



***ADDIS ABABA UNIVERSITY SCHOOL OF  
COMMERCE***

***ASSESSMENT OF PROJECT MANAGEMENT PRACTICES  
AND CHALLENGES IN AGRICULTURAL  
TRANSFORMATION AGENCY: IN THE CASE OF  
AGRICULTURAL COMMERCIALIZATION CLUSTERS  
PROJECT***

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*June 2020*

***ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE  
GRADUATE STUDIES***

***Department of Project Management***

***Assessment of Project Management Practices and Challenges  
in Agricultural Transformation Agency: In the Case of  
Agricultural Commercialization Clusters Project***

**By:**

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***PROJECT WORK SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF  
COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
AWARD OF MASTER OF ARTS DEGREE IN PROJECT MANAGEMENT***

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June 2020

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DEPARTMENT OF PROJECT MANAGEMENT**

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## Statement of Declaration

I Rediet Lemma Gebreyes declare that this research project entitled “Assessment of project management practices and challenges in Agricultural Transformation Agency: In the case of Agricultural Commercialization Clusters project” is my own work and it has not been submitted for any degree or examination in any other University. I further disclose that all the sources of materials used for this thesis are dully acknowledged.

By: Rediet Lemma Gebreyes

Signature: \_\_\_\_\_

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## Statement of Certification

This is to certify that Rediet Lemma Gebreyes has carried out this project work entitled “Assessment of project management practices and challenges in Agricultural Transformation Agency: In the case of Agricultural Commercialization Clusters project”. This work is original in nature and it is sufficient for submission as the partial fulfillment for the award degree in Master of art in project management.

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Date: \_\_\_\_\_

## Abstract

Project management practice is a vital concept to be adopted by organizations engaged in undertaking projects. Various project management institutions have developed international standards that can be applied to projects. Project Management Institute has developed project management knowledge areas for the project management profession. Therefore, this study aimed to assess the project management practices and challenges of Agricultural Commercialization Clusters project using the ten project management knowledge areas. The research used a descriptive research design and a mixed research approach. Through a sampling survey technique, 41 respondents were selected from the total population of 80 project staffs using purposive or judgement sampling technique. Data was gathered from the selected respondents through a semi-structured questionnaire and interview while for secondary data it was collected from project documents and other books and journals. Out of the distributed questionnaires for 41 project staffs, only 34 questionnaires were returned with full information. And interview was conducted with 5 project managers. The collected data was analyzed using the SPSS version 20 to generate the mean and standard deviation. Depending on this result, the major findings indicate that project cost management, project schedule management, project scope management and project integration management were the slightly least practiced areas compared to the other knowledge areas. And it was concluded that, a good level of practice exists while undertaking the ACC project. Thus, this study has suggested techniques that can be practically applied to attain a continuous improvement in project management.

Keywords: Agricultural Commercialization, Project management, Knowledge areas

## Acknowledgement

First and foremost, praises and thanks to God, for his blessing and guidance in every aspect of my life and throughout my research work to complete this research successfully. Secondly, I would like to express my sincere gratitude to my advisor Dr.Wubshet Bekalu for providing invaluable guidance throughout this research. Thirdly, I would like to thank Agricultural Transformation Agency head office and regional office staffs for their willingness to help and for provide me with the basic tools in completion of this research paper, Last but not the least, I would like to thank my family and friends: my parents for their love, prayers and support throughout my life and every aspect of this research paper.

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## List of Acronyms

ACC	Agricultural Commercialization Clusters
AGP	Agricultural Growth Project
AIPM	Australian Institute for Project Management
ANCSPM	Australian National Competency Standards for Project Management
APMBOK	Agricultural of Project Management Body of Knowledge
ATA	Agricultural Transformation Agency
IPMA	International Project Management Association
PMBOK	A Guide to the Project Management Body of Knowledge
PMI	Project Management Institute
PMIS	Project Management Information System
PMLC	Project Management Life Cycle
P2M	A Guidebook of Project and Program Management for Enterprise
SPSS	Statistical Package for Social Science
WBS	Work break-down Structure

# Chapter one

## Introduction

### 1.1 Background of the Study

Developing countries require a sustainable growth and transition to develop their economy in all sectors. As Ethiopia being one of the developing countries, a goal has been set to reach a middle-income status by 2025. To this end, key sectors of the economy are required to contribute for country's sustainable growth and transformation. Based on this, one of the key sectors that bring about major change and that attributes to a sustainable growth is the agricultural sector (Agricultural Transformation Agency, 2015).

According to the Ministry of Agriculture and Rural Development (2010) project information document for AGP, stated that in Ethiopia the highest attributer for poverty reduction and economic growth is the agricultural sector by which about 47 percent of national GDP, 90 percent of the foreign exchange earnings, and 85 percent of employment is accounted by this sector. Majority of the population are dependent on it and it is mostly dominated by small holder farmers. In Ethiopia, there are about 13 million small holder household by which they attribute of about 98 % of agricultural products and outputs.

Project was defined as a unique process to change the means of production in the context of agricultural sector. Unique in this definition, signifies that there is no regular practice to refer to or there is no identical way of doing it rather it separated off a class of undertakings which are essentially one-off jobs (Smith, 1984, pp.1–3). According to Kerzner, the definition of a project should first be clearly understood before proceeding to the description of project management. A project involves a series of activities which has a specific objective that needs to be accomplished in accordance with certain specification and limited funds including a stated beginning and ending dates. It also requires a consumption of human and non-human resources and multifunctional activities exist. Based on this definition, if projects objectives are attained within the specified time, cost, performance level and if it is accepted by the client then it is considered as a successful project management (2009).

The application of knowledge, skills, tools, and techniques to project activities in order to meet project requirements is what is known as project management. The appropriate application and

integration of project management process identified for the project can be the accomplishment of project management (Project Management Institute, 2017). “PMBOK guide is gold standard resource for project managers” (Lister, 2015).

Camilleri (2011) has stated the definition of project management in a similar manner as the application of knowledge and competencies, to accomplish the well-defined project activities in order to satisfy the requirements and expectations of stakeholders. When managing projects, the ten Knowledge Areas act as fields or areas of specialization that are commonly employed by which they associated with a particular topic in project management (Project Management Institute, 2017).

Projects as they have unique characteristics, the tools and techniques required to manage them should be selected and tailored to that specific type of project. This tailoring activity is named as tailoring project management to the project. And the Standard for Project Management are recommended references for tailoring, because it identifies the subset of the project management body of knowledge that is generally recognized as good practice (Ibid).

## 1.2 Background of the Project

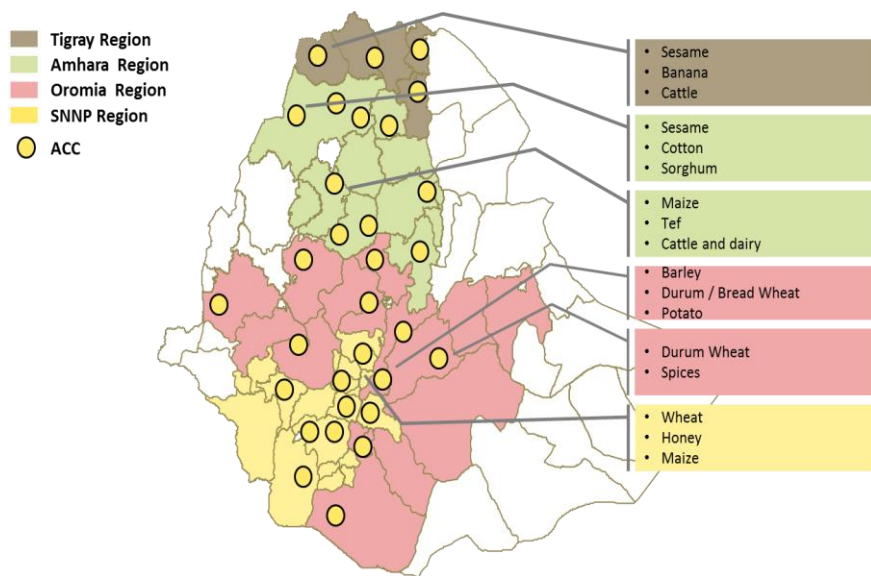
According to Agricultural Transformation Agency framework for Agricultural Commercialization Clusters project (2015), agriculture is the backbone of Ethiopia’s development. Improvement in raising productivity, income and value addition through a setting up of a functional and efficient value chain system, sustainable on-farm practices, increasing aggregation and storage capacity and working towards well-functioning market linkages will have immense return to the small farm holders, the private sector and the economy at large. Historically, much of the focus in Ethiopia has been on increasing on-farm production, while limited attention has been placed on markets as the engines that drive commercialization, innovation, and sustainable growth.

According to ATA’s framework (2015), Agricultural Commercialization Cluster is a participatory approach involving all stakeholders in agriculture with a common objective and assisting them work collectively. It is considered as reasonable approach in accelerating agricultural development. Cluster initiative in agriculture is aiming at enhancing collaboration among farmers, input suppliers, output marketers, service providers, government offices and non-governmental actors to ensure agricultural commercialization. ACCs are a geographically based, value-chain approach that focuses on market needs and clear linkages between inputs,

production, processing and value addition, and consumption. A value chain approach recognizes that specific value-adding activities and linkages between chain actors and supporting service providers are crucial for functional and commercially sustainable production and marketing.

Agricultural Commercialization Cluster project is held under Agricultural Transformation Agency. The budget would be financed by the government, development partners, and private sector investments with majority of the cost for basic infrastructure and agro-processing and value addition infrastructure (Agricultural Transformation Agency, 2015).

Figure 1.1 – Overview of identified clusters



Source: Adopted from Agricultural Transformation Agency (2015)

### 1.3 Statement of the Problem

Many organizations focus on the improvement of their project management skills only when the need for project management occurs or becomes critical. To this end the lack of attention given to project management practices creates an environment in which the project management systems and infrastructure are not in place to support the needs of the practicing project management community (Crawford, 2015). However, execution of projects can be effectively and efficiently done by applying proper project management in organizations (Project Management Institute, 2017).

Based on the initial analysis, the Agricultural Commercializing Clusters project in Agricultural Transformation Agency (ATA) has faced some difficulties in finalizing interventions on time which is believed that it will have a significant impact on achieving the overall objective of the project. As a result, the researcher will assess the internal practices of the project management in relation to the ten knowledge areas.

According to the literature review, researches have been done on Agricultural Commercialization Clusters project. For instance, a research entitled “Impact Assessment of Interventions on Agriculture Commercialization Cluster Program: A Case Study of Malt Barley Cluster in Oromia Region” was done by Emenet Ephrem in 2019. The main objective of the study was to analyze the impact of ACC project interventions. As a result, this research’s finding indicates that the ACC project had an impact on the direct beneficiaries which are the smallholder farmers (Ephrem, 2019).

According to a research entitled” Upscaling the Productivity Performance of the Agricultural Commercialization Cluster Initiative in Ethiopia” which was done by Kamel Louhichi, Umed Temursho, Liesbeth Colen and Sergio Gomez y Paloma in 2019 having an objective to analyze the ACC’s impact on the performance and livelihood of Ethiopian smallholder farmers. As a result, the conclusion shows that upscaling the ACC productivity performance to other regions would lead to an increase in production of the main agricultural products (Louhichi et al., 2019).

However, there is no research done about the practice of project management on ACC project particularly in relation to the ten project management knowledge areas. After examining various research papers, the researcher has found out that there is an existing research gap on assessing project management practices with Agricultural Commercialization Clusters project by using project management knowledge areas as a benchmark. Therefore, this research will fill the research gap by attempting to investigate the practice of project management on ACC project according to the project management knowledge areas undertaken by Agricultural Transformation Agency.

## Research questions

**This research sets out to answer the following research questions**

1. How well the project management knowledge areas are practiced on Agricultural Commercialization Clusters project?
2. Which knowledge areas are the highest and least practiced on Agricultural Commercialization Clusters project?
3. What are the causes for the least practiced project management knowledge areas?

## 1.4 Objective of the Study

### General Objective

The general objective of this research is to assess the practices and challenges of project management in Agricultural Transformation Agency particularly on Agricultural Commercialization Cluster project.

### Specific Objectives

- To assess how well the project management knowledge areas are being practiced on ACC project.
- To assess the highest and least practiced project management knowledge areas on the ACC project.
- To identify the causes for the least practiced project management knowledge areas on ACC project.

## 1.5 Significance of the study

This research paper will be valuable for Agricultural Transformation Agency to understand and identify the gaps in the practices of project management; to make important decision for the least practiced project management knowledge areas and to develop the practices for a continuous improvement. It will also be helpful for the stakeholders which are Federal Government and Public Sector, Regional and local Government, Private Sector, Development Partners and other stakeholders to give more attentions on project management practices. In addition, it will be valuable for project teams working on ACC project as well as other projects initiated by the organization.

It also will serve as an input and basis for other researchers who want to conduct further study in the area of project management practice as well as in the subject area of Agricultural Commercialization Clusters project.

## 1.6 Scope of the Study

The scope of the study will be limited only to Agricultural Transformation Agency's project named Agricultural Commercialization Cluster. Particularly, this study focuses on the implementation of Agricultural Commercializing Cluster project excluding other projects implemented by Agricultural Transformation Agency. The study will also specifically address the issue of project management practice in relation to the project management knowledge areas as defined in the guide to the project management body of knowledge.

## 1.7 Limitation of the Study

The major limitation of the study was the outbreak of the COVID-19 pandemic, that made it a bit difficult to undertake an observation as well as a face to face interview. However, this was solved by using other mechanisms such as phone interview and electronic mail to gather the primary data.

## 1.8 Organization of the Study

This study is organized into five chapters. Chapter one includes an introduction, statement of problem, objective of the study, significance of the study, scope of the study, limitations and organization of the study. Chapter two involves extensive theoretical and empirical literature review and conceptual framework with diagrammatic representation of the study. Chapter three presents research methodology of the study in which research design, target population, sampling procedures, sample size and data collection methods were included. Chapter four includes the data analysis and results and discussion of the findings. Finally, Chapter five presents summary, conclusions and recommendations.

## Chapter Two - Literature Review

### 2.1 Theoretical Review

#### 2.1.1 Project

In our daily lives, we are all surrounded by projects as matter of fact we also work on them daily. However, there is a lack of focus to get a grip on them and manage them. The assumption of project management as a unique management form is developed recently even though peoples have been carrying out projects long before (Frame, 2003).

Project has been defined in various ways by different authors. However, there are common elements and similarities to it. Some of the definitions has been described in detail. Project Management Institute has defined project as a “temporary endeavor undertaken to create a unique product, service, or result” (2017). A unique endeavor that has a definite beginning and a definite ending is referred to as a project (B. Badiru, 2008).

Projects are not like repeated activities to draw an experience from and cannot be managed effectively in an offhand or ad hoc fashion because they are unique, goal-oriented systems and complex. Therefore, any type of projects must be carefully selected and planned. Much of attention and focus must be directed towards determining how they should be structured (Frame, 2003). If a temporary management environment is created to deliver a specified deliverable and when that deliverable is used and practically applied, it will be advantageous by outweighing the initial investment made on producing and developing the deliverable as a result this process can be attributed as a successful project (Roberts, 2011).

Organizations need a vehicle, that transports them to an improved and a better environment which helps them to learn, change, adapt and adopt new processes, products or technology in the form of a project (Lister, 2015). All projects have a goal of creating new deliverable or a new way or approach of doing things that has not existed before as a result, it signifies that projects are goal-oriented and unique with a clear project life cycle having a defined beginning and finish date. Large number of separate but independent tasks make up projects these tasks make demands on a range of resource, usually on varying basis (Woodward, 1997).

In order to deliver projects within the constraints and attain its goal, projects need to be managed effectively. It is nearly impossible to manage in an informal and offhand manner, even it is hard to manage projects when what needs to be done is known. Likely, Projects are undertakings that are goal oriented, complex, finite, and unique having a life cycle that begins and ends, with project selection and project termination respectively (Frame, 2003).

Accordingly, the definition of project shares some communalities such as an endeavor activity, temporary or time bound, goal-oriented and that has unique deliverables. Therefore, depending on these definitions, it is clear that projects will support an organization to be in a path for continuous improvement and development.

## 2.1.2 Project Management

Like project's definition, project management has also been defined in several ways. The following are some of the definitions in respective to many authors.

The process of planning, organizing, directing, and controlling of company resources for a relatively short-term objective that has been established to achieve specific goals and objectives is called project management (Kerzner, 2009). According to B. Badiru, it is the process by which a given goal can be achieved or accomplished in an efficient and expeditious manner through proper management, allocation and timing of resources (2008). However, from a different point of view it can be seen as the shared set of values, principles, processes and techniques as well as the governance which are used by the project management team (not just the project manager) to deliver a successful project (Roberts, 2011)

Organizations be it small, be it large or other, they take on the implementation variety of new deliverables such as initiatives related to new products or services or new way of doing it. For example, establishment of a new product line in a manufacturing enterprise or the construction of a major building programs. As a result, organizations need to adopt project management with the appropriate techniques in place since it is an important subject area (Camilleri, 2011).

Project management is directly linked to the application of scientific and modern approaches to the processes of planning, financing, implementing, monitoring, controlling and coordinating the unique activities to attain its objective and deliver within the predetermined time and cost in an organized venture for effective management of projects (K. Nagarajan, 2004). However, from another angle project management can be seen as a profession, job, or a

task that can be a full time or a part time endeavor which can be done in a very formal and well-organized way, or in an informal and off-the-cuff manner (Lister, 2015)

Mostly, organizations need the practice of project management to attain an aggressive competitive and turbulent business environment; an increased demand for organizational accountability and an insistent requirement for a greater focus on operational effectiveness. Irrespective of their size and industry, companies are engaged in a new way of doing things or new activities or new products in order to attain a competitive advantage of being ahead by reducing time to market new products and services through effectively managing tasks, defining plans and schedules, and allocating resources. As a result, a project management is an important issue that needs to be implemented within the organization to achieve a specified goal (Camilleri, 2011).

### 2.1.3 Project Success

Project success definition is critical. Unfortunately, as there are many project management professionals, accordingly there are almost as many definitions of project success (Heerkens, 2002). The procedures and processes employed in one company affects the end result of a project. Not only that, the experience and leadership qualities of the managers, the skills of team members and the time availability of necessary resources highly affects the project's success (Lester, 2017)

For the past twenty years or so, project success has been defined as the completion of an activity within the specified constraints which are of time, cost, and performance. But today, the definition of project success has been modified by including criteria's such as acceptance of customers, minimum scope changes of agreed range, by not disturbing the main work flow and without changing the organizations culture. These criteria are the additional ones to the previously used definition's meaning the criteria of completing within the constraints of time cost, and performance still applies for the recent definition (Kerzner, 2001)

According to Lester, for a project to be termed as successful, initially there must be a clearly predetermined project-success criteria. These criteria are the most important targets and attributes that needs to be met to officially signify the projects successfulness. Some of the common success criteria are on time completion, keeping project costs within the defined budget and deliver according to the predetermined specifications. However, some

organizations include additional criteria like safety, sustainability, reliability, legacy and meeting the desired business benefit (2017).

Taking into consideration the various ways that projects could be considered successful, there exists project success on four levels having unique characteristics and set of metrics. Level one is about meeting the project target that are the constraints of cost, schedule and quality predetermined at the initial stage of the project. Level two describes about the project efficiency implying how well the project has been managed. It is viewed from the customers and project teams side meaning if they were adversely affected by an experience from a particular project then that project might not be considered as successful. Then level three considers the customer or user utility implying to what extent has the project solved the indicated problem or has satisfied the needs of stakeholders. Finally, level four describes about the organizational improvement signifying whether the organization has learned or gained knowledge from the experience and will they apply it for upcoming or future projects (Heerkens, 2002)

Companies might undertake several types of projects. However, being successful in only one or few projects does not mean that the company is successful in its project management endeavors. To this end, companies need to have a continuous stream of effectively and successfully managed projects. But to establish a continuous stream of projects, companies need a strong and visible commitment to project management only then, they will be able to attain successful and excellent project management endeavors (Kerzner, 2001)

Generally, it can be concluded that, project management will achieve its success level when the projects are completed within time, cost and desired performance level. Also, internally companies must utilize the available resources efficiently and effectively with the target of satisfying the customer and accomplish the main objective of the project (Camilleri, 2011)

#### 2.1.4 Project Management Knowledge Areas

“A Knowledge Area is a set of processes associated with a particular topic in project management. These 10 Knowledge Areas are used on most projects most of the time. The needs of a specific project may require additional Knowledge Areas” (Project Management Institute, 2017). The Project Management institute has identified process groups that incorporate and defines the processes meaning knowledge areas within each of them and mostly they are often part of more than one process group (Wysocki, 2014).

According to Project Management Institute (2017), the project management knowledge areas are:

#### 2.1.4.1 Project Integration Management

There are various processes and project management activities within each process's groups. As a result, project integration management incorporates the processes to identify, define, combine, unify and coordinate those project management activities (Project Management Institute, 2017). According to Lester, there should be a trend to adopt and operate an integrated project management system. Project manager as well as interested stakeholders require an updated information on a regular basis. To have an up-to-date information, progress and status report about the project from all dimensions particularly in terms of time, cost and resource, companies need to collect various regular inputs obtained from different departments and process them in an integrated system (2017).

Project management process groups incorporate various processes within them. This is where integration management is needed, meaning to effectively integrate the processes that are required to achieve project objectives in accordance to organizational procedure. Depending on the project management context, integration has some characteristics such as unification, consolidation, articulation and integrative actions that are essential for the accomplishment of the project objective and meet the specifications of customers and other stakeholders to signify its successful completion (Barkley, 2006)

This knowledge area, Integration management is addressed as a glue that links or relates all the deliverables from the process groups into a unified whole. This linkage starts with the project description document and extends to the project plan and its execution, including monitoring progress against the project plan and the integration of changes, and finally through to project closure (Wysocki, 2014)

#### 2.1.4.2 Project Scope Management

By definition scope management is inseparable from project management (Moustafaev, 2015). Kerzner defines project scope as the work that must be accomplished to produce a deliverable which can be a product, service, or other result with specified features or functions (2017).

Project scope management is the processes required and conducted to ensure that the project contains all the work, and only the work required, to complete the project successfully. Managing the scope signifies about defining and controlling what is included and what is not included in the project in other words it defines the boundaries of the project (Project Management Institute, 2017).

When conducting a project, scope management plan is an essential part to clearly define the boundaries of the project. It mainly supports the project manager, project team and other stakeholders to capture a clear and agreed upon scope definition and statement. Scope management plan is prepared by depending on the scope baseline. The scope baseline includes the status of the scope statement and the WBS as accepted and approved by all stakeholders. It will also serve as a base for the development of project schedule and to manage and prohibit scope creep. In this case, scope changes can only be incorporated through formal change procedure that is established for the project (Sokowski, 2015).

Scope management knowledge area mainly focuses on the identification and documentation of client requirements and specifications. Based on the gathered and documented data, one can choose the best-fit project management life cycle and develop the Work Breakdown Structure (WBS) that defines the work to be done to the smallest extent named work package. This process is carried out to meet the identified requirements (Wysocki, 2014). Description of how the scope will be defined and developed, how the defined scope will be monitored and controlled, and how the adherence of deliverables to the scope will be verified are all documented in scope management plan (Sokowski, 2015)

#### 2.1.4.3 Project Schedule Management

Project schedule management must incorporate all the required documents of which schedule baseline and schedule management plan are the major ones. A completed schedule that has been approved by all stakeholders can be referred to as a schedule baseline. Though, for a project schedule to be finalized, it needs to have a start date, intermediate milestones and end date. The Scope baseline serves as a benchmark for a comparison purpose against actual project schedule to determine if there are any deviations on ground from the baseline. And if changes occur, they can only be incorporated through the official project change process. The scope baseline can be helpful to track the project progress and signal an early warning if a delay has occurred against the planned completion date of the project (Sokowski, 2015). According to

the project management institute guideline, project schedule management is the processes required to manage and achieve the timely completion of the project (2017).

Project schedule management has mainly two components named planning component and control component. The planning component deals with the initial time estimation for respective durations required to complete project activities as well as the estimation for the actual efforts that attributes to completion of the overall project. While the control component deals with assuring whether the project activities are completed on time by comparing estimated times to actual times. The second component of schedule management is part of the monitoring and controlling process group which helps to managing the schedule and also the cost variances (Wysocki, 2014)

Schedule management plan is the document where the steps and criteria for the management of the project schedule are described and defined. It is required to ensure whether the project schedule is well developed. Also, it must be ensured that the developed project schedule is manageable, executable and consistent, with the scheduling from past projects because it can be used for comparison of projects in general and to check its project management efficiency (Sokowski, 2015)

#### 2.1.4.4 Project Cost Management

For the project to be completed within the approved budget, it requires a process that is involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs. This process is called project cost management (Project Management Institute, 2017).

Effective management of cost needs to have a cost baseline to ensure that the project is getting done within the approved budget. Cost baseline are essential to monitor and control the actual costs of the project and to take an early corrective action if any threatening deviations occur from the baseline. It will also help to make reasonable prediction of expected costs for the next period. All in all, having the cost baseline will serve as a benchmark for any required changes and issues related to project budget (Sokowski, 2015).

According to Rad, cost management is the process that is used to minimize the cost of the project at the same time by maintaining the scope of deliverables in accordance with the duration of the project and keeping the acceptable levels of quality for the deliverables. This definition implies that the process of managing costs should not be treated separately from the

estimating and budgeting processes rather they should be treated as an integrated principal component of a process composed of the following revolving phases: developing the estimate, establishing the budget, managing the inevitable changes to the project, and making modifications to the estimate (2020).

Two main components are building blocks of project cost management. This are the planning and control component. Planning component is about developing and building the project budget as well as mapping the identified costs into project schedule. Whereas control component will ensure whether the costs of the project activities are within the stated budget. It depends on the planning component which provides a means of controlling the consumption of budget dollars across time (Wysocki, 2014). Cost estimate is derived by summing the resource expenditures and, consequently, the cost of the project's individual component parts of the WBS (Rad, 2002). At the beginning of the project, cost management plan is required to grasp the description of the processes and steps on how to plan, manage, measure, report, and control project costs. This document will help the project manager to establish a budget and to stay within the budget (Sokowski, 2015).

Some of the key documents needed to gather project information's to attain an effective progress monitoring and cost management system are detailed description of client specifications, resource constraints, funding structure, acceptance test details, administrative milestones, and the anticipated completion date. The main objective of cost management process is to track progress and compare the actual values to the planned ones. It will also help to analyze the impact of variances or deviations and make the needed adjustments in light of these variances (Rad, 2002).

#### 2.1.4.5 Project Quality Management

“Quality is a continuously improving process where lessons learned are used to enhance future products and services” (Kerzner, 2017)

Projects can be termed as successful, if they are completed within the stated budget and within the set time limit and according to the performance criteria. And in any case, if a project does not meet the specified quality, then there will be a lot of criticisms which leads to project failure even if it had been completed within time and budget. Therefore, quality management is an important part of project management that can only be effective with a systematic approach. It has many functions but mainly it involves, two main areas named quality assurance (QA) and

quality control (QC). For quality management to be effectively done it requires all the necessary documentation and its distribution along with the implementation of the procedures. (Lester, 2017). Three main process of quality planning, assurance and control make up a good quality management system (Wysocki, 2014).

Each organization have their own quality policy. And the process of integrating this policy in relation to planning, managing, and controlling project and product quality requirements, in order to meet stakeholders' expectations is what is known as project quality management (Project Management Institute, 2017). As a result, a quality management plan is required to ensure strict adherence to quality requirements from the very start of the project (Sokowski, 2015).

In order to ensure a quality deliverable, it has to be defined, planned, designed, specified and commissioned to an agreed set of standards (Lester, 2017). There are three aspects of quality that needs to be specified and documented. The first one deals with to the way of adhering to (all) quality requirements will be managed with respect to all deliverables and to the management of the project itself. Second one signifies about what are the organization's quality policies, procedures, and standards that must be adhered to in the project and finally what the legal, regulatory, and industry quality standards are applicable to the project (Sokowski, 2015)

#### 2.1.4.6 Project Resource Management

All projects are effectively executed through a well-developed team. In the context of human resource, much attention of the project manager and the organization itself is drawn to creating and establishing a motivated project team member. In order to capture that, organizations must align people's interests and professional development needs to their project assignments, then organization can generate a stronger commitment from the team members. However, the first task falls on the line manager and the project manager to share the responsibility for making this happen (Wysocki, 2014). Project resource management refers to the processes to identifying, acquiring, and managing the resources needed for the successful completion of the project (Project Management Institute, 2017).

Human resource management plan is a document that states the guidance on how to specify, select, manage, lead, and at completion release human resources for a project. This plan is required to acquire the right personnel with the right skill for the project. Because not having a plan of the available right number of skilled persons to be assigned for any project activity

ahead of time, it will be very difficult to acquire the right skilled personnel at the time of project execution. It will also affect the implementation phase by being an obstacle not to proceed with project work (Sokowski, 2015)

Regardless of the organizational structure, successful project management, highly depends on the extent to which the project team members are good enough, since project management is not a one-person job rather it is the effort of team members that strive to accomplish the objective of a project (Kerzner, 2017).

#### 2.1.4.7 Project Communications Management

According to Project Management Institute, communications management is defined as the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and ultimate disposition of project information (2017). Under most organizations, communication aspects are carried out on an ad hoc basis depending on individuals' personalities and preferences. And this way of communicating is on a completely different direction in relation to project management aspects. To attain an effective project management, communication management should be done depending on the protocols, processes and procedures. One of the key reasons that projects fail, is cited due to communication breakdowns which is why it needs to be addressed as a critical activity (Pritchard, 2014)

There are formal and informal communications. The formal routine should always be followed for contractual, organizational and technical information's while informal communication is most effective when held between team members. Among others, project manager has the opportunity to communicate with almost all stakeholders about various issues depending on the respective individuals. As a result, he/she will obtain information, elicit opinions and build up trusting relationships which are essential for good project management (Lester, 2017)

According to Sokowski, communications management plan should be focused on the way communication is handled in the project. It must identify the communication needs and responsibilities and based on that, way and means of communication or communication technology should be described as well as resources needed (financial, human, technical) will be incorporated for the project. This will be beneficial to effectively manage and control communication. The communication management plan is essential to focus on how communication by itself is organized, managed, and controlled. This document must have a

detail description of the creation, management and distribution of project information to ensure that it is done on a timely and accurate basis (2015).

Effective communication management process will have provisions in the process that involves who the project stakeholders are, the information they need to know and the way their needs is going to be met. To this end, developing a well-structured communication plan is not a difficult activity to undertake. However, executing communication in accordance to the plan is the major problem area and one of the top reasons for most project failures (Wysocki, 2014).

Good communications change the entire project experience for the better. However, this can only be attained if done properly and according to communication management plan. To ensure whether the responsible parties are aware of what they need to be aware of when they need to be aware of it and in turn to control a project and build more lasting customer relationships, organizations need to have an effective communication system (Pritchard, 2014)

Effective project communications ensure that individuals get the right information to the right person at the right time and in a cost-effective, accurate and timely manner. Proper communication to be held in an organization is vital subject area and major contributor to the success of a project (Kerzner, 2017)

#### 2.1.4.8 Project Risk Management

In the traditional sense, risk is associated with losses. However, a risk is some future event that happens with some probability and results in a change, either positive or negative, to the project (Wysocki, 2014). The process of effectively managing potential opportunities and adverse effects that can impact the projects objective can be defined as risk management. This process is mainly engaged in systematic application of management policies, processes and procedures in to the identification, analysis, assessment, management, monitoring, controlling and communicating the risks that probably affect the project's success (Cooper et al., 2005).

Risk management processes were developed and implemented where risk information was made available to key decision makers. However, risk management process should include a formal planning activity, analysis to estimate the probability and predict the impact on the project of identified risks, a risk response strategy is needed for selected risks, and monitor and

control the progress in reducing these selected risks to the desired level rather than only focusing on identifying potential risks (Kerzner, 2017)

Project risk management is mainly focused on conducting the risk management plan, risk identification, and risk analysis with their respective probability and impact as well as the mitigation or response plan, its implementation and monitoring the project risks (Project Management Institute, 2017).

Risks can occur at various stages of project phases such as the steps taken during the execution phase or other issues that are created by external forces of the project. To this end, risk management plan is a vital document for any type of projects to direct on how the tasks of the project risk management activity are planned, structured, scheduled, executed, measured, documented, and managed. It will also help the project teams to control and manage even the smallest issues not to turn into major emergencies or even into complete disasters (Sokowski, 2015)

At the earliest stages of project planning, risk should be considered, and risk management plan should be integrated to the project management plan. In addition, the risk management activities are not a one-time job rather it should be continued throughout the project. It should be signified that organizations must integrate the risks management plan and activities of a project into their existing management processes (Cooper et al., 2005)

#### 2.1.4.9 Project Procurement Management

The process of exchanging goods or services with valuable items between individuals, organizations, countries or other bodies occurs on a regular basis. This leads to the concept of procurement or contracting. Procurement is the process that signifies the interaction of two parties on a market segment having different objectives. It is mostly concerned with the acquisition of goods and services. The initial step involved in this process is to plan for purchases and acquisitions. When developing a procurement plan, it should incorporate the basic issues of what to procure, when to procure it, and how to procure the particular items (Kerzner, 2017).

Procurement management plan is a document that explains each step as well as procedures to purchase or rent the required goods and services by the project. The specific procurement activity, the required tasks to be performed and the way procurement activity will be managed

within the overall project management is also documented (Sokowski, 2015). It can be concluded that, project procurement management involves the processes undertaken to acquire products, services, or results that are required from outside the project team (Project Management Institute, 2017). This project management knowledge area consists of processes that span the planning, launching, monitoring and controlling, and closing process groups. (Wysocki, 2014)

The integration and linkage of a procurement process and project management process can be explained in terms of product-oriented process. As a result, project management processes are considered as product-oriented processes by which that it organizes and manages the work of the product till the end of the project goal. When it comes to procurement, the product is considered as the executed contract. Therefore, here the product-oriented processes are the activities required to find competitors, do a competition, negotiate an agreement, draft the agreement, have it reviewed, and obtain final approval (signatures) where the final process is delivering the executed contract to the all parties involved (Lindstrom, 2014)

#### 2.1.4.10 Project Stakeholder Management

Stakeholder is referred to as any person or organization with an interest in a project. Project managers must clarify the type and interest of a stakeholders, to use these interests to the greatest benefit of the project (Lester, 2017). Stakeholder management identifies those people, groups, or organizations that could influence the project or be influenced by the outcome of the project. Stakeholders expectation, interests and their respective level of influence should be analyzed thoroughly. And an appropriate management strategy should be developed to effectively engage the stakeholders in decision -making process and project implementation (Project Management Institute, 2017).

The practice of stakeholder engagement must be properly done by involving stakeholders and to securing their involvement and commitment to the project. This can only happen with effective communication to engage the stakeholders in a better way for project success (Bourne, 2015). Often, there are several stakeholders that form an interdependent set such as sponsors clients, customers, business process engineers, resource managers, project managers and business analysts that are commonly involved in a project. And the overall process of stakeholder management covers stakeholder identification, stakeholder management plan, and handling and controlling those that impact or be impacted by the project (Wysocki, 2014)

According to Bourne’s definition, those groups or individuals that impact the successfulness of a project’s deliverable by providing and making things available such as funds, materials or resources as well as those individuals who are well experienced and skilled that can contribute to the project, should all be identified as stakeholders. In simple words, those who have a stake which can be in the form of an interest, right, support thorough knowledge sharing or ownership in that particular project should be termed as stakeholders (2015).

The strategies to acquire and maintain project stakeholders who are involved in every phase of a project: planning, execution, monitoring, and closing throughout the life of the project with a complied document of stakeholder management plan. There should be a properly established means or a medium of engaging and involving stakeholders to a project in order to avoid any kinds of threatening problems that might hinder the project’s success (Sokowski, 2015)

Early identification of potential conflicts among important stakeholders should be managed through the identification of respective interests which in turn increases the stakeholder’s commitment and confidence with a sense of being assured that the teams are striving to meet the specifications (Bourne, 2015)

### **Relationship between knowledge areas and process groups of project management**

**Table 2.1 - Project Management Process Group and Knowledge Area Mapping**

Knowledge Areas	Project Management Process Group				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
<b>4. Project Integration management</b>	4.1 Develop Project Charter	4.2 Develop project Management Plan	4.3 Direct and Management project work 4.4 Manage Project Knowledge	4.5 Monitor and Control Project Work 4.6 Perform Integrated Change Control	4.7 Close project or Phase
<b>5. Project Scope Management</b>		5.1 Plan scope Management 5.2 Collect Requirements		5.5 Validate Scope 5.6 Control Scope	

		5.3 Define scope 5.4 Create WBS			
<b>6. Project Schedule Management</b>		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
<b>7. Project Cost Management</b>		7.1 plan cost Management 7.2 Estimate Cost 7.3 Determine Budget		7.4 Control Costs	
<b>8. Project Quality Management</b>		8.1 Plan Quality Management	8.2 Manage Quality	8.3 Control Quality	
<b>9. Project Resource Management</b>		9.1 Plan resource Management 9.2 Estimate Activity Resources	9.3 Acquire Resources 9.4 Develop Team 9.5 Manage Team	9.6 Control Resources	
<b>10. Project Communications Management</b>		10.1 Plan communication Management	10.2 Mange Communication	10.3 Monitor Communications	
<b>11. Project Risk Management</b>		11.1 Plan Risk Management 11.2 Identify Risk 11.3 perform Qualitative risk analysis 11.4 perform Quantitative risk analysis 11.5 plan Risk Responses	11.6 Implement Risk Responses	11.7 Monitor Risk	

<b>12. Project Procurement Management</b>		12.1 Plan Procurements Management	12.2 Conduct Procurements	12.3 Control Procurements	
<b>13. Project Stakeholder Management</b>	13.1 Identify stakeholders	13.2 Plan stakeholders Engagement	13.3 Manage Stakeholder Engagement	13.4 Monitor Stakeholder Engagement	

Source: Adopted from Project Management Institute, 2017

### 2.1.5 Project Management Process Groups

A project management life cycle can be defined as a process that begins with scoping to planning, launching, monitoring and controlling and closing the projects in a sequential and logical order. By which this process must be done at least once, and they can be repeated any number of times depending on the order. Organizations can adopt any project management life cycle model, but it must include all of the process groups (Wysocki, 2014).

**Table 2.2 - Project Management Process Group and Knowledge Area Mapping**

KNOWLEDGE AREAS	SCOPING PROCESS GROUP	PLANNING PROCESS GROUP	LAUNCHING PROCESS GROUP	MONITORING AND CONTROLLING PROCESS GROUP	CLOSING PROCESS GROUP
INTEGRATION	X	X	X	X	X
SCOPE		X		X	
TIME		X		X	
COST		X		X	
QUALITY		X	X	X	
HR		X	X		
COMMUNICATIONS		X	X	X	
RISK		X		X	
PROCUREMENT		X	X	X	X
STAKEHOLDER	X	X	X	X	

Source: Adapted from Wysocki, 2014

According to Project Management Institute, to achieve the main objective of the project, project management process groups should be carried out according to their local order. The five-project management process are discussed below (2017)

### 2.1.5.1 Initiating Process Group

A conceptual phase is considered as the first phase that involves an initial assessment of an idea. This assessment will analyze the potential risks and the impact it has on time, cost, and performance requirements, together with the possible effects on company resources (Kerzner, 2017). Initiation process group can be defined as an endeavour undertaken to define a new project for which there is a green light with authorization to start the project (Project Management Institute, 2017).

According to Wysocki, the initial process group is considered as the scoping process group that includes all processes related to answering two basic questions: “What business situation is being addressed?” and “What does the business need to do?” It does not include any processes related to doing any project work (2014).

### 2.1.5.2 Planning Process Group

Planning process group is a process undertaken to identify the scope of the project, improve the objectives, and determine the course of action required to achieve the project objective (Project Management Institute, 2017). This process group involves all processes associated with answering two basic questions: “What will you do?” and “How will you do it?” (Wysocki, 2014)

Planning phase is taken as the second phase mainly engaged in the activity of improving the components that were set at the conception or initiation phase by going through the process of estimation and identification of the constraints of time, cost and performance requirements as well as resources. This process group also deals with preliminary preparation of the necessary documentations by establishing a predetermined course of action of a predicted environment (Kerzner, 2017).

Documents that involve what plans have been defined for the project, how the project is scoped, how it is structured, and how it is managed and led are all presented on the project management master plan. It is required to prepare this plan because without a defined plan, the activity and steps within the project would not take place based on their logical follow which in turn will lead to not accomplishing the defined project goal. This plan makes the managing, leading, monitoring, and controlling of a project in an orderly fashion and pass through a known logical sequence by which it provides direction to attaining the project objective (Sokowski, 2015)

### 2.1.5.3 Executing Process Group

According to Project Management Institute, it is defined as an endeavor to finalize the work defined in the project management plan and to meet the project requirements (2017). While according to Wysocki, this process is mentioned as the launching process group that includes all processes related to recruiting and managing the project team and develop the operating rules for which all team members will adhere to it. (2014). It is also described as an implementation phase, as a process that is concerned in integrating the project's deliverable into the existing organization (Kernzer, 2017)

### 2.1.5.4 Monitoring and Controlling Process Group

Monitoring and controlling process group is mainly engaged in identifying the status of the project from various perspectives by tracking, reviewing and controlling the progress and performance of the project that is being undertaken. This process will be beneficial by signaling the areas of improvement and where changes are required as well as to initiate the corresponding changes (Project Management Institute, 2017). This process group focuses on answering one basic question "How will you know you did it?" and other processes related to the ongoing work of the project (Wysocki, 2014).

### 2.1.5.5 Closing Process Group

The closing process group includes all processes related to the official completion of the project. It must answer one basic question of, "How well did you do?" (Wysocki, 2014). It is also defined as a process undertaken to officially close the project, phase, or contract (Project Management Institute, 2017).

These five process groups are the building blocks of every PMLC. The Process Groups are not a PMLC. They are simply groupings of processes by project phases. A specific PMLC is defined using these processes (Wysocki, 2014).

## Project management process groups

Project management involves five process groups as identified in the PMBOK Guide, namely:

**Table 2.3 - Description of project management process groups**

<b>Process Groups</b>	<b>Description</b>
<b>Project initiation</b>	<ul style="list-style-type: none"><li>• Selection of the best project given resource limits</li><li>• Recognizing the benefits of the project</li><li>• Preparation of the documents to sanction the project</li><li>• Assigning of the project manager</li></ul>
<b>Project planning</b>	<ul style="list-style-type: none"><li>• Definition of the work requirements</li><li>• Definition of the quality and quantity of work</li><li>• Definition of the resources needed</li><li>• Scheduling the activities</li><li>• Evaluation of the various risks</li></ul>
<b>Project execution</b>	<ul style="list-style-type: none"><li>• Negotiating for the project team members</li><li>• Directing and managing the work</li><li>• Working with the team members to help them improve</li></ul>
<b>Project monitoring and control</b>	<ul style="list-style-type: none"><li>• Tracking progress</li><li>• Comparing actual outcome to predicted outcome</li><li>• Analyzing variances and impacts</li><li>• Making adjustments</li></ul>
<b>Project closure</b>	<ul style="list-style-type: none"><li>• Verifying that all of the work has been accomplished</li><li>• Contractual closure of the contract</li><li>• Financial closure of the charge numbers</li><li>• Administrative closure of the paperwork</li></ul>

Source: Adopted from Kerzner, 2009

## 2. 2 Empirical Review

Although studies regarding project management practice are available by depending on various project management models, there is lack of studies done in case of agricultural projects. However, project management practices of various projects assessed by different researchers is described as follows.

### 2.2.1 Project Management Practices

A research entitled “Project Management Practices and Performance of Agricultural Projects by Community-Based Organizations in Bungoma County, Kenya” done by Nalianya Remmy Simiyu in 2018. The researcher’s benchmark for undertaking this study is that there is a lack of researches done regarding the practice of project management. Therefore, the main objective of this study was to assess the impact of project management practices on the performance of agricultural projects by community-based organizations. Out of the 138-target population of community projects only 61 were selected using probability sampling of stratified sampling technique. To achieve its objective, a descriptive and explanatory research design was used which is considered as advantageous for triangulation purpose. Primary data was collected through questionnaire and interview by which this collected data was analyzed using SPSS. Depending on this structure and data it was concluded that project planning, project implementation, and project communication practices are essential for project performance. Finally, the researcher provided some recommendations such as their needs to be a system to ensure that a well outlined planning, implementing, monitoring and evaluation and communication methods are in place (Simiyu, 2018).

According to Tigest Sileshi in 2017, an assessment on project management practices was carried out which a case study on Japanese Social Development Trust Fund Grant Project. The researcher aimed to assess this practice based on project management knowledge areas defined by PMBOK. By using a descriptive research along with a qualitative approach, the application of project management practices was examined. Both primary in the form of interview and questionnaire and secondary data was used to collect information. A census survey was taken by the researcher. The findings of the study imply that little attention is given to practice of project management particularly, project scope, time, quality, cost, risk and integration management. Based on this, the researcher has recommended to apply project practices according to the formal procedure of project management (Sileshi, 2017).

In addition, a research entitled assessing project management practices of NGO's aid/development project: a case of Gudina Tumsa Foundation by Natnael Hezkias in 2019. The main objective of this study is to examine the practices of project management used in the foundation and assess it in relation to the project management knowledge areas. Accordingly, the results of this assessment show that project scope, project schedule and project risk were not properly managed while project integration, project cost, project communication and project stakeholder management needs improvement. The researcher has reached this conclusion from a data taken using census survey with structured questioner and interview and document review and analyzed using a software named SPSS. This study was descriptive type of research method using both qualitative and quantitative approach. Finally, on the basis of the conclusion the researcher recommended to adopt a clear project management procedure (Hezkias, 2019)

A study entitled the practice of project management in Ethiopian real estate industry and its contribution to project success: The case of selected company in Addis Ababa was conducted by Befkadu W/kidan in 2017. The major aim of this study was to examine the application of project management practice by depending on the various problems. To this end, the study used a descriptive research design including both qualitative and quantitative methods by which sampling techniques was used out of the population. Data was collected using questionnaire and interview from real estate companies, owners and consultants. Based on the response, IBM SPSS Statistics 20 was used to analyze the data. The major finding involves that project integration, scope, time, HR, procurement, and claim management are well managed in the Industry as well as Project initiation process groups and project closing process group are practiced well and consistently. However, from the knowledge areas project cost management, project quality management, project communication management, project stakeholder management and project risk management are poorly practiced in the real estate industry in Ethiopia. Therefore, it was recommended by the researcher to improve project management practice within the industry in Ethiopia (W/kidan, 2017)

A study done on prepaid energy metering project in Ethiopian Electric Utility by Eden Tamru in 2018 had focused its topic area on assessing the project management practices particularly focusing on the life cycle of projects. Depending on a detail analysis made by the researcher using SPSS, it was indicated that a moderate level of project management practice meaning that various gaps were exhibited. The researcher reached at this conclusion by using a

purposive sampling technique from the target population and used both qualitative and quantitative methods by gathering data from primary and secondary source. Descriptive research design and deductive research approach was used. Depending on the finding the researcher has recommended to develop the project management practices in accordance with the real practices on ground (Getachew, 2018)

Another research reviewed on assessment on the project management practice of Ethiopian Petroleum Supply Enterprise (EPSE) application and Network Infrastructure Project done by Behailu Negera in 2018. In relation to project process activities, the researcher tried to assess the practice of project management in EPSE depending Prince2 process groups. To this end, the study used a descriptive research design and both qualitative and quantitative methods by which data is collected in a form of closed questionnaire as well as secondary data source. By using SPSS software version 20.0, to analyze the responses gathered from the entire population. The researcher observed that gaps existed in quality assurance, risk and issue management and lessons learned from former projects (Negera, 2018).

According to Gebregziabher Hailu (2019), practical problems were exhibited in the Universal Electricity Access Program (UEAP). As a result, the researchers aim was to conduct an assessment on the project management practice of UEAP. This study was about project management practices of Ethiopian Electric Power Corporation in the case of Universal Electricity Access Program. This research used a qualitative research approach in the form of a case study. Both primary and secondary data source was used by considering the whole staff of the case enterprise. Exploratory nature of research was taken, and responses were analyzed descriptively. Findings of the survey indicated that project management practices are not in compliance with proper standards and best practices. As a result, the researcher recommended the application of a standard project lifecycle and utilization of project portfolio techniques and continuous improvement (Hailu, 2019).

Assessment of project management practice in the case of 20 Ethiopian resident charities in Addis Ababa by Yonas Tesfaye in 2018. The researcher conducts this study to examine the project management practice and processes based on project management knowledge areas. The finding of the study indicates that cost management is a better practice knowledge area in relation to the others while quality, risk and human resource management is at the least maturity level. The researcher has recommended to periodically assess the project management practices and to gain continuous improvement. To reach this conclusion the researcher had used

descriptive statics. Data collection was held using questionnaire for the sample determined through purposive sampling. Primary and secondary data source was taken with explanatory research approach (Woldemariam, 2018)

## 2.2.2 Project Management Approaches

Several organizations, such as APM, PMI, ISO, OGC and licensees of PRINCE (project in a controlled environment), have suggested and advanced their own methodology for project management, but by and large the differences are on emphasis or sequence of certain topics (Lester, 2017)

A research entitled Bodies of Knowledge in Project Management and Project Quality Management was done by Tamara Gvozdenovic, Mirjana Miljanovic, Aleksandar Jegdic and Zeljko Crnogorcic in 2008. This research signifies the various project management bodies of knowledge and project management approaches developed by project management associations (Gvozdenovic et al., 2008). Accordingly, the followings are project management knowledge areas and approaches by different organizations and institutions.

### 2.2.2.1 PMI's PMBOK Guide

The Project Management Institute (PMI) represents the world's largest professional community. It was established in 1969, to engage in the enhancement and development of project management practices around the world. PMI published the well-known PMBoK Guide (Guide to the Project Management Body of Knowledge) that is an internationally recognized guide, which is essential for the basic core elements of project management and can be applied for any kind of projects (Zonis, 2009). PMI is located in United States of America, this institution has developed the body of knowledge of project management that is often used by many interested parties (Gvozdenovic et al., 2008)

The concept of project management body of knowledge has been described by the institution as the knowledge within the profession of project management. It was further explained that the body of knowledge involves traditional practices that are verified and commonly applied as well as innovative practices that are evolving in the project management profession (Project Management Institute, 2017)

The PMBOK has different version that are published and released for several times. And all the version of this guide focus on the management skills that can be tailored and applied to

most projects implying that, this guide does not involve those management skills that can only be applied to limited projects (Gvozdenovic et al., 2008)

### 2.2.2.2 The Association of Project Management Body of Knowledge (APMBoK)

In 1988, the Association of project management developed its body of knowledge. This body of knowledge was very different from the body of knowledge developed by PMI's. This difference lies in the identified subject areas. The APMBoK focuses on both the internal and external factors to the project. Internally it involves the planning and controlling methods while externally it incorporates the wider areas of social and ecological environment extending to specific topics of technology, economics, organization, people, finance, and the overall management (Gvozdenovic et al., 2008)

APM is mainly concerned with five major areas known as Knowledge, Professional Development, Membership, International and Governance & Administration. They all attribute to the strategy of APM in advancing the project management worldwide (Zonis, 2009)

Another major difference between PMI and APM approaches is that most of the time the knowledge areas and practices developed by PMI on the PMBOK guide can be applied to any kinds of projects. However, the knowledge and practices that are included on the APMBOK may only apply to some projects and/or sometimes implying an inclusive approach (Gvozdenovic et al., 2008). This document contains a collection of 52 knowledge areas that are needed to effectively manage any project successfully (Zonis, 2009)

### 2.2.2.3 The IPMA's BOK - The International Project Management Association (IPMA)

In 1992, the International Project Management Association (IPMA) was established in United Kingdom. The association has engaged with a certification program depending on the APM experience and it was developed in Europe and china. It represents over 50 PM associations from all continents on international level and 40,000 members worldwide (Zonis, 2009). The International Project Management Association (IPMA), a federation of national project management associations, developed an IPMA Competence Baseline (ICB) in 1999 which comprises forty-two elements of knowledge and experiences of project management (Gvozdenovic et al., 2008)

#### 2.2.2.4 Japan's P2M

“The key word throughout P2M is value creation to enterprises, either commercial or public, and a consistent chain from a mission, through strategies to embody the mission, a program(s) to implement strategies, to projects comprising a program” (Project Management Professionals Certification Center, 2002). In 1999, Japan’s Engineering Advancement Association (ENAA) initiated the introduction, development and research on project management. Based on this initiation, in 2001 the association developed A Guidebook of Project and Program Management for Enterprise Innovation which is officially abbreviated P2M (Gvozdenovic et al., 2008)

P2M involves the practical professional capabilities of project management as a result it uses the term project segment management which is unique to this guide. However, the term “Project Segment Management” is similar to “Knowledge Areas of Project Management”. There are different elements that are the backbone of project and program management. Although their applicability varies in terms of phase or life cycle, they are always in the mission context of project and program management these are: Project Strategy Management; Project Finance Management; Project Systems Management; Project Organization Management; Project Objectives Management; Project Resources Management; Risk Management; Project Information Technology Management; Project Relations Management; Project Value Management and Project Communications Management (Project Management Professionals Certification Center, 2002)

#### 2.2.2.5 The AIPM's Australian National Competency Standards for Project Management (ANCSPM)

In 1977, The Australian Institute for Project Management (AIPM) established and documented their standards as the Australian National Competency Standards for Project Management (ANCSPM). The ANCSPM combined the nine knowledge areas of the PMI’s PMBOK directly into the knowledge part of their qualification program (Gvozdenovic et al., 2008)

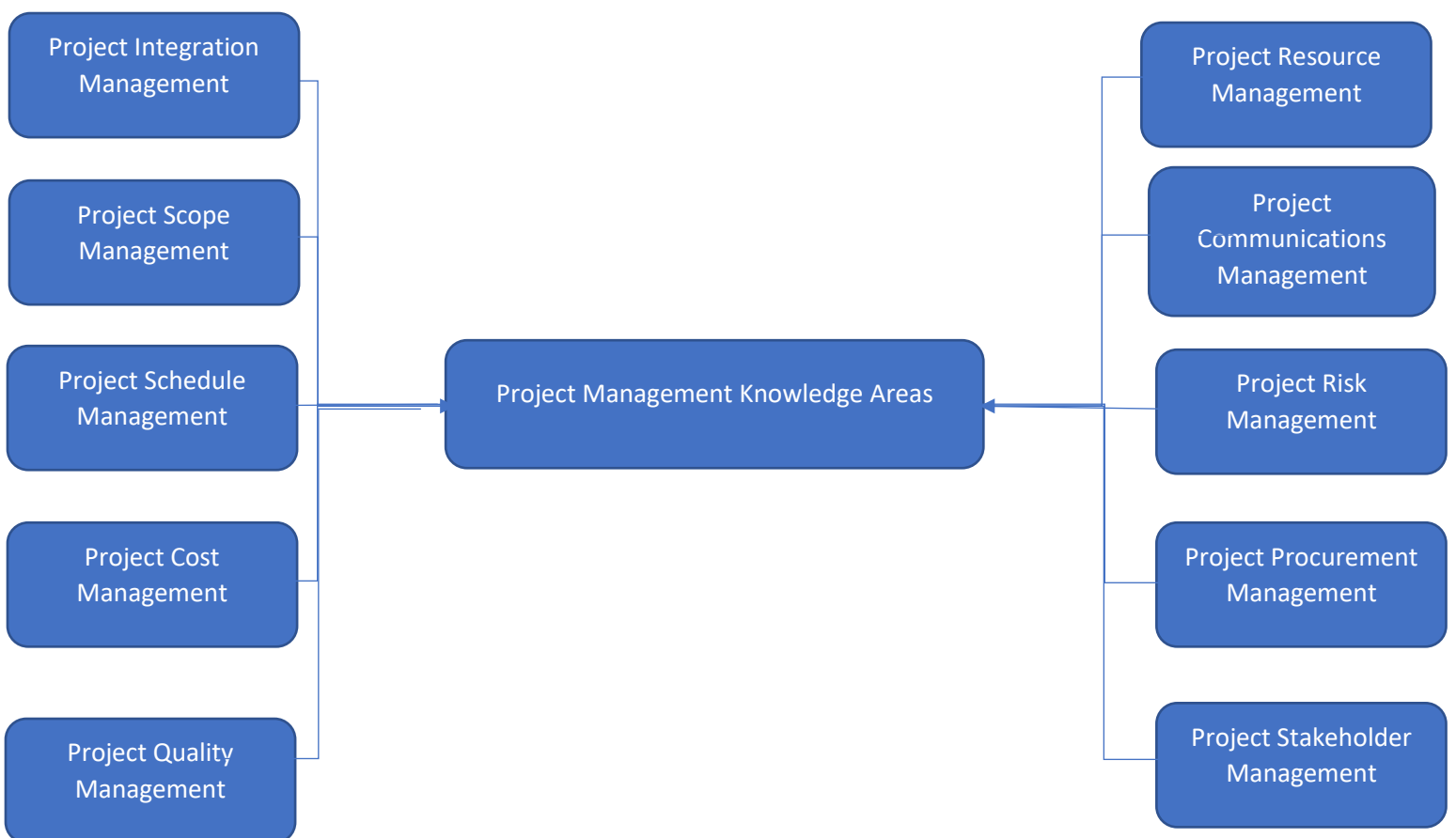
The Standards are discussed and explained in terms of units of project management. The detail components of competency and performance criteria are incorporated under each unit. The units that are identified by AIPM are: apply scope management techniques; apply time management techniques; apply cost management techniques; apply quality management techniques; apply human resources management techniques; apply communications management techniques; apply risk management techniques and apply contract and

procurement techniques. It should be noted that, there is no integration identified as a unit in the ANCSPM, as competency in this area is expected at higher levels (Australian Institute of Project Management, 2008).

## 2.3 Conceptual Framework

Project management practice of Agricultural Commercialization Clusters is assessed based on the ten project management knowledge areas.

Figure 2.2 - Conceptual framework



Source: Adapted from Project Management Institute, 2017

## Chapter Three - Research Methodology

### 3.1 Introduction

This chapter explains the basic approaches and methods used to carry out the research. It includes the research design and research approach, signifying the format and structure of the study. It also describes the target population along with the sampling techniques and sample size on which the study basis. Furthermore, this chapter includes the data collection approach and instruments required to collect the data along with the methods used for the data analysis.

### 3.2 Research Approach

Both qualitative and quantitative data collection and analysis methods or a mixed method approach can be used for "triangulation" purpose by which incorporating different methods will enhance the information driven from a particular situation. It is advantageous by providing a check for findings from single method and helps to generate an in-depth data (Greener, 2008)

Quantitative research is mainly concerned with the aspect of quantity or something that can be expressed in measurable, whereas qualitative research deals with qualitative phenomenon, thus something that can relate to quality or variety. It focuses on searching for deep information for non-numerical data's (Mishra and Alok, 2011). However, the latter one is highly affected by subjectivity inclining more to the researcher's influence than the other one (Greener, 2008)

Accordingly, this research used both qualitative and quantitative methods which is called as the mixed research approach to capture a wide and detail information and to explain the subjective as well as the statistical figures of the research to obtain more relevant result than either qualitative or quantitative research. Mixed approach is beneficial to triangulate the approaches and to offset the weakness of one another or the weakness of only using one approach. Also, a deeper information and data can be generated about the practices of project management.

### 3.3 Research Design

The research used a descriptive research design to provide a more accurate representation of the ten project management knowledge areas according to the PMBOK. Descriptive research design will fit this study because the major purpose is to assess the project management knowledge areas of application on the ACC project. Rather than developing a causal linkage

between variables, this study will present the existing course of action by investigating the research problem in a detailed manner. The major aim of descriptive research is to discuss the situation as it is without changing and modifying it (Mishra and Alok, 2011)

### 3.4 Population and Sampling

Population is the total universe of people or things from which the sample is selected (Greener, 2008). The total population includes 80 team members participating on Agricultural Commercializing Cluster project within Agricultural Transformation Agency. The researcher selected a sample using purposive sampling method thus, not all the project staffs in the total population provide the best information needed to answer the research questions. As a result, 41 well experienced and professional project team members were selected and taken as sample unit.

A survey or statistic's sample size is vital to define the accuracy of a survey's findings. Sample size determination is an art of selecting the number of samples to be considered and included in a statistical sample which should be a representative of the population (Mishra and Alok, 2011)

For this research, a non-probability sampling method was used. By which all units of the population had zero chance to participate. Particularly, purposive sampling technique was used to select the sample from the target population. The respondents in the sample unit of 41 were selected based on researcher's judgement and criteria of well experienced project team members, and not all team members working on the project were considered.

The main criteria used for choosing the respondents includes those who are well experienced at least above 3 years, those who have a project management background and those who are at managerial position in carrying out the ACC project. As a result, respondents fulfilling any of these criteria were selected as a sample to undertake the study.

In Purposive sampling, the researcher can use his judgement to select respondents from a given population. To this end, the researcher should come up with factors or criteria that may affects the population such as intelligence, socio-economic status, access to education, etc. (Mishra and Alok, 2011)

### 3.5 Data Source and Types

Primary and secondary research are the main kinds of background researches. Primary research deals with the study of phenomenon through first-hand observation whereas secondary research deals with data that are already collected by different other researchers for other purposes in the subject area (Dawson, 2002). This data which was not collected by the researcher directly from the sample, it implies that the data was not gathered in accordance to the researcher's objective (Greener, 2008).

This research has used both primary and secondary data sources to conduct the research. Primary data was collected through a semi-structured questionnaire which was adopted from a guide to project management knowledge areas. It was distributed to all the respondents under the sample unit of 41 and an interview was conducted with 5 project managers participating on the ACC project while secondary data was collected from the baseline surveys, monthly project progress report and the framework of the ACC project.

By depending on the aim of the study and the resources availability as well as the skill of the researcher, an appropriate method can be selected to collect primary data. Sometimes the method might best fit the objective of the study but due to several other constraints the researcher will be limited to use them. Therefore, much attention should be given while selecting the data collection methods (Kumar, 2011)

### 3.6 Data Analysis

This research has analyzed the data gathered by using Statistical Package for Social Science (SPSS) Version 20. For clarity, descriptive statistics was used to summarize and describe the collected data from the respondents.

Descriptive statistics is a part of statistics, used when the data has already been gathered and researcher wants to describe the variables. While the other part of statistics is the inferential statistical analysis that is used for a different objective in case of generating approximations for unknown values in the sample (Aldrich and Cunningham, 2016)

## 3.7 Validity and Reliability

### 3.7.1 Validity

The conclusion and findings of a research mainly depends on the questions asked to the selected respondents. These questions are the input for drawing a conclusion by going through various steps like gathering the information, processing of data, applying statistical procedures and finally preparing the report. To this end, it is essential for a researcher to develop the quality of the study's result and ensure its appropriateness and accuracy of the selected procedure used to investigate the research problem and state it's a valid research (Kumar, 2011). The main purpose of validity is to increase the usefulness of the research findings by controlling possible confounding variables and attribute for better confidence in the major findings of the study (Marczyk, DeMatteo and Festinger, 2005)

To attain the research objective, the researcher used various data collection techniques. Questionnaires used for the research were adopted from a guide to the project management body of knowledge developed by the Project Management Institute. And the interview questions were derived from this guide as well as other literature review. To this end, validity of the research was considered, and it was conducted through a discussion with advisor. As a result, the concept of validity was confirmed and had been approved.

### 3.7.2 Reliability

Cronbach's alpha coefficient is a well-known measuring technique for internal consistency reliability of group of items. Usually it is referred to as Cronbach's alpha with short version of it. It is mainly concerned with the correlation between the item responses in a questionnaire by assuming the statistic is directed toward a group of items intended to measure the same construct. Therefore, if the values generated are high, then it implies that the correlation between the respective questionnaire items are high. In the social science, Cronbach's alpha values ranging from 0 to 1. Therefore, values at or above 0.7 are desirable, but values well above 0.9 may not be desirable as the scale is likely to be too narrow in focus (Andrew, Pedersen and McEvoy, 2011).

The researcher has conducted the Cronbach's alpha test through SPSS version 20 in order to ensure the reliability of the study. As a result, the overall Cronbach alpha was 0.873, which is considered as acceptable signifying that the items have internal consistency.

**Table 3.1 - Description of Reliability Test Result**

No.	Variables (Project Management Knowledge Areas)	Cronbach's Alpha	No. of Items
1.	Project Integration Management	.731	5
2.	Project Scope Management	.737	6
3.	Project Cost Management	.760	4
4.	Project Schedule Management	.749	5
5.	Project Quality Management	.820	3
6.	Project Resource Management	.861	3
7.	Project Risk Management	.831	5
8.	Project Communication Management	.729	3
9.	Project Procurement Management	.717	2
10.	Project Stakeholder Management	.922	3
<b>Total</b>		<b>.873</b>	<b>39</b>

Source: Survey result, 2020

### 3.8 Ethical Consideration

The process of conducting data collection was done after the getting an approval and permission from Agricultural Transformation Agency head office. And for the respective respondents, it was clearly mentioned that the data collection was purely for academic purpose. The collected data from both the primary and secondary source was done on a voluntary basis with strict confidentiality and in a way that will not disclose the respondent's identity.

## Chapter Four - Results and Discussion

### 4.1 Introduction

This chapter presents the data collected from the sample population. It outlines the response rate and demographic data to signify the amount of collected data and the general information of the respondents. In addition, it presents the major findings, interpretation and discussion depending on the driven result. Data analysis is done by using Statistical Package for Social Science (SPSS) version 20 to generate the mean, standard deviation, frequency and percentage.

### 4.2 Response Rate

To collect a primary data based on the survey, questionnaires were distributed to 41 project staffs working on the ACC project. A response rate of at least 50 percent is usually considered adequate for analysis and reporting. A response rate of at least 60 percent is good. A response rate of 70 percent is very good (Rubin and Babbie, 2009, p.117)

Out of the distributed questionnaires only 34 has responded with complete information. Meaning about (82.9%) of the respondents have responded which is considered as acceptable.

**Table 4.1 - Response Rate**

<b>Population</b>	<b>Number</b>	<b>Percentage</b>
Number of questionnaires distributed	41	100%
Returned questionnaires	34	82.9%
Unreturned questionnaires	7	17.1%
<b>Total usable questionnaires</b>	<b>34</b>	<b>82.9%</b>

Source: Survey result, 2020

### 4.3 Demographic Information

For this study, demographic composition of respondents is presented in the following table

**Table 4.2 - Distribution of Gender**

<b>No.</b>	<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
	Male	29	85.3
	Female	5	14.7

<b>Total</b>	<b>34</b>	<b>100.0</b>
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Source: Survey result, 2020

The distribution of this survey shows that (85.3%) percent of the sample population are males and the rest (14.7%) are females. This indicates that there is a higher percentage of male participants.

**Table 4.3 - Distribution of Age**

No.		Frequency	Percent
1.	31-40	7	20.6
2.	41-50	12	35.3
3.	Above 50	15	44.1
<b>Total</b>		<b>34</b>	<b>100.0</b>

Source: Survey result, 2020

Among the respondents, (20.6%) are in the age group of 31-40 and (35.3%) are in age group of 41-50 while the rest are above 50(44.1%). This result implies that most of the respondents are above the age group of 50 years.

**Table 4.4 - Distribution of Educational Level**

No.	Education Level	Frequency	Percent
1.	PHD	3	8.8
2.	MA/MSc	21	61.8
3.	BA/BSc	10	29.4
<b>Total</b>		<b>34</b>	<b>100.0</b>

Source: Survey result, 2020

Educational level of the respondents includes BA/BSC graduates off about (29.4%), and about (3%) are at level of degree of master MA/MSC while 3 of the respondents of about (8.8%) have a PHD. Results show that most of the respondents either have MA or MSC regards their educational level.

**Table 4.5 - Distribution of Position in the organization**

No.	Position	Frequency	Percent
1.	Managerial	12	35.3
2.	Non-managerial	22	64.7

<b>Total</b>	<b>34</b>	<b>100.0</b>
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Source: Survey result, 2020

Out of 34 respondents, (35.3 %) are working on managerial position while, the majority of about (64.7%) are ACC project staffs implying that they are not on a managerial position.

**Table 4.6 - Distribution of Work Experience**

No	Work Experience	Frequency	Percent
1.	3 - 5 Years	13	38.2
2.	Above 5 Years	21	61.8
<b>Total</b>		<b>34</b>	<b>100.0</b>

Source: Survey result, 2020

Regarding work experience, most of the respondents have experience above 5 years of about 61.8% while the rest have experience of 3 to 5 years with percentage share of 38.2%.

## 4.4 Result and Discussion

This section will describe the results obtained from the survey through a semi- structured questionnaire as well as interview and review of secondary data. The analysis has focused on the ten project management knowledge areas.

The mean values are categorized into three levels of interpretation; negative(below 2.5), moderate (Between 2.5 and 3.5) and positive (above 3.5).Such interpretation is based on the fact that mean value, being above 3.5, is rounded off in decimal points to 4.0(4=important or agree in the questionnaire) or 5.0 (5=most important or strongly agree); between 2.5 and 3.5 is rounded off to 3.0 (3=moderate); and below 2.5 is rounded off to 2.0 (2=unimportant or disagree) or 1.0(1=least important or strongly disagree) (Lee and Song, 2015).

### 4.4.1 Project Integration Management

According to this knowledge area, respondents were asked to indicate the extent to which project integration management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.7 - Descriptive statistics of project integration management**

	Mean	Std. Deviation	N
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Project charter is well developed that formally authorizes the existence of a project	3.09	.668	34
Project management plan is developed that integrates all planning components	3.56	.613	34
Project is well managed and monitored	3.24	.699	34
Project knowledge is managed, and it is contributed to organizational learning	3.47	.563	34
Integrated change control is well performed by reviewing all change requests	3.00	.696	34
<b>Total Average</b>	<b>3.27</b>		

**Source: Survey result, 2020**

According to survey result, the development of project charter has an average of (3.09) implying that it is at moderate level meaning project charter is developed to some extent. Response on the project management plan shows an average of (3.56) which is above moderate and signifies that project management plan is well developed with inclusion of majority of project plans. In relation to management of the project, it is indicated as an average of (3.24) which is moderate level, implying that the project is managed and monitored. Another factor of organizational learning has a mean of (3.47) which is above moderate and shows the existence of managing project knowledge and contributing it to organizational learning. Finally, the response on integrated change control is the lowest rated compared to the others which is (3.00) mean value of moderate level. It shows that change control is performed to some extent. Overall, integration management has an average of (3.27) signifying its practice to a medium level.

According to Sokowski, Integration is defined as a tool for connecting of all individual elements to a coherent whole (2015). The process of combining the results of all the knowledge areas and generate an overall view of the project (Project Management Institute, 2017). Therefore, to have a full wide view of the project from all angles, a strong integration management practices are needed which in turn contributes to the success of the project. Based on the response from the interview most of the knowledge areas are practiced individually and only integrated to some extent. Therefore, integrating the individual knowledge areas and creating a link among the process groups needs to be improved.

#### 4.4.2 Project Scope Management

According to this knowledge area, respondents were asked to indicate the extent to which project scope management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.8 - Descriptive statistics of project scope management**

	Mean	Std. Deviation	N
Scope management plan is well developed	3.03	.460	34
Work Breakdown Structure (WBS) is created and documented	2.94	.736	34
Stakeholder needs, and requirements are determined, documented and managed	3.38	.604	34
Scope is clearly defined with detail description of the project	3.24	.699	34
Scope validation was done for formalizing acceptance of the completed project deliverable	2.97	.521	34
Scope control is held to monitor the status of the project	2.85	.610	34
<b>Total Average</b>	<b>3.06</b>		

Source: Survey result, 2020

According to the result of the survey, Scope management plan shows a mean of (3.03) which is moderate signifying that scope plan is developed and documented. A response rate on the work breakdown structure shows an average of (2.94) out of 5 implying that the practice of work breakdown structure (WBS) is practiced on medium level. The factor about the need and requirement of stakeholders has scored (3.38) of an average which means that it is more than moderate. As a result, it can be said that stakeholder needs are determined, documented and managed. A scope of a project has a mean of (3.24) based on the response rate. It is slightly above moderate showing that the project scope is prepared with some degree of detail description. Another factor of scope validation has an average of (2.97) which is close to moderate implying that a scope validation is done to some extent. Finally, the response on managing scope change control has scored an average of (2.85) which is the lowest practices

in comparison to the other under scope management knowledge area meaning that scope changes are not properly managed. In total, the scope management practices have an average of (3.06). This shows that, scope management practice is applied to manage the ACC project on a medium level

Based on the interview made with respondents, scope changes had occurred in managing the ACC project. It is caused due to various reasons such as change of priority by the government, based on reports of progress or requests from stakeholders. To this end, changes are not managed specifically to the project.

WBS is a linking mechanism between the elicited and documented project requirements and the detailed estimation activities. It is an important practice for any kind of projects because it will help the team in listing all the work required by breaking it down to manageable components. Besides, modifications to project scope baseline has a considerable effect on the overall endeavor. Therefore, its impact should always be assessed first in relation to different criteria. Depending on this, if the change is accepted, then the project plan should be updated where as if it is not accepted then the change request should be documented (Moustafaev, 2015)

#### 4.4.3 Project Schedule Management

In relation to schedule management, respondents were asked to indicate the degree of project schedule management practices held by Agricultural Transformation Agency while implementing the ACC project.

**Table 4.9 - Descriptive statistics of project schedule management**

	Mean	Std. Deviation	N
Plan for the project schedule is well developed	3.15	.610	34
Project activities are identified and documented to produce the project deliverables	3.21	.592	34
The relationship among project activities is identified and documented	2.65	.812	34

The work period needed to complete individual activities were clearly estimated	2.71	.676	34
The status of the project is monitored to manage changes to the schedule baseline	2.82	.576	34
<b>Total Average</b>	<b>2.90</b>		

Source: Survey result, 2020

Based on the result of the survey, five factors have been assessed under schedule management. The first factor of project schedule plan has an average of (3.15) which is slightly above moderate indicating that there is a plan developed for project schedule. Regarding the identification and documentation of project activities, it has a moderate average of (3.21). This shows that there is a practice in identifying and documentation. Response on the practice of identifying relationship among project activities is rated as the lowest practice or below moderate with a mean of (2.65) implying that there is no relationship identified and documented within and among project activities. Another factor indicating the estimation of the work period needed to complete each project activities has scored a mean of below moderate (2.71) implying that estimations made are not clear to the required extent. Finally, the response on the practice of monitoring changes to schedule baseline has an average of (2.82) meaning that there is slightly below practice of controlling changes to schedule baseline. Overall result of the survey indicates a total mean of project schedule management is (2.90) which is slightly below moderate signifying that these practices exist are somehow but not to the required extent.

According to Westland, if a time schedule is not recorded and updated when required, then it is difficult to assess the accurate amount of time spent or work period undertaken to complete project activities as a result it will be difficult to manage project constraint of cost, time and quality (2006).

As the response from the interview, it is confirmed that some interventions are causing a delay due to both external and internal factors. Internally, lack of access to required materials and lack of technical support on the subject area while externally due to unforeseen reasons. This delay is also confirmed with secondary data in relation to some of the interventions.

#### 4.4.4 Project Cost Management

According to this knowledge area, respondents were asked to indicate the extent to which project cost management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.10 - Descriptive statistics for project cost management**

	Mean	Std. Deviation	N
Cost management plan is well developed	3.06	.694	34
The cost for project activities is clearly estimated	2.62	.604	34
Budget for the project is clearly determined and communicated	3.09	.570	34
The status of the project is monitored to manage changes to the cost baseline	2.74	.931	34
<b>Total Average</b>	<b>2.87</b>		

**Source: Survey result, 2020**

According to the above result of cost management, cost management plan has scored an average of (3.06) which implies that it is slightly above moderate. Meaning that the cost plan is developed but not to the required extent. In addition, it shows that the costs for project activities are not clearly estimated with the result of (2.62) which is below moderate. Another factor of cost management is clear estimation of the budget for the project. Based on the result from the survey it shows that, budget estimation for the ACC project is determined and communicated with an average of (3.09). In relation to the changes made on cost baseline, it has scored below average of (2.74) which implies that changes to the budget are not controlled. Based on the above factors, cost management has a mean of (2.87) which is below moderate out of 5 implying that this knowledge area is not practiced well. Particularly, the cost estimation and change control on cost baseline are the areas that are least practiced in comparisons to the others.

Project estimate documents should not be kept as it is rather it must be living document because due to various reasons it is expected that changes might occur that makes the estimate of the

project's total cost to vary with every estimate update and it is not realistic to on an early inaccurate estimate. Therefore, this document should be updated regularly depending on how the situation develops (Rad, 2002). Depending on the document review and interview, the researcher has found out that a cost plan exists with the estimated cost for only major milestones and the overall budget for the project. It also includes the percentage of fund from donors and financiers. However, this document does not provide a detail direction on how the cost of the project will be managed and controlled. In addition, it is mentioned on the interview that lack of finance has impacted the project not proceed in the needed direction.

#### 4.4.5 Project Quality Management

According to this knowledge area, respondents were asked to indicate the extent to which project quality management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.11 - Descriptive statistics of project quality management**

	Mean	Std. Deviation	N
Quality management plan is well developed to identify and demonstrate compliance with quality requirements	3.88	.640	34
Quality management activities are executed effectively	3.59	.609	34
The status of the project is monitored to ensure the project outputs meet expectation	3.74	.710	34
<b>Total Average</b>	<b>3.73</b>		

**Source: Survey result, 2020**

Based on the survey result, quality management plan has a mean of (3.88) which is above moderate indicating that this plan is well developed. Regarding the execution of quality management, an average of (3.59) is obtained showing that quality management activities are effectively executed. And the process of quality control has scored an average of (3.74) showing that status of the project is definitely monitored to ensure the project output has meet expectations. Overall average of (3.73) is scored for the quality management practice showing that this knowledge area is being practiced well on the ACC project.

The result from the interview also confirms that stakeholders meet on a regular basis to make sure they are on the right path to meet the required quality and there is no compromise regarding quality management. According to Kerzner, project managers must select the procedures and policies for the project in order to controls the quality and create an environment that fosters trust and cooperation among the team members. This will support the teams in the process of identifying and reporting problems, recommend solutions, and implement the solutions to meet the quality requirement of the project (2017).

#### 4.4.6 Project Resource Management

According to this knowledge area, respondents were asked to indicate the extent to which project resource management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.12 - Descriptive statistics of project resource management**

	Mean	Std. Deviation	N
Resource management plan is well developed that defines the way to acquire and utilize physical and team resource	4.09	.570	34
The process of acquiring, developing and managing project teams is effectively executed	3.91	.712	34
Resources are well controlled by ensuring their assignment to the project	3.82	.758	34
<b>Total Average</b>	<b>3.94</b>		

Source: Survey result, 2020

Based on the result of the survey, resource management plan has an average of (4.09) which is above moderate signifying that a well-developed resource management plan exists. In relation to, the process of acquiring, developing and managing project teams an average of (3.91) is driven showing that there is an effective process of capacitating project teams. Finally, resource control has an average of (3.82) indicating that there is a resource are well controlled with the mean being more than average. Overall average for resource management is (3.94) which is rated as high level and shows that resources are well managed, and a developed practice exists.

In achieving objectives, teams must share common values, have a sense of purpose and develop ways of working together along with the required skills, experience and motivation. If they are focused on achieving the objectives of the project, then they will be able to attain an outstanding achievement, often beyond the expectations of individual team members and with good relationship between the team members always have an impact on the project performance, which can help to create a positive climate. However, if team are focused on their things than the project, then unsatisfactory result will occur (Martin, 2006)

#### 4.4.7 Project Communication Management

According to this knowledge area, respondents were asked to indicate the extent to which project communication management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.13 - Descriptive statistics of project communication management**

	Mean	Std. Deviation	N
Communication management plan is clearly stated by describing the communication activities	3.53	.507	34
Ensuring timely and appropriate collection and distribution of information is in place	3.24	.496	34
It is ensured that the information needs of project and its stakeholders are met	3.29	.524	34
<b>Total Average</b>	<b>3.35</b>		

Source: Survey result, 2020

According to the respondent's response, the development communication management plan has an average of (3.53) which is above moderate indicating that there is a well-developed communication plan. Responses on the practice of timely and appropriate collection of information has scored an average of (3.24) implying that this practice is moderately done, and its timeliness and appropriateness is ensured to some extent. Finally, the practice of monitoring communication has a mean of (3.29) showing that it is practiced to some extent. In total,

communications management has an average of (3.35). It is moderate level of practice, in relation to the listed factors.

According to the interview response, it is mentioned that challenges exist in the communication subject area. Information is not communicated to the beneficiaries as it was required to do. The end beneficiaries of the ACC project are the small-holder farmer but the communication activities in this regard it is managed to a limited extent. In case of internal communication, ATA strategy of communication will be used for ACC project and it is compulsory for ACC project to deploy the existing government structure (Ministry of Agriculture- regional bureaus- Zone – Woreda - Kebele). According to the Project Management Institute, “effective communication builds a bridge between diverse stakeholders who may have different cultural and organizational backgrounds as well as different levels of expertise, perspectives, and interests” (2017).

#### 4.4.8 Project Risk Management

According to this knowledge area, respondents were asked to indicate the extent to which project risk management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.14 - Descriptive statistics of project integration management**

	Mean	Std. Deviation	N
Risk management plan is well developed by defining the way to conduct risk management activities	3.88	.686	34
Project risks are clearly identified with their source and respective characteristics	3.53	.615	34
Qualitative and quantitative risk analysis are clearly developed	3.35	.544	34
Risk responses are clearly planned and implemented according to the plan	3.41	.609	34
Tracking the identified risks and monitoring the implementation of response plan periodically	3.74	.567	34
<b>Total Average</b>	<b>3.58</b>		

**Source: Survey result, 2020**

Based on the result of survey, risk management plan is well developed with a mean of (3.88) which is more than moderate. Response rate on the identification of risks has an average of (3.53) which is more than moderate showing that risks are clearly identified in relation to their source and characteristics. Another factor, which is risk analysis has scored an average of (3.35) which is practiced in a moderate level. It implies that qualitative and quantitative risk analysis are practiced to some extent. In addition, the planning and implementation of risk responses has an average of (3.41) which is above a moderate, signifying that a risk response plan exists, and it is implemented. Finally, monitoring of risks and response plan has a mean of (3.74) indicating that the identified risks are being tracked and implementation of the response plan is periodically monitored. In total, risk management has scored a mean of (3.58) which is above moderate and shows that risk management is well practiced.

According to Kerzner, having a risk management practices can be beneficial to understand the potential risks and their respective effects; to capture an early warning signal; to be have a clear direction on how to manage the risk and how to restore the process after the occurrence of the risk (2017).

Based on the secondary data as well as the interview, it is confirmed that there is a risk register system by which risks are identified and the they are analyzed by determining their probability and impact with well-developed risk matrix. Risks are monitored on a regular basis in accordance with the mitigation plan.

Effective project risk management is a process with the aim to minimize the risks that prevents achieving the objective of the project and to identify and take advantage of opportunities if any. This will assist the team in setting the priorities, allocate resources and implement actions that minimize, mitigate and manage them effectively. It also supports decision- making by providing a consistent and robust process (Cooper et al., 2005). To this end, proper risk management is essential and has the best chance for project success. If an organization fails to manage risks properly it will result in more problems, less benefits and a lower chance of project success (Hillson, 2009).

#### 4.4.9 Project procurement management

Procurement management involves the preparation of a clear procurement plan and for it to be carried out effectively it also requires a frequent follow-up on contract performance. Depending on the respondent's answers, the extent to which procurement management is practiced on the ACC project is statistically presented below.

**Table 4.15 - Descriptive statistics for procurement management**

	Mean	Std. Deviation	N
Procurement management plan is clearly developed and documented.	4.26	0.666	34
Contract performance are regularly monitored	4.00	0.651	34
<b>Total Average</b>	<b>4.13</b>		

**Source: Survey result, 2020**

According to the survey result, it indicates that procurement management plan scored (4.26) out of 5 which is above moderate level signifying that the procurement plan is well developed. In addition, it is confirmed that the contract performance is monitored regularly based on the result derived which is (4.00). Generally, the procurement management practice has scored a mean or an average of (4.13) indicating that it is more than moderate level. As a result, this knowledge area has been well practiced while conducting the ACC project.

The data obtained from interview indicates that a very detailed procurement plan exists with detail description of every procedure and the existing approach in procuring items. This process requires to formally follow the procurement policy and strategy of Agricultural Transformation Agency. However, it is mentioned on the interview that sometimes following the formal procedure causes a delay which in turn influences the overall achievement of the project.

According to Project Management Institute (2017), agreements can be as simple or complex. In case of simple contracts, it can be the purchase of a defined quantity of labor hours at a specified labor rate while it can be as complex as multiyear international contracts. To this end, the simplicity or complexity of the deliverables or required effort should be reflected by the contracting approach and the contract itself which should be in a written manner that complies with local, national, and international laws regarding contracts.

#### 4.4.10 Project Stakeholders Management

According to this knowledge area, respondents were asked to indicate the extent to which project stakeholder management is being practiced on Agricultural Commercialization Clusters project.

**Table 4.16 - Descriptive statistics of project stakeholder’s management**

	Mean	Std. Deviation	N
Project stakeholders are clearly identified, analyzed and their interests are documented	4.35	.691	34
Stakeholder engagement plan is well developed showing the needs, expectations, interests and potential impact on the project	4.00	.739	34
Stakeholder engagement is well managed and monitored towards meeting their needs and expectations	3.91	.830	34
<b>Total Average</b>	<b>4.08</b>		

Source: Survey result, 2020

According to the survey result, identification of stakeholders has an average mean of (4.35) which is considered as high level and implies stakeholder are clearly identified and analyzed. Responses for the development of stakeholder engagement plan has a mean of (4.00), signifying that this plan is well developed by including stakeholders needs and expectations. In this regard, secondary review by the researcher has also confirmed the development of this plan with detail description of the key areas where the respective stakeholders will engage. Finally, responses on the practice of monitoring stakeholders has scored an average of (3.91) which is considered that almost high-level monitoring and managing practice is there to meet their expectation. Overall, stakeholder management practice has an average of (4.08), implying that this knowledge area is well practiced.

Stakeholders are essential to deliver the intended outcome, successful project and add value to the organization. To meet the needs of a project and expectation of stakeholders, identification

of the right stakeholders and development of targeted communication is which in turn helps to attain level of commitment and support from these stakeholders. Developing and maintaining robust relationships and appropriate level of communication to stakeholders will ensure their support and engagement (Bourne, 2015)

# Chapter Five - Summary, Conclusion and Recommendation

## 5.1 Introduction

This chapter describes the summary of the major findings along with the conclusion drawn from the survey results and recommendations that are suggested by the researcher.

## 5.2 Summary of Findings

The purpose of these study was to assess the project management practices of Agricultural Commercialization Clusters project. According to the survey result, which was made in relation to the ten project management knowledge areas, major findings are captured that are presented as follows:

- Project integration management has an average of (3.27) implying that there is a modest practice of integration management. Based on the finding, among the practices under this knowledge area, the performance of integrated change control is the lowest practice in comparison.
- Project scope management has a mean of (3.06) showing that practices of managing scope is on a modest level. However, findings show that it has a lowest practices of scope change control and the creation and documentation of Work Breakdown Structure (WBS).
- Project schedule management with an average of (2.90) is being practiced slightly below moderate level. Among the processes under schedule management, identification of relationship among project activities, estimation of work period to complete individual and control of project changes to the schedule baseline are the least practiced processes. Findings also indicate that there is a major time delay on some interventions.
- Project cost management having an average of (2.87), slightly below the average. With indication of the finding, that practices of project cost estimation and control of project changes to the budget as compared are least practiced.
- Project communication management with a mean of (3.35) is practiced on a modest level. And findings show that the timely and appropriate collection and distribution of information is not ensured specially, the communication line with end beneficiaries.

- Findings reveal that, project quality management with a mean of (3.73), and project risk management with a mean of (3.58) are being practiced with more than moderate level signifying that there is a good practice in place.
- Project stakeholder management, project resource management and project procurement management knowledge areas have an average of (4.08), (3.94) and (4.13) respectively. Findings show that this knowledge areas are well practiced with highest average result.

### 5.3 Conclusion

This study assesses the project management practices of Agricultural Commercialization Clusters project based on the ten-project management knowledge areas. Based on the findings of the survey, the researcher concludes that the major improvement area that is mainly affecting the cost management, schedule management, scope management and integration management is the lack of managing and controlling changes to the baseline. The researcher concludes that change requests are not properly handled.

The other conclusion drawn is that project cost management and project schedule management practices exist. However, they are not being properly practiced in terms of estimation and control of changes to their respective baseline.

Whereas, for project scope management, project integration management and project communication management practices it can be concluded that they are practiced but to a limited extent with few areas of improvement. In addition, the conclusion of project risk management, project quality management and project resource management, they are properly applied in managing the ACC project. Finally, project procurement management and stakeholder management practices are effectively implemented and well-practiced by the project team working on the ACC project. As a conclusion, the project management knowledge areas are applied and practiced while undertaking the ACC project showing that it is in a good level.

### 5.4 Recommendations

According to the major findings and conclusions of the study, the researcher has suggested some recommendations on the practices of project management knowledge areas as follows:

- It is recommended to perform integrated change control through developing a procedure and tailoring the way by which the control process is applied to the ACC project. Conducting integrated change control will help to manage and control changes to scope, cost and schedule baseline.
- Project cost estimation should be carried out periodically depending on the requirement level and must be reviewed and refined to show changes on initial assumptions since the accuracy of estimates increases as projects proceed.
- Project schedule management can incorporate a schedule compression technique like crashing or fast tracking in order to finalize project activities early and meet the time constraint which in turn minimizes the time delay to a greater extent.
- Project scope management should incorporate the requirement management system to effectively manage the changes and establish a well-developed work-break down structure by dividing it on project phase or on a region basis
- Multifaceted approaches should be adopted to the communication strategy. This approach is effective to conduct a communication with stakeholders from different background, generation and culture.
- Finally, automated tools such as the project management information system (PMIS) should be adopted to incorporate the outcomes of all the knowledge areas.

## 5.5 Suggestion for Further Study

This study has only assessed the project management practice of the Agricultural Commercialization Clusters project from project management knowledge areas. Therefore, it is suggested that further studies to be carried out to assess this project from the project life cycle perspective as well as from other approaches. It is also recommended to conduct researches on other agricultural projects about project management practices and generalize for the sector.

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# **APPENDIX A**

## Questionnaire and Interview questions



**Addis Ababa University  
College of Business and Economics  
School of Commerce  
Master of Project Management Program**

**Dear Respected Respondents,**

My name is Rediet Lemma. I am a student at Addis Ababa University School of Commerce, doing my master's degree in project management. A project work is undertaken to assess the practice project management in Agricultural Transformation Agency: In case of Agricultural Commercialization Clusters project for a partial fulfilment of the requirements for the award of Master of Arts Degree in Project Management.

This questionnaire is prepared to collect a primary data. Therefore, your response and participation will be extremely valuable for the study.

Your participation in this survey is voluntary. The information you provide will be used only for the purpose of the study and will be kept strictly confidential.

In case of any question, please contact me via e-mail or phone.

Thank you in advance for your time and cooperation.

Kind Regards,

Rediet Lemma

Mobile: +251911796419

Email: [redietlemma19@gmail.com](mailto:redietlemma19@gmail.com)

**Direction**

- No need of writing your name;
- Put "X" mark for your choice

**Part I: General Background**

1. Gender

Male  Female

2. Age

Below 30  31-40  41-50  above 50

3. Educational Level

PHD  MA/MSc  BA/BSc  Diploma

If other, please specify \_\_\_\_\_

4. Position in ATA \_\_\_\_\_

5. Work experience in ATA

3 – 5 years  above 5 years

**Part II. Questions in relation to project management knowledge areas of PMBOK.**

Please indicate your response based on your experience in accordance to what extent each of the knowledge areas are being practiced in Agricultural Transformation Agency particularly during the execution of Agricultural Commercializing Cluster. Please put “X” mark for your choice.

*(Where; 5=Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree)*

<b>I. Project Integration Management</b>	5	4	3	2	1
Project charter is well developed that formally authorizes the existence of a project					
Project management plan is developed that integrates all planning components					
Project is well managed and monitored					
Project knowledge is managed, and it is contributed to organizational learning					
Integrated change control is well performed by reviewing all change requests.					

<b>II. Project Scope Management</b>	5	4	3	2	1
Scope management plan is well developed					
Work Breakdown Structure (WBS) is created and documented.					
Stakeholder needs, and requirements are determined, documented and managed					
Scope is clearly defined with detail description of the project.					
Scope validation was done for formalizing acceptance of the completed project deliverable					
Scope control is held to monitor the status of the project.					
<b>III. Project Schedule Management</b>	5	4	3	2	1
Plan for the project schedule is well developed					
Project activities are identified and documented to produce the project deliverables					
The relationship among project activities is identified and documented					
The work period needed to complete individual activities were clearly estimated					
The status of the project is monitored to manage changes to the schedule baseline					
<b>IV. Project Cost Management</b>	5	4	3	2	1
Cost management plan is well developed					

The cost for project activities is clearly estimated					
Budget for the project is clearly determined and communicated					
The status of the project is monitored to manage changes to the cost baseline					
<b>V. Project Quality Management</b>	5	4	3	2	1
Quality management plan is well developed to identify and demonstrate compliance with quality requirements					
Quality management activities are executed effectively					
The status of the project is monitored to ensure the project outputs meet expectation					
<b>VI. Project Resource Management</b>	5	4	3	2	1
Resource management plan is well developed that defines the way to acquire and utilize physical and team resources.					
The process of acquiring, developing and managing project teams is effectively executed					
Resources are well controlled by ensuring their assignment to the project					
<b>VII. Project Communication Management</b>	5	4	3	2	1
Communication management plan is clearly stated by describing the communication activities					
Ensuring timely and appropriate collection and distribution of information is in place					

It is ensured that the information needs of project and its stakeholders are met					
<b>VIII. Project Risk Management</b>	5	4	3	2	1
Risk management plan is well developed by defining the way to conduct risk management activities.					
Project risks are clearly identified with their source and respective characteristics					
Qualitative and Quantitative risk analysis are clearly developed					
Risk responses are clearly planned and implemented according to the plan					
Tracking the identified risks and monitoring the implementation of response plan periodically.					
<b>IX. Project Procurement Management</b>	5	4	3	2	1
Procurement management plan is clearly developed and documented.					
Contract performance are regularly monitored					
<b>X. Project Stakeholder Management</b>	5	4	3	2	1
Project stakeholders are clearly identified, analyzed and their interests are documented					
Stakeholder engagement plan is well developed showing the needs, expectations, interests, and their potential impact on the project.					

Stakeholder engagement is well managed and monitored towards meeting their needs and expectations.					
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**Addis Ababa University  
College of Business and Economics  
School of Commerce  
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Your participation in this survey is voluntary. The information you provide will be used only for the purpose of the study and will be kept strictly confidential.

Thank you in advance for your time and

Kind Regards,

Rediet Lemma

Mobile: +251911796419

Email: [redietlemma19@gmail.com](mailto:redietlemma19@gmail.com)

## **Interview Questions**

1. What are the project management practices of Agricultural Transformation Agency?
2. How well Agricultural Transformation Agency practice the project management knowledge areas?
3. What are the causes for the least practiced project management knowledge areas? (If any)
4. Is there any practice of lesson learned for every deliverables of the project? If yes, what were the strengths and weakness mentioned in practicing project management?
5. Were there any scope changes with Agricultural Commercializing Cluster project? If yes, how was the scope change handled?
6. Were there any delays of time schedule? If yes, why?
7. Were there any mismatches between actual cost and planned cost? If yes, how?
8. Does your organization periodically monitors and reviews its project management practices?

# **APPENDIX B**

## Reliability Test Tables

## **Project Integration Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.731	5

## **Project Scope Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.737	6

## **Project Schedule Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.749	5

## **Project Cost Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.760	4

## **Project Quality Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.820	3

## **Project Resource Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.861	3

## **Project Communication Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.729	3

## **Project Risk Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.831	5

## **Project Procurement Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.717	2

## **Project Stakeholder Management**

### **Reliability Statistics**

Cronbach's Alpha	N of Items
.922	3

**Total reliability for the ten project management knowledge areas.**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.873	39