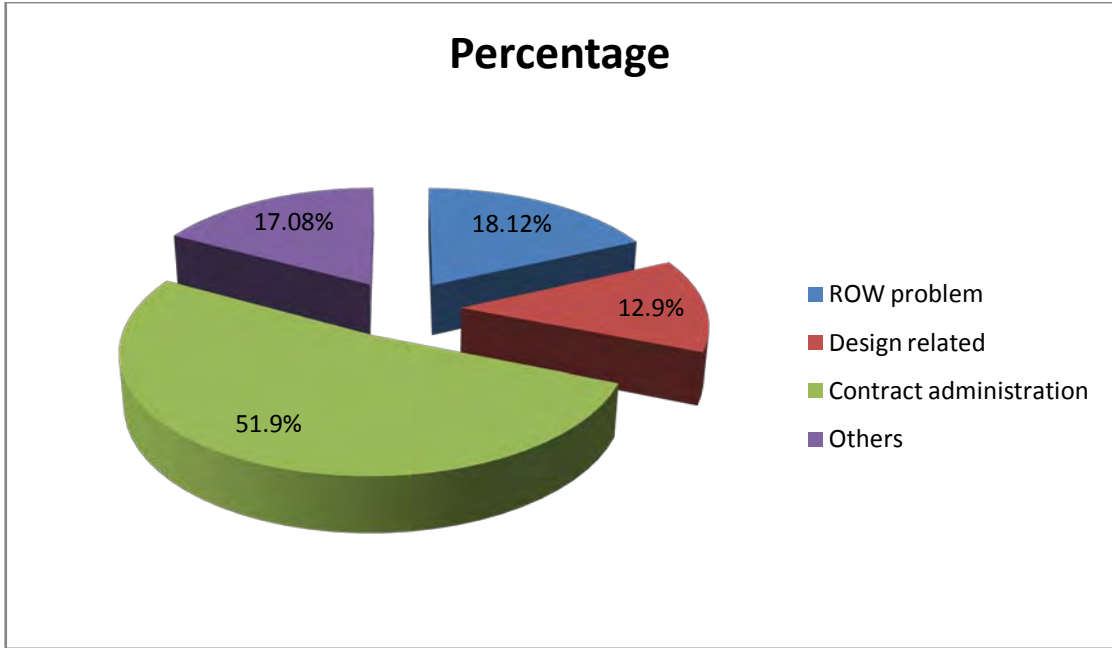


Fig 7 Percentage of claims causes

Therefore we conclude that the key problem to the contract claim in Ethiopia is lack of contract administration experience. Therefore, it becomes crisis to recall the contract parties to focus on increasing professional management in contract management during the project execution period.

In addition, in order to make contract claim to be solved in an easy way, the data collection and project record become very important to justify the facts which describe in the claim report.

Contract claim should be treated as the most important project management factor thereby to avoid further loss to all the involved parties.

Table 6 Claim problems summary and computation

No.	Description	Project (Refer to above case edited number)						%	
		5.1.1	5.1.2	5.2.1	5.3.1	5.3.2	5.3.3		
1	Initial contract time	5-15-06	5-08-06	5-08-06	4-20-04	6-01-99	4-20-04	-	
2	Initial contract price in birr	128,964,473	36,548,916	289,712,533	147,768,639	256,542,439.1	147,768,639		
3	Time extension claim(total) day	545d	402d	1108d	794d	755d	854d	117.7%	
4	Additional financial claim(total) in birr	26,225,573	21,331,727	8,756,873.5	36,098,211	68,581,561	112,443,031	34.83%	
5	Claim due to ROW	Time	330d	330d	-	365d		166d	18.12%
		Cost	13,119,665	16,325,301	-	3,931,689		11,283,582.3	
6	Claim due to design and variation	Time	215d	37d	150d	331d		689d	12.9%
		Cost	13,136,069	5,006,425	2,627,062	27,591,428		98,085,960	
7	Claim due to climate	Time	-	35d	-	98d			
		Cost	-	-	-	-			
8	Other related claims issues	Time	-	-	958	-			
		Cost	-	-	6,129,811.5	4,575,094			
9	Final completion time				7-28-07	7-08-05	7-25-08		
10	Claim covered period	5-15-06 up to 6-30-07	6-08-06 up to 6-30-07	-	-	-	-		
11	Project status up to now	Ongoing	Ongoing	Terminated	Completed	Completed	Completed		

Chapter 7 Conclusion and recommendations

7.1 Conclusion

Claims in Ethiopian international construction contract have special characteristics due to its special contractual environment; but the common claim causes according to the provision of the contract conditions have the same settlement methods compare to the normal contract management procedure in different situations of other countries, such as claims evidences requirement, claims procedure, claim solution and other general rules during the claim submittal, claim investigation, claim identification and claim arbitration, we thereby should not only concern the special conditions for preparation of the claim documents but also referring to other claim case request in general when encountering contract claim problem in Ethiopia.

It is common the claim reason arising from design change, default of the employer, unforeseeable condition and other related issues which may bring loss to the contractor or cause delay to the contract implementation; while, the contractor will claim for his entitlement according the contract provision and try to decrease his loss or protect his supposed profit. For the employer whether to pay the huge bill to the contractor or not depend on his counter claim method and his engineer contract management level. In Ethiopia, when the project suffers claims, DRE will be very popular to be invited and draw his opinion accordingly due to his professional service.

The contract claim problem may show up in case of poor project management or inadequate communication between the engineer and the contractor during the contract execution period. The cumulative problems not solved will finally become the fuse of the contract claim. As we know, project delay sometimes will bring the extra financial loss to the contractor, therefore, time extension request will normally consequent the additional cost compensation. In Ethiopia, we may see most of the engineer prefer to give time extension to the contractor as his request but always try to escape to give his justification or

comments on the financial reimbursement request.

Claims resolution in Ethiopia normally adopted DRE recommendation or alternative dispute resolution due to its non-confrontational technical advantage.

7.2 Recommendations

It is in the best interest of the parties involved that claims could be resolved as quickly as possible and most of claims could be avoided by using dispute prevention methods. Some of the methods which are related to Ethiopian construction trend are the following:-

- Accurate, complete design documents. Some projects didn't have full design documents including the one which are not required for construction permission. For example designs like mechanical ventilation, acoustical design, fire security, etc are not included in the contract documents.
- Contract provisions that allocate risk equitably among the parties. Contracts that make the contractor entirely responsible for such risks as weather, unforeseen conditions, delay, by the owner, labor unrest, material shortages, and inflation are like to be more dispute prone than those that spread such risks among the parties
- Constructability reviews. During the design process, utilizing experts on practical aspects of construction to advice on the plausibility of the design from the contractor's point of view, including the cost and schedule impacts of various alternatives.
- Partnering and cooperation. Fostering cooperation throughout the construction process helps to finish the project successfully, by providing a working space for understanding each other. For example creating opportunity for all professionals to discuss on design amendments, and construction process.

- Sufficiently detailed projects program that is endorsed by all parties will help to minimize disputes.
- Continuously keeping project reports
- Minimizing the number of contract changes. Fewer changes ought to result in fewer disputes.

Contract claim is the way to provide an opportunity for both of the contractor and the employer to request his right according to the associated rules or contractual provisions. Therefore we should encourage the proper contract claim during or after the execution of the contract.

Contract claim will also help to increase the project management level of all the involved parties and make them to clearly identify their shortcoming and disadvantage through the discussion of the contract claims. Therefore, claim can be considered like a mirror which will reflect the essential of the facts; it also can be looked as one kind of medicine which may be make the contract management suffering lots but finally can cure the pain of failure.

We may think the positive impact of the contract claim on the current contract administration situation in Ethiopia due to it easily reflection of the problems thereby it will guide the right direction of contract management.

More recommendation should be given to the contractor; contract claim will directly influence the contractor's interest and profit, therefore, we repeatedly emphases that the contractor must pay attention to his site management and documental collection for his further claim in case of project suffered financial loss or fail to complete within the given time. When we study the situation in Ethiopian contractor's contract management, we find out that the incompetent contract management problem even more serious than the poor performance, as we know, we may correct the physical defect easily but it is very difficult to fix the contract mistake in case of contract mistake may bring millions of loss without any reimbursement. So, I would like comment the contractor to organize more domestic training and improve the professional management level in site office. Because there are lots of works should be completed by the

site professional engineer and it is also easily to be realize if the company like to improve its individual contract management capacity.

Contract claim management depends on the standard of the reference documents, if the contract based conditions have ambiguities or any conflicts, the justification may become more difficult, therefore, government relevant authorities should focus on these kinds of problem and try to revised contract standard timely and provide a clear guide to the contractual parties.

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Appendixes

Appendix 1: Claims description in Mo WUD (1994)

Mo WUD (1994)

The contractor's entitlement and claim description:

The contractor may request additional cost and time extension

Clause 5.2 Documents mutually explanatory: due to the Ambiguities or discrepancies among several documents forming the contract;

clause 6.4 Delays and cost of delay of drawings: Failure or inability to issue Engineering drawing within reasonable time causing disruptions of progress;

clause 12 Sufficiency of tender: Physical conditions or artificial obstruction, which cannot be predictable by an experienced contractor; then the engineer shall certify and the employer shall pay the additional cost to which the contractor shall have been put by reason of such conditions, including the proper and reasonable cost;

Clause 40.1 Suspension of works: Extra cost due to suspension to the contractor will instructed by the engineer and paid by the employer unless such suspension by the reason of default of the contractor;

clause 42.1 Possession of site: Failure on the part of the Employer for possession if the contractor suffers delay or incurs cost from failure on the part of the employer to give possession in accordance with the terms of this clause, the engineer shall grant an extension of time for the completion of the works and certify such sum as, in his opinion, shall be fair to cover the cost incurred, which sum shall be paid by the employer;

Clause 70 Increase or decrease of cost: Changes in cost & legislation the contractor shall give a written notice within a reasonable time to the engineer, while the employer shall pay such additional or reduced cost as per provision of this clause. While,

The contractor may ask for cost compensation only:

Clause 18 Additional boreholes or exploratory excavation;

Clause 20.1 Care of works: Repairs due to damages, loss or injury from any of the excepted risks;

Clause 26.2 Compliance with statutes, regulation, etc;

Clause 27 Fossils, etc: Obstructions such as archeological and geological interest or structures.

Clause 30 Damages due to extraordinary traffic claims;

Clause 31 Opportunities for other contractors: use of contractor's belongings for other purpose by the Employer;

Clause 36.4 Additional Tests not provided in the contract;

Clause 38.2 Uncovering and making opening to inspected works;

Clause 49.3 Cost due to remedy works other than contractor's responsibility;

clause 50 Searching for defects, imperfections, or faults;

Clause 52.1 Valuation of variations; all extra or additional work done or work omitted by the order of the engineer shall be valued at the rates and prices set out in the contract, in the event of disagreement the engineer shall fix such rates or prices as shall , in his opinion, be reasonable and proper.

Clause 65.3 Damage due to special risks; if the works or any materials on the site or any property of the contractor used or intended to be used for the purpose of the works, sustain destruction or damage by reason of any of the said special risk, the contractor shall be entitled to payment in accordance with the contract.

Clause 65.5 Increased costs due to special risks;

Clause 65.8 Payment after termination;

clause 69 Default of employer: Default by the Employer to fail to pay the contractor the amount due under any certificate of the engineer within thirty days, or interfering with or obstruction or refusing any required approval, or the employer becoming bankrupt, going into liquidation or giving formal notice to the contractor that for unforeseen reasons due to economic dislocation, it is impossible for him to continue to meet his contractual obligation, in the event of such situation, the employer shall be under the same obligations to the

contractor in regard to payment of any loss or damage.

The employer's entitlement and claim description in Mo WUD (1994) are shown as the accompanied table:

Employer's entitlement pursuant to Mo WUD

Clause 25 Contractor's failure to insure; the employer may request cost compensation from contractor.

Clause 39.2 Removal of improper work & material; the employer may give order to contractor to rectify work defects, if the contractor fails to do that, the employer will arrange to remove improper works or material but cost should be covered by the contractor.

Clause 47.1 Delay in completion time; if contractor failed to complete contract within the given time, he has to pay liquidated damage to the employer according to the provision of contract.

Clause 49.4 Remedy on contractor's failure to carry out work required; the employer may cost compensation.

Clause 52.1 Valuation of variations; in case of variation cause the cost reduction, the employer may ask repayment from contractor.

Clause 63.1&63.3 Costs incurred by the Employer due to default by the contractor; the employer has right to ask cost compensation.

Clause 64 Urgent remedial work made by the Employer; the employer has right to ask for cost compensation.

Clause 65.8 Payment after termination; the employer can ask additional cost payment.

Clause 70.1&70.2 Changes in cost & legislation; the employer has right to request cost compensation.

Appendix 2: Claims description in PPA (2006)

The contractor's entitlement and claim description:

The contractor may ask for cost compensation

clause 11 The employer's risk, the risk include the personal injured, damage to work, plant, material and equipments due to employer's fault or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

Clause 20 Discoveries, the contractor may ask for time extension in case of anything of historical or other interest or of significant value unexpectedly discovered on the site which to deal with will influence the progress of the project.

Clause 21.1 Possession of the site, if possession of a part is not given by the date stated in the approved work program of the contractor, the employer will be deemed to have delayed the start of the relevant activities, and this will be a compensation event. Most of the cost compensation claim arise from the employer fails to give possession of site, therefore, it is important for the contractor to give a clear record to this issue during the execution of contract.

Clause 28.1 The Engineer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

Clause 29 Acceleration: the contractor may ask for cost compensation if the employer's accept his acceleration proposal;

Clause 32.1 The Contractor shall warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work increase the Contract Price or delay the execution of the Works.

Clause 34.1 If there is no Defect of the test which not specified in the specification request by the engineer, the contractor can ask cost compensation.

Clause 38.1 If the final quantity of the work done differs from the quantity in the

Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 5 percent of the Initial Contract Price, the Engineer shall adjust the rate to allow for the change;

Clause 38.2 The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.

Clause 40 Payment for variation;

Clause 41 Payment: the contractor may ask interest loss for the employer's payment delay.

Clause 44 Compensation events

Clauses 44.2 Pursuant to clause 44 the contractor can ask for time extension and his financial lost.

Clause 50 The contractor may ask bonus in case of the completion time is earlier than the contract expected time. This issue should be clearly stated in the contract agreement so that the contractor and employer can negotiate the final amount or approve the bonus according to the provision of the contract.

Clause 60.2 Payment upon termination due to employer's reason;

Clause 62.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of the Employer or the Contractor, the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

The employer's entitlement and claim description:

The employer may ask for claim persuade to

Clause 12 The contractor's risk which caused by the fault of the contractor,
clause 13.3 In case of the contract fail to insure;

Clause 36.1 If the Contractor has not corrected a defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the defect corrected, and the Contractor will pay this amount.

Clause 49.1 Liquidated damages; the employer may ask the liquidated damages in case of the project delayed according to the contract completion time;

Clause 54 Cost of repairs; the employer may ask for cost compensation in case of the contractor to fail remedy the defect works;

Clause 60.1 Payment upon termination due to the fault of the contractor.

Appendix 3: Claims description in FIDIC

Contractor's entitlement and claim description in FIDIC

Clause 5.2 Ambiguities in contract; contractor may ask time extension and cost compensation.

Clause 6.3&6.4 Drawing delay delivered; the contractor has right to ask for time extension and cost compensation.

Clause 12 Physical obstructions conditions; contractor has right to ask time extension and cost compensation.

Clause 17.1 Incorrect data from engineer for survey; contractor has right to ask cost compensation.

Clause 18.1 Borehole and exploratory; the contractor has right to ask for cost compensation.

Clause 27.1 Fossils etc; the contractor has right to ask for time extension and cost compensation.

Clause 31.2 Services for other subcontractors; contractor can ask cost compensation.

Clause 36.5 Test not specified in contract; the contractor has right to ask for time extension and cost compensation.

Clause 38.2 Uncovering and make openings; the contractor has right to ask cost compensation.

Clause 40.2 Suspension by engineer; the contractor may ask for time extension and cost compensation.

Clause 42.2 Failure to possession; contractor can ask for time extension and cost compensation.

Clause 49.3 Remedy defects; in case of the defects are not fault of the contractor, he may ask cost compensation from employer.

Clause 50.1 Work defects by employer's fault; the contractor can ask for cost compensation.

Clause 51.1 Variations; contractor may ask cost compensation and time extension.

Clause 52.1&52.2 Valuation of variations; in case of variation caused the cost increased, the contractor can ask cost compensation from employer.

Clause 52.3 Variation exceeding 15%; contractor can ask cost compensation.

Clause 65.3 Damage to works by special risks; contractor has right to ask cost compensation.

Clause 65.5 Increasing cost by special risks; contractor can ask cost claim.

Clause 65.8 Termination; contractor has right to ask for cost compensation.

Clause 69 Default of employer; contractor has right to ask time extension and cost compensation;

Clause 70.1 Increase or decrease of cost; in case of the increase contract cost, the contractor has right to ask for cost compensation.

Clause 70.2 Subsequence of legislation; the contractor can ask for cost compensation.

Clause 71 Currency and rates of exchange; the contractor may ask cost compensation due to exchange rate increase.

Employer's entitlement and claim description in FIDIC

Clause 25 Remedy on contractor failure to insure; employer has right to ask for cost reimbursement from the contractor.

Clause 30.3 Transport of material or plants; employer has right to ask for cost compensation.

Clause 39.2 Default of contractor in compliance; employer has right to ask for cost compensation.

Clause 47.1 Liquidated damage for delay; if the contractor failed to complete contract within given time, the employer has authority to ask him to pay the liquated damage according to the provision of contract.

Clause 49.4 Contractor's failure to carry out instruction; employer has right to ask for cost compensation.

Clause 52.1%52 Valuation of variations; in case of the valuation of the variation result to decrease the cost, the employer can ask repayment from contractor.

Clause 59.5 Employer directly pay to subcontractor; the employer can deduct payment he had paid to subcontractor directly.

Clause 63 Default of contractor; employer has right to ask cost compensation.

Clause 70.1 Increase of decrease of cost; the employer can ask repayment from contractor in case of decrease of contract cost.

Clause 70.2 Subsequence of legislation; employer can ask cost compensation.

Declaration

I declare that this thesis is my original work and it has not been presented for a degree in any other university before and all the paper related materials have been dually acknowledged.

Candidate

Name LIU YI

Signature _____

Date _____