ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

Factors Affecting the Success of Urgently Needed Projects in Addis Ababa City Roads Authority: The Case of Shiromeda – Kuskuam – Entoto Mariam Road Project

In Partial Fulfillment of Requirements for the Degree of Master of Arts in Project Management

By: Dawit Aklilu

Advisor: Teklegiorgis A. (PhD)

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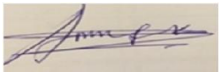
Afework G. (PhD)		11/08/2022
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DECLARATION

I hereby declare that, this research which is titled by "Factors Affecting the Success of Urgently Needed Projects in Addis Ababa City Roads Authority: The Case of Shiromeda – Kuskuam – Entoto Mariam Road Project" is my own work performed under the consultation of my advisor Dr. Teklegiorgis Assefa in partial fulfillment of requirements for the degree of master of arts in project management and has not been presented elsewhere for assessment and award of degree in any university. All the material used from other sources were properly acknowledged.

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STATEMENT OF CERTIFICATION

This is to certify that Dawit Aklilu Gelaw has carried out this research project on the topic entitled by "Factors Affecting the Success of Urgently Needed Projects in Addis Ababa City Roads Authority: The Case of Shiromeda – Kuskuam – Entoto Mariam Road Project" under my supervision. This work is original in nature and it is sufficient for submission of the partial fulfilment for the award of Degree of Masters of Art in Project and Management.

Teklegiorgis Assefa (PhD)

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I am appreciative to all who encouraged me in the process of conducting this research and gave me the courage when I was really in need.

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ABSTRACT

Construction of high standard roads with the pre-defined quality and scheduled time is a very critical factor for the well-being of society, especially for third world countries like Ethiopia. Many building processes of infrastructures and other types of construction took a long time and excessive budgets that affect the economy in a negative way. With this trend, unfortunately urgent projects will appear on the spot which needs a huge amount of budget and respective resources. This study investigated the factors that affect the successful completion of urgently needed projects for roads constructed under the Addis Ababa City Road Authority. Besides this, some questions were answered using the collected data and performed analysis using MS Excel and SPSS. Characteristics of urgently needed projects, delaying factors, the contribution of stakeholders to the success of projects, and the way to implement good practices were briefly discussed.

Data was collected using both primary and secondary resources around the subject matter. Previously written pieces of literature were examined to provide a concrete base to revolve around the concept. Different factors were collected for each case and a structured questionnaire was distributed to professionals in the project team. A total of 67 questionnaires were distributed and in the end, 65 valid responses were collected. Using interview and focus group discussion, vague ideas and answers were cleared prior to data analysis and discussion.

The analysis showed a clear boundary between urgent and normal projects as urgent projects lack risk analysis, are absent from the annual plan, attract the attention of top management, and lack feasibility study with an unclear plan. Not only these but other characteristics of urgent projects were also discussed and ranked using the relative importance index. Similarly, major and critical delaying factors were grouped and evaluated with the help of responses from participants. Finally, the importance of project success factors was analyzed.

Using literature and analysis of data it is concluded that, knowing the characteristics of urgently needed projects, decreasing the delaying factors, and implementing the success factors can be considered an irreplaceable way of success for urgently needed projects.

- ***Key words**: Urgent projects, delaying factors, project success factors*

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LIST OF ACRONYMS

AACRA: Addis Ababa City Roads Authority

AAWSA: Addis Ababa Water and Sewerage Authority

HMA: Hot Mix Asphalt

MS: Micro Soft

PhD: Doctor of Philosophy

PM: Project Manager

PMBOK: Project Management Body of Knowledge

PMI: Project Management Institute

QA: Quality Assurance

QC: Quality Control

RII: Relative Importance Index

ROW: Right of Way

SPSS: Statistical Package for the Social Science

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CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Considering the economic situation of our country, Ethiopia, there are significant problems with road construction period and quality aspects (Amare Y., Quezon E., & Yusuf M., 2017). The reasons for the delay in road construction in terms of the three project constraints (scope, time, and budget), both international and local studies, provide sufficient information. While it is encouraging that various studies have been conducted on road construction delays, knowing the source of the success of constructed roads will also increase awareness in the sector and provide mechanisms to change the field situation (Zhiqiang Ye, 2019).

Having the above idea in mind, there was one route of road constructed urgently to be studied from a different perspective. The pioneer point for this study was the construction of Shiromeda-Kuskuam-Entoto road, owned by the Addis Ababa City Roads Authority (AACRA), on a road that was built in a short period time and considered important. In the past, this road was very narrow and difficult to use properly. However, after the construction of Entoto Park, a dense forest in front of Saint Entoto Maryam Church, became part of a national project, and the existing road was upgraded in two ways, recognizing the importance of the road. The first one, from Shiromeda to Kuskuam, was expanded by keeping its original route but was built in a standard fashion. The second was from Kuskuam to Entoto Mariam Church, which was built and opened to the public by keeping the previous route for optional use and select a new one that keeps the road quality and comfort. The delay in road construction will inevitably put economic, social, and political strain on the country, and the consequences will be enormous (Ludwig, et al., 2020). That is why it is said that the roads under construction should be completed according to the pre-defined schedule.

Dealing with urgent projects will give extra dimension in the project management context as it shows additional aspects into consideration. Sometimes unanticipated threats or opportunities create a situation in which work is required unexpectedly (Wearne & White-Hunt, 2020). On these occasions, such urgent and unexpected work demands an instant start, in contrast to the often lengthy processes of investigation, evaluation, development, selection and planning normal in businesses and public services before the start of a project (Wearne & White-Hunt, 2020).

Managing the Urgent and Unexpected explores what is different managerially if work is unexpected, its implementation is urgent and an immediate start it is required.

The discussion offered here will help organizations plan how to authorize and support future urgent work to take advantage of immediate new projects or to protect or restore systems and services.

1.2. Background of the Company

Addis Ababa City Roads Authority (AACRA) is a governmental organization under the Addis Ababa City Administration, responsible for the construction and maintenance of roads, bridges, and drainage structures in the city of Addis Ababa. Its vision is to enable the City to have efficient and reliable transport services so that, it could sustain being the political city of Africa and the center of International organizations and to be a model to other cities with both Management and Service delivery capabilities. The newly established road department constructed and maintained the city roads till the establishment of the Addis Ababa City Roads Authority on March 15, 1998, by regulation No. 7/1998 to be administrated by the board of directors to construct, maintain and administer the road works in Addis Ababa by the city Administration (Shimels, 2019). As per the Authority's re-establishment regulation since 2008/2009, the authority has been established under the bureau of works and urban development. Currently, AACRA is managed by a General Director and additional three Deputy General Directors for the construction and maintenance of roads and bridges in addition to access road construction.

1.3. Statement of the Problem

Road is the foundation of regional economic development, and it is of far-reaching significance to social and economic development. Road construction projects in urban areas are being used to improve connectivity, scale-up cities' competitiveness, and in return, attract investments. The urban road construction site is relatively small, with a large vehicle and pedestrian flow, which is easy to cause traffic jams. It is very inconvenient to control the traffic within the limited construction scope (Zhiqiang Ye, 2019). Construction delay is considered one of the most recurring problems in the implementation of construction projects. It is widely known to have an adverse impact on project success in terms of time, quality, and cost. The effect of construction delay is not only confined to the construction industry but also its influence on the overall economy of a country like Ethiopia (Shambel & Patel, 2018). At the other time, some projects may fall into the group of urgent and unexpected. Urgent work may be required unexpectedly by any

organization, for instance to take advantage of a business opportunity or for protection against a sudden physical or business threat, or to restore a severely damaged asset. According to the study conducted on the Ethiopian construction industry by Werku Koshe, K. N. Jha, (2016) shows that in Ethiopia only 8.25% of projects have been finished to the originally targeted completion date. According to this study, the remaining 91.75% delayed their contractual time. It is a well-known fact that the roads that are built and are being built in our city are often difficult to complete on time. According to (Shambel & Patel, 2018), the study conducted on 10 completed road construction projects in Addis Ababa, all the projects have suffered from time overruns ranging from a minimum of 25% to a maximum of 264.38%. Regarding to Addis Ababa road construction, a delay is becoming the major challenge that the authority is facing and challenging the life of the residents (Shimels, 2019). As a result, the road user community is exposed to a variety of problems. Managing urgent and unexpected projects to make them free from delay problems, some critical factors must be raised to be implemented. This study will seek the factors that contributed to the success of urgent projects under consideration regard to project constraints which are time, scope, and cost.

1.4. Research Questions

The following main questions will be answered after finishing the data analysis part of the research

- What are the most important characteristics of urgent road projects?
- What are the most critical delaying factors?
- How does the participation of stakeholders affect urgent road projects?
- What should be the way of managing urgent projects?

1.5. Objective of the Research

1.5.1. General Objective

The research aims the assessment of factors that affects the success of urgently needed road projects constructed by AACRA on the route from Shiromeda to Entoto.

1.5.2. Specific Objective

The research is expected to cover the following points. The objective of the study is to:

- identify characteristics of urgently needed road projects
- point of most important delaying factors

- point out the contribution of different stakeholders in road construction
- find a suitable ways to implement best practices in future road construction

1.6. Significance of the Study

Road construction can be delayed for a variety of reasons, both traced as internal and/or external. As a nation, we are compelled to take advantage of the pressures of these situations. At the same time, we can make a difference by conducting various studies on construction. Significant changes can be made in the industry by identifying and developing the best practices, documenting the steps, and identifying and incorporating the practices as a reference for future projects.

The significance of any study can be grouped either as theoretical or practical significance or both. Accordingly, this research will contribute to both theoretical and practical significance to the road construction sector.

1.6.1. Theoretical Significance

Different studies have been made on the delay of road projects at global level. They have used to be a base for getting a new understanding of the subject matter. This research is believed to bring another dimension of knowledge to the execution of urgent and unexpected projects management way. Professionals will get concrete ideas on how to go with urgency in the construction industry, especially for road projects in the case of the capital city.

1.6.2. Practical Significance

The outcome or result that occurs when specific events take place is known as the practical significance of the event. After completing this research, manuals can be updated so that another way of construction culture could be developed. The implication will be new practical step towards the early completion of road projects specifically in AACRA.

1.7. Scope of the Study

The main purpose of this study is to identify the factors that contributed to the success of the Shiromeda Kuskuam Entoto Road, one of the most successful projects in the Addis Ababa City Roads Authority operations. The study is designed to collect a variety of data from a variety of sources, including experts and executives involved in the project. Not only this, but with the help of the local community, they will be asked to share their observations during the construction. The project was completed in three phases, from Shiromeda to Kuskuam in two different phases, and

from Kuskuam to Entoto in a single phase. This allows us to say that there were three different projects alongside the route. The study will focus on two phases. It will cover the parking projects under construction in the area to some extent. The time allotted for the study although it is 3 months since the person conducting the study is close to the projects and some information has already been gathered, it is planned to work on more than can be done within 3 months.

1.8. Organization of Research Report

The final report of the research will be composed of five interdependent chapters which can depict the overall phenomenon during the process of the study.

Chapter One: Introduction

The back ground of the study, statement of problem, basic research questions, objective of the study including both the general and specific one, significance of study and scope of study will be clarified in this section of the report. After reading this part of the report, one can understand the entire concepts.

Chapter Two: Literature Review

In this section of the report, ideas will be elaborated by making review on previous studies conducted in our country as well as at global level. Books, section of books, articles and other paper works in the subject matter will be widely cited.

Chapter Three: Research Methodology

In this chapter of the study, the source of the data, the process of data collection and the way in which the data is collected, will be clearly defined. Ways in which collection of information, such as questioners and interviews, their entire process, will be discussed. Not only the collection of information, but also the identity of the sources will be identified.

Chapter Four: Results and Discussion

Results and findings will be presented in the fourth chapter of the research report. The findings of the study will be analyzed in a way that works for the benefit of the stakeholders, as well as what the findings mean and what the benefits will be.

Chapter Five: Conclusion and Recommendation

This will be the last chapter which can give summary of the research by including the conclusion that will be drawn from the above chapters in the research area. In addition to this, limitation of the research will be dictated to show the honesty as if there is any. Furthermore, practical recommendation for different actors will be assembled to assist the sector. This part is the major contribution that will be given as fruit of research.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Project

A project is a work that includes a progression of activities and inputs, intended to accomplish a certain result, considering requirements like time, quality, and cost and which frequently presents a change (Megh, 2020). On the other hand, PMBOK defines a project as a temporary endeavor that strives to produce a unique product, service, or result. And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. While project management can be defined as, the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. The planning and organization of company's resources in order to move a specific task, event, or duty toward completion. Project management typically involves a one-time project rather than an ongoing activity, and resources managed include both human and financial capital (PMBOK Guide, 2017). A project is usually deemed to be a success if it achieves the objectives according to its acceptance criteria, within an agreed timescale and budget (Nazia I, Bilal K, & Wahid A. 2016).

2.2. Project Management Success

Project management success is an incredibly fascinating theme from a logical, as well as a reasonable perspective. To be specific, various models of project management success achievement arose through history, showing the degree of contemplation considering the project management success (Radujkovic & Sjekavica, 2017). Project management success is defined by how efficiently a project manager attains the project's goals and objectives (Korbijn, 2014). Radujkovic & Sjekavica (2017) gives the achievement of project goals in a predefined style, in line with a preset schedule, keeping the appropriate budget and performance criteria as an aspect for project management success.

According to the PMBOK Guide (Project Management Body of Knowledge) by the Project Management Institute (PMI), a project management life cycle consists of 5 distinct phases including initiation, planning, execution, monitoring, and closure that combine to turn a project idea into a working product. To be effective in the project management context, each phase must be completed within their respective objectives.

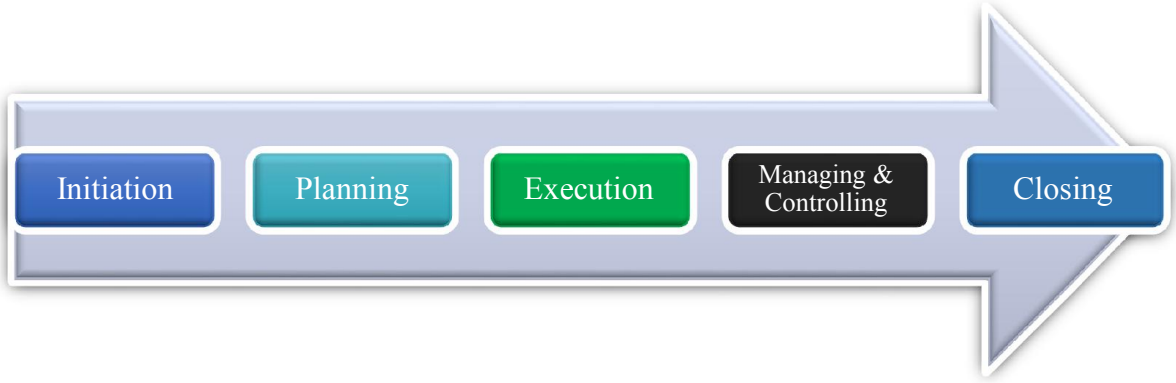

Figure 1: Project Management Processes (PMBOK Guide, 2017)

2.3. Project Success

The word "Success" is a popular word and so easy to understand but in the business world, the word "Success" is wider and based on certain factors that lead the organizations, projects, and programs to accomplish their objectives (Nazia, et al., 2016). The concept of project success remains one of the most frequently discussed subjects in the field of project management. However, project management scholars continue to disagree with it. In the past time, most scholars stated that the most basic definition of project success is the completion of an activity while satisfying the three project constraints, namely, cost, time, and performance. However, cost, time, and performance are inadequate to measure a certain project's success, as we also need to consider the stakeholder's pleasure and the quality of the project management process (Vitalijus, 2019). Normally, many observations are available on the definition of project success in the very old days but those definitions and views were only limited to the implementation phase of the project, but now the definitions provided on the project success are based on the whole project life cycle (Nazia, et al., 2016). But now a time it is believed that projects will be the area of success if they are directed well enough.

2.3.1. Project Success Criteria

The dynamic and unique nature of a project brings doubts on who actually determines project success. In the meantime, scholars have tried to make the line between the success and failure of a specific project. (Zain & Lim, 1999) Classify project success perspective into two broad categories namely micro and macro views of project success. The macro viewpoint of project success will address the question: Is the original project concept achieved? If it is, the project is

successful. If it is not, the project is less successful, or a failure. The micro viewpoint of project success will compact with project achievements in smaller component levels. It is usually referred to at the conclusion of project construction phase and the parties involved in the construction (Zain & Lim, 1999). Schedule, budget, user satisfaction, quality, business, and commercial performance are the most frequently used success criteria, followed by technical specifications and requirements, stakeholders' satisfaction, strategic goals/objectives, and competitiveness, functionality, project team satisfaction and safety (Athanasios & Vagiona, 2018).

Certainly, the first three parameters reflect the so-called project management success and can be usually measured at the execution and the completion of each project. Another criterion with high significance is client/user satisfaction, which has been intensively suggested by many researchers.

2.3.2. Project Critical Success Factor

Success factors are components of the project that have to be put in place to ensure the completion of the project. (Vitalijus, 2019) In his master thesis, described project success factors as "main factors that increase the ability of an organization to carry a project through its full implementation". After executing their research (Besteiro, et al., 2015) implied, defining the scope of the project, meeting the deadline of the project, the commitment, planning, ability to communicate, and meeting the budget were the factors that influence the success of a project. Literatures divides the success of the project into two components: project success factors, which are similar independent variables that contribute to the likelihood of success, and the success criteria, which are measured and used to determine whether the project was a success or failure. The following table shows the conclusion of (Vitalijus, 2019) about the most influential project success factor in their respective order.

2.4. Urgent and Unexpected Projects

Unexpected, potent and cryptic events punctuates the lean and uncertain world which requires speedy response. The aim of urgent and emergency project management is to lessen the impact of such unfavorable disastrous event and to plan for how the organization will resume normal operations after the crisis. Handling such projects is often understood as a desirable endeavor for firms to establish themselves as a distinguished names in the industry circle (Lalit, 2009). Several different reasons can be traced back to the initiation of urgent projects. New business opportunities, or protection against a sudden threat, or, most obviously, to restore a severely damaged asset were

among the reasons mentioned by (Wearne, 2006) (Wearne & White-Hunt, 2014) in their pieces of literatures.

2.4.1. Characteristics of Urgent Projects

Projects should be started with defined scope, estimated costs, analyzed risk, planned execution pattern, and agreed with budget by the project sponsor (Wearne, 2006). But the case is different for such kinds of projects because their execution started without a defined scope, plan, and well-defined budget. Different works literatures agreed on an issue which is urgent projects working speed is faster than the normal (Korbijn, 2014) (Lalit, 2009) (Wearne & White-Hunt, 2014). The working speed can be reflected as urgent projects require a rapid decision in all phases of the project life cycle (Wearne, 2006). (Geraldi J., Lee-Kelly, & Kutsch E., 2010) Characterized urgent projects as an event as low probability, high impact situation with a high degree of uncertainty.

As (Korbijn, 2014) pointed out in his master thesis, the following points make urgent projects different from most other types of projects

- Rarely follows best practice project management
- Does not start after an extensive feasibility study
- No completed detailed scope
- No budget and risk analysis
- Goals and plans tend to be unclear

2.5. Road Construction Delay

Construction delays can be characterized as the late finish of work contrasted with the arranged timetable or agreement plan. Construction delays can be limited just when their causes are distinguished (Werku & Jha, 2016). Delay is the time overrun either beyond the completion date specified in the contract or beyond the time that the parties agreed upon for the delivery of the project. A delay in a construction project may cause losses, or negatively affect some or all of the project parties (Amare, et al., 2017). Although the causes of delays are quite comparable across developing countries, several factors unambiguously refer to local industries, socio-economic backgrounds, cultural matters, and project features, such as land disputes and problems with the right of way for roads (Ludwig, et al., 2020).

2.5.1. Road Construction Delay Causes

(Amare, et al., 2017) Conducted a research aimed at assessing the causes of excessive delays in the completion of road projects during the construction phase due to the failures of Employers, Consultants, and Contractors in Addis Ababa City Road Authority projects. They have identified 65 possible reasons for the delay of construction and ranked them using the relative importance index. Based on their study, contractors hold the largest share to contribute for the problem. The following figure shows the respective contributions to the delay in road construction by main stakeholders.

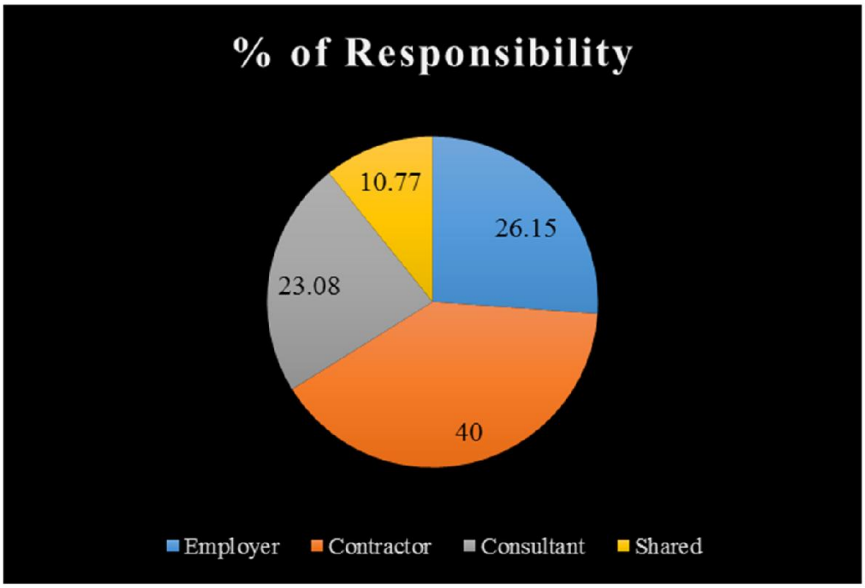

Figure 2: Responsibility Share by Project Actors (Amare, et al., 2017)

The relative importance index (RII) was used to give rank for those 64 possible reasons and the first five factors are poor financial control of projects, difficulties in financing, type of project bidding and award, poor site management, and selecting inappropriate contractors.

On the other hand, (Werku & Jha, 2016) made detailed research on the Ethiopian construction industry to investigate delay factors and identified 88 key factors causing a delay in Ethiopian construction industries, and they evaluate the critical causes by using both the data collected in a survey of construction managers, resident engineers, contractors, and clients and interviews with senior professionals in the field. According to their study, the following ten factors in the table were ranked with the help of RII.

- Difficulties in financing projects by the Contractor
- Escalation of materials price
- Infective project planning, scheduling, or resource management
- Delay in progress payments for completed works
- Lack of skilled professionals in the construction
- Fluctuating labors availability from season to season
- Late delivery of materials
- Low productivity of labor
- Unqualified/inadequate experienced labor
- Insufficient data collection and survey before the design

2.6. Conceptual Framework

A conceptual framework that explains why a study is important and relevant and how research design including methods of data collection and analysis appropriately and coherently answers the research questions assist**.** In addition, a conceptual framework situates a study within multiple contexts, including the overall methodological approach the research follows.

With the help of the literatures under consideration, project success factors were selected from the listed points. Planning management, communication, realistic objectives, team coordination, leadership, competent project team, and conflict management were selected as critical project success factors. But knowing those factors will not give a guarantee being successful in managing urgent projects. Lack of extensive feasibility study, absence of completed scope, unavailability of budget, and risk analysis with unclear plan and goal were listed as main characteristics of urgent projects. By mixing these two parameters, the completion of a project can be traced as a failure or success.

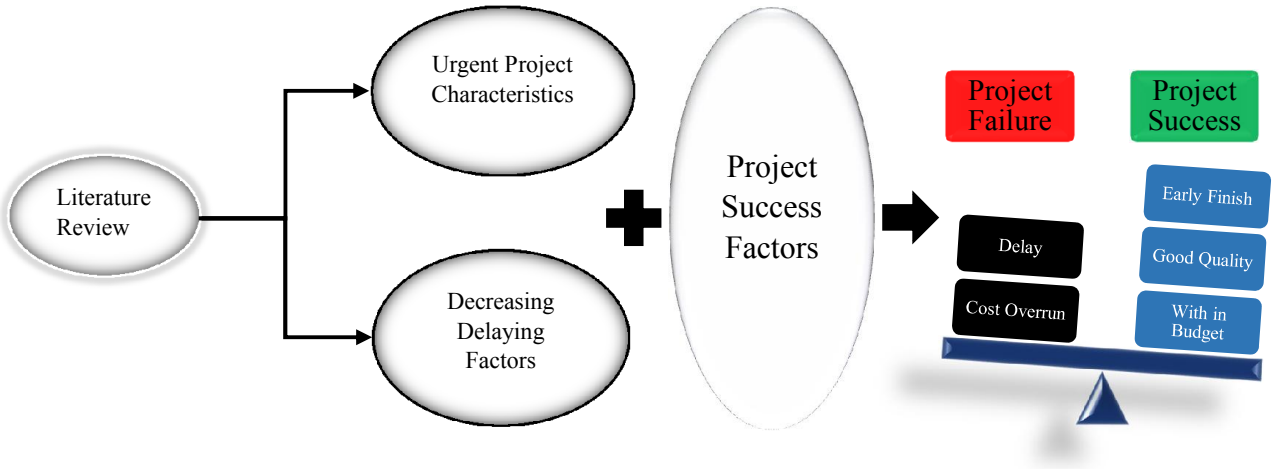

Figure 3: Conceptual Framework of the Study (Developed by Researcher, 2022)

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Research Approach

The data that was collected for further analysis includes both numerical and discussion formats so that the research approach can be grouped under the hybrid one which is composed of quantitative and qualitative approaches. A case study research approach was used to collect relevant secondary data and primary data through a review of documents. Quantitative research methods were employed to analyze the effect of some factors that speed-up projects' operation.

3.2. Research Design

Research design can exploratory, descriptive or explanatory. Explanatory research is a research method that explores why something occurs when limited information is available. It can help in increase the understanding of a given topic, ascertain how or why a particular phenomenon is occurring, and predict future occurrences. By having limited information on the mentioned road project, this research will try to explain the reasons behind the successful completion of such an urgent projects using explanatory research design method.

3.3. Sampling Design

3.3.1. Target Population

Basically, the samples were taken from AACRA team members whose contribution is pronounced during the construction. The own force road construction directorate of AACRA is composed of four lots whose heads are project managers. Among these, lot two was responsible for the construction of Shiromeda – Kuskuam – Entoto project. So the project manager, team leaders, site engineers, office engineers, foremen, surveyors, material inspectors, and other members of the lot were included in the data collection process. Other staffs from the main office were also part of this research by having their thought on the subject matter. A total of 67 professionals were included in this research.

As discussed above in the problem of statement, the route from Shiromeda to Entoto is the focus of this paper. Road and parking projects were executed in an appreciable manner that changes the overall condition of the area. Several stakeholders have participated in those projects with different

levels of contribution. The following table shows some project detail with their respective project parameters.

Table 1: Projects under Consideration (AACRA, March 2022)

Road Projects			
Project Name	**Description**	**Length (m)**	**Width (m)**
Shiromeda-Kuskuam Project	Phase-1	633	30-40
Shiromeda-Kuskuam Project	Phase-2	1,967	30
Kuskuam Entoto Mariam Project	Full Length	4,300	12
Parking Projects			
Project Name	**Description**	**Area (m^2)**	**Capacity (Number of Cars)**
Entoto Park Parking	Main Gate-One	5092	110
	Main Gate-Two	3000	60
	Sululta Gate - One	6400	220
	Sululta Gate - Two	3200	101

3.3.2. Population Description

At a project level, AACRA applies two kinds of employment systems namely, permanent and contract employees. Unlike the permanent one, those contract employees are employed and dedicated only to a single project until the closing phase, afterward their contract will be expired. The following table shows the type of professionals and workers with their conditions of employment.

Table 2: Title of Employee (Source AACRA Human Resource, 2022)

Conditions of Employment	
Permanent Employee	**Contract Employee**
Project Managers	Foremen
Team Leaders	Carpenters
Engineers	Masons
Foremen	Bar-benders
Operators	Laborers
Clerks	Helpers

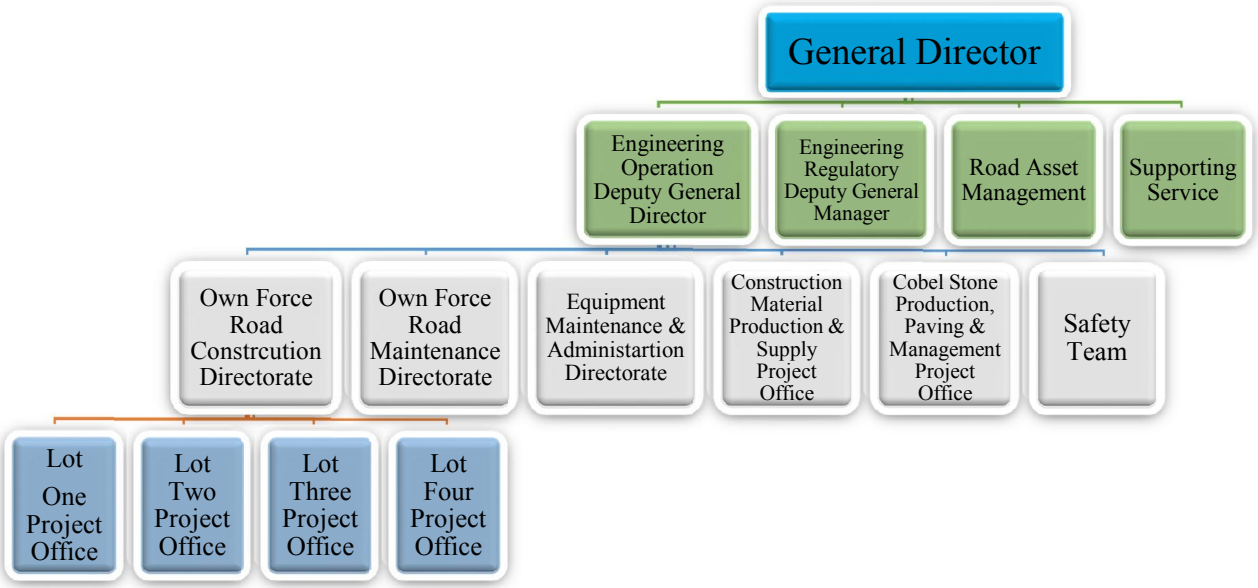

Figure 4: Working Structure of AACRA (AACRA, March 2022)

According to the information gathered from the company, each lot consists of a balanced and similar type of employee. Having this in mind and the table below, only permanent employees were included in the data collection process.

In the researcher's judgment, scientific data will not be gathered from contract one. A remark should be taken that, the entire manpower was not deployed on projects under consideration.

Table 3: Lot-2 Man Power (Source AACRA, 2022)

Conditions of Employment			
Permanent Employee		**Contract Employee**	
Male	Female	Male	Female
95	27	350	241

Based on the above company description the Own force road construction under the engineering operation deputy general director is responsible for the construction of a new road by its four lots. The main working structure is schemed within the figure below. Since construction operations of lots are the responsibility of Work execution and Engineering service teams, the data needed for this research were collected from members of these teams.

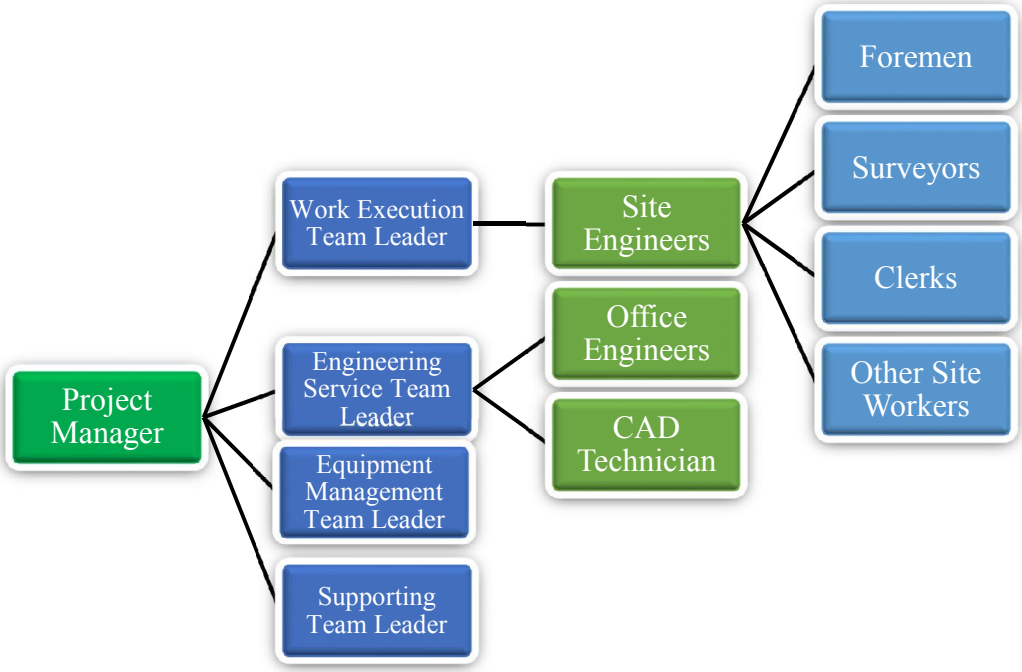

Figure 5: Working Structure of Project Lot

3.3.3. Sampling Technique

Data gathering is crucial in research, as the data is meant to contribute to a better understanding of a theoretical framework. It then becomes imperative that selecting the manner of obtaining data and from whom the data will be acquired be done with sound judgment, especially since no amount of analysis can make up for improperly collected data (Bernard, 2002).

It is known that there are different mechanisms for sampling in a data collection process for educational purposes. Nature of the research, availability of the type of data, analysis technique, and other factors govern the selection of the best from those methods. For the case of this research, a purposive sampling technique was used. The reason behind this decision is, the researcher holds experience while working in the company and knows the responsible stakeholders for successful operation in the construction.

The purposive sampling technique, also called judgment sampling, is the deliberate choice of an informant due to the qualities the informant possesses. It is a nonrandom technique that does not need underlying theories or a set number of informants (Dolores & Tongco, 2007). Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience.

3.3.4. Sample Size

The data was collected from professionals from the Own force road directorate specifically from lot-1 and lot-2 project team members. Basically, the projects under consideration for this research were executed by lot-2, but three of those car parking projects were the responsibility of lot-1. To be generous for the subject matter, all engineers (site, office, and material engineers) were included during the data collection with the addition of project managers, team leaders, foremen, material inspectors, and surveyors. The following tables show the detail of the sample size.

Table 4: Participants in the Projects (AACRA, 2022)

Profession Title	Road Projects		Parking Projects				Total
	Shiromeda to Kuskuam	Kuskuam to Entoto	Main Gate - 1	Main Gate - 2	Sululta Gate - 1	Sululta Gate - 2	
Project Manager	1		1				2
Team Leader	4		1		1		6
Material Engineer	2		1				3
Office Engineer	4	4	4		2	1	15
Site Engineer	1	3	1	1	1	1	8
Foreman	3	6	2	1	2	1	15
Material Inspector	1	1	2				4
Surveyor	4		3				7
Own Force Road Construction Directorate (Team Members)							
Team Leader	1						1
Engineers	6						6
Grand Total							**67**

Since the research needs well standard data to be analyzed, only engineering professionals were included. Besides this, team leaders and additional engineers from the main office have been added to the population because of their concrete contributions. Accordingly, all the mentioned 67 professionals from the project can be taken as sample size.

3.4. Data Collection Techniques

3.4.1. Document Review

Document review is a way of collecting data by reviewing existing documents. The documents may be internal to a project or organization or may be external. Documents may be hard copy or electronic and may include reports, program logs, performance ratings, funding proposals, meeting minutes, newsletters, and marketing materials. Document review in this research includes receiving written data from AACRA which was exchanged during the project and collecting data for the study by looking at each of these activities. The documents were obtained from AACRA Lot two project office engineering service department. The documents will lead to different directions. For example, correspondence with different suppliers describes how suppliers were providing construction materials during the execution of the project, which in turn tells about the overall construction process.

3.4.2. Project Site Survey

The project site by itself will speak about the project condition clearly. Information in this research activity section would be obtained by requesting information from the community and other stakeholders on how the project was constructed. It also helps to increase knowledge of the project.

3.4.3. Questionnaire

A questionnaire is one of the most powerful methods of data collection for most social science studies. The ability to collect usable data in a scientifically accurate way is extremely important. The answer to the questionnaire, which includes the question to be asked by each concerned stakeholder, contributes significantly to the information provided for the study. Therefore, this part of the study formulates a strong questionnaire and presents it to the relevant stakeholders as well as provides a scientific analysis of the responses using suitable analysis tools.

3.4.4. Interviews

One of the weak points of the questionnaire is, people are asked to answer on paper and they come back with replay through repetitive thinking about the subject matter which led to some kind of bias. But, because interviews need to talk face-to-face, an interviewer understands their gestures even if can't get the right idea from their speech. Through this, one can get irreplaceable and accurate project implementation ideas from each of the Project managers, Team leaders, and Engineers from the projects under consideration.

3.5. Analysis of Data

Research data analysis is a process used by researchers for reducing data to a story and interpreting it to derive insights. The data analysis process helps in reducing a large chunk of data into smaller fragments, which makes sense (Wilson, 1998). Marshall and Rossman cited in (Wilson, 1998), on the other hand, describe data analysis as a messy, ambiguous, and time-consuming, but a creative and fascinating process through which a mass of collected data is being brought to order, structure and meaning.

Three essential things take place during the data analysis process; the first is data organization. Summarization and categorization together contribute to becoming the second known method used for data reduction since all the data that were collected will not be important to the final result. It helps in finding patterns and themes in the data for easy identification and linking. Third and the last way is data analysis. The researcher use MS Excel and SPSS for the analysis of collected data with the help of descriptive analysis. On the other hand, RII was performed to know factors' contribution for the success of those projects under investigation.

According to (Kassem & Khoiry, 2020), the Relative Importance Index (RII) approach is used to describe the relative importance of the specific causes and effects based on the likelihood of occurrence and effect on the project using the Likert scale of five scales. In addition, the higher value of the index of relative importance (RII) is the critical cause or impact component and is determined by the following equation.

$$\text{RII} = \sum_{k=1}^{n} W/(A * N)$$

Where

RII= Relative Important Index

W= Weight given to each factor by the respondent

A= the highest weight

N= the total number of respondents

3.6. Validity and Reliability

A Questionnaire is one of the most widely used tools to collect data in especially social science research. The main objective of a questionnaire in research is to obtain relevant information in the most reliable and valid manner. Thus the accuracy and consistency of a questionnaire form a significant aspect of research methodology which is known as validity and reliability (Taherdoost, 2017).

Validity basically means measuring what is intended to be measured. It explains how well the collected data covers the actual area of investigation.

The validity of data collection instruments was checked compared to the reviewed pieces of literature. Furthermore, to check the validity of the contents encircled in the questionnaires, the advisor provided concrete contributions and other experienced persons were asked whether the topics in the questionnaire satisfactorily covered the important aspects in the assessment of the factors that contribute to the success of urgently needed projects in the case AACRA.

Testing for reliability is important as it refers to the consistency across the parts of a measuring instrument. The most commonly used internal consistency measure is the Cronbach Alpha coefficient. No absolute rules exist for internal consistencies, however (Taherdoost, 2017) put a minimum acceptable internal consistency coefficient of .70 to check reliability.

Table 5: Cronbach's Alpha Value Description (Keith, 2018)

Cronbach's Alpha Value	Qualitative Description
Greater than 0.8	Excellent
0.7-0.8	Good
0.5-0.7	Satisfactory
Less than 0.5	Poor

With the help of the above table and the concept from (Taherdoost, 2017), 0.7 were used as a cut-off value for checking consistency. Following this, the overall 0.714 alpha value was found while checking the internal consistency of the data collection instrument.

3.7. Ethical Issue

Ethics when applied to research is concerned with the creation of a trusting relationship between those who are researched and the researcher. To ensure that trust is established it is essential that communication is carefully planned and managed, that risks are minimized and benefits are maximized (Agwor & Adesina, 2017). The researcher faithfully used the correct methods during the execution of the study. During the data collection session, information was collected in a confidential manner, explaining the purpose of the study to each informant. The findings will only be used for this paper and will not be used for any other purpose. In addition, the documents found are used only for the research and the others are kept confidential.

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

4.1. Introduction

This chapter of the study contains raw data gathered during the data collection session, the analysis executed to change collected data to usable information, and a discussion based on available information on hand. Data were collected using a structured questionnaire, document review, and semi-structured interview questions from members of the projects under consideration. After the entire analysis is made, the factors that contributed to the success of those urgently needed road and parking projects will be outlined with their respective degree of importance. The chapter will be started by defining the demographic characteristics of respondents and will be followed by further data analysis and result discussion.

4.2. Rate of Response

Prior to data analysis; a total of 67 questionnaires were distributed to members of AACRA and 65 valid responses were collected, which accounts for 97.01%. Regarding acceptable response rate, there is no universally accepted and approved cut of figure but depends on the data collection system and type of research different works of literature bold out percentage hierarchy to be somehow accurate. According to (Gordon & Tarnow, 2002) the higher the response, the more secure the reader will feel that the results are representative of the population being studied. The reason that lower response rates are problematic is, of course, that people who don't respond may well be different from those who do. Low response rates therefore can create sampling bias; the lower the rate, the greater the risk of such bias.

Table 6: Response Rate by Survey Mode (Saldivar, 2012)

Survey Mode	Response Rate	Description
In Person	80-85 %	Good
Phone	80%	Good
Mail	50%	Adequate
	60%	Good
	70%	Very good
Online	30%	Average

Based on the above idea regarding the acceptable response rate, 97.01% is more than enough to make an analysis to answer the research questions.

4.3. Demographic Characteristics of Respondents

The demographic status depicts the variation of respondents with respect to different classifications. Respondents have similar features in common but entirely they were selected as a respondent because of their participation in projects under consideration. The information includes sex, age, educational level, work experience in AACRA, current responsibility in AACRA, and the type of project they were involved in. Knowing these characteristics helps in wrapping up the data they filled in the structured interview. It must be noted that all the members of the focus group discussion and professionals who participated in the interview are from respondents of the questionnaire.

4.3.1. Sex of Respondents

As observed from the human resource data of the company, male workers are highly found at the site work while females are intended to work in the office.

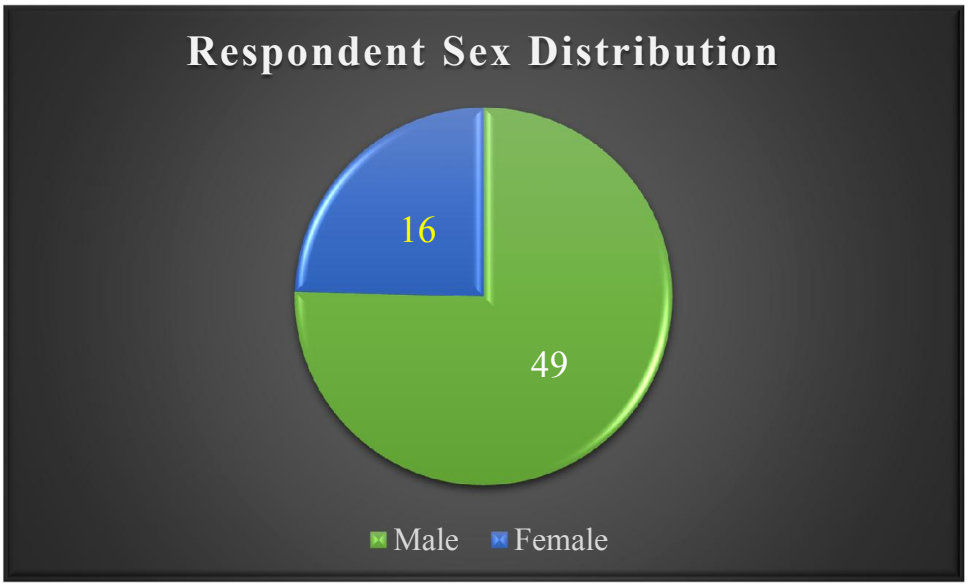

Figure 6: Respondents' Sex Distribution (Personal Survey, 2022)

The above figure shows that among the 65 respondents, 75.38% are male while 24.62% are female. Since the study area is based on the construction sector, this figure is expected as there is a dominance of males in this profession. Besides this, among the total employee of the engineering operation deputy general director, 67.24% are male and the remaining 32.76% are female. Similarly, the permanent employee of lot-2 is dominated by the male which accounts for 77.87%.

The unbalance between males and females will not be a threat for this study because of the above percentage description.

4.3.2. Age of Respondents

In a perfectly competitive market, there is no reason for an age-related pay productivity gap to occur because firms pay workers according to (marginal) productivity. With respect to this idea, the Ethiopian government declares the maximum productive age to be 60 for those organizations under its control. While dealing with the respondents' age distribution, it was found that 24.62% were between 18 to 30 years, 50.77% between 31 to 40 years, and 18.46% were between 41 to 50 years. Only 6.15% of the respondents were aged between 51 to 60 years. Since AACRA is a governmental organization, there will not be any probability of finding an employee above the age of 60 years. (Jan & Stoeldraijer, 2010) states that starting from the age of 25 to 50 years, productivity and labor cost runs in an inversely manner. This means, as we go from 25 years to 50 years, productivity increases and relative labor costs decrease. The reverse will become a threat as individuals' age surpass 50.

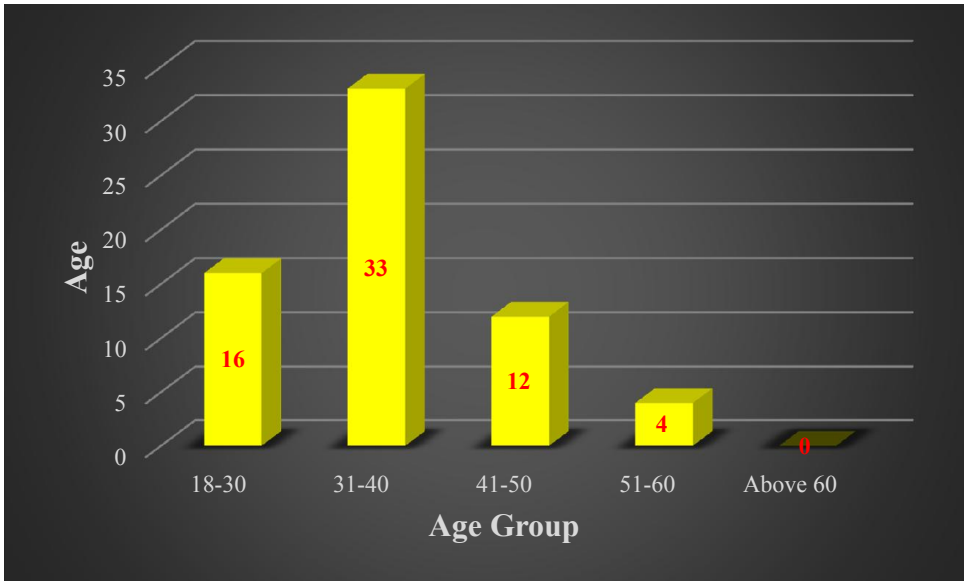

Figure 7: Respondents' Age Distribution (Personal Survey, 2022)

4.3.3. Educational Level of Respondents

Having an educated workforce in a company can trigger the innovation of new ideas and trends for the success of any kind of project. AACRA can be called as the home of road Engineers as it is led and run by civil engineers. As observed from the replayed questionnaire, all respondents are a holder of a diploma or degrees otherwise they have a postgraduate degree. Among those 65

respondents, 24.62% had a diploma, 49.23% finished their first degree in engineering and the remaining 26.15% holds a master degree in different specializations. This level of education can be counted as an opportunity to have fruitful data to assess the factors that affect the success of urgently needed road and parking projects.

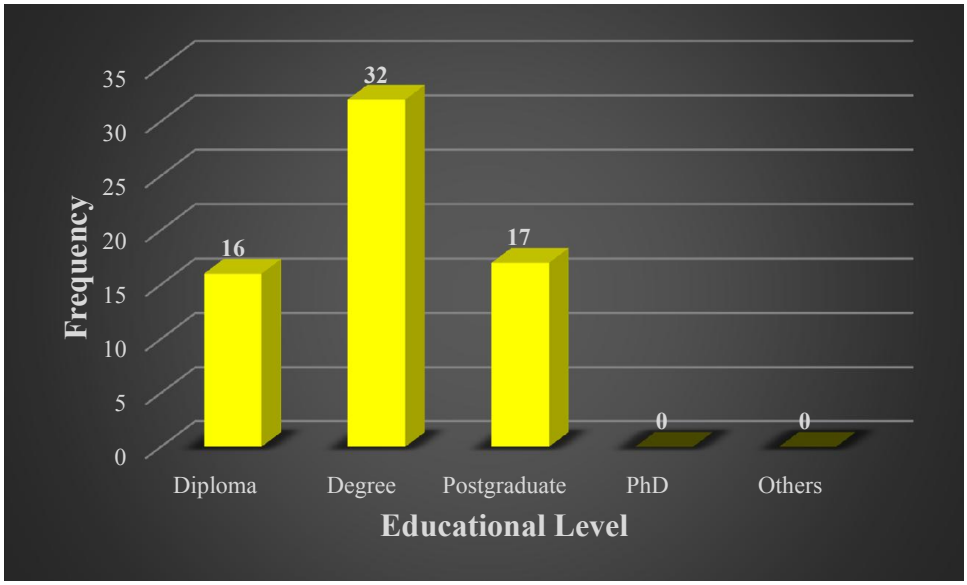

Figure 8: Educational Level of Respondents (Personal Survey, 2022)

4.3.4. Work Experience of Respondents

The type of project and duration at projects can enhance the ability of professionals to the next level. Without any doubt, seniors have ample information regarding work behavior and situation analysis. Respondents gave their work experience in AACRA as 16.92 % have up to 4 years of experience, 21.54% have 4 to 6 years of experience, 24.62% have 6 to 8 years of experience, 26.15% of the total respondents hold 8 to 10 years of experience in road construction, and the remaining 10.77% works for more than 10 years.

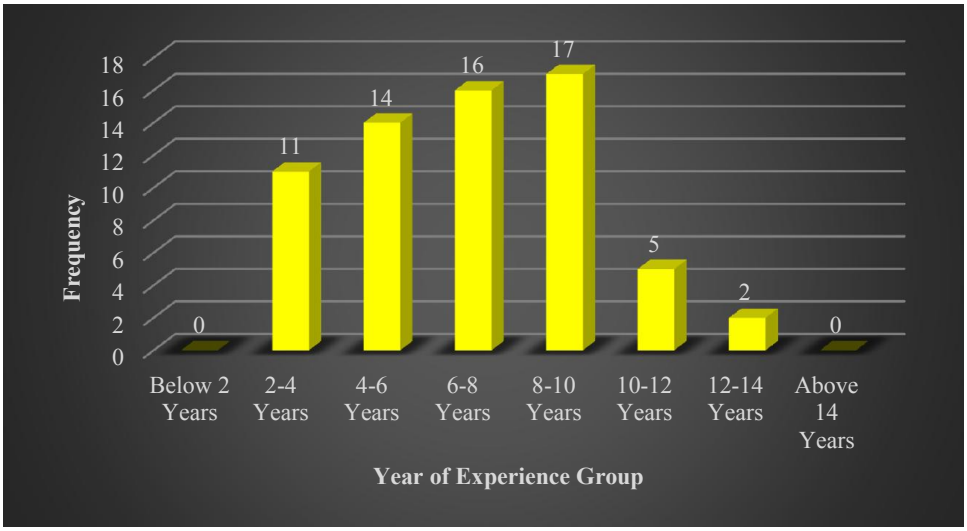

Figure 9: Work Experience of Respondents (Personal Survey, 2022)

Table 7: Cumulative Percentage of Experience (Personal Survey, 2022)

Years of Experience	Cumulative Percentage
More than 10 years	10.77
More than 8 years	36.92
More than 6 years	61.54
More than 4 years	83.08
More than 2 years	100.00

As presented in the above table, all the respondents had more than 2 years of experience while 83.08% works for more than 4 years in AACRA. This means they have the potential to provide necessary information related to road projects beyond the projects under consideration.

4.3.5. Responsibility in AACRA

During the data collection using the questionnaire, the selected respondents were in direct relation with engineering science. All of them are a holder of diplomas to postgraduate degrees in either engineering or surveying subjects. Besides this, the respondents' current responsibilities are project manager, team leaders, material engineer, office engineer, site engineer, foremen, material inspectors, and surveyors. The detail numbers of each professional were presented in the following figure.

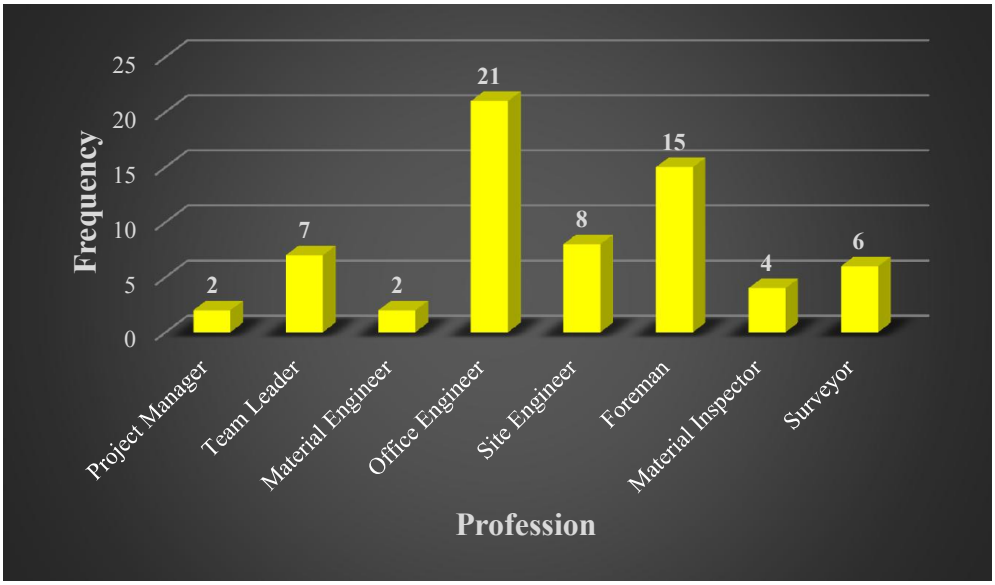

Figure 10: Current Responsibility of Respondents (Personal Survey, 2022)

4.3.6. Project Involvement of Respondents

As discussed above in the previous chapters, this study will try to exploit the potential success factors for urgently needed road and parking projects starting from Shiromeda to Entoto Mariam church. Different crew has been part of these projects so their participation will inject some inputs for this study. Of the entire respondents, 50.77% have participated in the road projects, 38.46% were part of the parking projects, and finally the remaining 10.77% are from the main office which are members of the project management team has participated in both projects.

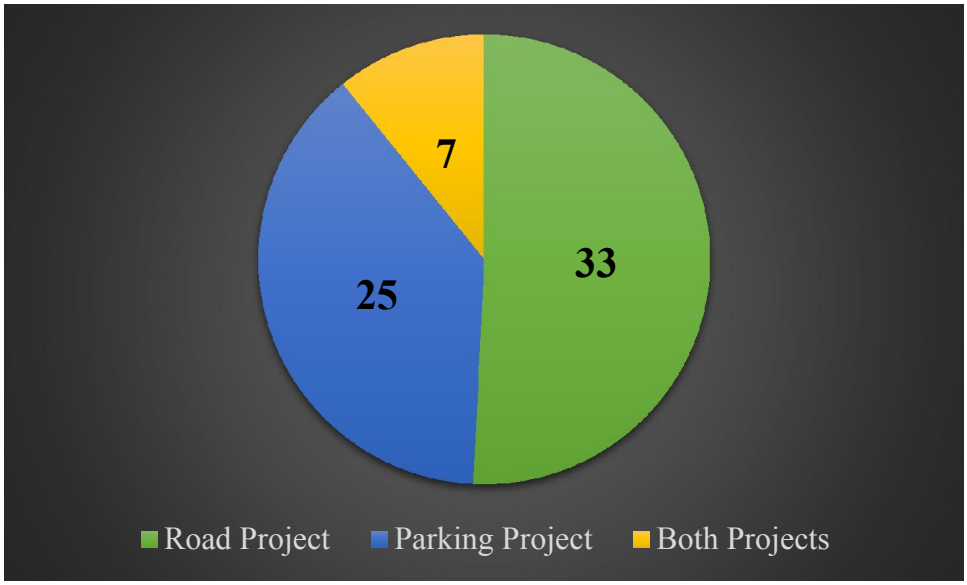

Figure 11: Project Involvement of Respondents (Personal Survey, 2022)

4.4. Success Level of the Projects

As indicated in the previous sections, the main objective of this study is to assess factors that affect the success of urgently needed projects in AACRA projects. In this section of the study, the success rate of projects will be explored from time, budget, quality, and scope dimensions.

4.4.1. Time

Whenever there is urgency in construction projects, it will be directly linked to the project schedule. Project Managers uses the project crashing method for such kind of projects. Project crashing is a method of shortening the duration of a project by reducing the time of one or more tasks (Simmons, 2020). Crashing is done by increasing the resources for the project, which helps make tasks take less time than what they were planned for. The following table presents respondents' replay of the time taken during the project time.

As the projects were needed urgently, their early or in time completion would be a must and necessity criteria. Consequently, the project description data from AACRA presented here in the following table shows the starting and finishing dates of each project. Even though AACRA lacks a clear time-table for projects which were constructed by own force, office engineers of the projects have confirmed that the mentioned projects have been completed on time.

Table 8: Description of Project Time

Road Projects			
Project Name	Description	Date of Start	Date of Completion
Shiromeda-Kuskuam Road Project	Phase-1	February, 2020	January, 2021
Shiromeda-Kuskuam Road Project	Phase-2	February, 2019	January, 2021
Kuskuam Entoto Mariam Road Project	Full Length	November, 2020	March, 2022
Parking Projects			
Entoto Park Parking	Main Gate-One	December, 2020	June, 2021
	Main Gate-Two	February, 2021	June, 2021
	Sululta Gate - One	December, 2021	March, 2022
	Sululta Gate - Two	December, 2021	March, 2022

4.4.2. Budget

A project budget is the total cost of all the tasks, activities, and materials associated with an entire project. If there is a delay in projects, anyone can be sure about the inquiry of additional budget beyond the scheduled one. The reverse will not be always true as completing projects without delay would not give a guarantee for budget proliferation. Respondents of this study gave the information regarding the budget status of these projects.

According to the reflection from participants, it can be said that the projects were done with the specified amount of budget. The budget analysis from the project team shows projects kept their specified budget within the limit.

Table 9: Budget of the Projects

Road Projects				
Project Name	Description	Allocated Budget	Budget at Completion	Remark
Shiromeda-Kuskuam Road Project	Phase-1	53,295,681.87	53,295,681.87	With in budget
Kuskuam Entoto Mariam Road Project	Full Length	102,242,236.28	249,580,351.99	Above budget*
Parking Projects				
Entoto Park Parking	Main Gate-One	50,527,774.90	50,459,253.57	With in budget
	Main Gate-Two			
	Sululta Gate - One			
	Sululta Gate - Two			

(*) There was a scope change regarding the project length from 3612.93 meters to 4300 meters during the design revision session.

4.4.3. Quality

According to (PMBOK Guide, 2017), project quality includes the processes and activities that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken. Documents reviewed during the data collection session shows that AACRA has given proper emphasis to quality control and quality assurance.

Table 10: Level of Agreement on Quality

Quality				
Status of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	60	92.3	92.3	92.3
No	5	7.7	7.7	100
Total	65	100	100	

As a principle quality shall not be compromised for any cost and it must be assured at any condition like urgency. Keeping this in mind, except 5 respondents all the remaining accounts around 92.3% gave the assurance for the existence of good quality in those projects.

4.4.4. Scope

Project scope is a detailed outline of all aspects of a project, including all related activities, resources, timelines, and deliverables, as well as the project's boundaries. Project scope also outlines key stakeholders, processes, assumptions, and constraints, as well as what the project is about, what is included, and what isn't (Moira, 2020). While having urgent projects on hand, there might be a change in scope with each project phase and it can be called that project scope change as a characteristics of urgent projects. Accordingly, the following table presents the reflection of respondents.

Table 11: Level of Agreement on Scope

Scope				
Status of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	10	15.4	15.4	15.4
No	55	84.6	84.6	100
Total	65	100	100	

As we can see from the table, 84.6% of the total respondents believe the projects faced a problem related to keeping their scopes whereas the remaining 15.4% approved projects kept their respective scopes. The figure is expected because when projects are executed in an urgent manner,

revision and violation of some aspects from the project management dimension. Scope change can be the reason for time and cost overrun. Fortunately, these problems didn't happen on projects under consideration except the Kuskuam – Entoto road project.

4.5. Urgent Project Characteristics

An urgency of projects is a phenomenon created by different pushing factors for shortening the construction period. Road construction executed by faces time overrun due to several internal and external reasons. A review was held by (Shambel & Patel, 2018) on ten constructed roads in Addis Ababa and found that all the projects were completed beyond their master schedule. This implies there is a serious problem with finishing projects within the pre-specified time boundary. Engineers from AACRA informed the researcher that, finishing projects according to the project schedule is fancy for the company. Some delaying factors were discussed in the coming sections, but now let's see the characteristics of urgent projects with the help of responses from professionals who participated in the Shiromeda – Kusuam – Entoto Mariam road projects.

4.5.1. Lack of Feasibility Study

A feasibility study is an analysis that considers all of a project's relevant factors including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project successfully. Feasibility studies help answer the essential question, "Should we proceed with the proposed idea?" The objective study may be completed in conjunction with a SWOT planning process, which looks at the strengths, weaknesses, opportunities, and threats that may be present externally (the environment) or internally (resources) (Hofstrand, 2020).

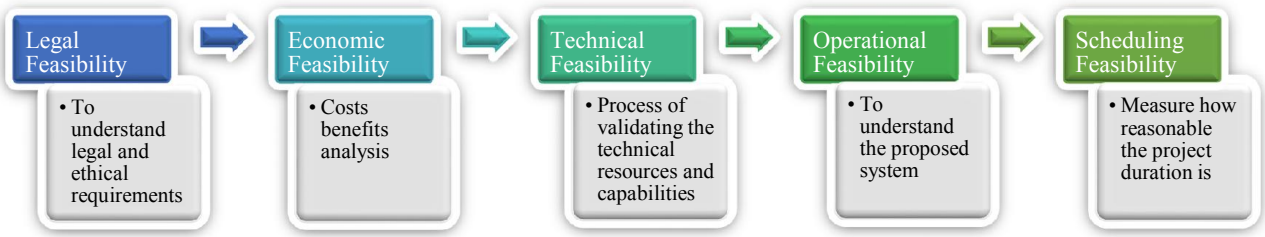

Figure 12: Types of Feasibility Study (Marcelo & Montenegro, 2008)

When a project becomes an urgent one, this most important step might be ignored. After all, problems will be triggered during the execution phase which is the construction period.

The reflection from respondents' shows, 64.6% of the total respondents agree and strongly agree that urgent projects lack feasibility study whereas only 13.8% of respondents didn't agree with this idea. The percentage of respondents depicts the absence of pre-feasibility and feasibility studies for urgent projects. Besides answers from the questionnaire, respondents of the interview told that many other projects lack and ignore feasibility study. The consequence is negative which led up to a failure of a project because when the project started, no one has full and clear information about the overall output of the work in terms of technical, financial, environmental, and economical aspects.

4.5.2. Project not Included in the Annual Plan

According to the Oxford dictionary, an annual plan is a short-term plan that describes a company's current situation, its objectives, strategy, action program, and budgets for the year ahead, together with the controls included in the plan. Almost all governmental companies in Ethiopia prepare their annual plan up to late June since the new plan commencement starts from July the first. The questionnaire contains a question if urgent projects in AACRA had the chance to be included in the annual plan.

The response shows that 72.3% of the respondents total agree on the status of urgent projects in the annual plan, while 16.4% of those 65 respondents believed that even if projects are urgent, there will be a chance of inclusion in the annual plan. The remaining 10.8% are neutral about the issue which is believed, they have no enough information about the making of the company's annual plan. Office engineers from the main office informed the researcher that, revision of the annual plan takes place every 3 months after the initiation of the plan. The following tables show the original annual plan and the revised 6 months plan of Own force road directorate Lot-2 for 2013 E.C.

During the data collection session, it was noticed that Kuskuam – Entoto road project was not included in the 2013 annual plan; but in the meantime, as the city administration proposed this urgent project, the design team included it in the revised 6 months plan.

4.5.3. Unavailability of Project Scope

Project scope is the part of project planning that involves determining and documenting a list of specific project goals, deliverables, tasks, costs, and deadlines. As (PMBOK Guide, 2017) defines, managing the project scope is primarily concerned with defining and controlling what is and is not included in the project. Clear scope gives the future view of the outputs of the project at the end of the execution phase. Unfortunately, urgency forced project teams to create poor project scope which can lead to scope creep. Scope creep in project management refers to uncontrolled changes or continuous growth in a project's scope. This phenomenon can occur when the scope of a project is not properly defined, documented, or controlled (Sehgal, 2021). It is generally considered a negative occurrence, to be avoided. Scope creep occurs when changes are allowed without proper impact analysis, and without reviewing schedule and cost implications.

Regarding availability of scope for urgent projects, 40 respondents which account for about 61.5% strongly agree and agree with the absence of proper project scope while 21.6% of the total respondents oppose the phenomenon. According to the data gathered from AACRA, the Kuskuam – Entoto Mariam project was executed by a budget that exceeds the initial amount of cost incurred in the budget analysis. This is due to a lack of scope management for the mentioned project which leads to the addition of extra work.

4.5.4. Lack of Budget Analysis

A project budget is the total sum of money allocated for the particular purpose of the project for a specific period of time. Project budgeting is performed in the initial stages of project planning and usually in parallel with the development of the project schedule. The steps associated with budgeting are highly dependent on both the estimated lengths of tasks and the resources assigned to the project. Matching with the previous idea, a lack of budget analysis can create a critical cost overrun and delay to any project. Since AACRA is suffering much of problems related to budget complications, the response from the employee about budget analysis would not be positive.

Regarding the budget analysis of urgent projects, 60% of the respondents believed that the absence of a well-defined budget analysis in the projects under consideration, whereas 15.4% of respondents were neutral, and the remaining 24.6% didn’t favor lack of project budget analysis for the urgent ones.

4.5.5. Lack of Risk Analysis

Risks have a significant impact on a construction project‘s performance in terms of cost, time, and quality (Darwish & Isik, 2018). As the size, complexity, and urgency of the projects have increased, an ability to manage risks throughout the construction process has become a central element in preventing unwanted consequences which is project delay and failure. Lacking of any risk analysis means, losing full control of cost, time, and quality which are the three pillars for a specific project types. Many people believe that risk is a negative phenomenon, but this is not the real case. Risk analysis gives both the positive and negative possible outcomes while experiencing the execution.

The data redirects the response of participants as 75.4% of the total respondent strongly agree and agree on the lack of risk analysis for those projects, only 9.2% of the respondents thought the presence of risk analysis in urgent projects. Based on this replay, less than a quarter of the total response oppose lack of risk analysis.

4.5.6. Unclear Plan

Construction planning is an important step when constructing any structure because it outlines the project and provides guidelines to ensure the project is a success. Project managers know that having a thorough construction plan can save them time and money and increase the quality by keeping the project scope. Construction planning is the process of identifying the steps required to build a structure. It involves defining what actions need to be completed, creating an ordered timeline of events, staffing the project, and determining the necessary materials and equipment (Indeed Editorial Team, 2021). A well-crafted construction plan is important to keep the project on schedule and within budget.

It is obvious that any project must have a plan to complete session of the execution but the question is about its clarity. Having this in mind 63.1% of the total 65 respondents from both type of projects insists that these projects lack a clear plan to be executed. On the other hand, 17% of the respondents saw a clear plan while constructing the structures. The respondents told us what was missed from these projects. The following figure uncovers the type of planning, which in turn shows the gap in lack of a clear plan.

Figure 13: Types of Planning (Indeed Editorial Team, 2021)

4.5.7. Unclear Goal

The main goal of the construction industry is to ensure that construction projects are successfully completed within the constraints of best quality, stated period, and with the minimum cost possible. Before starting any phase of a project, the goal should be stated clearly so that each team member can run the execution dependently with others. Again while having urgent and unexpected projects, proper care must be taken to figure out the ultimate goal in the end. The huge picture project management outlined the goal of any project as finishing the project within the scheduled timetable, budget, the same level of quality, and within specified guidelines (PMBOK Guide, 2017).

In the characterization of urgent projects, the respondents from AACRA has given their opinion with the help of their experience and work exposure. Based on this, half (50.7%) of them believed that urgent projects lack a clear goal, 13.8% of respondents are neutral and didn't share their thought on this subject while the remaining 35.4% of the total respondent saw a clear project plan in urgent projects.

4.5.8. Difficulty in Resource Assignment

Resource assignment is the process of handing over and scheduling available resources in the most effective and economical way possible for the success of the projects. Projects will always need resources but they can often be scarce. This phenomenon will be critical when there is urgency. In order to finish projects within scheduled time, project managers use a technique called crashing the schedule. By its nature schedule crushing necessities ample resources at a time. The following picture was taken during the construction of the Kuskuam – Entoto Mariam road project which depicts how the work was machine intensive.

Figure 14: Kuskuam – Entoto Mariam Road Project

Construction resources can be manpower, material, or machinery. The proper allocation of these inputs plays irreplaceable value for the success of urgent as well as normal projects. The working structure of AACRA allows Lots to have their own resources so that they can assign wherever they want for their respected projects. At the beginning of the new-year plan execution; they intended to balance resource inquiry available resources, but in the meantime when they are given with urgent projects, the difficulty of assigning resources at hand will be noticed.

As presented in the data analysis result of SPSS, around 66.2% of 65 respondents strongly thought that difficulty in resource assignment was one of the characteristics of urgent projects, 12.3% are neutral about it, and the rest 21.5% feels satisfactory with resource assignments.

4.5.9. Improper Project Team Composition

A project team composes starting from the Project manager and includes some other individuals that contribute to the success of the objectives by working together. For this case AACRA project team includes project manager, team leaders, office engineers, site engineers, material engineers, and other site workers. The difference in educational level and work experience can bring a variety which fastens the execution to project success. So before starting any project, the project team members must be selected with enough screening. Otherwise, additional problems will get the chance to affect the project negatively. Here under the table, the response of 65 respondents was presented concerning the selection of team members while planning to have urgent projects in AACRA's own force road construction directorate at the lot level.

The long-term trend in AACRA shows, hard projects were given to those who show relative superiority in their operation during previous projects. According to the data collected, 43.1% of respondents disagree and strongly disagree about the improper project team composition for the mentioned urgent projects. Of the overall respondents, 30.8% believed that the project team assignment was not correct whereas the remaining 26.2% keeps being neutral. During the interview session, some team leaders gave information about their team selection for new projects. The following points will be considered for composing a team for new project.

- Difficulty of the project
- Previous work experience
- Communication skill
- Urgency of the project
- Problem solving ability

The team leader will select the site engineer and foremen with the surveying team based on the above mentioned criteria. If the project is urgent and wants higher attention, the expected team will leave their current project and move to the new one. The response favors this idea in which only 26.2% didn't believe in the project team selection.

4.5.10. High attention from the Top Management

AACRA receives projects either from the community or the city administration since it is the only governmental organization that is responsible to watch over road problems in the capital city of Ethiopia. It is well known, there are plenty of road problems in Addis Ababa but the capacity of this company didn't fit the expected output. Such kinds of studies will help the company to improve the current trend and solve problems for the community. But for now, if the projects are needed urgently, the top management (General Director, Deputy General Directors, and Directors) greatly takes part in the site work.

The respondents assured that there is a high degree of attention from the top management as 80% of the total 65 participants agree and strongly agree on this issue. Only 6 respondents which account for 9.2% show their disagreement about the attention to urgent projects from the top management members. During the focus group discussion with the site and office engineers, the following points were raised as characteristics of top management attention when they participate in urgent projects.

- Repeated site visits (on a daily basis)
- Direct involvement in site work decisions
- Changing the project team during the execution phase
- Applying extra pressures to finish works illogically
- Violating working and communication hierarchy
- Spending more time on a single project
- Repeated meetings both onsite and in the office about that urgently needed project
- Repeated informal communication with external stakeholders
- Relatively better response for site inquiries
- Conflicting with low-level leaders

Balancing the pressure from the top management and interest of the project team will create a huge challenge for the project manager. Accordingly, the project managers must be enough to create this balance and lead projects to meet their objectives.

4.5.11. Importance level of Urgent Project Characteristics

Using SPSS and MS Excel, the above characteristics of urgent projects were ranked in accordance with their score on Relative Importance Index.

Table 12: RII of Urgent Project Characteristics (SPSS Output for Personal Survey, 2022)

Urgent Project Characteristics	RII	Rank
Lack of risk analysis	0.834	1
Project not included in the annual plan	0.825	2
High attention from the top management	0.818	3
Lack of Feasibility Study	0.785	4
Unclear Plan	0.729	5
Unavailability of project scope	0.717	6
Difficulty in Resource Assignment	0.702	7
Lack of Budget Analysis	0.680	8
Unclear goal	0.640	9
Improper project team composition	0.563	10

The above table shows, lack of risk analysis is considered as the top urgent project characteristic with RII score of 0.834, the second place was taken by the absence in the annual plan with RII of 0.825. The next three levels were taken by high attention from the top management, lack of feasibility study, and unclear plan with a total RII score of 0.818, 0.785 and 0.729 respectively.

Managing urgent projects is challenging so the assigned project manager and team members must realize from extraordinary dimensions. Knowing the characteristics of such kinds of projects will be major step to bring the required success. The above discussion clears out the overall expected characteristics of urgently needed road projects in the case of AACRA.

4.6. Project Delaying Factors

In construction, delay can be defined as the extra time required or incurred either beyond the stipulated completion date or beyond the date that the project stakeholders agreed upon for the completion of the project. Knowing and decreasing delaying factors in construction plays a vital

role in the successful completion of road projects owned and constructed by AACRA especially for those needed urgently.

Several studies have been made on this issue for the case of AACRA and presented their respective results. (Shambel & Patel, 2018) investigated 10 completed road projects in AACRA and found that all the projects under the study experienced time overrun. During their study, slow site clearance, delay in commencement, and other related factors were mentioned as a cause of the problem. Similarly (Semira, 2021) has presented the most critical delaying factors in AACRA. Delaying in relocating utilities (ROW problem), escalation of material price, lack of high technology mechanical equipment, shortage of construction materials, problems related to design revision and approval, ineffective resource management, and inadequate supervision are mentioned as top delaying factors.

As outlined in the above figure, knowing and decreasing delaying factors will lead to the success of urgently needed projects. During the data collection for this study, respondents were asked about the major delaying factors using the Likert scale. Some delaying factors from previously written kinds of literature were grouped into four major groups which are design-related delaying factors, leadership-related delaying factors, and construction-related delaying factors, and other delaying factors. The result is presented here.

4.6.1. Design Related Delaying Factors

Design is the main bridge between the office and site works in the construction sector. It is a fact that good design can be mentioned as one factor for a project success and the reverse is true in the case of project failure. The following five major design-related factors were presented for respondents to show their level of agreement on delaying road construction in AACRA.

- The imperfect and improper initial design
- Repeated design change during execution
- Incorrect timing for design revision
- Unclear (Vague) design parameters
- Variation between design and real work on the ground

4.6.2. Leadership Related Delaying Factors

Leadership is essentially a continuous process of influencing behavior and guiding the project work. It may be considered in the context of mutual relations between a leader and respective followers. Basically, leadership in construction involves developing those qualities and attitudes in managers which help them to look into the future and to convey necessary improvement for the project's success. Decision-making, conflict-management, and problem-solving are qualities expected from leaders in the construction sector. Here five factors are listed which believed as factors that causes a delay in road construction from the side of leadership.

- Unclear leadership role
- Being reluctant to perform accordingly by leaders
- Unnecessary intervention by top management
- Conflict between leaders
- Failure to cop up with external pressure

4.6.3. Construction Related Delaying Factors

The method of construction followed by the company for a specific project can decide how the project ends. Delay and some other construction problems have the chance to emerge depending on the effect of construction-related factors. This issue needs a critical review of both the internal and external environment around the project. On the other hand, proper management of stakeholders plays a dynamic role in the speeding up of road construction in the case of AACRA. Respondents of this study were given six possible delaying factors related to the construction work on site to disclose the effect of those factors. The factors are listed as

- Following the incorrect construction method
- Ineffective resource management
- Inadequate experience of professionals
- Reworks due to internal reasons
- Reworks due to external reasons
- Onsite conflicts between stakeholders

4.6.4. Other Delaying Factors

Away from the above delaying classification, other delaying factors were incorporated in this section including issues with machinery, productivity, right of way problems, and subjects related to external stakeholders. Respondents have reflected their level of agreement on the following delaying factors.

- Inadequate number of machinery
- Lack of high technology machinery
- Unforeseen site condition
- Low-quality construction materials
- Low productivity of laborers
- Right-of-way problem
- External stakeholders performance

4.6.5. Importance Level of Delaying Factors

Using SPSS and MS Excel the importance of the above-listed factors was ranked with their corresponding RII scores. Delay factors, categories of the factors, RII, and rank are presented in table 31.

Table 13: RII of Delaying Factors (MS Excel Output for Personal Survey, 2022)

Delay Causes	Category	RII	Rank
Right-of-way Problem	Other	0.945	1
External stakeholders performance		0.874	2
Lack of high technology machinery		0.868	3
Failure to cop up with external pressure	Leadership	0.849	4
Onsite conflicts between stakeholders	Construction	0.812	5
Incorrect timing for design revision	Design	0.800	6
Ineffective resource management	Construction	0.794	7
Unforeseen site condition	Other	0.791	8
Inadequate number of machinery		0.772	9
Reworks due to external reasons	Construction	0.763	10
Variation between design and real work on the ground	Design	0.763	10
Repeated design change during execution		0.754	12
Imperfect and improper initial design		0.745	13
Following incorrect construction method	Construction	0.735	14
Unclear (Vague) design parameters	Design	0.729	15
Inadequate experience of professionals	Construction	0.717	16
Unclear leadership role	Leadership	0.714	17
Being reluctant to perform accordingly by leaders		0.689	18
Reworks due to internal reasons	Construction	0.677	19
Unnecessary intervention by top management	Leadership	0.606	20
Low productivity of Laborers	Other	0.597	21
Low quality construction materials		0.566	22
Conflict between leaders	Leadership	0.532	23

According to the data in the above table, delay factors that cause time overrun were ranked as a right of problem gets the highest point by scoring RII of 0.954. Referring to the above table the remaining places up to ten are taken by external stakeholder performance (RII = 0.874), lack of high technology machinery (RII = 0.868), failure to cop up with external pressure (RII = 0.849), onsite conflicts between stakeholders (RII = 0.812), incorrect timing for design revision (RII = 0.8), ineffective resource management (RII = 0.794), unforeseen site condition (RII = 0.791), inadequate number of machinery (RII = 0.772), and reworks due to external reasons and Variation between design and real work on the ground with RII of 0.763.

Unfortunately, the above analysis depicts that the major problem related to delay is pointed as a right of way problem which is driven by external stakeholders. Dwellers, public utility providers, and fragments of the city administration like sub-cities are mentioned as the actors when dealing with the right of way cases as participants of focus group discussion reflected. Besides this, the second most important delaying factor is the performance of external stakeholders which can be seen in the previous factor. Following this, the right of way directorate can decide the success of any project greatly as the road construction takes place in an urban area. Whereas, the lack of high technology machinery relay on the strategic plan of the company itself. By having a clear and detailed discussions with the concerned governmental organizations, updated construction equipment must be purchased to run with the current construction technology. Similarly, effect of the remaining factors can be decreased with proper handling of the project life cycles.

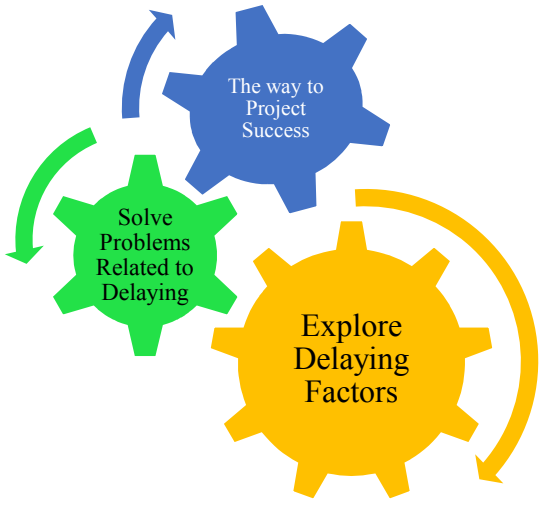

Figure 15: Delay and the Way to Project Success

4.7. Project Stakeholders

A project is successful when it achieves its objectives and meets or exceeds the expectations of the stakeholders. Stakeholders are individuals or groups of individuals who either care about or have a vested interest in a specific project. They are the people or an organization who are actively involved with the work of the project or have something to either gain or lose as a result of the project.

4.7.1. Internal Stakeholders of the Projects

For the case of AACRA, internal stakeholders are individuals or teams which are parts of the working structure adopted by the organization starting from the General Director up to daily labor. Managing these internal stakeholders is undertaken by the organization itself and can be counted as an opportunity for the project's success. Using an open-ended questions, interview sessions, and document review from AACRA the following stakeholders are identified as internal ones for the projects under consideration for this study.

Figure 16: Internal Stakeholders (Personal Survey)

The stakeholders are presented in the pyramid depending on how they are mentioned in the open-ended questions. The own force road directorate members took the first three places to be mentioned by the respondents.

4.7.2. External Stakeholders of the Projects

External stakeholders are those who have an indirect involvement with the company. This may be through a business agreement, an interest in organizational a service, or an interest in its impact on the wider community. Since AACRA is service provider by its structural products, it works with several stakeholders outside the company's working structure. Unlike the internal stakeholders, control of external stakeholders depend not only on the company's strategies but also on the agreement between the organization and the stakeholders. Again the open-ended question about the external stakeholders provided the major facilitator during the project's work.

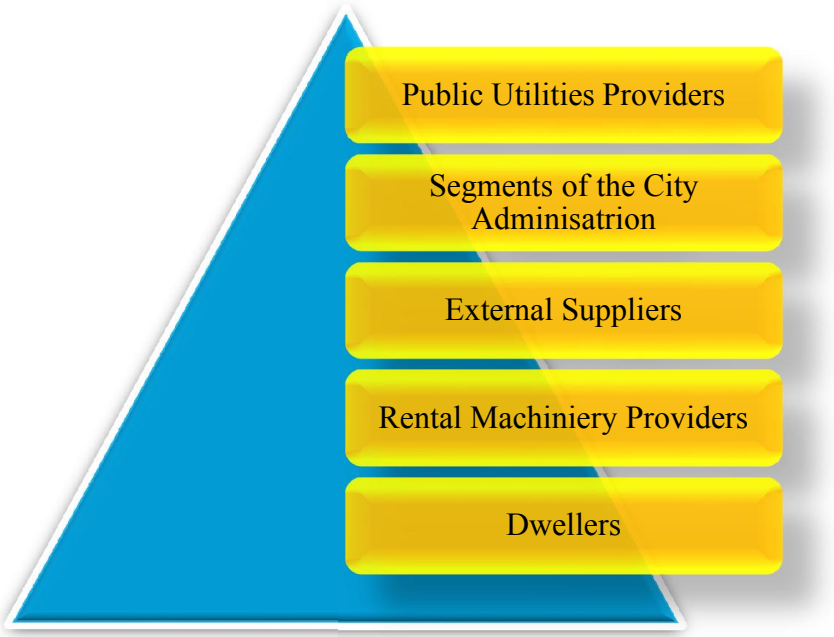

Figure 17: External Stakeholders (Personal Survey, 2022)

The stakeholders are presented in the pyramid depending on how they are mentioned in the open-ended questions. Accordingly, public utility providers like Ethio telecom, AAWSA, and Ethio Electric hold the first rank. A single electric pole has the ability to stop an activity for a long time until the relocation is made. Conflicts related to utility providers and dwellers can be managed

with the help of parts of the city administration like Sub-city and Wereda. This is the main reason for the respondents to mention segments of the city administration repeatedly after the utility providers. External suppliers (HMA, ready mix concrete, and other construction material suppliers), rental machinery suppliers, and the dwellers mentioned by project team members.

4.7.3. Stakeholders' Contribution

Following the identification of both the internal and the external stakeholders' projects managers, team leaders, and engineers pointed out the contribution of each stakeholder to the early completion of those projects under consideration during the interview session about stakeholder management. The idea from each interviewee is summarized and presented as follows.

- The project managers of the projects were the main symbols of the works by defining each and every step of the project life cycle. Since the projects were executed at the lot level, the head (PM) controls all the project pillars until the closing phase.
- The own force directorate team (Director of the team, Project managers, team leaders, office engineers, and site engineers) can be stated as the contractor of these projects. They contributed a lot to finish these projects within a short period of time without time and cost overrun and compromise the quality.
- The ROW directorate plays an irreplaceable role during the relocation of properties especially for the Shiromeda – Kuakuam road project and resolving the territory problems at Sululta Gate 1 and 2 parking projects. Without their concrete contribution, these projects may take additional time to be completed.
- The design team provides a well-summarized final design for Shiromeda – Kuskuam road project and for all parking works. There were some negative comments about Kuskuam – Entoto road projects but the well-organized communication eradicates the problem and helps the execution.
- Finally, the external stakeholders have tried their best to comply with the agreement between them and the organization. They hardly understand the urgency of the projects so they give priority to any steps during the construction period. Specifically, the hot mix asphalt supplier company was praised by project team members.

Generally management of stakeholders either internal or external must be part of any project to be concluded as a successful project since they are the main actors in every step of project life.

4.8. Urgent Project Success Factors

Project success factors are components of the project that have to be put in place to ensure the completion of the project. In simple terms, they create an enabling environment for the project to exist in the first place and finally to complete by achieving its objectives (Nazia, et al., 2016). To achieve success, it has to be clear what the project success criteria are and the method of implementation.

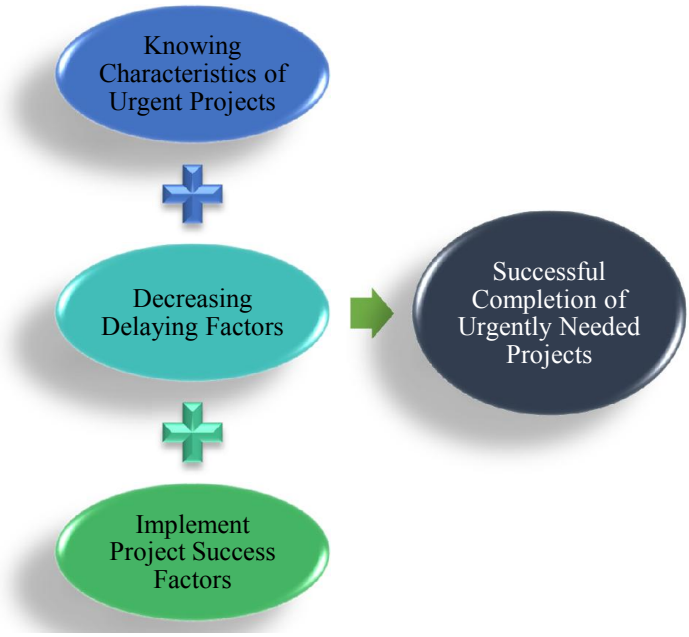

Figure 18: Effect of Project Success Factor (Personal Framework, 2022)

It is obvious that several studies were made about critical success factors for projects and (Athanasios & Vagiona, 2018), (Korbijn, 2014), (Nazia, et al., 2016), (Radujkovic & Sjekavica, 2017) and other pieces of literatures provide deep insight about how can specific project will be changed to its objectives successfully. But document review by itself will not reflect the real effect so additional questions must be raised prior to a conclusion about project success factors. For the sake of this study, ten critical factors were selected from different literature and presented to respondents and the following feedback was collected.

Critical project success factors included for further investigations are

- Good planning management
- Satisfactory communication
- Realistic goal of project

- Feasible risk management
- Skillful leadership
- High level team coordination
- Assignment of competent team for the project
- Good Conflict management
- Trust based relationship between stakeholders
- Project team satisfaction through motivations

4.8.1. Good Planning Management

Planning is the second step in project life next to the initiation and should be done with experienced professionals. Planning means looking ahead and chalking out future courses of action to be followed (PMBOK Guide, 2017). It is a preparatory step and is a systematic activity that determines when, how, and who is going to perform a specific job. Planning is a detailed program regarding future courses of action. Having proper planning management results in a clear map of the project starting from the planning phase up to the closing stage. Project team members responded as follows the importance for project success.

Table 14: Good Planning Management (SPSS Output for Personal Survey, 2022)

Good Planning Management				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	5	7.7	7.7	7.7
Disagree	2	3.1	3.1	10.8
Neutral	16	24.6	24.6	35.4
Agree	26	40	40	75.4
Strongly Agree	16	24.6	24.6	100
Total	65	100	100	

According to the above table, 42 respondents which accounts for about 64.6% agree and strongly agree about the positive effect of good planning management on project success. Whereas 24.6% of the total respondents were not sure about the subject while only 10% showed their disagreement about the effect of planning management.

Based on this replay, it is proved that owning a good planning management can lead to the success of urgently needed projects in the case of AACRA.

4.8.2. Satisfactory Communication

Organizational communication can play an important role in an organization's performance and output, affecting critical issues like quality of work, safety, and operational improvements with conflict resolution methods. Now a time communication is pretty simple but plays a vital role in any type of activity. Fortunately, the technology helps the communication media with its amazing innovations at relatively moderate prices. Clear, concise, concrete, correct, and timely mannered communication is the perfect way to give information and deal with the positive and negative phenomena during the project work. Now let's see the reflection from participants about the effect of satisfactory communication while they are working on those urgently needed projects.

Table 15: Satisfactory Communication (SPSS Output for Personal Survey, 2022)

Satisfactory Communication				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	4.6	4.6	4.6
Disagree	10	15.4	15.4	20
Neutral	12	18.5	18.5	38.5
Agree	22	33.8	33.8	72.3
Strongly Agree	18	27.7	27.7	100
Total	65	100	100	

Since there are many communication ways, some people didn't have the chance to notice how they are making a communication. Besides this, around 61.5% of respondents presented their agreement about the irreplaceable effect of good and satisfactory communication on the success of the projects in which they took a part. The following methods of communication were mentioned by engineers and the management team during the project time.

- Internal letter (memo)
- Phone call (almost at any moment including nighttime)
- Verbal communication
- Communication using social media platforms (especially Telegram)

Note that, each and every project has its own telegram group which presents detailed note and updated pictures that shows the status of every events.

4.8.3. Realistic Goal of Project

Goals are the specific result or purposes expected from the project. The project goals specify what will be accomplished over the entire project period and should directly relate to the problem statement and vision. In project management, SMART is an acronym that stands for Specific, Measurable, Achievable, Realistic, and Time-bound to express expected quality for the goal of a project (Ogbeiwi, 2017). Setting unrealistic goals could lead to discouraged teams and failed projects. All the goals, objectives, and different milestones at stages included in a project should be attainable. It's indispensable to consider factors like constraints of time, resources, costs, and unexpected risks.

Table 16: Realistic Goal (SPSS Output for Personal Survey, 2022)

Realistic Goal of Project				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	4.6	4.6	4.6
Disagree	16	24.6	24.6	29.2
Neutral	18	27.7	27.7	56.9
Agree	13	20	20	76.9
Strongly Agree	15	23.1	23.1	100
Total	65	100	100	

The amazing figure was found regarding the presence of realistic goal for the success of urgently needed projects. According to the collected data, only 43.1% of respondents strongly agree and agree while 29.2% strongly disagree and disagree. Besides the logic, different pieces of literature illustrate the need for goal for any project but support from team members of projects under consideration is not satisfactory even if agreed participants out weighted the remaining if we directly judge numerically.

4.8.4. Feasible Risk Management

In the period of advanced globalization, it is hard to avoid risk, which has become a crucial part of everyday life. Risk is present everywhere, in every aspect of our life. One of such aspects is the

construction industry, where risk is an inherent element (Szymański, 2017). Effective risk management does not mean the removal of risk, which would seemingly be the cheapest option but it is how stakeholders decrease and deal with it.

Table 17: Feasible Risk Management (SPSS Output for Personal Survey, 2022)

Feasible Risk Management				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	1.5	1.5	1.5
Disagree	9	13.8	13.8	15.4
Neutral	9	13.8	13.8	29.2
Agree	22	33.8	33.8	63.1
Strongly Agree	24	36.9	36.9	100
Total	65	100	100	

Regarding feasible risk management, 46 respondents (70.7%) among 65 participants support the progressive effect to project success while 9 respondents (13.8%) selected to be neutral. The remaining 10 respondents (15.3%) didn't agree at all.

4.8.5. Skillful Leadership

Leadership is one of the most important factors that affect the delivery of construction projects especially when urgency joins the sensation. Project management and effective leadership continue to impact the success or failure of a project, as any project's success is generally defined on the basis of time, cost, or quality performance. But knowing the science only will not help individuals to be good leaders, rather they have to acquire the necessary skills to manage urgent projects.

Table 18: Skillful Leadership (SPSS Output for Personal Survey, 2022)

Skillful Leadership				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	1.5	1.5	1.5
Disagree	5	7.7	7.7	9.2
Neutral	15	23.1	23.1	32.3
Agree	26	40	40	72.3
Strongly Agree	18	27.7	27.7	100
Total	65	100	100	

On the topic of the importance of skillful leadership as a success factor, 67.7% of the total participants agree and strongly agree to commend the presence. On the contrary, around 9.2% strongly disagree and disagree while 23.1% stayed on the neutral line regarding leadership skill.

4.8.6. High Level Team Coordination

Appropriate project team formation and management is one of the key constraint to project success. If the project lacks a fruitful and well-organized team, there's an elevated probability that this project will be failed at the initiation phase because originally the team is unable to do the project in the right manner. Without the right coordination of teamwork, people who form the team will fail with performing a number of specific roles and carrying out a variety of individual responsibilities which is not characteristics of a project team.

Table 19: High Level Team Coordination (SPSS Output for Personal Survey, 2022)

High Level Team Coordination				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	5	7.7	7.7	7.7
Neutral	7	10.8	10.8	18.5
Agree	29	44.6	44.6	63.1
Strongly Agree	24	36.9	36.9	100
Total	65	100	100	

During the data collection session, the team spirit around the office is very promising for having good communication with team members. The level of relation by itself depicts how they are convenient with the issue as 92.3% didn't show negativity with 81.5% of the total respondents totally agree by the positive effect of a high level of team coordination for the success of urgently needed projects.

4.8.7. Assignment of Competent Team for the Project

As an organization, AACRA has several teams in different working groups included in the structure. Whenever the company faces relatively difficult projects, the team selection and assignment get priority since all the teams cannot bring the required results within a short period of time. Generally, incorporating a competent team into a project is a critical factor for project success.

Table 20: Assignment of Competent Team (SPSS Output for Personal Survey, 2022)

Assignment of Competent Team for the Project				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	4	6.2	6.2	6.2
Neutral	17	26.2	26.2	32.3
Agree	24	36.9	36.9	69.2
Strongly Agree	20	30.8	30.8	100
Total	65	100	100	

Issues related to team and team work granted proper attention by the project manager as observed during the site visit since managing a project team means handling the whole activities with little diligence. Accordingly, 67.7% of participants showed their agreement on this factor at different levels, on the opposite site 32.4% presented their disagreement and uncover the assignment of the competent team would not have a positive impact on the success of urgently needed projects.

4.8.8. Good Conflict Management

Conflicts are unavoidable in the management of projects because there are different stakeholders in every project. It is impossible to separate the two (project and conflict) but however the two can be properly managed to ensure that the project meets its final objectives. Even if conflicts are manageable, they can arise at any phase of the project lifecycle depending on the objectives, priorities, commitments, and organizational structure of the project. Using different conflict resolution methods depending on the nature, destructive conflicts must be eliminated as fast as possible to get the fruit of projects.

Table 21: Good Conflict Management (SPSS Output for Personal Survey, 2022)

Good Conflict Management				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	10	15.4	15.4	15.4
Disagree	5	7.7	7.7	23.1
Neutral	10	15.4	15.4	38.5
Agree	28	43.1	43.1	81.5
Strongly Agree	12	18.5	18.5	100
Total	65	100	100	

Since conflicts are frequent events, the mechanism of how we gave a solution will have a great impact on the output of projects. Having this in mind, among the total participants 61.6% strongly agree and agree on the constructive influence of good conflict management for project success which is needed urgently. Whereas 15.4% keep being neutral, while the remaining 23.1% disgrace this idea.

4.8.9. Trust Based Relationship between Stakeholders

Stakeholder management is the process of identifying, prioritizing, and engaging stakeholders throughout the product development process (Vitalijus, 2019). It's an essential component of product management because stakeholders are the individuals or groups who can either impact the success and execution or impact the product and ultimately play a significant role in a product's life. According to (PMBOK Guide, 2017), to finish projects in a successful way stakeholder identification and management must be the immediate action after approval of the project charter, assignment of project manager, and formation of the project team. During the management of stakeholders, the relationship must be laid on a concrete trust for superior results.

Table 22: Trust Relationship between Stakeholders (SPSS Output, 2022)

Trust Based Relationship between Stakeholders				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	1.5	1.5	1.5
Disagree	12	18.5	18.5	20
Neutral	15	23.1	23.1	43.1
Agree	30	46.2	46.2	89.2
Strongly Agree	7	10.8	10.8	100
Total	65	100	100	

The concept of stakeholder is not clear in which participants got biased on some degree. Even though stakeholders are the main actors of any project work, 43.1% of those 65 respondents didn't give a positive answer, from these 23.1% were neutral about the effect of trust-based relationship between stakeholders for successful completion of projects. They might believe, the relationship should rely on written agreement and principles. On the contrary, more than half of the respondents (57%) support the positive effect of trust-based relations between stakeholders for project completion in a fashion manner.

4.8.10. Project Team Satisfaction through Motivations

Team satisfaction is defined as a project manager's perception of how team members feel about events within the project team which includes satisfaction with project works, satisfaction with team members, and satisfaction with being part of the project team (Ping Fung, 2013). In order to ensure project teams achieve positive project performance, management and project managers need to focus on critical factors which include team satisfaction.

Motivation can inspire, encourage, and stimulate individuals and project teams to achieve great accomplishments. Motivation can also create an environment that fosters teamwork and collective initiatives to reach common goals or objectives (Peterson, 2007). The level of motivation an individual and/or team applies to project efforts can affect all aspects of project results

Table 23: Project Team Satisfaction Motivations (SPSS Output for Personal Survey, 2022)

Project Team Satisfaction Through Motivations				
Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	6	9.2	9.2	9.2
Neutral	14	21.5	21.5	30.8
Agree	21	32.3	32.3	63.1
Strongly Agree	24	36.9	36.9	100
Total	65	100	100	

According to the above table, nearly 70% of the total respondents agree about the role of motivation for the satisfaction of employees for closing a project with expected success, while 21.5% of the participants were sure about the effect so they kept to be neutral. Only the remaining 6 replays (9.2%) show their disagreement about the motivation for satisfaction. It is logical to motivate project workers using different methods like incentives, rewards for a top performers, encouraging creativity, giving enough breaks, offering worthwhile training, and praising according to the information gathered during the discussion with project participants.

4.8.11. Importance Level of Project Success Characteristics

Using SPSS and MS Excel the importance of the above listed factors was ranked with their respective RII scores. Urgent project success factors, RII, and rank are presented in the following table.

Table 24: RII of Urgently Needed Projects' Success Factors (SPSS Output, 2022)

Project Success Factors	RII	Rank
High level team coordination	0.822	1
Project team satisfaction through motivations	0.794	2
Assignment of competent team for the project	0.785	3
Feasible risk management	0.782	4
Skillful leadership	0.769	5
Good planning management	0.742	6
Satisfactory communication	0.729	7
Trust based relationship between stakeholders	0.692	8
Good Conflict management	0.683	9
Realistic goal of project	0.665	10

Respondents of this study were given two opportunities to help in the assessment of project success factors for urgently needed which are showing a level of agreement for predefined factors using the Likert scale and an open-ended question to mention their own idea.

Accordingly as presented in the above table, a high level of team coordination was ranked the most important success factor with RII of 0.822 followed by project team satisfaction through motivations (RII = 0.794), assignment of competent team for the project (RII = 0.785), feasible risk management (RII = 0.782), skillful leadership (RII = 0.769), good planning management (RII = 0.742), satisfactory communication (RII = 0.729), trust based relationship between stakeholders (RII = 0.692), good conflict management (RII = 0.683), and realistic goal of project with RII score of 0.665.

Urgency will not be scheduled in a pre-determined manner so that unexpected events can be its culture. Fortunately, if an organization recorded its previous experience and applies for future projects, urgent and unexpected projects can be considered as an opportunity to finish with challenges. Except for the 8th factor (trust-based relationship between stakeholders) all the others can be controlled and developed using organizational strategies.

Similarly, the open-ended question provided the following additional factors to be applied while executing urgently needed projects.

- Competent design team who can provide fast and clear project design
- High participation of consulting firms
- Degree of collaboration with external stakeholders
- Enough budget
- Project review sessions on a daily basis
- Documentation of previous experiences
- Quality assurance and quality control mechanisms

Figure 19: Kuskuam – Entoto Road Project Progress

Figure 20: Shiromeda - Kuskuam Road Project Progress

CHAPTER FIVE

5. SUMMARY CONCLUSION AND RECOMMENDATION

5.1. Introduction

The last chapter is titled by summary, conclusion, and recommendation as it presents the major research findings summary, the conclusion drawn from a deep literature review and data analysis, and recommendations for future users from the possible view of dimensions.

5.2. Summary of Findings

This research was performed to assess the factors that affect the success of urgently needed projects by referring to the work experience of selected urgent projects from the Addis Ababa City Roads Authority.

Besides the questions, the assessment of factors that affects the success of urgently needed road projects constructed by AACRA on the route from Shiromeda to Entoto was set as a general objective with identifying characteristics of urgently needed road projects in the context of Addis Ababa, mentioning out factors that affect the completion of a specific road project, pointing out the contribution of different stakeholders in road construction, and finding suitable ways to implement best practices in future road construction as specific objectives.

While executing this study, a hybrid method (incorporating both qualitative and quantitative) was used as an approach for this explanatory type of research. Document review, site visits, questionnaires, interviews, and focus group discussions were used for collecting the required type and amount of data for further analysis. Accordingly, using questionnaires a total of 65 respondents participated among these some of them were incorporated into the interview and focus group discussion sessions.

5.2.1. The Projects

Concerning the level of success of projects under consideration, respondents reflect their level of agreement regarding project time, budget, quality, and scope. As per the response from participants, the projects were completed on time, within budget, and at the required quality. But there was a scope change during the project work and this was approved by 84.62% of the total respondents.

5.2.2. The Route to Success

The study tracked the subsequent specific route for the success of projects and the route was followed to answer each of the research questions.

- Knowing characteristics of urgent projects
- Decreasing delaying factors
- Implement project success factors
- Successful completion of urgently needed projects

5.2.2.1. Knowing Characteristics of Urgent Projects

Based on the respondents' reply, a ranking was given for each pre-stated factors with the addition of a relative importance index. Based on this lack of risk analysis, absence of projects from the annual plan, high attention from the top management, lack of feasibility study, and having unclear plan appeared as the five most important urgent project characteristics. Other characteristics like unavailability of project scope, difficulty in resource management, lack of budget analysis, unclear goal, and improper project team composition took the remaining five steps during the ranking period.

Similarly, the open-ended question about the characteristics of urgent projects provides the following bold behavior of such kinds of road projects in the case of AACRA.

- Immediate execution phase after the initiation
- High workload within a short period of time
- Direct participation of the top management
- Project completion before the deadline
- Negative effects on other projects in the company
- Presence of activities without approved design
- Conflicts especially with the consultant
- Continuous work schedule without interruption

5.2.2.2. Decreasing Delaying Factors

For the purpose of this study, delaying factors were classified into four groups (design-related, leadership-related, construction-related, and other factors) and respondents showed their level of agreement accordingly. Following this the right of way problem got the highest point while ranking

the factors followed by performance of external stakeholders and lack of high technology machinery.

5.2.2.3. Implement Project Success Factors

The final step before completing urgent projects in a successful manner is implementing project success factors listed after the investigation of decreasing project delaying factors. Respondents were asked about the level of agreement for urgent project success factors gathered from different pieces of literature. In a similar way to that of urgent project characteristics assessment, both the Likert scale system and open-ended questions were used to gather relevant data concerning the urgent project success factor valuation. As per the respondents' reflection high level of team coordination, project team satisfaction through motivations, assignment of a competent team for the project, feasible risk management, and skillful leadership appeared on the top five list of project success factors.

Now any project team can combine the above three sections (Section 5.2.2.1, 5.2.2.2, and 5.2.2.3) of this study and draw the map of the road toward the success of urgently needed projects specifically in road construction.

5.3. Conclusion

The beginning of one project will result in the initiation of another project as the completion of Entoto Park results the initiation and construction of roads and parking projects starting from Shiromeda up to Sululta gate. So projects are now expected to be finished quickly as they affect the performance of other related projects. Based on the literature reviews and the outcomes from data analysis, the following conclusions are drawn

Urgent projects differ from the commons by their characteristics, method of handling, and the value given to stakeholders during all the phases. Among the different characteristics that make urgent projects unlike the others, lack of risk analysis, the absence of project from the annual plan, high attention from the top management, lack of feasibility study, and unclear plans took the five most important places. Following this, the raised amount of high attention from the top management has its own advantage and disadvantage. Immediate responses will be the decent fruit of this phenomenon while unnecessary intervention can be considered as the negative side. Knowing characteristics of urgently needed projects by itself will not bring the required type of success rather exploring and decreasing delaying factors can faster the journey to project objectives.

Previous studies have proved projects in AACRA suffer an elevated amount of delaying and also investigation taken under this study shows the existence of delaying factors that can hinder project status. Right of way problem is found the most critical delaying factor for projects executed under AACRA. External stakeholder performance, lack of high technology machinery, failure to cop up with external pressure, and onsite conflict between stakeholders placed following the critical factor which is the right of way problem. Having the know how about characteristics of urgent projects and the expected delaying factors by itself couldn’t lead to success

Adding the practice of urgent project success factors like high level of team coordination, the satisfaction of project team through motivations, assignment of a competent team, feasible risk management, and skillful leadership which are the top five factors can result the preeminent output for a project work. On the other hand, proper management of stakeholders plays a vital role in the success of urgently needed projects. Generally; knowing the characteristics of urgent projects, decreasing delaying factors, and adding most important project success factors is the map to the success of urgently needed projects.

5.4. Recommendation

Using the findings obtained as a guiding arrow, the following recommendations were given for the concerned body around the construction sector

- Most of the findings are compatible with good project management principles which if applied to normal projects will help immensely
- While having urgent projects on hand, the first step should be the assignment of the most competent and experienced team for immediate actions since this task is the most important first step towards project success
- The project planning and scheduling of such fast paced projects need to be more accurate and therefore it raises the need of more reliable, precise, and technology supported working design
- Great attention must be given to the appropriate handling of a right of way issue since its mentioned several times as the major hinder factor to project execution and completion
- Proper documentation must be prepared after the closing of each project especially for such an urgent one because projects are dynamic and there is no identical nature for this case
- Though there are many extensive case studies work regarding the delay of projects carried out in the context of AACRA, there is a scarcity of published material on the specific topic on regarding how the construction firms deal with urgent situations. Researchers should look into it
- AACRA should review research papers on the road construction industry as important points and gaps were printed in these publications. By looking at these researches, it will be possible to build roads that are convenient to the beautiful and clean Addis Ababa
- The findings are not restricted to urgent projects in AACRA and any one in the construction industry can easily link to other conditions.

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APPENDICES

APPENDIX A

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

COLLEGE OF BUSINESS AND ECONOMICS

MASTER OF ARTS IN PROJECT MANAGEMENT

Dear Respondent:

My name is Dawit Aklilu, I am MA student in Project Management at Addis Ababa University School of Commerce. As part of my MA project work, Currently, I am conducting a research as partial fulfillment of the requirements for the Master's Degree in Project Management. The title of the research that I am conducting is " Factors Affecting the Success of Urgently Needed Projects in Addis Ababa City Roads Authority: The Case of Shiromeda – Kuskuam – Entoto Mariam Road Project".

I believe that your experience and knowledge related to the mentioned road construction projects will help me acquire valuable information on the subject matter. I kindly invite you to help me in completing the attached questionnaire as honestly as possible. In order to ensure that all information will remain confidential please do not include your name. I guarantee that your personal information will be kept confidential and the other information will only be used for academic purposes. Your kind assistance in this aspect is highly appreciated. Thank you for sharing your precious time!

Yours Sincerely

Dawit Aklilu
Mobile Phone: +251-913-794-852
Email: deav83@gmail.com

Section A: General Information of the Respondent

1) Sex

Male ☐ Female ☐

2) Age

18-30 Years ☐ 51-60 Years ☐
31-40 Years ☐ Over 60 Years ☐
41-50 Years ☐

3) Educational Level

Diploma ☐ Postgraduate ☐
Degree ☐ PhD ☐
Other ☐ Please Specify _____

4) Work Experience in AACRA

Below 2 Years ☐ 8-10 Years ☐
2-4 Years ☐ 10-12 Years ☐
4-6 Years ☐ 12-14 Years ☐
6-8 Years ☐ Above 14 Years ☐

5) Responsibility in AACRA

Project Manager ☐ Site Engineer ☐
Team Leader ☐ Foreman ☐
Material Engineer ☐ Material Inspector ☐
Office Engineer ☐ Operator ☐
Other ☐ Please Specify _____ Clerk ☐

6) In which project was your involvement based

Road Project ☐ Parking Project ☐ In both Project Types ☐

Section B: Project Characterizations

In this section of the questionnaire, you are kindly requested to provide the necessary information according to the nature of the question.

7) Please state characteristics of **urgent projects** based on your perception during the project time

I. _____
II. _____
III. _____
IV. _____
V. _____

8) Mention major **Internal Stakeholders** that facilitate the activities of the project work in the mentioned Road/Parking projects

I. _____
II. _____
III. _____
IV. _____
V. _____

9) Mention major **External Stakeholders** that facilitate the activities of the project work in the mentioned Road/Parking projects

I. _____
II. _____
III. _____
IV. _____
V. _____

10) Do you believe that the road from Shiromeda to Kuskuam to Entoto/ Entoto Park Parking constructed successfully?

I. Yes ☐ II. No ☐

11) If your answer for the previous question (Question number 10) is **NO**, then please state your reasons

_____
_____
_____
_____

12) From the project management point of view, the road from Shiromeda to Kuskuam to Entoto keeps its plan with respect to

	Yes	No
I. Time	☐	☐
II. Budget	☐	☐
III. Quality	☐	☐
IV. Scope	☐	☐

13) Your assignment at the projects is during

The Initiation phase ☐ After the Initiation phase ☐

Section C: Urgent Project Characteristics

Here under the table, some characteristics of typical urgent project were listed. Please put (√) in the box accordingly with your level of agreement based on your observation during project time.

Note: Check box scaling system for Section C up to Section E

1	Strongly Disagree		**4**	Agree	
		3	Neutral		
2	Disagree		**5**	Strongly Agree	

Urgent Project Characteristics					
Observed Project Characteristics	**Level of Agreement**				
	1	**2**	**3**	**4**	**5**
Lack of Feasibility Study					
Project not included in the annual plan					
Unavailability of project scope					
Lack of Budget Analysis					
Lack of risk analysis					
Unclear Plan					
Unclear goal					
Difficulty in Resource Assignment					
Improper project team composition					
High attention from the top management					

Section D: Causes of Delay

The following table consists some factors which cause delay to a project. Based on your previous experience in AACRA, please disclose your level of agreement according to their influence.

Cause of Delay - Design Related					
Phenomenon	**Level of Agreement**				
	1	**2**	**3**	**4**	**5**
Imperfect and Improper Initial Design					
Repeated design change during execution					
Incorrect timing for design revision					
Unclear (Vague) design parameters					
Variation between design and real work on the ground					

Cause of Delay - Leadership Related					
Phenomenon	**Level of Agreement**				
	1	**2**	**3**	**4**	**5**
Unclear leadership role					
Being reluctant to perform accordingly by leaders					
Unnecessary intervention by top management					
Conflict between leaders					
Failure to cop up with external pressure					

Cause of Delay - Construction Related					
Phenomenon	**Level of Agreement**				
	1	**2**	**3**	**4**	**5**
Following incorrect construction method					
Ineffective resource management					
Inadequate experience of professionals					
Reworks due to internal reasons					
Reworks due to external reasons					
Onsite Conflicts between stakeholders					

Cause of Delay - Other Factors					
Phenomenon	**Level of Agreement**				
	1	**2**	**3**	**4**	**5**
Inadequate number of Machinery					
Lack of high technology machinery					
Unforeseen site condition					
Low quality construction materials					
Low productivity of Laborers					
Right-of-way Problem					
External stakeholders performance					

Section E: Project Success Factors

In this table you are kindly requested to reflect your level of agreement for the listed success factors. Availability of these factors contributes to the success of typical project. Your ranking will depicts the contribution of factors in the mentioned projects.

Project Success Factors					
Observed Factors	**Level of Availability**				
	1	2	3	4	5
Good planning management					
Satisfactory communication					
Realistic goal of project					
Feasible risk management					
Skillful leadership					
High level team coordination					
Assignment of competent team for the project					
Good Conflict management					
Trust based relationship between stakeholders					
Project team satisfaction through motivations					

Section F: Summary

The final section will seek additional information that helps to summarize your overall thought in the subject matter.

If you have any related information regarding the successful completion of urgently needed projects, please write in the space provided here under

_____

_____

_____

Please mention critical trends that speed-up project successes for future endeavor

I. _____
II. _____
III. _____
IV. _____
V. _____

Thank you for participation in the study!

APPENDIX B

Interview Questions

1. What is your work experience in AACRA? In which type of project you have participated?
2. What was your role in those projects?
3. How can you express project work execution in AACRA
4. What is your overall experience at Shiromeda-Kuskuam-Entoto road projects/parking projects?
5. What are the major strength and weakness of the project work? Any special characteristics of the project team and its member?
6. What do you think about delivering project outputs within specified quality and cost by having a crushed schedule?
7. How do you relate stakeholder management with delivering project outputs? How do you express stakeholders' contribution?
8. What is the effect of top management intervention during project work?
9. What is the trend (strength and weakness) of AACRA concerning Right of way (ROW) issues?