

Dispute Resolution Practice of Project Management in Nepal

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Abstract

Zero dispute construction industry has not been achieved yet. The study was focused to assess disputes resolution practices in International Competitive Bidding (ICB) road contract through Alternative Disputes Resolution (ADR). Based on area sampling eight ADB funded projects were selected for case study. Intensive reviews of available literatures on causes of disputes in the construction industries were done. One set questionnaire survey was carried out among the stakeholders involved in the ICB road projects to assess the causes of disputes. Semi-structure interview were conducted with the stakeholders.

Out of 8 projects, dispute related to only one project has been settled in 8 months. Remaining 7 projects have not been settled till 1st November 2015. Total time lost during the process would be around 20 years and 3 months till date. Average time lost 2 years and 10 months for each projects. The disputes, which have not been solved, could not be assessed. The total amount spent on ADR only, for seven projects was 20 lacks and 50 thousand, on an average the cost for a single project was 3 lacks and 7 thousand. However, the total cost incurred could not be estimated until the disputes have been completely settled. These cost included only arbitrator's fee other expenses such as opportunity losses are not included.

Time overrun and cost overrun are the major problem that arises due to disputes. Negotiation is the most applied ADR to resolve the disputes followed by Adjudication and mediation. Arbitration is used as the fourth ADR method due to its high legal Value inspires of high time and cost consumption. Alternative Dispute Resolution procedure for ICB contracts is applicable, simple and satisfied to all the parties.

Keywords: Alternative Dispute Resolution, ICB, ADB, Time of Dispute, Cost of Dispute

Introduction

Among several infrastructure, roads infrastructure has huge amount of investment. Development of road in local body is given high priority in Nepal (Mishra and Magar, 2017). Price is fluctuating which is serious issue and dispute could make it more challenging (Mishra and Regmi, 2017). Risk management practice in construction project is yet to be organized (Mishra and Mallik, 2017). Considering the significance of transport, the Asian Development Bank (ADB) was the first organization to work in road development in Nepal. It is made for road development through International Contract Bidding (ICB) contract by ADB in Nepal and disputes management in those projects could result into a successful projects (Mishra et al., 2018). Therefore, the researcher is interested to avoid non-

budgetary expense of disputes to prevent the project to be costly. For the management of disputes its causes, impacts, and proper settlement method should be found. Though the study conducted in ICB Contract of ADB found road projects only causes of dispute as Change of material Source, Inadequate design and site information, Commencement and Delay information, Unforeseen physical / Site condition resulting to variation, Strikes, Bandh, Riot (disturbance) or Disorder, Delay in decision making and settlement of dispute, Possession of site and Access to site, Unusual weather condition and Inflation, Unavailability of fuel and Construction material along with the identified areas that are problematic for the claim and disputes; Engineer doesn't work impartial and do not fulfill their responsibility promptly, Contractors generally do not fulfill or are reluctant to perform contractual obligations, Employers are not

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prompt in decision making for any problems, Employers are not very serious toward fulfillment of their contractual obligation and Incorrect and inconsistent Drawing (Mishra et al., 2018). So the researcher extended the research with an objective to assess the Impacts of Dispute and Major Alternative Resolution Practice in International Competitive Bidding Road Contracts Funded by Asian Development Bank in Nepal.

Rational of the Study

The study is significant to warn stakeholder before dispute regarding their impact along with ways to resolve it. It is also help to know the frequency of each dispute. This study is also suggesting appropriate alternate dispute resolution (ADR) practices against present litigation procedure in ADB funded ICB road contract in Nepal.

Literature Review

Effects of Disputes in Construction Project

"Timely accomplishment of a capital construction project is a difficult task in the uncertain, complex, multiparty, and dynamic environment of construction. Therefore, it is usual for a construction project to be delayed. Normally, the contractor notifies the Employer of a claim and requests for additional time and cost. The contractor mostly thinks that additional cost has incurred due to engineer's action while administering the contract or due to the action of the Employer. If a claim is rejected for one or the other reasons by a party or the claim is not acceptable to it, then the situation leads to requiring settlement through either any agreed procedure between the disputants or through litigation in the court, if otherwise. The disputes /claims may be contractual or non-contractual. Contract document defines rights, obligation, and procedures for any construction projects. Based on contract documents, disputes/ claims are forwarded by the contractor for additional time and cost, which can develop into a disagreement that may not be amicably resolved by the party, has concerned" (Barrie and Paulson, 1992).

Younis (2008) stated that the continuing costly disputes in the construction industry have led to a common interest of researchers in different countries to identify the generic effects of conflicts, claims, disputes and their resolution. From the statement above, we acknowledge that disputes may affect the project in a negative way. Disputes are not budgeted for and when they occur many turn to be very costly. Cost is one of the parameters or factors that determine a project's success. Client seek to get their projects done at a lowest economical cost, while contractors seek to do the job at the lowest possible cost in order to get maximum profit. Construction disputes, when not resolved in a timely manner, because very expensive – in terms of finances, personnel, time, and opportunity costs. The visible expenses (e.g. attorneys, expert witnesses, the disputes resolution process itself) alone are significant. The

less visible costs (e.g. company resources assigned to the dispute, lost business opportunities) and the intangible costs (e.g. damage to business relationships, potential value lost due to inefficient dispute resolution) are also considerable, although difficult or impossible to quantify. It has been estimated that construction litigation expenditure in the united state has increased at any average rate of 10 % per year over the last decade, nearly \$5 billion annually (Pena-Mora et al, 2002). Disputes can be both business and personal effective. Sometimes you find yourself attaching business and personal effective, Sometimes you find yourself attaching business assets along the resolution process. Construction deutes are not only costly but are also time consuming. According to Allen (2011) disputes in the Middle East and Asia, were found to last, on average, 9.1 months from beginning to resolution. Disputes in Asia, however, lasted the longest at 11.4 months, with the UK at 6.75 months. The disputes occurrence in projects has detrimental effect on project performance (Dana, 2013)".

According to Professor Dr. Dana, Disputes hamper in almost all aspects of construction project. Out of that, the only economic impacts could be expressed as follow.

Disputes distract worker from their productive work resulting into a loss of 30-42 percentage of productive time. Any decision made by you and / or others, independently or jointly affected by dispute may causes a loss up to 50 % also. Organization invests in employs skill by paying a premium salary upon hiring and by providing training thereafter. Cost of lost of human resource nay vary from various proportion maximum could be 150 % of total annual compensation. In efficiency of work redesign to accommodate, conflict. Due to lack of quality work life in presence of disputes, the equipment, work process, and reputation may cause to be damaged. Motivation into ability result into performance. Lowered job motivation lowered the performance and productivity. Due to stress, the habit of happiness may be lost resulting into dissatisfaction in Professional life and frustration in personal life. Illness and injured requiring medical attention is particularly Psychogenic, and deutes contributes to their psychogenic. Since a rate of claims affects the premium paid by an employer to its insured, incurrence is an indirect cost of work place conflict (Dana, 2013).

Innovation of Disputes Resolution Practices in ICB Road Contracts

Odigie (2009) studied on the innovation of the dispute resolution mechanism, using the Federation Internationale Des Ingenieurs Counseils (FIDIC) forms of contract as a guide and concluded as follows.

The engineer's duty to act impartially and quite independently under the pre-1999 FIDIC condition of contract included the duty to supervise or control and to decide upon disputes. Thereafter the Engineer's decisions on disputes were binding and final and they could not be

appealed except through arbitration. However, the Engineer appeared biased and acting somewhat in the interest of the employer and in consequence, the contractors felt more and uncomfortable with the pre-1999 FIDIC forms of contract. Consequently, the contractor and owner started to seek alternative means for ensuring the desired cordial working relationship.

The Engineer's impartiality was highly controversial, especially in the civil law countries, e.g. the French believe that the power given to the Engineers under FIDIC was exorbitant and in certain cases poisoned the atmosphere between the contractor and Employer. Following the distrust and suspicion that have trailed the Engineer's role, the 1999 FIDIC forms of contract provided for specified claims rights, included procedures for the enforcement of such rights e.g. the 1999 edition of the FIDIC Red and Yellow books each contains about 30 sub-clauses of such rights. Specifically, the FIDIC (1999 Red Book) under clause 20, like its counterparts the ICE under clause 66, obliges the parties to comply with the agreed mandatory, multi-tiered dispute resolution mechanism.

In the other hand, there have been complains worldwide the disputes in construction works have taken rather a long time for its settlement. Out of this the concept, the idea of Alternative disputes Resolution came being. It is commonly accepted that the contractual disputes settlement process is the outcome of this concept. Nowadays, under normal commercial contract, disputes are generally settled by the referring in Amicable Settlement (Negotiation), Adjudication / Dispute Board, Arbitration and Litigation in the hierarchical order (Sharma, 2012). Besides this Neutral evaluation, expert determination, Med-Arb (a combination of mediation and arbitration), Dispute Resolution Board (DRB), Mini Trial, Dispute Board etc are found in practice at different places.

Research Methodology

Following projects based on disputes issues, which complain in NEPCA from 2003 to 2015 had been selected.

- Road Network Development Project (RNDP), Biratnagar-Rangeli-Bardanga; Urlabari - Bardanga (BBUB) Road, Contract no.- RNDP/ICB/BBUB
- Road Network Development Project (RNDP), Strengthening of East-west Highway Project, Belbari - Choharba (BC) Road, Contract no.- RNDP/ICB/BC
- Road Connectivity Sector-I Project(RCSP-I), Upgrading of Betravati- Devighat section of Galchhi-Trishuli-Syaphrubesi Road, Contract no.- RCSP/ICB/GTS/02
- Road Connectivity Sector-I Project(RCSP-I), Upgrading of Trishuli - Syaphrubesi section of Galchhi-Trishuli-Syaphrubesi Road, Contract no.- RCSP/ICB/GTS/04
- Sub regional Transportation Facilitation Project (STFP), Constructions of Road form Birgunj ICD to Tribhuvan Highway & Jeetpur widening. Contract no. - STFP/ICB/BT

- Sub regional Transportation Facilitation Project (STFP), Construction of road from Macau to Bhumahi Road, Contract no. - STFP/ICB/MH
- Sub Regional Transport Enhancement Project (STEP), Upgrading & Strengthening of Belbari - Chaurahawa Road Project of East-West National Highway, Contract no.- STEP/ICB/BC/02
- Sub regional Transportation Facilitation Project (STFP), Construction of Kakarbhitta Inland Depot (ICD), Contract no. - STFP/ICB/KB

Date Collection

The interviews aimed to classify responses arising from the questionnaire. The interviews, two (2) responded from each project who is at least second-class officer and senior post i.e. project managers, Deputy Project director's etc. Similarly, two (2) nos. of respondent from each projects who are involve in both management and operational levels during the construction process of various disciplines i.e. Project coordinators, planning, and contract administrator, and in the case of contractor one (1) no. of responded from each projects who face the disputes management and contract document i.e. contract manager or legal advisor.

The research was conducted through observation and interviews (both structured and unstructured) using the single set of questionnaire. The data was collected from both primary and secondary sources from Nepalese as well as from foreign jurisdictions have been studied. The primary data obtained from questionnaire survey and secondary data obtained from case study of the ICB road contracts. Both data are compiled and analyze by content analysis and descriptive analysis method. The ranking of disputes is evaluated based on the matrix rank percentage analysis method.

Results and Discussion

Present Disputes Resolution Process

An effort has been made to Present Disputes Resolution Process in ICB road Contract. The opinion has been collected through the same questionnaire from the main stakeholders (i.e. Employer, Engineers, and Contractors) of the ICB road contract. On order of priority based, the Present Disputes Resolution Process with their rank has been described below.

According to figure 1, the response of the main stakeholders (i.e. Employer, Engineers and Contractors) have been found succeeded rate of claims in ICB road Contracts. The Client, Consultants and Contractor's response with satisfied on the present disputes resolution process in claim have been found 85%, 69%, and 69% respectively. Similarly, The Client, Consultants and Contractor's response with unsatisfied on the present disputes resolution process in claim have been found 15%, 31%, and 31% respectively. It is noticed that the Client have been more satisfied on

the Present Disputes Resolution Process in claim rather than Contractors.

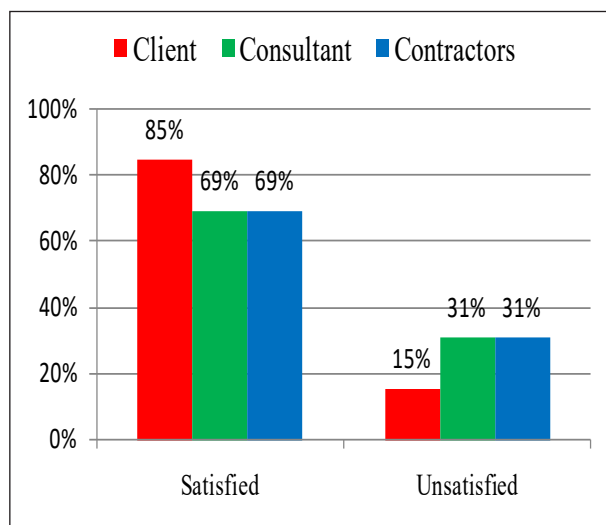


Figure 1. Main stakeholder's Response on Present Dispute Resolution Process

Commonly used Dispute Resolution Process ICB road Contracts in Nepalese Context

An effort has been made to commonly used dispute resolution process/ practices on ICB road contracts in Nepalese context. The opinion has been collected through the same questionnaire from the main stakeholders (i.e. Employer, Engineers, and Contractors) of the ICB road contract. The opinion have been collected through the main stakeholders and shown in the table. The figure shows the commonly used dispute resolution process / practices with their ranking in terms of their response.

Client's Response

According to figure 2, the response of the clients has been found over the commonly used dispute resolution process/ practices on ICB road contracts in Nepalese context. The client's response on the Negotiation, Conciliation, Mediation, Adjudication, Arbitration, Litigation and , others have been found 27%, 4%, 10%, 24%, 21%, 14% and 1% respectively. It is noticed that Negotiation, Adjudication, Arbitration, Litigation, mediation, and Conciliation have been commonly used dispute resolution process with rank in terms of response of Client.

Consultant's Response

According to figure 2, the response of the consultants has been found over the commonly used dispute resolution process/ practices on ICB road contracts in Nepalese context. The client's response on the Negotiation, Conciliation, Mediation, Adjudication, Arbitration, Litigation and others have been found 28%, 9%, 8%, 24%, 19%, 10% and 1% respectively. It is noticed that Negotiation, Adjudication, Arbitration, Litigation, Conciliation, and mediation have been commonly used dispute resolution process with rank in terms of response of Consultant.

Contractor's Response

According to figure 2, the response of the contractors has been found over the commonly used dispute resolution process / practices on ICB road contracts in Nepalese context. The contractor's response on the Negotiation, Conciliation, Mediation, Adjudication, Arbitration, Litigation and others have been found 26%, 2%, 7%, 24%, 24%, 16% and 0% respectively. It is noticed that Negotiation, Adjudication, Arbitration, Litigation, Conciliation, and

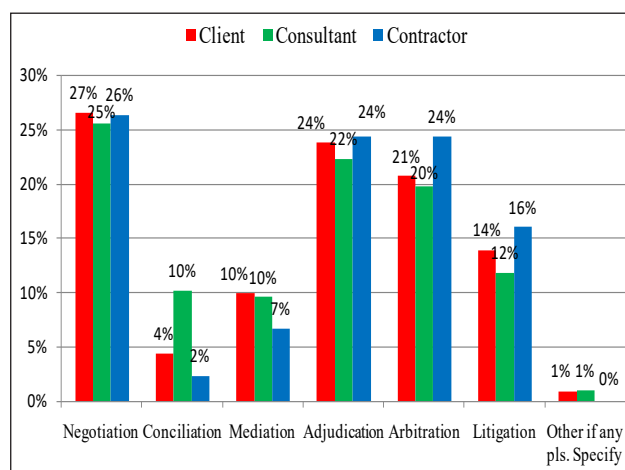


Figure 2. Dispute Resolution Process on ICB road Contracts in Nepalese Context

mediation have been commonly used dispute resolution process with rank in terms of response of contractors.

Effective Dispute Resolution Process/Practices on ICB Road Contracts

An effort has been made to more prompt / effective dispute resolution process / practices on ICB road contracts in Nepalese context. The opinion has been collected through the same questionnaire from the main stakeholders (i.e. Employer, Engineers, and Contractors) of the ICB road contract and shown in the table. The figure shows the more prompt / effective dispute resolution process / practices with their ranking in terms of their response.

Client's Response

The figure 3, shows that the response of the Clients have been found over the more prompt/ effective dispute resolution process/ practices on ICB road contracts in Nepalese context. According to response of the client, ADR have been more prompt/ effective dispute resolution process than Litigation. The responses on Negotiation, Conciliation, Mediation, Adjudication, Arbitration, and others have been found 27%, 8%, 17%, 20%, 19%, and 7% respectively. Similarly, few clients' response on Litigation has been found 1 % only.

Consultant's Response

The figure 3, shows that the response of the Consultants have been found over the more prompt/ effective dispute resolution process/ practices on ICB road contracts in

Nepalese context. According to response of the Consultant, ADR have been more prompt/ effective dispute resolution process than Litigation/ Court. The responses on Negotiation, Conciliation, Mediation, Adjudication, Arbitration, and others have been found 24%, 16%, 17%, 22%, 17%, and 3% respectively. Similarly, few Consultants' response on Litigation has been found 1 % only.

Contractor's Response

The above figure 3, shows that the response of the Contractors have been found over the more prompt/ effective dispute resolution process/ practices on ICB road contracts in Nepalese context. According to response of the Contractors, ADR have been more prompt/effective dispute resolution process rather than Litigation/ Court. The responses on Negotiation, Conciliation, Mediation, Adjudication, Arbitration, and others have been found 34%, 16%, 11%, 19%, 16%, and 5% respectively. The Contractor's response fully on ADR, their response on Litigation has been found zero (0%).

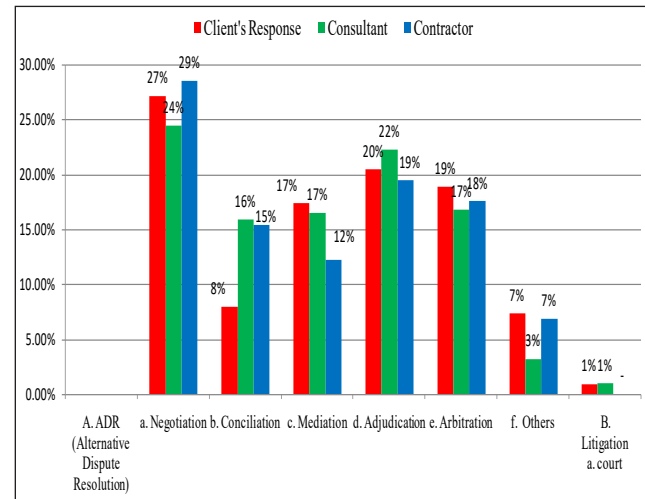


Figure 3. Effective dispute resolution process
Disputes Management Practices
Practices of Disputes Management in Particular Projects based on Case Studies

Table 1. Practices of Disputes Management in Particular Projects

S.No	Project Name	Settlement provision	Present status of disputes
a.	Road Network Development Project (RNDP), Biratnagar-Rangeli-Bardanga; Urlabari - Bardanga (BBUB) Road. Contract no.- RNDP/ICB/BBUB	Engineer's decision	Settled
b	Road Network Development Project (RNDP), Strengthening of East-west Highway Project, Belbari - Choharba (BC) Road, contract no.- RNDP/ICB/BBUB	-	Due to dissatisfaction of Dispute Resolution Engineers (DRE), Contractor has noticed for intension to commence
c	Road Connectivity Sector-I Project (RCSP-I), Upgrading of Betravati- Devighat section of Galchhi-Trishuli-Syaphrubesi Road. Contract no.-RCSP/ICB/GTS/02	Dispute Board (DB), Amicable Settlement and Arbitration	DoR has forwarded the case in appeal at court on B.S. 2070-9-22.
d	4) Road Connectivity Sector-I Project(RCSP-I), Upgrading of Trishuli - Syaphrubesi section of Galchhi-Trishuli-Syaphrubesi Road. Contract no.-RCSP/ICB/GTS/04	Engineer's Decision	Contractor did not agree with the Engineer's decision and put the claim to DAB. The claim is still pending in DAB.
e	Subregional Transportation Facilitation Project (STFP), Construction of Road form Birgunj ICD to Tribhuvan Highway & Jeetpur widening.	DB, Amicable Settlement and Arbitration	DoR has forwarded the case in appeal at court on B. S. 2070-7-8.
f	Sub regional Transportation Facilitation Project (STFP), Construction of road from Mahu to Bhumahi Road, Contract no.-STFP/ICB/MH	DB, Amicable Settlement and Arbitration	The arbitrators gave the award on 15 Sep 2013
g	Sub Regional Transport Enhancement Project (STEP), Upgrading & Strengthening of Belbari - Chaurahawa Road Project of Mahendra Rajmarga (East-West National Highway), Contract no. -STEP/ICB/BC/02	Engineer's Decisions	Contractor did not agree with the Engineer's decision and put the claim to Arbitration. (still pending)
h	Sub regional Transportation Facilitation Project (STFP), Construction of Kakarbhitta Inland Depot (ICD), Contract no. STFP/ICB/KB	-	On the process of arbitration and due to secrecy no information can be observed

Practices of Disputes Management based on Semi-Structure Interview

The practices of dispute resolution in Nepalese ICB road contract has been assessed through semi-structure interviews on the meantime of questionnaire survey without considering any specific projects. During interview arbitration mediation and conciliation, researcher is focused to apply though, they replied arbitration is time consuming and not cost effective. It is the most used one due to its high legal value almost equal to litigation. Negotiation is the best in respect of secrecy, time and cost effectiveness and it found to be applied in initial phase though it does not have legal importance, so it was found to apply only as a step of ADR.

Practices of Disputes Management based on Questionnaire Survey

Based on Questionnaire Survey, main stakeholders has been familiarization on Alternative Dispute Resolution (ADR) Process on the ICB road projects.

According to figure 4, the main stakeholders' response with "familiarization" on the ADR process in the ICB road projects has been found 85%, 17%, and 62% respectively. Similarly, "no familiarization" on the ADR process in the ICB road projects has been found 15%, 15%, and 0% respectively. Similarly, "I don't know" the ADR process in the ICB road projects has been found 0%, 8%, and 38% respectively. It is noticed that most of the stakeholders have been familiarization on the ADR process in the ICB road projects.

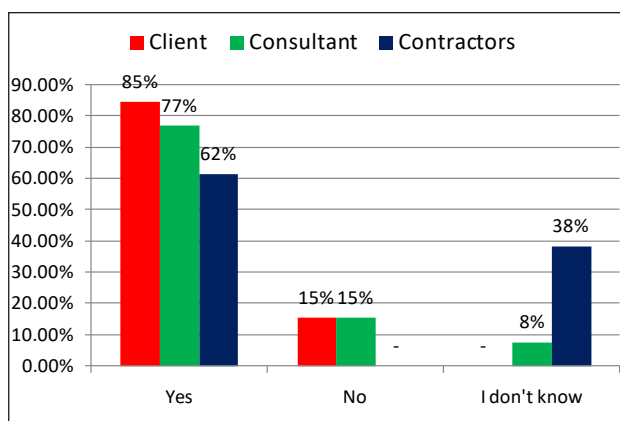


Figure 4. Familiarization of Stakeholders on ADR

In order to priority based, the different methods of ADR applicable on different causes of Dispute /Claims with their rank have been described below.

Commencement of Delays

According to figure 5, the response of the main stakeholders has been found the different methods of ADR applicable on commencement and delay with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 34%, 35% and 33% respectively, on mediation have been found 19%, 21% and 21% respectively, on adjudication have been found 24%, 23% and 23%

respectively, on arbitration have been found 16%, 16% and 15% respectively, on the others have been found 6%, 5% and 8% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

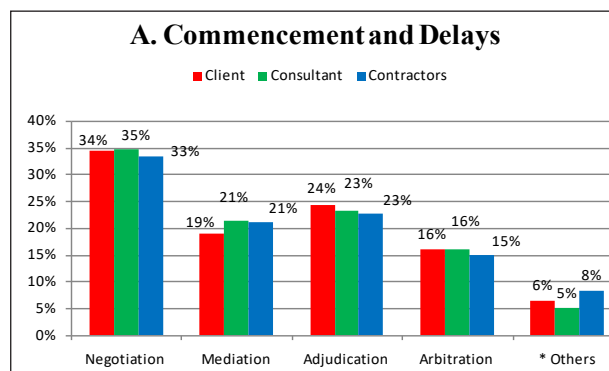


Figure 5. ADR Applicable on Commencement and Delay Inadequate Design and Site Information

According to figure 5, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on inadequate design and site Information with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 32%, 34% and 32% respectively, on mediation have been found 23%, 21% and 21% respectively, on adjudication have been found 22%, 23% and 21% respectively, on arbitration have been found 17%, 16% and 17% respectively, on the others have been found 5%, 5% and 9% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

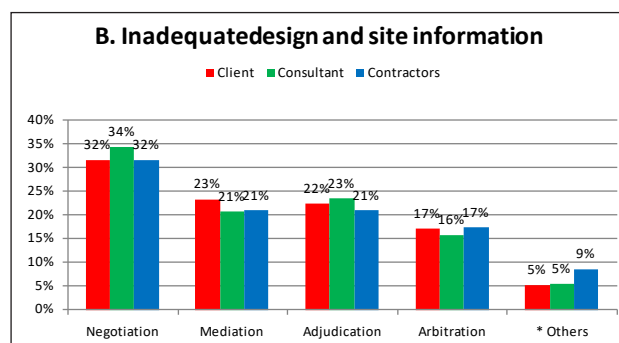


Figure 6. ADR applicable on Inadequate Design and Site Information

Change of Material Source

According to above figure 7, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on Change of material source with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 29%, 33% and 32% respectively, on mediation have been found 20%, 21% and 21% respectively, on adjudication have been found 25%, 23% and 23%

respectively, on arbitration have been found 20%, 18% and 16% respectively, on the others have been found 6%, 5% and 9% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

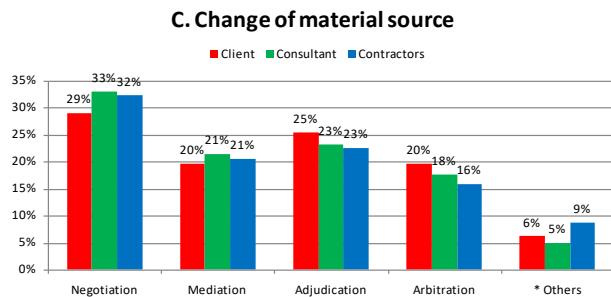


Figure 7.ADR applicable on Change of Material Source Measurement and Drawing

According to figure 8, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on measurement and Drawing with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 36%, 36% and 29% respectively, on mediation have been found 18%, 24% and 22% respectively, on adjudication have been found 21%, 20% and 23% respectively, on arbitration have been found 18%, 15% and 17% respectively, on the others have been found 5%, 5% and 8% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

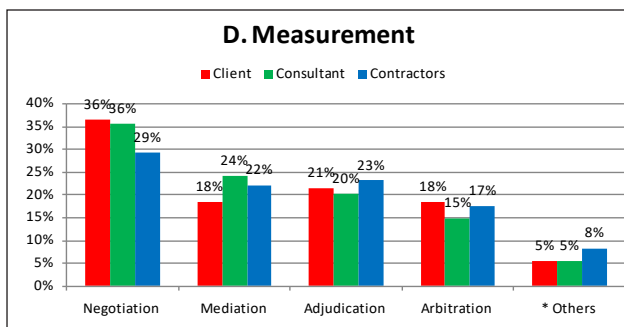


Figure 8.ADR applicable on Measurement and Drawing Possession of Site

According to figure 9, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on possession of site with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 32%, 34% and 32% respectively, on mediation have been found 21%, 22% and 19% respectively, on adjudication have been found 23%, 21% and 22% respectively, on arbitration have been found 17%, 17% and 18% respectively, on the others have been found 6%, 5% and 8% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Adjudication, Mediation, and Arbitration in terms of their response.

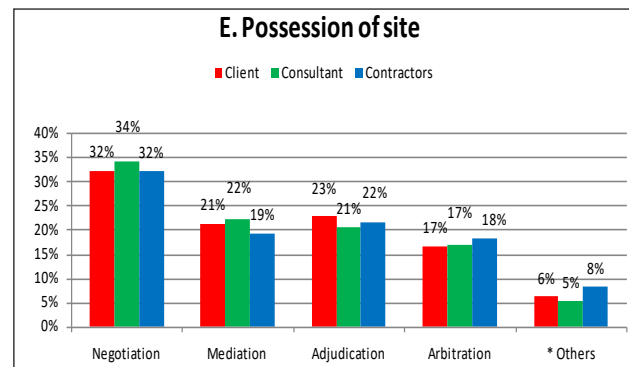


Figure 9.ADR Applicable on Possession of Site Delay in Decision

According to figure 10, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on delay in decision with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 31%, 33% and 29% respectively, on mediation have been found 19%, 19% and 20% respectively, on adjudication have been found 28%, 26% and 23% respectively, on arbitration have been found 15%, 16% and 18% respectively, on the others have been found 6%, 6% and 10% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

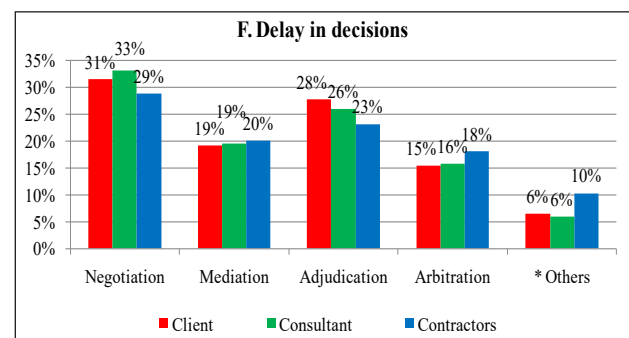


Figure 10.ADR applicable on Delay in Decision Delay in Payment Certified Invoice

According to figure 11, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on delay in payment certified invoice with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 32%, 33% and 30% respectively, on mediation have been found 32%, 23% and 19% respectively, on adjudication have been found 32%, 24% and 22% respectively, on arbitration have been found 32%, 15% and 19% respectively, on the others have been found 32%, 5% and 9% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

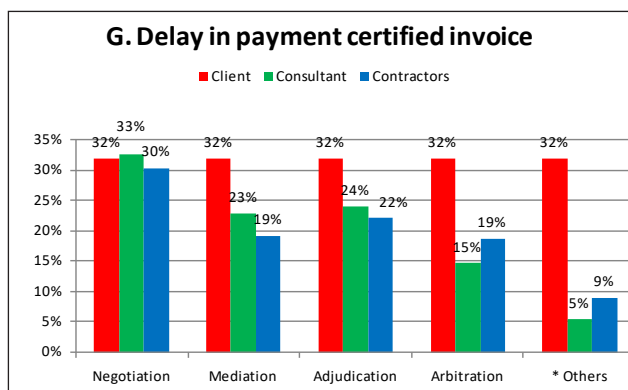


Figure 11.ADR applicable on Delay in Payment Certified Invoice

Variation Quantity

According to figure 12, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on variation in quantity with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 32%, 36% and 32% respectively, on mediation have been found 22%, 22% and 21% respectively, on adjudication have been found 22%, 23% and 22% respectively, on arbitration have been found 18%, 14% and 16% respectively, on the others have been found 6%, 6% and 8% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

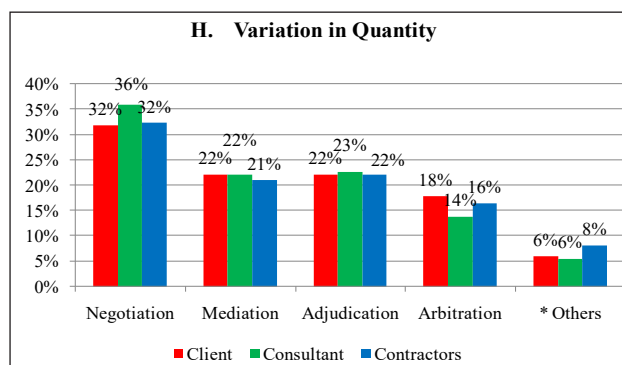


Figure 12.ADR applicable on Variation in Quantity Contradiction of GON Rules and Regulations with Contract Document

According to figure 4-28, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on contradiction of GON rules and regulations with contract document with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 27%, 31% and 28% respectively, on mediation have been found 21%, 23% and 16% respectively, on adjudication have been found 23%, 24% and 27% respectively, on arbitration have been found 21%, 16% and 21% respectively, on the others have been found 8%, 5% and 8% respectively. It is noticed that all the stakeholders have been focused on

Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

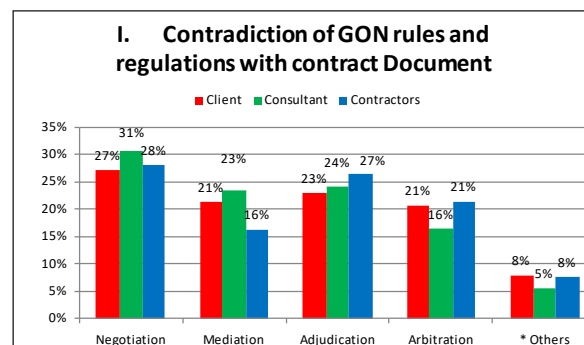


Figure 13.ADR applicable on Contradiction of GON Rules and Regulations with Contract Document

New rate due to Variation in Quantity

According to figure 14, the response of the main stakeholders (i.e. Employer, Engineers and Contractors) have been found the different methods of ADR applicable on new rate due to variation in quantity with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 34%, 35% and 33% respectively, on mediation have been found 20%, 22% and 19% respectively, on adjudication have been found 25%, 21% and 22% respectively, on arbitration have been found 16%, 16% and 17% respectively, on the others have been found 6%, 5% and 9% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

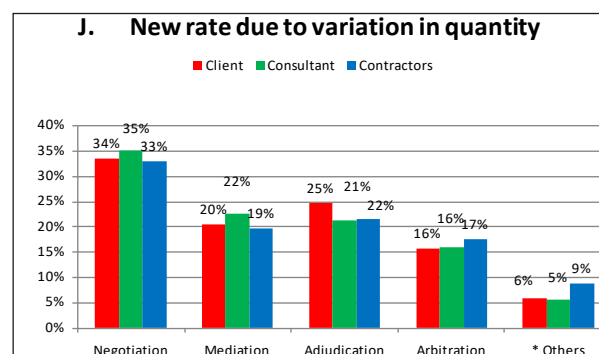


Figure 14.ADR applicable on New Rate due to Variation in Quantity Unforeseen Physical Condition

Unforeseen Physical Condition

According to figure 4-30, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on unforeseen Physical condition with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 31%, 33% and 32% respectively, on mediation have been found 17%, 22% and 22% respectively, on adjudication have been found 25%, 24% and 21% respectively, on arbitration have been found 20%, 15% and 16% respectively, on the others have been found 7%, 5% and 9% respectively. It is noticed that all the stakeholders

have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

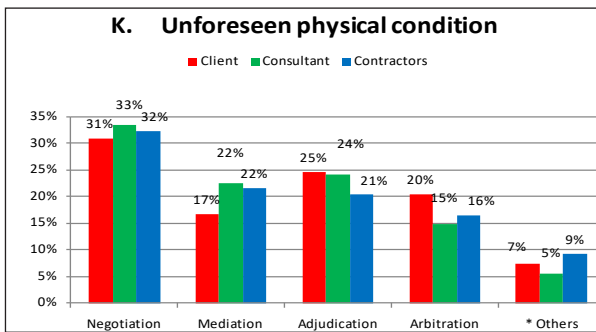


Figure 15.ADR Applicable on Access Site

Access to Site

According figure 15, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on access site with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 34%, 36% and 31% respectively, on mediation have been found 18%, 22% and 21% respectively, on adjudication have been found 25%, 23% and 24% respectively, on arbitration have been found 17%, 15% and 16% respectively, on the others have been found 6%, 5% and 8% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

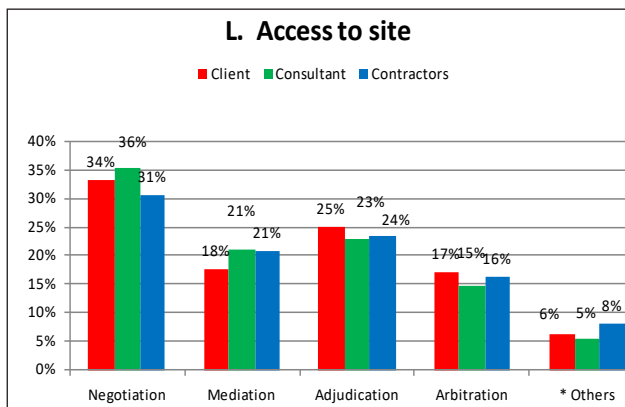


Figure 16.ADR applicable on Damage due to Natural Disaster

Late and Insufficient Drawing

According to figure 4-32, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on late and insufficient drawing with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 29%, 34% and 30% respectively, on mediation have been found 24%, 22% and 22% respectively, on adjudication have been found 25%, 23% and 21% respectively, on arbitration have been found 16%, 15% and 19% respectively, on the others have been found 6%, 5% and 8% respectively. It is noticed that all the stakeholders

have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Unusual Inflation

Similarly, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on unusual inflation with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 28%, 32% and 32% respectively, on mediation have been found 18%, 22% and 19% respectively, on adjudication have been found 23%, 25% and 21% respectively, on arbitration have been found 0%, 16% and 15% respectively, on the others have been found 0%, 5% and 12% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Increase in Cost due to Changes in Legislation

The response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on increase in cost due to changes in legislation with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 23%, 32% and 32% respectively, on mediation have been found 17%, 22% and 22% respectively, on adjudication have been found 26%, 24% and 21% respectively, on arbitration have been found 22%, 16% and 15% respectively, on the others have been found 13%, 6% and 10% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Unusual Weather Condition

The response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on unusual weather condition with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 27%, 36% and 33% respectively, on mediation have been found 22%, 22% and 17% respectively, on adjudication have been found 26%, 22% and 21% respectively, on arbitration have been found 20%, 14% and 19% respectively, on the others have been found 6%, 5% and 10% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Unavailability Weather Condition

the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on Unavailability weather condition with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 30%, 36% and 28% respectively, on mediation have been found 20%, 22% and 20% respectively, on adjudication have been found 25%, 22% and 25% respectively, on arbitration

have been found 19%, 15% and 18% respectively, on the others have been found 6%, 5% and 9% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Strike, Riot (disturbance) or Disorder

the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on Strike, Riot (disturbance), or Disorder with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 31%, 31% and 32% respectively, on mediation have been found 23%, 23% and 19% respectively, on adjudication have been found 24%, 24% and 22% respectively, on arbitration have been found 17%, 15% and 18% respectively, on the others have been found 6%, 7% and 8% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

Damage due to Natural Disaster

According to figure 27, the response of the main stakeholders (i.e. Employer, Engineers, and Contractors) has been found the different methods of ADR applicable on damage due to natural disaster with their rank. The Client, Consultants and Contractor's response on Negotiation have been found 32%, 33% and 32% respectively, on mediation have been found 21%, 23% and 18% respectively, on adjudication have been found 23%, 23% and 21% respectively, on arbitration have been found 17%, 15% and 18% respectively, on the others have been found 6%, 7% and 10% respectively. It is noticed that all the stakeholders have been focused on Negotiation, Adjudication, Mediation, and Arbitration in terms of their response.

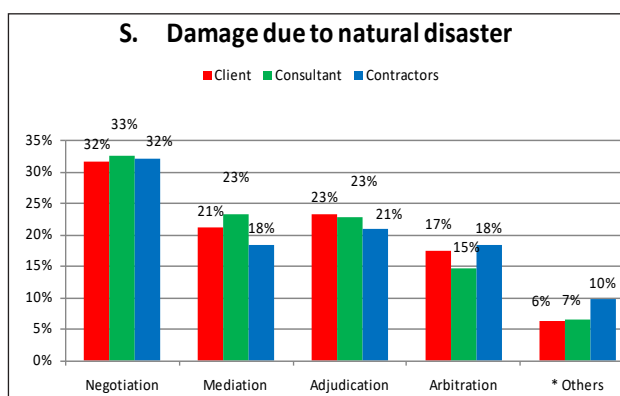


Figure 16. ADR applicable on Damage due to Natural Disaster

Impact of Disputes

Impact of Disputes in Particular Project

The research shows the different disputes/claims, which have arisen during the construction, phase of the project. There is different nature of disputes/ claims submitted by contractors.

Out of seven projects, only one is settled another one is partially settled and remaining projects are still under process of arbitration. If the date of settlement is assumed today's date 1st November 2015 then the total time lost is during this process would be around 20 yrs and three months which is averagely 2 yrs and 10 month for each projects.

The total amount spent of ADR is 21 lacks 50 thousand. The average cost of ADR is around 3 lacks 7 thousand. This is only visible expense, as fees of arbitrators the losses of unproductive employee, losses of motivation of employee, damages, business opportunity, need to be assets, which can cause the projects failure also.

Unnecessary disputes and claims are hamper the implementation of project by cost and time overrun. They are hampered to the project complete in time and lagging behind the people to achieve the benefits of the project.

Impact of Disputes in ICB Road Contract

Based on interview delay on the projects, bad relation between parties, change in contract amount, parties do not get information in time, negligence of client needs, friction between parties are the major effects of disputes. These effects resulted in to time over run, cost overrun and may be failure of projects.

Conclusion

Time overrun and cost overrun are the major problem arises due to Disputes. Negotiation is the most applied ADR to resolve the disputes followed by Adjudication and mediation. Arbitration is used as the fourth ADR method due to its high legal Value inspires of high time and cost consumption. Disputes lead the project to be costly in terms of time, cost, even declining quality and business opportunity loss, finally the failure of projects. From the cases, among the eight (8) nos. of projects, total time spent is 20 years 3 month and each project time overburden is 2 years 10 months. Similarly, total amount spent is 21 lacks 50 thousand and each project's cost overburden is 3 lacks 7 thousand. In ICB road contracts, the condition of particular application is not prepared adequately. The disputes/claims can be resolved if the contract document is well prepared with consideration of all above-mentioned important reasons. In any case, the disputes can be resolved if the contract document is prepared by well experienced professional expertise team who have handled in the ICB road contracts and well conscious of the issues relating to disputes and claims. The main stakeholders had resolved most of the cases of disputes/claims through negotiation (amicable settlement), adjudication, arbitration and some cases were solved through litigation/court process. The main stakeholders (i.e. Clients, Consultants and Contractors) were resolved the most of the disputes/ claims through alternative dispute resolution process rather than Litigation/ court process. Based on the findings of the study, following

alternative dispute resolution process were the most effective to resolve the disputes/claims, i.e. negotiation (amicable settlement), mediation, adjudication, and arbitration.

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