COLLEGE OF BUSINESS & ECONOMICS

DEPARTMENT OF ACCOUNTING

AND FINANCE MPMF PROGRAM

Critical Success Factors of Agricultural Growth Project in Jimma Zone

A Thesis Submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Arts Degree [MA] in Project Management and Finance

BY:

MUKTAR ABBA MURTI

August 18, 2023

Jimma, Ethiopia

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Under the Guidance of Dr. Arega Seyoum (Associate Prof) and Aynalem Kasa.[lecturer]

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DECLARATION

I the under signed hereby declare that this thesis entitled “Critical Success Factors of Agricultural Growth Projects in Jimma Zone “has been carried out by me under the guidance and supervision of Dr. Arega Seyoum(Associate prof) and Aynalem Kasa.[lecturer] The thesis is original and not been submitted in part or in full for the award of any other degree or diploma to any university or institutions and all of the sources of materials referred in the process have been duly acknowledged

Researcher’s Name	Date	Signature
_____	_____	_____

CERTIFICATE

This is to certify that the thesis entitled "*Critical Success Factors of Agricultural Growth Projects in Jimma Zone",* submitted to Jimma University for the award of the Degree of Master of Arts Degree [MA] in Project Management and Finance (MA) and is a record of bonafide research work carried out by Mr. Muktar Aba Murti, under our guidance and supervision as university advisor s. Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree or diploma.

Main Adviser's Name	Date	Signature
_____	_____	_____
Co-Advisor's Name	Date	Signature
_____	_____	_____

Abstract

The Agricultural growth projects in Jimma Zone have been efficient and effective in projects delivery. Considerable percentages of projects are completed within schedule. This informed the purpose of the proposed study, which is to examine project critical success, factors and success of Agricultural Growth Projects in Jimma Zone. The study employed a mixed method approach, which embraced both qualitative and quantitative approaches including hypothesis testing. The target populations for the study comprised of 500 households which are drawn from seven woredas of Jimma Zone, which benefited from the Agricultural Growth Program. Goma, and Gera woredas that sample 260-sample representative of total population is drawn. The study will use a questionnaire and an interview schedule as the main instruments of data collection. Quantitative data are analyzed using descriptive and inferential statistics and presented in frequency tables while qualitative data are presented in narrative form. Hypotheses are tested using linear regression at 0.05 levels of significance to determine the degree and direction of relationships among variables. Hypotheses were tested using multiple linear regressions at 0.05 levels of significance to determine the degree and direction of relationships among variables. The study attained Cranach Alpha of coefficient of 0.96 for all items implying that the instrument was reliable. The results showed that statically significant influence of combined critical success factors on project success. The multiple correlation coefficient was .98, indicating approximately 97% of the variance of the project success could be accounted for by Human, Project, Stakeholder collaboration, Organization, Project phase and External environment related factors. Based on ranking Human related factors at beta value .49, Stakeholder collaboration related factors at beta value .46, Project related factors at beta value .44, Organization related factors at beta value .42, Project phase related factors at beta value .22 and External environment related factors at beta .06 are critical success factors, which are success agricultural growth project performance in Jimma Zone. This calls for develop project manager's technical expertise, commitment, timely communication and consistence to project work. In order to carried out project within schedule in adherence to budget, in the required quality and satisfy customers timely availability of funds, materials and equipment are a prerequisite. Policy guideline integrating critical aspects that, influence agricultural growth projects completion / success performance are the suggested strategies. To guarantee success in performance of agricultural growth projects, critical success factors in this study

Key Words: ***critical success factors***

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1 Contents

ACRONYMS/ABRIVATIONS

AGP	Agricultural Growth Program
ANOVA	Analysis of Variance
CF	Causality Framework
CHF	Critical Hinder Factors
CIGs	Common Interest Groups
CSA	Central Statistical Agency
CSF	Critical Success Factors
CU	Coordinator Unit
EC	European Commission
EMSP	European Multiple Sclerosis Platform
EPLAUA	Environmental Protection, Land Administration and Use Agency
ESIA	Environment Social Impact Assessment
ESMF	Environment Social Management Framework
ESMP	Environment Social Management Plan
FM	Financial Management
FREGs	Farmer Research and Extension Groups
GDP	Gross Domestic Product
GoE‘s	Government of Ethiopia
GTP	Growth and Transformation Plan 2015 to 16-2019/20.
IFAD	International Fund for Agriculture Development
IPMA	International Project Management Association
IPMPs	Integrated Pest Management Plans
LF	Logical Framework
LMD	Livestock market Development
MOA	Ministry of Agriculture
MOANR	Ministry of Agriculture and Natural Resources
PASIDP	Participatory Small-Scale Irrigation Development Program
PCM	Project Cycle Management
PDO	Project Development Objectives
PMBOK	Project Management Body of Knowledge

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The Ethiopian economy in the past three years has been faced with multiple shocks of differing natures; the COVID-19 pandemic, internal conflicts and the northern Ethiopia war, drought, and most recently, the Ukraine crisis.

The government has lowered its growth projections to 6.6% from the original projection of 8.7% for FY2022. The complexity of managing the shocks has made policy choices challenging.

Several parts of the country have also been hit by the worst drought in forty years, affecting human lives, livestock, and agriculture. Nevertheless, in the past three years, the economy had shown some degree of resilience and recorded a positive rate of growth.

In sub-Saharan Africa, average growth has also been positive at 4.5% in 2021 (IMF, 2022)

FY2022 GDP projections of UNDP stood at 3%, reflecting pronounced shocks to manufacturing and agriculture from the combined impacts of the war and drought.

The shocks have affected human development, pushing many people, especially in the north and in the urban cities, into greater poverty, impairing economic activities, and deepening macroeconomic imbalances.

Agriculture in FY2022 is projected to be affected by both the conflict as well as the current drought. Although the drought has affected mostly the pastoral parts of Oromia, Somali, and SNNPR, it has caused the displacement of people in search of fodder and water for their livestock (World Bank, 2022a)

Due to the conflict, significant damage was faced in agriculture. In the Amhara region, estimated damage of more than Birr 100 billion was reported by the regional government. Under normal times, the Amhara region contributes more than 30% of the total crop production of the country. The increased cost of fertilizers is also another main challenge for the sector’s performance.

There has been a sharp increase in fertilizer prices in the global market.

The Ukraine crisis has further exacerbated the price situation given the fact that Russia is a source of 16% and 12% of the Urea and Dap, respectively. According to a report by OCHA (June 7, 2022), Ethiopia is one of the eastern African countries that has seen a sharp increase in fertilizer prices at local markets.

Although the gradual rebound has started in the services sector, a complete rebound in some of the areas is yet to come. According to the Ministry of Planning and Development, the first two quarters of FY2022 have witnessed only a marginal growth of 1.5% in the services sector. For example, the shocks have harmed hotel occupancy rates, which have fallen significantly first due to the COVID-19 pandemic and then due to the northern Ethiopia war. The conflict had led to a 50% drop in hotel occupancy and recently started to rebound. However, it will take time for a complete recovery to pre-pandemic days.

The macroeconomic imbalances are affecting investment and manufacturing. The current macroeconomic situation is characterized by significant current account deficits leading to dwindling international reserves and high debt accumulation. Shortage of foreign exchange and rising inflation are the main challenges affecting investment in the country. Capital goods imports have been compressed and declined by 24.6% in the first 10 months of FY2022. Imports of raw materials declined by 21%, agricultural inputs fell by 43.8% and industrial inputs by 27.3%. This will harm output and productivity (World Bank, 2022a)

Smallholder agriculture is an important sector of Ethiopia's economy. The government committed to shifting its focus from humanitarian activities to development activities, with an increased interest in expanding and transforming the agricultural sector. Greater investment in high-potential areas is considered critical for agricultural growth.

Ethiopian farmers' vulnerability and exposure to shocks are high, especially considering the lack of capacity to store water and irrigate their crops. The focus on productivity growth was paramount in mitigating these risks. Expanding agricultural production areas under irrigation, especially for small-scale farmers, was considered a key vehicle to increasing productivity, reducing dependency on rain-fed production, and diversifying agricultural production (Agricultural et al. 2012).

Despite many challenges, there is significant room for improvement. For instance, despite the Government's emphasis on agricultural growth, absolute expenditure figures per capita are

still low even in comparison with many other countries in sub-Saharan Africa. Moreover, Government and donors' activities are imbalanced with most of their interventions focusing on food insecurity issues (thematic) and food-insecure areas (geographically). This approach results in inadequate attention to harness opportunities for accelerated agricultural growth in many higher-potential areas. Few resources are available for addressing local challenges in nonfood insecure areas.

The GoE has been a strong advocate for an integrated approach to address the current and emerging challenges through a large multi-donor funded Agricultural Growth Program AGP (Agricultural et al. 2012).

The Agriculture Growth Program (AGP) was a multi-donor-funded program focusing on increasing sustainable agriculture growth. It promotes agricultural growth in targeted, potentially rich, but underdeveloped woreda of the country.

The program's key strategic priorities are agricultural production and commercialization through institutional strengthening, scaling up of best practices, market, and agribusiness development; and rural infrastructure development and management through small-scale agricultural water management and market infrastructure development (Irrigation, Program and Framework 2016).

The Program Development Objective was "to increase agricultural productivity and commercialization of smallholder farmers targeted by the Program and also contributes to dietary diversity and consumption at HH level." Alike the preceding Program, AGP II would also give due attention to the increased participation of women and youth. The program contributes to the higher-level goal of sustainable food security and agricultural transformation by developing the untapped potential of well-endowed areas (Anon 2015). Program Components, Public Agricultural Support Services, Agricultural Research, Smallholder Irrigation Development, Agricultural Marketing and Value Chains, Project Management, Capacity Development, Monitoring, and Evaluation (Anon and Ababa 2015)

Based on selection criteria such as access to market, suitability for agriculture, potentials for irrigation, access to infrastructure, institutional capacity, and willingness and commitment to participate 157 woreda were selected from seven national regional states and one city administration deemed with high growth potential, due to agro-ecological conditions and access to markets.

The 96 woredas that benefited from the AGP I interventions will also be the beneficiaries during the AGP II and additional 61 woreda are included (Anon and Ababa 2015).

1.2 Overview of the AGP in Jimma Zone

The overall condition of the study area is the Jimma Zone Location southwest part of Ethiopia in the oromia regional state354Km far from Addis Ababa. Jimma Zone formerly known as the five gibe states comprises Jimma, Gomma, Guma, Gera &Limu enariya. Jimma Zone is One of 22 Zones in Oromia Regional State have 21 woredas (rural 20 &town1), Kebeles rural 514, town 35, a total of 549. Based on the 2007 census conducted by the Central Statistical Agency of Ethiopia (CSA), the total population of Zone 3,411,303 (2017) male was 1,730,544 (50.3%) and female 1,680,759(49.7%). Population distribution was urban 10.79% rural 89.21%; the Percentage of the population aged below 15 (45%) and the percentage of the population at risk of malaria 70%. Astronomical location of the Jimma Zone is 7013' - 8o 56' N & 350 49'- 380 38' E. Total (land) area is 18,696 Km2. (5.14% of the region's total area). Major Agro ecologies were temperate 10%, Sub-tropical 78%, and tropical 12%. The Population density in 2017 is 182 people per km2. Geographical location: the Zone is in South Western part of Oromia; bordered by: East Wollega, West Shewa, South-West Shawa, Illu AbaBor, and Buno-Bedele Zone and a large part of Zone border bordered with SNNPR (source CSA, 2007).

From the 21 woredas7 are selected based on selection criteria such as access to market, suitability for agriculture, potentials for irrigation, access to infrastructure, institutional capacity, and willingness and commitment to participate. The three woredas that benefited from the AGP I interventions will also be the beneficiaries during the AGP II and additional four woreda were included.

The 7 woreda benefited from AGP II intervention in the Jima zone (Anon and Ababa 2015).

Based on the general observation in the zone Project support for new technologies, best practices, extension services, seeds, and fertilizers improved the management and yields of selected crops. Investments in marketing infrastructure feeder roads, bridges, and market centers successfully increased direct access to markets for rural agricultural households for beneficiaries in AGP woreda. Overall, the project made a commendable effort to mainstream gender in project activities to increase both youth and female participation.

The general observation has been due to qualified technical personnel for the design and supervision of works, competent, experienced, and qualified contractors, institutional factors, strong extension service delivery, crop and livestock diseases, protect soil and environmental degradation, adequate coordination and institutions that provide adequate and quality services are the critical success factors of Agricultural growth project outcome and implementation.

The critical success factors of the Agricultural Growth Project in the Jima zone have been investigated.

There is a clear need for more action to provide the scientific data and to find common ways to gather and process it so that examining and describing the impacts of these factors on project performance at the zonal level was necessary.

This study intended to provide the AGP steering committee, AGP coordination unit, AGP focal person, AGP financier, AGP procurement, Head of Woreda Agriculture office, AGP Technical Committee, stakeholders, Common Interest Group (CIG), Farmer Research and Extension Groups (FREGs) and clients, with the necessary information needed to better manage Agricultural Growth Project.

By identifying the critical success factors of Agricultural Growth Projects and describing the impacts of these factors on project performance well as proposing solutions to the inherent problems associated with critical `success factors in agricultural growth projects and means of its wider implementation.

Thus, the research finding further provides relevant and valuable information used to come up with policy input that enhances AGP in the Jima zone. The study may contribute to the contemporary empirical literature on critical success factors related to Agriculture projects in developing countries.

1.3 Statement of the Problems

The share of the agriculture sector declined from 38.6 of GDP to 36.3 percent, exhibiting a slightly faster drop over the plan target of 36.4 percent for the fiscal year 2016/17(Growth et al. 2018). Ethiopian farmers' vulnerability and exposure to shocks are high, especially considering the lack of capacity to store water and irrigate their crops. The focus on productivity growth was paramount in mitigating these risks.

Expanding agricultural production areas under irrigation, especially for small-scale farmers, is considered a key vehicle to increasing productivity, reducing dependency on rain-fed production, and diversifying agricultural production.

The GoE has been a strong advocate for an integrated approach to address the current and emerging challenges through a large multi-donor-funded Agricultural Growth Project AGP (Anon and Ababa 2015).

The Agriculture Growth Project (AGP) was multi-donor-funded program focusing on increasing sustainable agriculture growth. It promotes agricultural growth in targeted, potentially rich, but underdeveloped woreda of the country.

The program's key strategic priorities are agricultural production and commercialization through institutional strengthening, scaling up of best practices, market, and agribusiness development; and rural infrastructure development and management through small-scale agricultural water management and market infrastructure development (Irrigation et al. 2016).

According to the World Bank, report on December 15, 2017, the achievement of project development objectives rating moderately satisfactory. The overall outcome rating was on the border between satisfactory and moderately satisfactory. However, project coordination was a big challenge at the beginning of the project regarding the parallel financed USAID AGP sub-projects and with the Ministry of Trade and the monitoring of progress vis-a-vis the PDO was challenging due to vast coverage and complexity of the project across 96 woredas. In addition, M&E implementation had a weak start because of capacity challenges at the local level (Official et al. 2018).

Proceeding to the commencement of Participatory Small-Scale Irrigation Development Program **{**PASIDP II,**}** Environmental and Social Management Framework report (MOANR, May 2016) the conclusion from the Gap Analysis exercise was that there is in general a lack of capacity among consultants and woreda level experts to carry out an adequate environmental and social assessment or prepare adequate environmental and social management plans, to acceptable IFAD SECAP standards. The ESIAs and ESMPs have been approved at the regional and woreda level respectively, which indicates that the regional and woreda Environmental Protection and Land Administration Bureau/Office Experts may also not have the capacity to review these documents to ensure they satisfy IFAD SECAP safeguard requirements, or they may not be aware of these requirements. During the

preparation of the ESMF, discussions in the field with woreda and Kebele level authorities and communities revealed that consultations with the communities overall were carried out once by the design consultants and during the preparation of socio-economic studies for the schemes.

However, subsequently, neither preliminary nor final designs were not discussed with the communities Keble or woreda authorities. This therefore not aligned with the participatory principal approach upon which the Program is based. Specifically, shortcomings were identified as relating to the identification, planning, and screening of subprojects at the kebele level by development agents and the woreda level; lack of capacity and budgets to conduct ESIA studies and prepare ESMPs; and lack of financial resources to implement and monitor mitigation measures ESMPs.

The FM risk exposure at the project appraisal stage was rated substantial. Risk factors included issues of inadequate documentation for incurred expenditures, the decentralized nature of the project, continuous low budget utilization, the high level of cash and advances given to project implementers, Weak procurement capacity, weak recordkeeping, and procurement of items without approval of procurement plans (Irrigation et al. 2016).

Based on selection criteria a total of 7 woredas that benefited from AGP II intervention were selected from 21 woredas in the Jimma zone (Anon&Ababa 2015).

The general observation had been due to qualified technical personnel for the design and supervision of works, competent, experienced, and qualified contractors, institutional factors, strong extension service delivery, protect crop and livestock diseases, the decentralized nature of the project, skilled personnel. Especially at the Zonal level, adequate coordination and institutions that provide adequate and quality services are critical success factors of AGP. The critical success factors of AGP in the Jima zone had been investigated

A lot of researches are done on the impact and factors affecting of agriculture projects. despite the existence of ample studies made on agricultural projects yet only a handful of these studies are directly related of critical success factors of these project.

Thus there is no clear indication with regard to what constitutes the critical success factors of agricultural Growth projects[AGP]Even though few studies are done on the critical success factors of Agricultures growth projects but no studies have been made on Agricultural Growth projects[AGP]found in Jima zone

Thus, there is a clear need for more action to provide the scientific data and to find common ways to gather and process it so that examining and describing the impacts of these factors on AGP in the zonal level is necessary.

There have been occurrences of AGP success in different seven woreda of Zones that benefited from the Program and success to meet the program development objectives and components.

All these have been attributed to the success of projects that can only measure in terms of the achievement of quality, performance, cost efficiency, and stakeholder/client satisfaction. Quality, as well as project success, in projects, should be capable of regarded as the fulfillment of the expectation of those contributors and stakeholders involved in such projects. A full understanding of the concept of AGP and the critical variables of success AGP is needed to improve program development objectives and components.

The research problem to be addressed in this study was the critical success factors in Agricultural Growth Project (AGP) in Jima Zone have been identified.

This study intended to provide the AGP steering committee, AGP coordination unit, and AGP focal person, AGP financier, Woreda office of Agriculture, AGP Technical Committee, stakeholders, Common Interest Group (CIG), and clients, with the necessary information needed to better manage and implement AGP.

By examining the critical success factors of Agricultural Growth Projects and describing the impacts of these factors on project performance as well as proposing solutions to the inherent problems associated with critical success factors of agricultural growth programs and means of its wider implementation.

There for that is why the researcher highly need to have done on this title critical success factor AGP which may improve the governmental strategic policy intervention and filing. Know ledge gap. Through responding the following basic research questions of the study

1.4 Research Questions

The basic research questions of the study are

- ✓ How do human-related factors influence AGP success in Jimma Zone?
- ✓ How do project-related factors influence AGP success in Jima Zone?
- ✓ How do stakeholder collaboration-related factors influence AGP success in Jima Zone?
- ✓ How do organization-related factors influence AGP success in Jima Zone?
- ✓ How do project phase relate factors influence AGP success in Jima Zone?
- ✓ To what extent do external environment-related factors influence AGP success in Jima Zone?
- ✓ To what extent do the combined project critical success factors influence AGP success in Jima Zone?

1.4 Objectives of the Study

1.4.1 General Objective

To examine the influence of critical success factors and the success of Agricultural Growth Projects in the Jima Zone

1.4.2 Specific Objectives

- ➢ To assess how human-related factors influence AGP success in Jima Zone
- ➢ To determine how project-related factors influence AGP success in Jima Zone
- ➢ To establish how stakeholder collaboration-related factors influence AGP success in Jima Zone
- ➢ To determine how organization-related factors influence AGP success in Jima Zone
- ➢ To examine how project phase-related factors influence AGP success in Jima Zone
- ➢ To examine the extent to which external environment-related factors influence AGP success in Jima Zone
- ➢ To establish how combined project critical hindering factors influence AGP success in Jima Zone

1.5 Significance of Study

The critical success factors of AGP in the Jima zone have been looked into. This study intended to provide the AGP steering committee, AGP coordination unit, AGP focal person, AGP financier, Woreda office of Agriculture, AGP Technical Committee, stakeholders, Common Interest Group (CIG), and clients, with the necessary information needed to manage AGP. By probing, the critical success factors of the Agricultural Growth Program and describing the impacts of these factors on project performance and the substance of its broader implementation. Therefore, the research finding further provides relevant and valuable information that can use to come up with a policy that enhances AGP in the Jimma zone. The study may contribute to the contemporary empirical literature on critical success factors that contribute to project success in developing countries.

1.6 Scope of the Study

This study focuses on examining critical success factors of Agricultural Growth Projects in the Jimma zone. The zone covers an area of 18,696 Km2. In addition, it has two town's administrations namely Jimma and Agaro and 21 Woredas (CSA, 2007). The scope covers various participants involved in the Agricultural Growth Program/ projects in Jimma Zone woredas (Goma, Gera, LimuSeka, Omo Neda, Omo Beyem, Dedo and Mencho) which included by the program. These include steering committee (SC), Coordinator Unit (CU), Technical Committee (TC), AGP focal person, AGP finance officer, AGP irrigation expert, stakeholders, and clients that are individual and collective level of compliance to Agricultural Growth Program Projects.

1.7 Operational Definition of Terms

Critical success factors - are a set of project variables or factors that are strongly correlated to project success, and whose maximization or minimization, depending on whether they are favorable or unfavorable, will lead to project success.(Birhanu et al. 2021)

Human Related Factors: refers to the project manager's likeability to delegate authority, ability to trade off, ability to coordinate, perception of his role & responsibilities, communication skills competence and commitment; technical background, communication

skills, and commitment of team members, client satisfaction, contribution to project design, interference, commitment to the goals/objectives and quality standards. (Ghassabi et al. 2018)

Project Related Factors- refers to tendering method and strategies, well-laid-out specifications, life cycle and urgency, clear and realistic goals, effective budget controlling, effective planning &scheduling, effective coordination & communication, problem-solving abilities, risk management effective monitoring performance, and feedback of the project.(Bank 2018)

Stakeholders Collaboration Related Factors- refers to Common vision and effective communication, clear understanding of the project design and implementation approach, defined roles & continuity of relationships, accountability and joint decision making, supportive environment, and feedback mechanism, innovation, and knowledge share.(Kassa, Wakgari, and Taddesse 2016)

Organization Related Factors: This is the top management commitment and support, project organizational structure, functional managers' support, and project champion, effective use of both formal and informal communication, 360-degree reporting, and feedback.(Mumtaz et al. 2007)

Project Phase Related Factors refer to a clear understanding of the project environment, adequate financial and other resources, compatibility with development priorities, compatible regulations and standards, and adequacy of project closure activities.

External Environment Related Factors: focus on, the socio cultural environment, political environment, technological environment, legal factors, nature, economic environment, and sub-contractors.(Michael H. Ross 2011)

Project performance- This is an aspect of project accomplishment about the subjective matter of the client and the public at large and benefits realization and collective utility.(Hasheela-mufeti 2017)

1.8 Organization of the Study

This research paper was organized into five chapters. The first chapter discusses the background of the study, a statement of the problems, objectives, research questions, research hypothesis, and significance of the study. Chapter 2 deals with the theoretical framework, a

review of the related literature, and a conceptual framework. Chapter three comprises research design, methodology, and target population The chapter also contains sample size and sampling procedures, research instruments: questionnaires, key informants interview schedule, pilot testing of the instruments, the validity of the instruments, reliability of the instruments, data collection procedures, data analysis techniques, ethical consideration and operationalization of variables. Chapter four deals with the Results and Discussion while chapter five presents the conclusion and recommendations

CHAPTER TWO

2. REVIEW RELATED LITERATURE

2.1 Theoretical Framework

2.1.1 Theory of Projects

A project is the achievement of a specific objective, which includes a series of activities and tasks which consume resources and must be completed within a set specification, having definite start and end dates (Lutaaya 2019) The Project Management Institute defines a project as a temporary endeavor undertaken to create a unique product or service(Prieto 2015). Regarding the theory of project, the (partial) models of operations as flow and value generation add the consideration of time, variability and customer to the conceptualization provided by the transformation model (Koskela 2000).

2.1.1.1 Theory of projects as transformation

According to (Koskela and Howell 2002)**the theory of projects as transformation** is not the best available; rather it has to be augmented; this becomes rather clear when we remind that competing theories of production (projects are just special instances of production) have existed even before the emergence of project management.

2.1.1.2 The flow view of production,

The flow view of production firstly proposed by the Gilbreths (1922) in scientific terms has provided the basis for JIT and lean production. This view was firstly translated into practice

by Ford (1926); however, the template provided by Ford was in this regard misunderstood, and the flow view of production was further developed only from 1940'ies onwards in Japan, first as part of war production and then at Toyota. Shingo (1988) proposes extension of Prevailing Theory for Operations as Flow. As a result, the flow view embodied in JIT and lean production.

In a breakthrough book, Hop and Spearman (1996) show that by means of the queuing theory, various insights, which have been used as heuristics in the framework of JIT can be mathematically proven(Koskela and Howell 2002).Regarding the goals of project management(Koskela and Howell 2002), the flow view especially addresses the goal "unnecessary work is not done". In the flow view, the basic thrust is to eliminate waste from flow processes. Such principles as lead-time reduction and variability reduction promoted. Thus, the managerial prescription is completely different in comparison to the transformation view; for example, the former suggests reducing uncertainty, whereas the latter accepts the existing uncertainty(Koskela and Howell 2002). In the value generation view, the basic thrust is to reach the best possible value from the point of the customer.

2.1.1.3 The value generation

The value generation view initiated by Shewhart (1931) and further refined in the framework of the quality movement but also in other circles. Value Generation Levitt (1960) and Drucker (1989) Project is a temporary endeavor and Transformation flows are distinct from task operations. Cook (1997) has recently presented a synthesis of a production theory based on this view. Axiomatic design developed by Suh (2001) advances further the principles along which requirements should be assigned to product subsystems, a significant issue of value generation(Koskela and Howell 2002).

The major difference between the transformation view and the value generation view is that the customer is included in the conceptualization of the latter. Whereas the transformation view assumes that customer requirements exist at the outset, and that they can decomposed along with work. The value generation view admits that at the outset, customer requirements are not necessarily available or well understood, and that the allocation of requirements to different parts of the (project) product is a difficult problem(Koskela and Howell 2002) .

The value generation view provides for an explanation on the third goal of project management, delivering the business purpose. Principles related to rigorous requirement

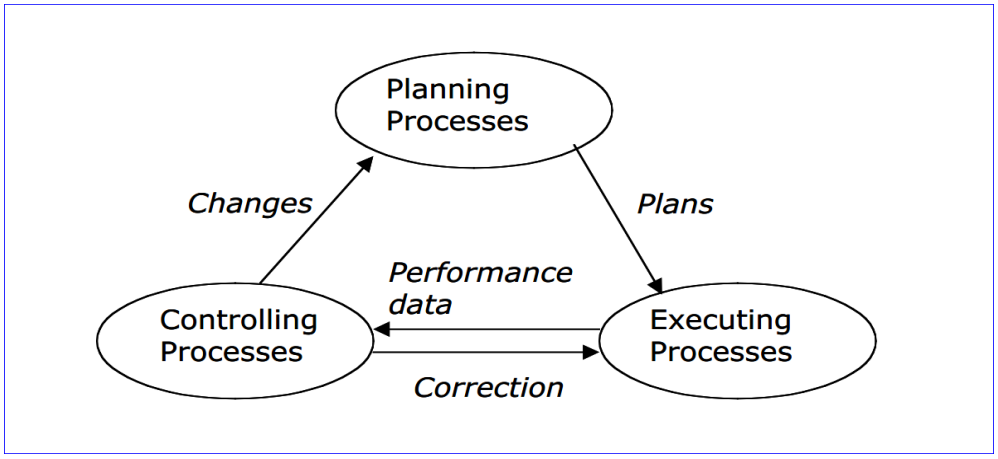
analysis and systematized flow down of requirements, for example forwarded. Again, the prescription is very different in comparison to the transformation view, which more or less accepts the requirements as they are. It has argued that these three concepts of production are not alternative, competing theories of production, but rather partial and complementary. What is needed is a production theory and related tools that fully integrate the transformation, flow, and value concepts(Koskela and Howell 2002).

2.1.2 Theory of Management

Project management is the practice of initiating, planning, executing and controlling whose proponents is PMI (1969) focuses on three theories of management: management as planning, the dispatching model, and the thermostat. The first is evident from the structure and emphasis of the PMBOK Guide and the second is apparent from the discussion of execution in the PMBOK. Together they form the theoretical foundation of present management practice. Project management refers to the application of knowledge, skills, tools and techniques to project activities to meet a relatively short-term objective that has been established to complete specific goals and objectives (Lutaaya 2019).

The function of project management includes defining the requirement of work, establishing the extent of work, allocating the resources required, planning the execution of work, monitoring its progress and adjusting deviations from the plan (Mustaro and Rossi 2013). According to (Lousberg n.d.)“Plan, Do, Check and Correct”. Known as the Deming-circle in Quality management, this seems to be one of the variants of the description of the managerial process as a closed loop i.e., Planning, Execution and Controlling.

The PMBOK Guide divides project management processes into initiating, planning, execution, controlling and closing processes. According to (Koskela and Howell 2002)(Koskela 2014) the core processes of planning, execution and controlling . A central idea is that these processes form a closed loop: the planning processes provide a plan, that is realized by the executing processes, and variances from the baseline or requests for change lead to corrections in execution or changes in further plans(Koskela and Howell 2002)(Koskela 2014).



(Source, Koskela 2014)

Figure 2.1.2 The closed loop of managerial processes in project management according to the PMBOK Guide (Source, Koskela 2014).

The theoretical foundation of project management can be explained using planning, execution, and control as the key concepts(Lutaaya 2019)(Koskela 2014).

2.1.2.1 Theory of planning

The theory of Management-as-planning' whose proponents are Johnston and Brennan (1996) focuses on the creation, revision and implementation of plans. It assumes that everyday activity itself mediated by representations of the world and affected by the implementation of plans. Regarding planning, the approach of management-as-organizing adds the idea of human activity where attention is paid to structuring the physical, political and cultural setting of action, in recognition that purposeful action is an interaction between intelligent agents and structured environments, rather than just an information process. Thus, planning should also focus on structuring the environment to contribute to purposeful acting.

2.1.2.2 Theory of execution

The theory execution, originated is by Wino grad and Flores (1986) focuses on the language/action perspective, conceptualizes two-way communication and commitment, instead of the mere one-way communication of the classical communication theory. Communication is a two-way process, and commitment created for the realization of the tasks within the planning conversation where plans prepared by one crew understood as promises to others and through the obligation to report on the completion of the task. This theory is employed to the proposed study in regard to identify whether the effective communication

between /among project stakeholders which can success/ hinder the project performance within the AGP.

2.1.2.3 Theory of control

The proponents of the scientific experimentation model of control are Stewart and Deming (1939). It focuses on finding causes of deviations and acting on those causes, instead of only changing the performance level for achieving a predetermined goal in case of a deviation. The scientific experimentation model adds thus the aspect of learning to control. Control consists of measurement of the realization rate of assignments, investigation of causes for non-realization and elimination of those causes. This theory employed to emphasize the importance of checking the project success/failure factors, which can influence the completion of projects in highest level of efficiency with regard to quality, performance and client satisfaction.

2.1.3 Soft Value Management Theory

The proponents of Soft Value Management (SVM) Theory are Al-Yami and Price (2006). Soft Value Management Theory is used when plan is being made on how to reduce the negative impact a project might incur in the processes of implementation. When a clear road map is developed on the various ways a project can be managed with minimal negative effects, it becomes beneficial to the whole projects. This theory is applies to the proposed study in regard to the study purpose to examine the impacts of critical hinder factors on hinder within the AGP, hence connects with the theory of SVM whose aim is in attempting to minimize the negative impacts in the projects and enhance project completion.

2.1.4 Critical Chain Project Management

Critical chain project management originated by Dr. Eliyahu M and Goldratt (1997) focuses on method of planning and managing projects that emphasizes the resources required; strives to keep resources levelly loaded. CCPM addresses uncertainty and resource constraints based on methods and algorithms derived from Theory of Constraints and include resource leveling and use of buffers. CCPM builds on PERT and CPM as well as system dynamics thinking. CCPM moves into the world of dynamic systems.

This theory employed to emphasize the importance of checking the project planning, managing and utilization of resource constraints, which can influence the completion of projects in highest level of efficiency with regard to quality, performance and client satisfaction.

2.1.5 Extreme project management

Extreme project management (XPM) originated by Doug DeCarlo (1996).is the art and sciences of facilitating and managing the flow of thoughts, emotions and interactions in a way that produces value outcomes under turbulent and complex conditions: those that feature high speed, high change, high uncertainty and high stress. Focuses on a method of managing very complex and very uncertain projects, utilizes an open, elastic and non-deterministic approach. The focus is on the human side of project management (managing stakeholders), rather than on intricate scheduling and formal processes and methods. The emergence of extreme project management moves project management theory into the world of dynamic, non-deterministic systems. The control point is focused on how you respond to the reality that you have no (or at least limited) control. This theory is applying to the proposed study about the study purpose to examine the impacts of critical hinder factors on project performance within the AGP. Hence connects with the theory of XPM whose aim is in attempting to managing very complex and very uncertain projects, utilizes an open, elastic and non-deterministic approach and managing stakeholders to enhance project completion.

2.1.6 Project Cycle Management

Project Cycle Management is an approach to managing projects. It determines particular phases of the Project, and outlines specific actions and approaches to taken within these phases. The PCM approach provides for planning and review processes throughout a cycle, and allows multiple project cycles supported. The project cycle also provides a structure to ensure that stakeholders consulted and relevant information is available throughout the life of the project, so that informed decisions can made at key stages in the life of a project. While the scope and scale (and the manner of approach) differs between projects, and the development agencies concerned, some elements remain the same(Anon n.d.).

2.1.7 Causality Frameworks

CFs development has existed since the seventeenth century, when CFs first used in the natural sciences to test hypotheses.

The systematic use of a causality framework (CF) is an acknowledgement that every program is an experiment and that desired results cannot guaranteed. Results depend on elements that are likely to change (variables) and their interrelationships. This Framework employed to the proposed study to examine interrelationships between variables. CFs encourages program managers and policy makers to systematically examine, document, and assign values to objectives and assumed variables, and to examine interrelationships between variables, for example, the connection between more food and better health(Ofori,Daniel F.2013).

2.1.7.1 Logic Framework

The logic framework (LF) is one of the best-known CF types used globally in public and private sectors and civil society organizations. Though applied slightly differently in different institutions, it has been pivotal in developing a common language among program and policy managers. Mbeche et al (2000) defines monitoring as periodic review of the project inputs, activities, and outputs undertaken during implementation, while evaluation is a judgment on the effectiveness of the project. It important therefore, for the project manager to have ways of continuously examining the ongoing operations to ensure that the defined objectives are being met. A key characteristic of the LF is that is that it expounds a linear chain of causality and progression of results. Figure one gives an example of a visual mapping exercise using the logic framework language of results (input, output, outcome, impact) completed by the stakeholders of a policy to clarify a government‘s intervention structure(Reduction n.d.).

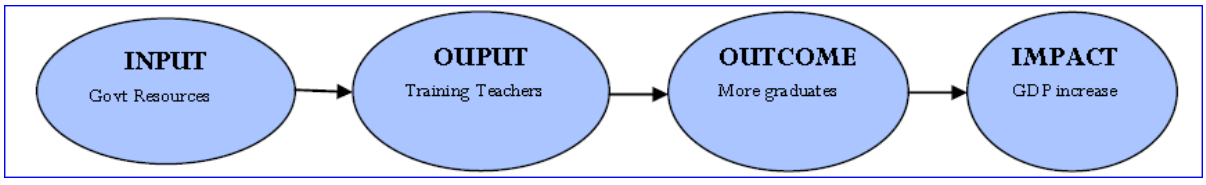


Figure 2.2: Basic Logic Map (Source, Ofori,Daniel F.2013)

LFA uses a top down approach to formulate a hierarchy of project objectives such that, at any given level the lower objectives are means to satisfy the next higher level of objectives. The hierarchy displays a series of cause and effect linkages between one level of objectives and

the next higher level and towards a path of ultimate highest objectives, Baccarini (1999). The LFA uses the "how-why" logic chain that displays the relationship of between the hierarchy of project objectives. The "why" is the ends and the "how' is the means. See Table 2.1

Table 2.1 Basic Format of the Logical Framework

Project Title _____		Total Funding _____	
Life of project from _____to _____		Date prepared_____	
Narrative Summary	**Objectively Verifiable Indicators**	**Means of Verification**	**Important Assumption**
Program or sector goal: The broader objective to which the project contributes	Achievement of goals measures	Source of information for goal indicators	Assumptions for achieving goal target
Project purpose: Immediate objective of the project	Measures of purpose achievement	Source of information indicators of project objective	Assumptions for achieving purpose (objective)
Outputs: desired results	Magnitude of outputs	Source of information for indicators of outputs	Assumptions for providing outputs
Inputs: The information, and physical items which enter the system	Implementation targets	Source of information for indicators of inputs	Assumptions for providing outputs

Source: Prof Mbeche et al (2000), "Project planning, Implementation and Evaluation." pp.196

LFA employed to the proposed study to examine cause and affect linkages between dependent variable and independent variables. In practice, even the best project managers can find it difficult to plan major projects without missing important activities and without failing to spot all the significant risks. The LFA helps in identifying comprehensive activities in the project and reinforces this with a rigorous risks and assumption analysis.

This study is aims to examine the critical success factors in Agricultural Growth Projects By identifying the most determinant of critical success factors in AGP implementation; the researcher will be able to know the relationship between critical success factors and project success. Moreover, the study also aims to describe the impacts of these factors on success and to recommend appropriate ways of increase project success/means of its wider implementation. Essential to examine critical success factors in projects because, it affects project performance positively.

2.2 Empirical Reviews

2.2.1 The Practice of Project Management

Almost any project requires the application of art and science of project management. The level of technology needed, the degree of sophistication of the tools and techniques plus the types and number of personnel involved will depend on the size complexity or nature of the project. According to Hendrickson and Au (1989), "management process approach" emphasizes the systematic study of management by identifying management functions in an organization and then examining each in detail. There is general agreement regarding the functions of planning, organizing and controlling.

The project manager's job regarded as coordinating a process of interrelated functions that are neither very random nor rigidly predetermined but are dynamic as the process evolves. Furthermore, the management science and decision support approach contributes to the development of a body of quantitative methods designed to aids managers in making complex decisions related to operations and production. In decision support system emphasis is placed on providing managers with relevant information(Alias et al. 2014)

2.2.2 The Objectives of a Project Management

One of salient objectives of project management is to contribute to nation building and in the process, assist in providing shelters to house the various residential, commercial, industrial and recreational activities of its people(Alias et al. 2014). According to (Tan, 1996), Most clients would be satisfied with work that is superior in quality, gives the most in quantity, cost the least, quick off mark, yields the highest return and easy to build and maintain. Another subsidiary set of project objectives include technical excellence in other aspects of

project management such as infrastructural planning and various other essentials aspects of professional expertise

The objectives of project management include enhancement of the built environment, preservation of the natural eco-system and habitat, end users' comfort and satisfaction. Contributions to nation building and the economy also constitute the overall objectives of project management on a more macro global basis.

2.2.3 Critical Success Factors (CSFs)

Critical success factors (CSFs) are inputs to project management practice, which can lead directly or indirectly to project success. It encompasses many elements, which have synchronized to ensure the project delivery on time. The study of critical success factors is a means of improving effectiveness and efficiency of projects.

Generally, **critical success factors are a set of project variables or factors that are strongly correlated** to **project success**, and whose maximization or minimization, depending on whether they are favorable or unfavorable, will lead to project success.

The CSF implies certain elements that significantly contribute to, and are vital to the success of a project (Rockart, 1982) Therefore, to be able to achieve project success, one must start by determining those factors that affect project success and cause project failure (Toor&Ogunlana 2009)

This study refers to the six factors – project management process, project manager's competency, project team member's competency, project organizational planning, project resources utilization, and project organizational commitment – that enable project organizations to achieve better performance.

(Belassi 1996) identifies five critical success factors, such as Factors related to project manager's likeability to delegate authority, ability to tradeoff, ability to coordinate, Perception of his role &responsibilities, competence and commitment. Factors related to team members such as technical background, communication skills, trouble shooting, and commitment. Factors related to the Project such as size value, uniqueness of project activities, density of a project, life cycle and urgency. Factors related to the Organization such as top management support project organizational structure functional managers' support project champion and environmental related factors, such as political environment, economic

environment, social environment technological environment , nature, client ,competitors, sub-contractors.

(F 2016) identified Project success factors by grouping in to two broader types/categories. They are success factors on which contractor has no nor has the least control/influence (external factors) and success factors on which contractor full or a considerable level of control/influence (Internal factors). The findings suggest that, researches that are more empirical needed on the relationship of human resources management related critical success factors with project success and organizational success in construction project management.

(Ofori 2013) identifies critical factors that militate against project success lack of support/ finance lack of communication, coordination and commitment lack of experienced & competent personnel bureaucracy in government institutions lack of consultation with stakeholders and Critical Factors that facilitate project success effective communication, coordination and commitment top management support effective planning experienced & competent personnel teamwork good leadership. (Alias et al. 2014)develop conceptual framework in their finding by identifying five (5) variables for project success namely Project Management Action, Project Procedures, Human Factors, External Issues and Project Related Factors.

(Beleiu, Crisan, and Nistor n.d.) In their findings, identify main success factors when dealing with projects using quantitative research. Top five success factors were Projects have clearly defined goals and directions; Projects' team members have the necessary competences; roles and responsibilities clearly defined; the communication and consultation with stakeholders take place whenever necessary; Projects respect the planned budget, period and performance criteria.

(Shokri-ghasabeh and Kavousi-chabok 2009) investigate in their study's relative importance of the most critical project success criteria and project success factors were top management support, cost, project control, and stakeholders' satisfaction, scope, risk management, contracts, project team, time, project change, resource availability and quality and top management support, has been revealed as the most important project success factor.

(Belay, Tekeste, and Ambo 2017) investigate six major management success factors of construction projects were; decision making effectiveness, project delivery system, timely decision by owner/owner's representative, contractor's cash flow, leadership skills of project

manager and adequacy of fund are the most significant success factors. They were conclude in their finding that, in order to accomplish building construction projects successfully the management should have effective decision making ability and project delivery system also has great role for accomplishing building projects successfully

(Ashley and Arqoub 2018) Measuring project success and conceptualizing a new approach applicable to all project types. They concluded that there are generic criteria applicable to any project type, during project initiate (feasible/profit, usable/people, achievable/politics and sustainable/planet), project implement (within budget/cost, on schedule/time, as specified/scope and no surprises/risk) and Project influence (desirable/attractiveness /adaptable/flexibility, practicable/fit for purpose and serviceable/enduring, although benefit realization and collective utility. Also in their studies, they set out the framework for achieving such an outcome and establish the foundation for future tool development and testing.

(Ahmed 2018) explore success criteria of the project from various perspectives of people looking at the project. Findings show that the most important criteria to measure the successful of the project are four criteria listed in order of their significance as Time, Quality, Cost, and Scope.

(Altarawneh, Thiruchelvam, and Samadi 2017) develop the conceptual framework by identifying six (6) variables for project critical success namely Project Management Process (PMP), Project Manager Competency (PMC), Project Team Members' Competency (PTC), Project Organizational Planning (POP), Project Resources' Utilization (PRU) and Project Organizational Commitment (POC) that contribute to the delay of projects.

(Janatyan, Hashemianfar, and Kasaee 2018) identify the factors that effect on project success in the construction field; and proposed an integrated model of critical success factor for construction projects. The model consists of three categories of variables, i.e. people related factors, project related factors, and environmental factors and it clarifies the definition of success in the mind of construction professionals and develops the critical success factors for construction projects through prior research. The model has tested on construction project managers in Esfahan. Findings show that in Esfahan the success of construction projects depends on people, project, and environment related factors, respectively.

2.3 Conceptual Framework of the study

Understanding the significance and importance of each success factor will facilitate the formulation of CSF for AGP in the Jima Zone. Therefore, a consolidated framework of critical success factors has suggested based on the analysis of theory of projects and management, project cycle management, project management process and the empirical review. After a review of the relevant literature and the formulation of the conceptual research framework, the conceptual model developed which shows the relationships among the variables.

Drawing on literature of the project management, project management practices, the objectives of project management, critical success factors, and the performance of the project, this study had been identified six variables of project performance as shown in Figure 1. There are Human Related Factors, Project Related Factors, Stakeholders Collaboration Related Factors, Organization Related Factors, Project Phase Related Factors and External Environment Related Factors.

2.4 Knowledge Gap

Summary of Literature Reviewed. The summary is as presented in Table 2.2

Table 2.2 Gap in Knowledge

Variables	Author (year)	Title of the Study	Methodology	Findings	Knowledge Gap
Human Related Factors	Anthony M. Musyoka (2010)	Critical Success Factors in Power Sector Projects in Kenya	Descriptive survey research	The identified factors were critical and contributed greatly to projects success in the power sector.	Does not indicate the effects of the critical success factors on the power sector projects in Kenya.
	Mamaru Dessalegn Belay et al (2017)	Investigation of Major Success Factors on Building Construction Projects Management System in Addis Ababa, Ethiopia	Questionnaires and Interviews	The identified were the types of major success factors in Addis Ababa building construction projects	Does not indicate the relationship between success factors and project success
	BMG,Research(2015)	Factors in project success	Online survey and depth interview	The main success factors and subsidiary success factors were identified	Team building and team ethos managing in changes in project parameter does not chapter
	A.Ogwue	Critical success factors	Survey	The most critical success factors in	The finding limited to practitioners in

	leke (2016)	influencing project performance in Nigeria		project performance were identified	Nigeria
	Hamed,Abolfazi (2015)	Critical factors that lead to lead to project success/failure in Global market place	Comprehensive theoretical review	Project base on the perception for the project managers to better understandings of critical success/failure	Does not indicate cause and effect relationship between critical success and failure factors
	W BelassiandTukel (1996	Critical success-failure factors in projects	Literature review	Project managers need better understanding of critical success/failure factors and how to measure them.	Does not indicate cause –effect relationship between critical factors and measurement techniques.
	AdemHussien (2018)	Causes of delay in Construction Project of Private Real Estate	Questionnaires Survey	The client has contributed their own share in causing delay to the project.	Does not indicate methods of minimizing the effects of construction delays in Ethiopia
	Gwahula Raphael (2016)	An Assessment of Critical Factors Affecting Quality Performance of Government Financed Construction Projects: Evidence from Tanzania	Literature review and closed end questionnaire	Quality performance of government financed construction projects in Tanzania is influenced by critical quality performance factors	Does not indicate how the economic and social factors hinders project performance
	Susil	Critical Success Factors:	Critical	Human related factors great impact	Does not cover relationship of

	Kumara Silva (2016)	En Route for Success of Construction Projects	Literature Review Approach	on achieving project success and on industry development.	human resources management project success and organizational success in construction project management context.
	Alvin Harison (2015)	CSF in construction project implementation and project performance with remedial measures	Literature review and questionnaire	The performance of the implemented construction project is to be governing tools	Limited to construction project
	Daniel F. Ofori (2013)	Project Management Practices and Critical Success Factors–A Developing Country Perspective	An exploratory approach and utilized a survey method	Documentation and dissemination of critical success factors and best practices in project management will improve the quality of project management in Ghana.	The inability of the researchers to sample organizations across Ghana
	Tadesse Tulu (2017)	Determinants of Project Implementation Delay: The Case of Selected Projects Financed by Development Bank of Ethiopia	Explanatory research design.	Poor project monitoring, and evaluation, controlling system and poor communication negatively influences project completion.	The study could not exhaustively cover all these factors (external factors and weighted factor).
	Zarina Alias et	Determining Critical Success Factors of	Questionnaire survey	Critical success factors (CSFs) are inputs to project management	The research was limited to Peninsular Malaysia construction

	al. (2014)	Project Management Practice: A conceptual framework		practice which can lead directly or indirectly to project success.	projects only.
	Jaafer Y. Altarawneh(2017)	Determining Critical Success Factors that Contribute to the Delay of Water Infrastructure Construction Projects in The Abu Dhabi Emirate: A Conceptual Framework	Literature review	Develops a conceptual framework to investigate the relationship between CSFs and critical delay from the perception of the main participants of WICPs.	Limited to the Abu Dhabi Emirate; does not include different environments in terms of cultural, social, contractual, political.
	Ashish, Wagh and Bhalerao (2016)	Factors Causing Delay and Methodology of Ranking for Residential Projects	Literature review and a questionnaire survey.	Controlling and monitoring should be established to enhance project performance in order to minimize or avoid delay in construction projects.	The study is limited to a sample interview for Residential projects, which could vary for infrastructure projects.
	Janatyan et al (2018)	Integrated Model of Critical Success Factors of Construction Projects: A Case of Esfahan	Comprehensive review of critical success factors	In Esfahan the success of construction projects depends on people related factors	The model was not tested in the other areas with different cultures and environment.

	IoanaBeleiu, (2015)	Main Factors Influencing Project Success	Literature review and questionnaire	Success factors determine the positive outcomes of implementing projects and they have to be identified before projects' implementation, from the conception phase.	Does not use higher sample, by testing the correlation between rankings of success factors.
Project related factors	Pawar, Marawar, Bhalerao (2016)	A Methodology for Ranking of Causes of Delay for Residential Projects	Literature review and questionnaire survey	Effective project planning, controlling and monitoring should be established to enhance project performance in order to minimize or avoid delay.	The study is limited to sample interviews of 26 sites.
	Janatyan et al (2018)	Integrated Model of Critical Success Factors of Construction Projects: A Case of Esfahan	Comprehensive review of critical success factors	In Esfahan the success of construction projects depends on people, project, and environment related factors.	The model was not tested in the other areas with different cultures and environment.
	Ashwini ArunSalunkhe (2018)	Identification of Critical Construction Delay Factors	Literature review and interviews	Delay in project negatively affects economy, growth of infrastructure and the society at large.	Does not indicate the cause –effect relationship between delay factors and project success
	BMG,Re	Factors in project	Online survey	The main success factors and	Team building and team ethos

	search(2015)	success	and depth interview	subsidiary success factors were identified	managing in changes in project parameter does not chapter
	Ashish,Wagh and Bhalerao (2016)	Factors Causing Delay and Methodology of Ranking for Residential Projects	Literature review and a questionnaire survey.	Controlling and monitoring should be established toenhance project performance in order to minimize or avoiddelay in construction projects.	The study is limited a sample interview for residential project, which could vary for infrastructure projects.
	Jaafer Y. Altarawneh (2017)	Determining Critical Success Factors that Contribute to the Delay of Water Infrastructure Construction Projects in The Abu Dhabi Emirate: A Conceptual Framework	Literature review	Develops a conceptual framework to investigate the relationship between CSFs and critical delay from the perception of the main participants of WICPs.	Limited to the Abu Dhabi Emirate; does not include different environments in terms of cultural, social, contractual, political.
	Zarina Alias et al. (2014)	Determining Critical Success Factors of Project Management Practice: A conceptual framework	Questionnaire Survey	Critical success factors (CSFs) are inputs to project management practice which can lead directly or indirectly to project success.	The research was limited to Peninsular Malaysia construction projects only.

	Tadesse Tulu (2017)	Determinants of Project Implementation Delay: The Case of Selected Projects Financed By Development Bank of Ethiopia	Explanatory research design.	Poor project planning/design system, poor project monitoring, and evaluation and controlling system, and improper project closure negatively influences project completion.	The study could not exhaustively cover all these factors (external factors and weighted factor).
	Susil Kumara Silva (2016)	Critical Success Factors: En Route for Success of Construction Projects	critical literature review Approach	Project related factors great impact on achieving project success and on industry development.	Does not cover relationship of critical success factors with project success and organizational success in construction project management context.
	W Belassian dTukel (1996	Critical success-failure factors in projects	Literature review	Project managers need better understanding of criticalsuccess/failure factors and how to measure them.	Dues not indicate cause -effect relationship between critical factors and measurement techniques.
	Mamaru Dessaleg n Belay et al (2017)	Investigation of major Success Factors on Building Construction Projects Management System in Addis Ababa, Ethiopia	Questionnaires and interviews	Project related factors were identified as major success factors in Addis Ababa building construction projects	Does not indicate the relationship between success factors and project success

	Anthony M. Musyoka	Critical success factors in power sector projects in Kenya	Descriptive survey research	The identified factors were critical to projects success in the power sector also contributed greatly to the success of projects in the power sector.	Does not indicate the effects of the critical success factors on the power sector projects in Kenya.
Stakeholder Collaboration Related Factors	Daniel F. Ofori (2013)	Project Management Practices and Critical Success Factors–A Developing Country Perspective	An exploratory approach and utilized a survey method	Documentation and dissemination of critical success factors and best practices in project management will improve the quality of project management in Ghana.	The inability of the researchers to sample organization sacross Ghana
	IoanaBeleiu, (2015)	Main Factors Influencing Project Success	Literature review and questionnaire	Success factors determine the positive outcomes of implementing projects and they have to be identified before projects' implementation, from the conception phase.	Does not use higher sample, by testing the correlation between rankings of success factors.
	Pawar, Marawar, Bhalerao (2016)	A Methodology for Ranking of Causes of Delay for Residential Projects	Literature review and questionnaire survey	Effective project planning, controlling and monitoring should be established to enhance project performance in order to minimize or avoid delay**.**	The study is limited to sample interviews of 26 sites.
	Austin	Measuring Project	A desktop study	Too consistently measure success	The literature does not demonstrate

	Morris (2017)	Success in Local Government	of secondary sources	agreed criteria must be determined and agreed upon by the project owner (or stakeholders) and project manager early in the project management process, and at different stages of the project life cycle.	that the success criteria need to be agreed before the project commences and throughout the different stages of the project, by both the project manager and the stakeholders.
Organization Related Factors	Jaafer Y. Altarawneh (2017)	Determining Critical Success Factors that Contribute to the Delay of Water Infrastructure Construction Projects in The Abu Dhabi Emirate: AConceptual Framework	Literature review	Develops a conceptual framework to investigate the relationship between CSFs and critical delay from the perception of the main participants of WICPs.	Limited to the Abu Dhabi Emirate; does not include different environments in terms of cultural, social, contractual, political.
	Daniel F. Ofori (2013)	Project Management Practices and Critical Success Factors–A Developing Country Perspective	An exploratory approach and utilized a survey method	Documentation and dissemination of critical success factors and best practices in project management will improve the quality of project management in Ghana.	The inability of the researchers to sample organizations across Ghana
	BMG,Research	Factors in project success	Online survey and depth	The main success factors and subsidiary success factors were	Team building and team ethos managing in changes in project

	(2015)		interview	identified	parameter does not chapter
	W Belassian dTukel (1996	Critical success-failure factors in projects	Literature review	Project managers need better understanding of critical success/failure factors and how to measure them.	Dues not indicate cause –effect relationship between critical factors and measurement techniques.
	A.Ogwue leke (2016)	Critical success factors influencing project performance in Nigeria	Survey	The most critical success factors in project performance were identified	The finding limited to practitioners in Nigeria
	Hamed,A bolfazi (2015)	Critical factors that lead to lead to project success/failure in Global market place	Comprehensive theoretical review	Project base on the perception for the project managers to better understandings of critical success/failure	Does not indicate cause and effect relationship between critical success and failure factors
	Anthony M. Musyoka	critical success factors in power sector projects in Kenya	descriptive survey research	The identified factors were critical to projects success in the power sector also contributed greatly to the success of projects in the power sector.	Does not indicate the effects of the critical success factors on the power sector projects in Kenya.
Project Phase Related Factors	W Belassian dTukel (1996	Critical success-failure factors in projects	Literature review	Project managers need better understanding of critical success/failure factors and how to measure them.	Dues not indicate cause –effect relationship between critical factors and measurement techniques.
	Daniel F.	Project Management	An exploratory	Documentation and dissemination of	The inability of the researchers to

	Ofori (2013)	Practices and Critical Success Factors–A Developing Country Perspective	approach and utilized a survey method	critical success factors and best practices in project management will improve the quality of project management in Ghana.	sample organizations across Ghana
	Tadesse Tulu (2017)	Determinants of Project Implementation Delay: The Case of Selected Projects Financed By Development Bank of Ethiopia	Explanatory research design	poor project initiation, poor project planning/design system, poor project monitoring, and evaluation and controlling system, poor communication and improper project closure negatively influences project completion.	The study could not exhaustively cover all these factors (external factors and weighted factor).
	Zarina Alias et al.(2014)	Determining Critical Success Factors of Project Management Practice: A conceptual framework	Questionnaire survey	Critical success factors (CSFs) are inputs to project management practice, which can lead directly or indirectly to project success.	The research was limited to Peninsular Malaysia construction projects only.
	Jaafer Y. Altarawneh (2017)	Determining Critical Success Factors that Contribute to the Delay of Water Infrastructure Construction Projects in	Literature review	Develops a conceptual framework to investigate the relationship between CSFs and critical delay from the perception of the main participants of WICPs.	Limited to the Abu Dhabi Emirate; does not include different environments in terms of cultural, social, contractual, political.

		The Abu Dhabi Emirate: A Conceptual Framework			
	Ashwini ArunSalunkhe (2018)	Identification of Critical Construction Delay Factors	Literature review and interviews	Delay in project negatively affects economy, growth of infrastructure and the society.	Does not indicate the cause –effect relationship between delay factors and project success
	Janatyan et al (2018)	Integrated Model of Critical Success Factors of ConstructionProjects: A Case of Esfahan	comprehensive review of critical success factors	In Esfahan, the success of construction projects depends on people, project, and environment related factors.	The model was not tested in the other areas with different cultures and environment.
	Pawar, Marawar, Bhalerao (2016)	A Methodology for Ranking of Causes of Delay for Residential Projects	Literature review and questionnaire survey	Effective project planning, controlling and monitoring should be established to enhance project performance in order to minimize or avoid delay.	The study is limited to sample interviews of 26 sites.
External Environment	Anthony M. Musyoka	critical success factors inpower sector projects in Kenya	descriptive survey research	The identified factors were critical to projects success in the power sector also contributed greatly to the success of projects in the power sector.	Does not indicate the effects of the critical success factors on the power sector projects in Kenya.

	Mamaru Dessaleg n Belay et al (2017)	Investigation of Major Success Factors on Building Construction Projects Management System in Addis Ababa, Ethiopia	Questionnaires and interviews	the types of major success factors in Addis Ababa building construction projects which were identified	Does not indicate the relationship between success factors and project success
	W Belassian dTukel (1996	Critical success-failure factors in projects	Literature review	Project managers need better understanding of critical success/failure factors and how to measure them.	Dues not indicate cause -effect relationship between critical factors and measurement techniques.
	AdemHu ssien (2018)	Causes of Delay in Construction Project of Private Real Estate	questionnaires survey	The client, the contractors and the consultants have contributed their own share in causing delay to the project.	methods of minimizing the effects of construction delays in Ethiopia
	Hamed,A bolfazi (2015)	Critical factors that lead to lead to project success/failure in Global market place	Comprehensive theoretical review	Project base on the perception for the project managers to better understandings of critical success/failure	Does not indicate cause and effect relationship between critical success and failure factors
	Susil Kumara Silva	Critical Success Factors: En Route for Success of Construction Projects	Critical literature review Approach	External factors and internal factors great impact on achieving project success and on industry development.	Does not cover relationship of critical success factors with project success in construction project

	(2016)				management context.
	Zarina Alias et al. (2014)	Determining Critical Success Factors of Project Management Practice: A conceptual framework	Questionnaire survey	Critical success factors (CSFs) are inputs to project management practice which can lead directly or indirectly to project success.	The research was limited to Peninsular Malaysia construction projects only.
	Ashish,Wagh and Bhalerao (2016)	Factors Causing Delay and Methodology of Ranking for Residential Projects	Literature review and a questionnaire survey.	Controlling and monitoring should be established to enhance project performance in order to minimize or avoid delay in construction projects.	The study is limited to a sample interview for Residential projects, which could vary for infrastructure projects.
	Ashwini ArunSalunkhe (2018)	Identification of Critical Construction Delay Factors	Literature review and interviews	Delay in project negatively affects economy, growth of infrastructure and the society at large.	Does not indicate the cause –effect relationship between delay factors and project success
	Janatyan et al (2018)	Integrated Model of Critical Success Factors of Construction Projects: A Case of Esfahan	Comprehensive review of critical success factors	In Esfahan the success of construction projects depends on people, project, and environment related factors.	The model was not tested in the other areas with different cultures and environment.
	Pawar, Marawar,	A Methodology for Ranking of Causes of	Literature review and	Effective project planning, controlling and monitoring should be	The study is limited to sample interviews of 26 sites.

	Bhalerao (2016)	Delay for Residential Projects	questionnaire survey	established to enhance project performance in order to minimize or avoid delay.	

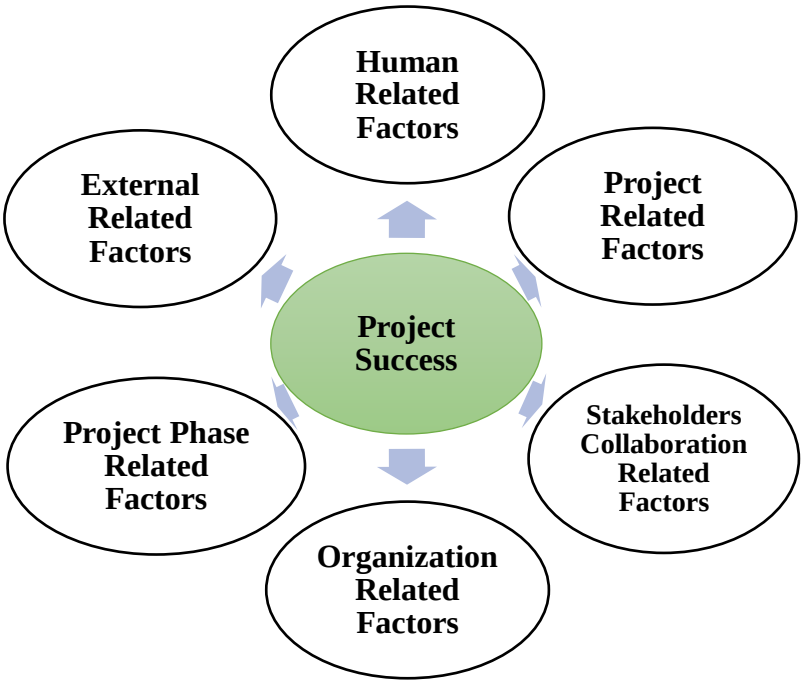


Figure 2.3 Variables for Critical Success Factors of Project (Source; survey, 2020)

A. Human Related Factors

Human related factors would focus on Project manager: Ability to delegate authority, Ability to tradeoff, Ability to coordinate, competence, commitment, Communication skills, Perception of his role & responsibilities and Prior experience of project manager. Client commitment: Client satisfaction, Client contribution to project design ,Client interference / active participation throughout the project life cycle, owner commitment to the approval and payment method, commitment to the goals/objectives, commitment to the quality standards and owner's standards, commitment to safety, and the prevention of accidents and hazards. Employees /project team members: Prior experience of team/ technical background, technical ability of team, Clear and precise definition of project objectives (Goal, task), Commitment and Trouble shooting.

B. Project Related Factors

Project related factors are include Process/ procedure: Being time consuming ,Need special expertise ,Procurement ,Tendering method and strategies, Size & value,

Uniqueness of project activities, Density of a project and complexity of projects ,Well-Laid Out Specifications ,Life cycle and Urgency. Project Management: Clear and realistic goals ,effective budget controlling, Effective planning & scheduling ,Effective coordination & communication , Effective use of managerial skills , Problem Solving Abilities, Risk Management Effective monitoring performance and feedback, Effective use of technology/ Utilization of up to date technology, Innovation, Access to resources / adequate management of resources, Managing and control sub-contractors work.

Results are Profit, Quality, Productivity, Predictability of time, cost and Risk, Benefit realization and Collective utility.

C. Stakeholders Collaboration Related Factors

Stakeholders Collaboration Related Factors will be focus on Common Vision and Effective Communication, Clear understanding of the project design and implementation approach, Defined Roles & Continuity of Relationships, Accountability and Joint Decision making, Supportive Environment and Feedback Mechanism, Innovation and Knowledge Share.

D. Organization Related Factors

Organization Related Factors involves; Top Management Commitment and Support, Project organizational structure, Functional managers' support, Project champion, Effective use of both formal and informal communication, 360-degree reporting and feedback.

E. Project Phase Related Factors

Project Phase Related Factors including: Clear understanding of project environment, Adequate financial and other resource ,Compatibility with development priorities, Effective consultation with stakeholders, Consistent support for stakeholders, Compatible regulations and standards, Adequacy of project closure activities.

F. External Environment Related Factors

External Environment Related Factors focus on, Socio- cultural factors, political factors, technological factors, Legal factors, Nature, Economic factors, Sub-contractors.

Having identified variables for project hinders it is easier for the researcher to determine critical hindering factors of project success. The conceptual framework for this study shown in Figure 2.4

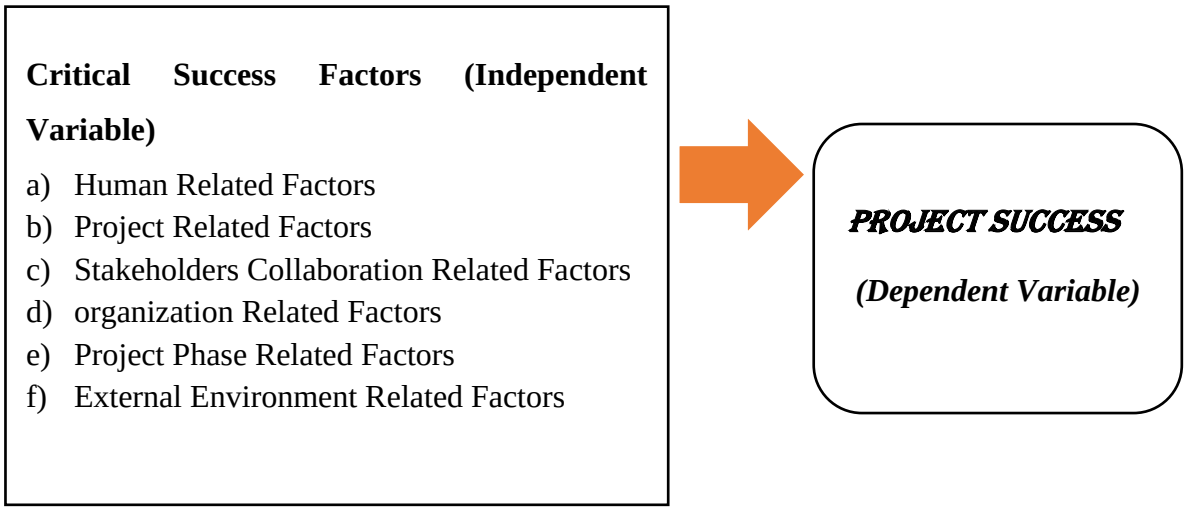


Figure 2.4 Conceptual Framework Developed by the study

The conceptual framework for this study will extend in the future research and critical succeed factors will be then be determined. This conceptual framework illustrates the variables for project performance, which applied to capture the relevance data. In the conceptual framework, the relationship between independent variables for critical success factors for AGP and project success is used in this study.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter describes the research design and methodology followed in examining the critical success factors of agricultural growth projects in Jima Zone.

It discusses in detail the methodological choice and the research design process of the study. More, specifically, it explains why descriptive and explanatory sequential mixed

methods research approach was considered appropriate for the research. In addition, the chapter set the procedures to collect, analyze and report data.

It has used separate procedures for the quantitative and qualitative approach as both encompass distinct purpose to serve. Besides, the approaches implemented to enhance the validity and reliability of the studies was explained in detail. Finally, the chapter defines procedural issues of the research including the timing, weighting and integration decisions of the study along with pointing considerations for ethical issues.

3.2 Research Design

A research design the 'procedures for collecting, analyzing, interpreting and reporting data in research studies' (Creswell & Plano Clark 2007, p.58). It is the overall plan for connecting the conceptual research problems with the pertinent (and achievable) empirical research. In other words, the research design sets the procedure on the required data, the methods to be applied to collect and analyze this data, and how all of this was going to answer the research question (Grey, 2014).

As defined in previous section, **the main objective of the study** was to examine the influence of critical success factors of Agricultural growth projects and project success. To achieve this, it draws statistical, quantitative results and further seeks to provide justifications on the established relationship with qualitative study.

Therefore, the pertinent research design obviously is descriptive and explanatory type that responds to the what, how and why aspect of the fundamental research question.

3.3 Research Approach

Kumar (1999) considers research as a process of collecting, analyzing and interpreting information to provide solutions to questions. Research can be either a theory based (deductive), or a problem initiated for theory contribution (inductive), or a mixed approach research. Broadly speaking, there are three approaches to research design:

Qualitative methods, Quantitative methods and mixed methods (Creswell, 2003; Creswell & Plano-Clark, 2007; Teddlie & Tashakkori, 2009). This study involves collecting and

analyzing both quantitative and qualitative data, to answer the research questions related to critical success factors of Agricultural growth projects in Jimma zone therefore, a descriptive and sequential mixed method research design and mixed method research approach have been implemented.

3.4 Population and Sampling Design

According to Kenya Institute of Management (Murithi, Makokha, and Otieno 2017), target population defines all the subjects in the research study. Target population defined as the entire group a researcher is interested in; According to Zikmund (2003), the definition of population was identifiable set of elements of interest investigated by a researcher. Leedey (1997) also defined that the population can be viewed as a group or individual or object that would illustrate common feature that would be advantageous to the researcher`s interest. The target populations for the study are seven woredas of Jima Zones (Goma, Gera, Limuseka, Omo Neda, Omo Beyem, Dedo and Mencho) which benefited from the Agricultural Growth Program.

3.4.1 Sampling Frame

Sampling frame was the source material or device from which a sample was drawn. It was a list of all those within a population who can be sampled and may include individuals, households or institutions. The sampling frame of this study was AGP steering committee, AGP manager, AGP focal person, AGP financier, AGP irrigation expert, and Woreda office of Agriculture, AGP Technical Committee, stakeholders, Common Interest Group (CIG) and clients within 7 woredas of Jimma Zones, which benefited from the Agricultural Growth Program.

3.4.2 Sample Size

A sample is a section of large populace that is used for research study or investigation. The sample size is a representative of large population (Bryman, 2012). The sample size for this study is 260 drawn from a target population of 500 using Yamane (1967) sample size determination formula

3.4.3 Sampling Procedure

Sampling was the process of selecting a suitable sample for determining parameters or characteristics of the whole population. To carry out a study, one might bear in mind what size the sample should be, and whether the size is statistically justified and lastly, what method of sampling is to be used (Leedy, 1997). Describes a case where a representative sample drawn from the entire population where the elements can be generalized.

Random sampling will be used to select two woredas namely gomma ,Geera from list of seven woredas, which benefited from the Agricultural Growth Program. Random sampling ensures that each member of the population had the same chance of being included in the sample.

The researcher will be used proportional stratified random sampling techniques for the target population to collect primary data through self-administrated structured questionnaires. The study used Yamane (1967) formula to determine the sample size for each woreda as indicated below.

$$n = \frac{N}{1 + N(e)^2}$$

Where, n -- required responses (sample size

N—Total population

e--- Error limit (5%)

For instant the number of stakeholders sampled from the selected woreda was $n = \frac{500}{1+500(0.05)^2}$ = 222 which equal to =222

Thirty two (32) AGP SC and TC and six (6) AGP manager, Financier and Irrigation expert s were taken by a census method

Table 3.1 population and sample size

Total number of stakeholders Expert in selected woreda	Sample size of stakeholders in selected woreda	Number of AGP SC and TC in selected woreda	Sample of AGP SC and TC in selected woreda	No of AGP manager, Financier and irrigation expert in selected woreda	Sample of AGP manager, Financier and irrigation expert in selected woreda
500	**222**	**32**	**32**	**6**	**6**

Total Sample Size = 260

NB: From total sample size of 260 the quantitative data will be used 254 and the remaining 6 sample will be used for qualitative data.

The summary of target population is as shown in table 3.2

Table 3.2 Summary of the Sampled Target Population

Target Group	**GW**	**GW**	**Total Number of Sample**
Stakeholders Expert in selected woreda	111	111	**222**
AGP SC and TC in selected woreda	16	16	**32**
AGP CU, Financier, Irrigation expert	3	3	**6**
Total	**130**	**130**	**260**

3.5 Data collection Instruments and Sources

3.5.1 Data Collection Instruments

In order to achieve the objectives of the research study, the data collection instruments including questionnaires, interviews, FGD, and field observation are employed as the primary data sources

The questionnaire, to serve as the effective data collection tool, questionnaire needs to be designed properly, particularly when the response rate as well as the **reliability** and validity of the data was affected by the design of questionnaires. Many aspects are

considered in designing questionnaire including the choices of words, the sequence of the questions and the appearances (Zuraidah, 2014). A short and simple language that is easily understandable by all the respondents are used in order to encourage the respondent's cooperation and involvement throughout the questionnaire. The questionnaire of this research begins with a cover letter to inform the respondents of the research purpose, assurance of the confidential of the feedback.

The study used a questionnaire for stakeholder's expert in selected woreda, AGP steering committee, AGP technical committee and AGP irrigation expert in selected woreda considering the central and supplementary research questions.

After the variables of critical success factors of AGP .the self-administrated structured questionnaires are employed with five-point ranking scale. The questionnaires have three parts.

The three parts of the questionnaires about the critical success factors of AGP and project success are part I and part II. Questionnaire part "I", is about respondents demographic data and Part "II" is about the construct of the study.

Part I consists of five questions requiring the respondents to provide their background information on the gender, age, destination, education level, service in the project/sectors (see appendices). There are seven domains in Part II that contains the total **73** items/questions which covers six related constructs of independent variables and one construct of dependent variable on critical success factors of AGP and project success. Self-administrated structure questions are measured on a five-point Likert scale from which respondents selected the suitable answer describes their situation by simply ticking (Mulegeta and Mugenda, 2003). The instruments are developed based on literature and study framework and obtained comments from supervisors.

The answers for the self-administrated structured part of the questionnaire part "II" are based on Likert's-scale of five-point interval measures of agreement towards each statement. The reasons for adopting this simple scale are to provide simplicity for the respondent to answer, and to make evaluation of collected data easier. Likert's-scale was important to know respondents' feelings or attitudes about something (Creswell, 2003). The respondents must indicate how closely their feelings match with the question or statement on a rating scale.

In depth interview was held with project managers, project focal person, project financier and Heads of woredas Agricultural office to provide response to the research question. In addition, this study intends to pursue the qualitative approach through interviewing project managers, AGP focal person, AGP financier and Heads of woreda Agricultural office. Project managers are essential participants who directly involve in determining the conduct of their projects in their decision-making. In addition, project financier, focal person and Heads of woreda Agricultural office are the one who enact directives to guide the conduct of projects and determine the structure of the project. Therefore, by collecting interview data from the four groups of participants, the qualitative part of this thesis was likely to provide a better comprehensive picture on critical success factors and project success relationship.

3.5.2 Data Sources

The researcher used both primary and secondary data sources. The primary sources of data are project management and staff, stakeholder's experts in selected woreda, AGP steering committee, AGP technical committee and key informants. The primary data are collected through self-administrated structured questionnaire. Self-administrated structured questionnaires were distributed to 260 sample representatives of the total population to assess their view as to what critical success factors of AGP. Because, the questionnaire survey method was usually cheap, easy to administer to many respondents, and normally gets more consistent and reliable results. The secondary data are collected from Archival documents, performance reports and magazines of the projects that are related to the study will be reviewed to supplement information to be gathered through questionnaire and interview. Archival documents are mostly from completed projects, in which contract documents, project reports, correspondence letters and payment certificates are investigated thoroughly, which are very important in identifying the project success related to critical success factors AGP. The AGP project management manuals and policy documents, newsletters, website and annual reports are used to obtain reliable information that help for the study.

3.6 Method of Data Analysis

The qualitative data collected from interview was analyzed using content analysis and thematic data analysis through examining and recording patterns (or themes) within data. Qualitative data was derived from interviews with key informants and is analyzed and presented in prose, whereas repetitive answers are grouped in to themes and used to complement the quantitative response. It was performed through drawing a meaningful explanation on the pertinent subject from the responses of the project managers, AGP focal person, AGP financier and Heads of woreda Agricultural office. The variables adopted in the qualitative analyses of this thesis are guided to structure the analysis of the quantitative findings.

The quantitative data are analyzed with both descriptively and inferentially. Quantitative data collected was analyzed with the aid of statistical package for social sciences (SPSS version 25) and the findings were presented in summary using percentages, mean standard deviation, frequency distribution tables for quantitative data.

Inferential statistics was used to identify the degree of correlation between the variables using Pearson's Correlation or Pearson Correlation analysis was conducted to test the existence of significant relationship between the critical success factors of AGP and project success.

Further multiple linear regression analysis was done to determine the degree of relationship between dependent and independent variables meaning human related factors, project related factors, stakeholder collaboration related factors, organization related factors, project phase related factors, and external environment related factors increase the performance of AGP {was (dependent variables). On the other hand, multiple regression analysis was used when testing one dependent variable, which was assumed a function of two or more independent variables. Inferences from the analyzed data are made to help answer the research questions and compared with previous research findings.

The study tested hypotheses using ANOVA (Analysis of Variance), and multiple linear regressions. This is because quantitative data were of parametric nature. Analysis of variance was used to measure the degree of variation between the independent and dependent variables by examining the significance of F-test values. Multiple variance

analysis was used to establish if are any relationship or there existed a cause effect relationship between variables

3.6.1 Model Specification

In this study, multiple linear regression models are used to achieve research objectives. The basic objective of using multiple linear regression analysis in this study was to make the research more effective in analyzing impacts dependent and independent variables. According to (Gujarati, 2003) defines a regression function as follows:

$$Y = \beta\ 0 + \beta\ 1X1 + \beta\ 2X2 + \ldots + \beta\ n\ Xn + ui$$

Where **Y** was the dependent variable (Project Success)

Bn is the coefficient of independent variables

Xn is independent variables (human related factors, project related factors, stakeholder collaboration related factors, organization related factors, project phase related factors, and external environment related factors).

Ui is error term. Ui can be described as;

$$Ui = Y - \beta\ 0 - \beta\ 1X1 + \beta\ 2X2 + \ldots + \beta\ n\ Xn$$

β1 was the intercept term- it gives the mean or average effect on Y of all the variables excluded from the equation, although its mechanical interpretation is the average value of Y when the stated independent variables are set equal to zero.

Multiple linear regression model assumptions are conducted based on a (Gujarati, 2003). Checking goodness-of-fit carry significant benefits for the research; because once the model is fit, it is effective in describing the outcome of variables. The following indicate summary of each assumption one by one;

I. Test for Normality

The distribution of residuals should be normal at each value of the dependent variable is one of multiple linear regression assumption. This means that errors are normally distributed, and that a plot of the values of the residuals was approximated a normal curve (Keith, 2006). According to Gujarati (2003) ui are independently and normally distributed

with mean zero and a common variance α^2 was given as; ui ̃in (0, α^2)**.** The hypotheses used in testing data normality are based on the data distribution that tests for:

Ho: The distribution of the data is normal

Ha: The distribution of the data is not normal

In addition to the formal tests for normality, data is also graphically examined.

II. Tests for Linearity

The ANOVA table contains tests for the linear, nonlinear, and combined relationship between variables. The hypotheses used in testing data normality are:

Ho: There is no linear relationship between variables,

Ha: There is linear relationship between variables.

If the test for linearity has a significance value smaller than 0.05, this indicates that there is a linear relationship. Alternatively, a graphical approach is used to observe plots for linearity. The data points being arranged in the shape of an noval display linearity.

III. Test for Multicollinearity

It meant the existence of a perfect or exact, linear relationship among some or all-explanatory variables of a regression model. If there is perfect collinearity among the independent variables, their regression coefficients are indeterminate and their standard errors are not defined. Therefore, independence of independent variables is tested by Variance inflation factor (VIF) and tolerance. This is carried out using the analysis of the Variable Inflation Factor (VIF) statistics. Small inter-correlations among the independent variables are expressed with VIF ≈ 1. However, VIF>10 depicts co linearity is a problem. VIF= 1/ tolerance, where tolerance= 1-R^2, R^2 is the coefficient of determination.

$$\mathrm{VIF(Xj)} = \frac{1}{1 - \mathrm{RJ}} 2$$

Where; Xj = the j^{th} explanatory variables regressed on the other independent variables.
RJ^2= the coefficient of determination when the variable
Xj regressed on the remaining explanatory variable.

In addition, correlation analysis is conducted to examine multicollinearity problem

.

IV. Autocolleration

To test for the existence of auto coloration, the Durbin Watson test is employed. This module tests correlations between errors and assumes that the error terms are stationery and normally distributed with mean zero. The test statistic can vary between 0 and 4 with a value of two indicating that the residuals are uncorrelated. A value greater than 2 indicates a negative correlation and a value less than 2 depict a positive correlation.

The Hypothesis to be tested is then:
H0= ps= (s>0)
H1= pHs=ps for some non-zero p with /p/<1

V. Homoscedasticity

The variance of the residuals for every set of values for the independent variable is equal and violation is called Heteroscedasticity. This means that researcher assume that errors are spread out consistently between the variables. Symbolically described as follow;

$$\text{var} = \left(\frac{\text{ui}}{\text{x1,.....,xk!}}\right)\alpha^{2}$$

For all Ui is disturbance term or error term, Xk is explanatory variable, α2 is the constant or homoscedastic variance of ui

The test of the presence of heteroscedasticity, the Breusch-Pagan/ Cook-Weisberg tests is employed. This test involves testing the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables.
H0 = Var (u/x1, x2….xn) =E (u) = 2
H1= Var (u/x1, x2….xn) =E (u) ≠ 2

The null hypothesis is true when the model is homoscedastic. If the alternative hypothesis is true, the model is heteroskedastic.

3.7 Ethical Issues

Before engaging in data gathering, the researcher has secured an ethical clearance from the Ethics Committee of the JU to enable the researcher get a permit from the Ministry of Agricultural and Natural Resources representative in the Jimma Zone

In addition, it has collated informed consent from each of the selected woreda and participants in the study witnessing their approval of participation in the study

These are the principles that protect the rights of participants in a research study. These standards include voluntary participation, informed permission, and confidentiality of information, ambiguity to research participants and approval from relevant authorities.

During such process, the participants are informed the purpose of the study and confirmed the confidentiality of their responses. This includes briefings for non- disclosure of individual identity and their liberty from any liability or risk arising from the study or the response.

In this study, after which they are voluntarily ask to fill informed consent forms to participate, they will be voluntarily allow to participate and prospective research participants fully inform on procedures, benefits and risks involved in the research.

They are guaranteed of confidentiality of the information and to ensure this is achieved participants would not ask to give their names or indicate anything on the research instruments that could be used to identify or link them to the study documents or reports.

All project documents or part thereof including manuals, policy, procedures etc…are kept confidential and will not be disclosed to third party in any form.

The study acknowledges all contributors to this study and provides proper credits to those scholars immediately and list of references is attached. At most, effort is also exerted to keep the study free from bias, abuse, misconduct and fraudulent acts and practices.

CHAPTER FOUR

RESULTS & DISCUSSIONS

4.1 Introduction

This chapter provides the study findings, which have been organized and discussed using thematic and sub thematic areas formulated from the objectives. These include: Questionnaires return rate, Demographic characteristics of the respondents, Human related factors, Project related factors, Stakeholders collaboration related Factors, Organization related factors, and Project phase related factors and External environment related factors, combined project critical success factors and project success.

4.1 Questionnaire Return Rate

The study used one questionnaire for sampled groups, which was made up of stakeholder's expert in selected woreda, AGP steering and technical committee, AGP coordination unit, financier and irrigation expert in selected woreda. Table 4.1 shows the questionnaire return rate for the two sampled groups that participated and returned. In this study 63 questionnaire were issued to the respondents all of them were correctly filled and return. The results are presented in Table 4.1

Table 4.1 Questionnaire Return Rate

No	Respondents Group	Data Collection Tools	Sample taken	Frequency of Response	Response rate (Percent)	Relevant Data
1	Stakeholders Expert, AGP SC and TC in selected woreda	Questionnaire	254	248	97.63	246
2	AGP CU, Financier, Irrigation expert	Interviews	6	6	100.00	6
	Total		**260**	**254**	**97.69**	**252**

(Source; Own survey, 2023)

Thus, 254 questionnaires distributed to the respondents and 248 questionnaires returned which implies about 97.63 % of the questionnaires were returned which is above what most researchers recommend (Table4.1).From248 questionnaires 2 questionnaire were discarded due to the incomplete information . From 246 respondents the collected data were inserted to the SPSS version 25.

4.2 Demographic Characteristics of Respondents

Demographic characteristics of respondents refer to their background information. Several questions were asked to establish their background information.

The question comprised information on the sex, age, education and service years of respondents. These are discussed in the following.

Table 4.2 Demographics Characteristics of Respondents

No	**Sex of respondents**	**Category**	Frequency	Percent
1		Male	228	91.93
		Female	20	8.06
		Total	**248**	**97.63**
2	**Age of respondents**	20-30 Years	50	20.1
		31-40 Years	88	35.4
		41-50 Years	70	28.2
		51 and above Years	40	16.1
		Total	**248**	**97.63**
3	**Education level of respondents**	Certificate	5	2.01
		Diploma	35	14.1
		Degree	200	80.6
		2nd Degree and Above	8	3.2
		Total	**248**	**97.63**
4	**Service year of respondents**	Less than 5	24	9.6
		5-10 Years	64	25.8
		10-15 Years	76	30.6
		15-20 Years	74	29.8
		More than 20 Years	10	4.0
		Total	**248**	**97.63**

(Source; Own survey, 2023)

Sex of respondents was identified to establish whether have any influence on success of Agricultural Growth projects. The response on distribution of respondents by sex was as

shown in Table 4.2.The results in Table 4.2 shows out of 248 respondents 228 (91.93%) were male while 20 (8.06.%) were female. This result shows that majority of employees were male.

Respondents were asked to state their age in relation to project success. This was important to establish whether age played any key role in Agricultural Growth Project success. The respondents were to indicate the bracket that best described their age. The results were shown in the above table .4.2

From the results in table 4.2, 50 (20.1%) of respondents were aged between 20-30 years, 88(35.4%) were aged between 31-40 years, 70(28.2%) were aged 41-50 years and 40(16.1%) of respondents were aged 51 and above years. The majority of respondents, 138(55.6) were in the age bracket of between 20-40years. This indicates the age of majority respondents is important and an active age that is quite productive in determining success of any given task (Sin, 2010).

Education qualification was key to determine the level of education of respondents relation to success of Agricultural Growth Projects. This is importants to ascertain education background of resppndents since education impacts knowledge ,values ,and skills that could influence Agricultural Growth Projects work.

The results in Table 4.2 shows that out of 248 respondents 5(2.01%) had certificate, 35 (14.1%) diploma, 200(80.6%) had degree while 8(3.2%) had second degree and above. This shows that the level of education of the people involved in the management of projects is adequate for the success of Agricultural Growth Projects. Consequently, if performance of projects is low, then, there is something else influencing it negatively other than education qualification.

The respondents were asked to state the number of years they had worked on AGP. The results in Table 4.2 show that out of 248 respondents ,24(9.6%) respondents have less than 5 years of experience, 64 (25.8%) have 5-10 years of experience, 76(30.6%) have 10-15 years of experience, 74(29.8%) have 15-20 years of experience while the remaining 10(4.0%) have 20 and above years of service. The majority of the respondents had over 10 years of experience in Agricultural Growth Projects. Experience is an important factor in completion of AGP. From results ,projects are expected to be completed on time if project

implementers have long experience.If a project was not success, then ,something else is infiuencing success than the experience.

4.3 Results of Survey Data and Descriptive Analysis

In this part, the data collected using Likert scale are presented for both the dependent and independent variables based on the following sub thematic areas: human related factors and project success, project related factors and project success, stakeholder collaboration related factors and project success, organization related factors and project success ; project phase related factors and project success, external environment related factors and project success and combined critical success factors

4.3.1 Summary of Descriptive Statistics

The analysis is based on the assumption Zaidatol (2009) comparison bases of mean score for five-point Likert scale instruments is used to compare the mean value. According to Zaidation (2009), the mean score below 3.39 is considered as low; the mean score from 3.40 up to 3.79 is considered as moderate and mean score above 3.8 is considered as high. The factors with means exceeding to 3.8 present a high agreement of the respondents. This study also accepts the assumption of Zaidation (2009).

Table 4.3 ranking of the critical success factors of AGP

Variables	Mean	Std. Deviation
Human Related Factors	4.3488	.33466
Stakeholder Collaboration Related Factors	4.2157	.51051
Project Related Factors	4.1787	.46381
Organization Related Factors	4.1294	.49019
Project Phase Related Factors	4.0643	.35237
External Environment Related Factors	4.0257	.08094

(Source; Own survey, 2023)

Based on the ranking, the highest success factors of project performance/success of AGP in the study area were Human related factors at mean score of 4.34. Next Stakeholder collaboration related factors at mean score of 4.21 ,Project related factors at mean score of 4.17, Organization related factors at mean score of 4.12,and Project phase related factors at mean score of 4.06 and External environment related factors at mean score of 4.02.

4.4 Correlation between Dependent and Independent Variables

In this part of the analysis, vicariate Pearson correlation coefficient has been used to examine the relationship between the dependent and independent variable. According to (Robert, 2008), Pearson correlation coefficients ranges between -1 and +.1, when 0 indicates no relationship between, -1.00 indicates a perfect negative relationship and +1.00 indicates a perfect positive relationship. For intermediary values the study uses Pallant (2010) guideline to determine the strength of the correlation, less than 0.3 indicate weak correlation, medium/moderate for 0.3 to 0.7; and large for ≤ 0.71

Table 4.10 Association between Dependent and Independent Variables

Summated Dimensions	**PS**	**HRF**	**PRF**	**SCRF**	**ORF**	**PPRF**	**EERF**
Project Success	**1**						
Human Related Factors	**.423****	1					
Project Related Factors	**.410****	.060	1				
Stakeholder Related Factors	**.648****	-.133*	-.017	1			
Organization Related Factors	**.593****	-.037	-.108	.276**	1		
Project Phase Related Factors	**.720****	.248**	.139*	.362**	.361**	1	
External Environment Related Factors	**.469****	**.043**	**.029**	**.111**	**.029**	**.272****	**1**

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)
(Source; Own survey, 2023

The results in Table 4.10 show that dependent variable had significant correlation with independent variable (r =.410, p ≤ 0.01 to r = .720, p ≤ 0.01) which indicates exist moderate and large relationship. When looking at the correlation between six independent variables, the Pearson's correlation coefficient was from 0.029 ≤ "r" ≤0.272. The result showed that weak relationship showing no similarity of project success factors measurement by the variable.

4.5 Multiple Linear Regression Analysis

4.5.1 Multiple Linear Regression Assumptions

Testing assumption of multiple linear regression analysis models is very important before running regression analysis. Major diagnostic tests namely Normality test, Linearity test, Heteroscedasticity test (Homoscedasticity test), Multicollinearity test (Absence of no Collinearity), were conducted in order to ensure the appropriateness of data to assumptions regression analysis results were discussed in the following subtopics.

4.5.1.1 Normality of Data

The tests are of importance before analysis of linear regression model. The coefficient alpha is an appropriate measure of variance attributable to subjects and variance attributable to the interaction between subjects and items (Kenya and Rahmatullah, 2016).

These studies also under take the statistical test to confirm normality. Normality is measurement of Skewness and Kurtosis. Skewness refers to balance of distribution; that is, the bell shape is unbalanced and shifted to one extreme side or balanced whereas Kurtosis refer to height of distribution; that is, taller or flatter distribution. Kline (1998) suggested that all variables in the analysis for univariate skewness and kurtosis were satisfactory within conventional criteria for normality i.e., -3 to 3 forskewness and -10 to 10 for kurtosis. Multivariate normality (the combination of two or more variables) means that the individual variable is normal in a univariate sense and that their combinations are normal (Hair et al. 2010).

Table 4.11 Data distribution of Project Success

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Kurtosis
Q7.1	248	.203	.153	.611	.304
Q7.2	248	.203	.153	.611	.304
Q7.3	248	.203	.153	.611	.304
Q7.4	248	.203	.153	.611	.304
Q7.5	248	.179	.153	.574	.304
Q7.6	248	-.085	.153	4.157	.304
Q7.7	248	-.620	.153	5.764	.304

Q7.8	248	-.333	.153	5.015	.304
Q7.9	248	-.260	.153	4.786	.304
Q7.10	248	-2.268	.153	3.167	.304

(Source; Own survey, 2023)

All skewness value is according to the guideline suggested by Kline (1998), all variables are univariate normal, the individual variable is normal in a univariate sense, and that their combinations are normal. Therefore, researcher can conclude that Project success data is multivariate normal and should be used for further multivariate analysis and Regression Test.

4.5.1.2 Multicollinearity Test

According to Gujarati (2003), Multicollinearity tests helps to identify the high correlation between explanatory variables and to avoid double effect of independent variable from the model. Predictor variable should be strongly related to dependent variable but not strongly related to each other. For this purpose, variance inflation factor (VIF) and tolerance test were used to check Multicollinearity for variables if the value of VIF is less than 10 there is no Multicollinearity and on the other hand if VIF greater than or equal to 10 there is a serious Multicollinearity problem. However, lack of significant high correlation does not ensure lack of multicollinearity as collinearity may be due to combined effect of two or more independent variable. Therefore, the alternate method is Tolerance Measurement, which is defined as amount of variability of selected independent variable not explained by the other independent variable. Variance Inflation factor is inverse of Tolerance value. In addition, tolerance is an indicator how much of the variability of independent variable is not explained by the other independent variable in the model and is calculated using the formula 1- R^2 for each variable.

According to JuiePallant (2005) have quoted commonly used cut-off points for determining the presence of multicollinearity (tolerance value of not less than .10, or a VIF value of not above 10). The impact of multicollinearity is to reduce any single independent variable's predictive power by the extent to which associated with other independent variables.

Table-4.12: Collinearity Coefficient of Critical Success Factors of AGP

Coefficients[a]								
Model		**Unstandardized Coefficients**		**St.Coefficients**	**T**	**Sig.**	**Collinearity Statistics**	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	(Constant)	4.292	.009		469.927	.000		
	Human Related Factors	.329	.004	.497	52.183	.000	.957	1.067
	Project Related Factors	.190	.005	.446	35.190	.000	.949	1.054
	Stakeholder Related Factors	.191	.006	.468	39.255	.000	.579	1.726
	Organization Related Factors	.172	.005	.427	32.689	.000	.856	1.168
	Project Phase Related Factors	.156	.008	.225	16.157	.000	.633	1.579
	External Environment Related Factors	.127	.028	.064	5.677	.000	.949	1.054
a. Dependent Variable: Project Success								

Source, Own survey,2023

In Critical success factors of AGP as showed on Table-4.12, the tolerance value for each independent variable is 0.579 to 0.949 which is not less than .10; therefore, data have not violated the multicollinearity assumption. This is also supported by the VIF value, is 1.054 to 1.726 which is well below the cut-off of 10.

4.5.1.3 Linearity test, Outlier, Homoscedasticity, Independence of Residual

Linearity is used check whether all the estimates of regression including regression coefficients, standard errors and tests of statistical significance are biased or not (Keith, 2006). There is no linearity problem on the data for this study residual follow at straight line.

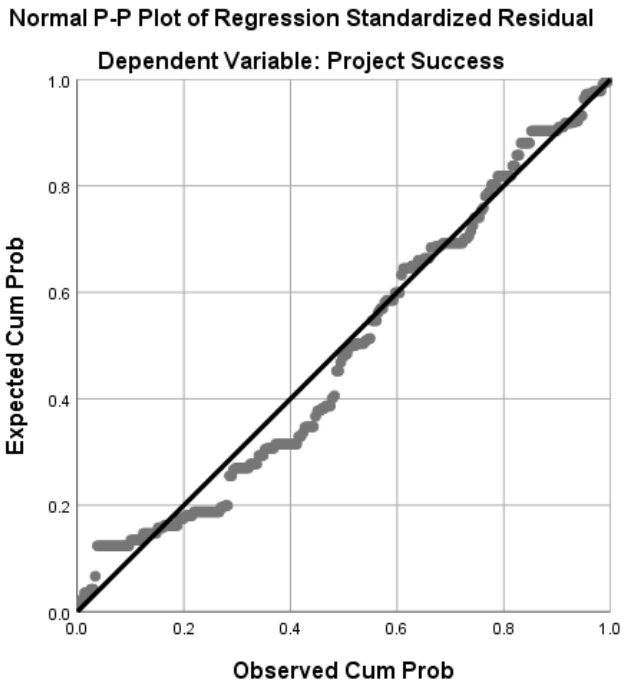
One of the ways that these assumptions can be checked is by inspecting the residuals scatter plot and the Normal Probability Plot of the regression-standardized residuals that were requested as part of the analysis. Residuals are the errors in predicting our sample data. Seldom will our prediction be perfect. We assume that random error will occur, but we

assume that this error is estimate of true random error of population, not just error in prediction for our sample.

We assume that error in the population we are expecting is distributed with mean 0 and constant (homoscedastic) variance. When examining residual, some form of standardization is recommended to make the residual directly comparable. Plotting residual versus predicted variable is the basic method to identify assumptions violation. The Normal P-P Plot plots the value we would like to expect if the distribution is Normal (expected value) against the value actually seen in the data set (observed value).

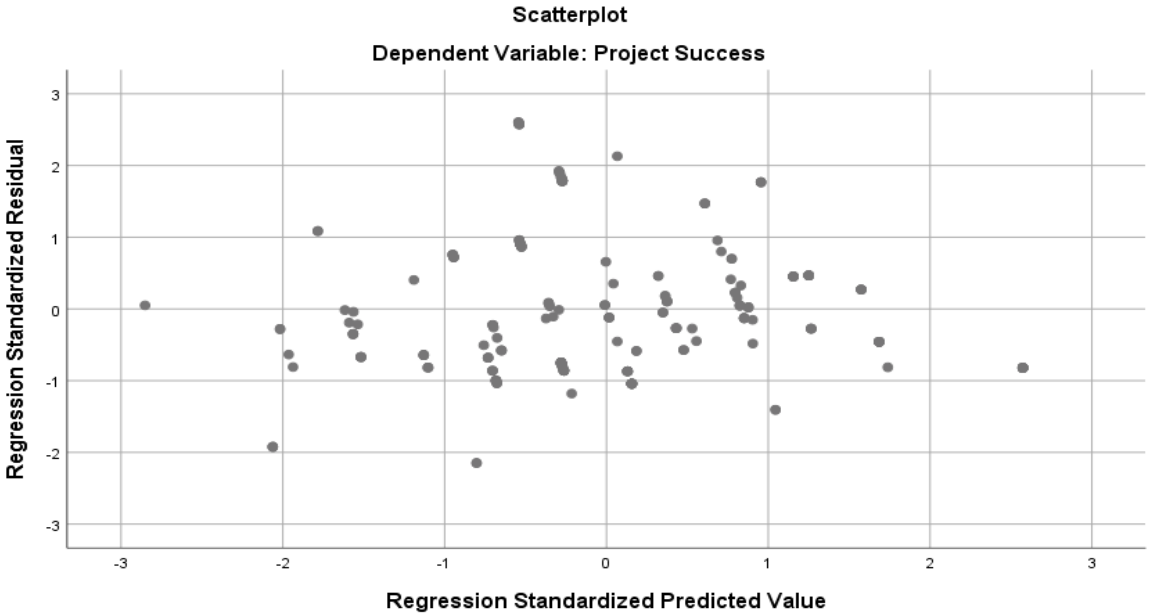
The expected value is the straight diagonal line whereas the observed are plotted as individual dots. If the data is normally distributed and Linear then the dots should fall almost exactly on the straight line, meaning, observed values are same as we expect from any normally distribution set. In P-P Scatter plot, plotted for ZRESID (Y-axis) and ZPRED (X-axis), ZRESID is Standardized residual error. These values are standardized difference between the observed data and value that the model predicts. ZPRED is standardized predicted value of the dependent variable based on the Model. This scatter plot of ZRESID against ZPRED helps to determine whether the assumptions of random error and Homoscedasticity have been met. The graph should look like random arrays of dots evenly distributed around zero. If array of dots isas curve shaped the dataset have broken the assumption of linearity and if the array of dots is in funnel shape, then there is Heteroscedasticity.

Figure 4.1: Normal P-P plot of Standardize Regression of Critical Success Factors of AGP



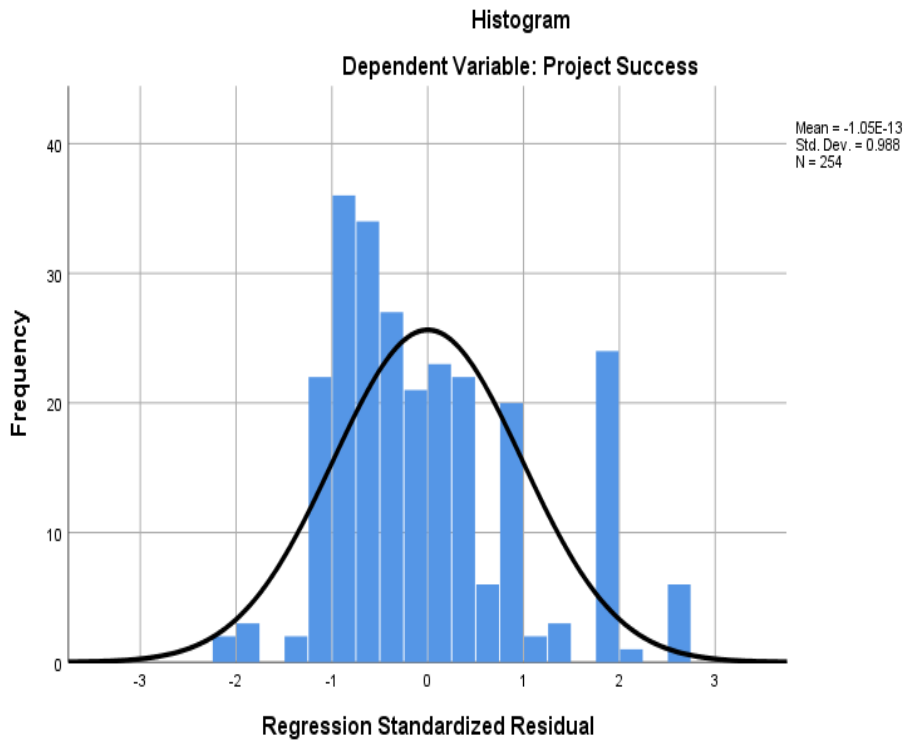
(Source; Own survey, 2023)

Figure-4.2: Scatter plot of Critical Success Factors of AGP



(Source; Own survey, 2023]

Figure-4.3: Histogram of Critical Success Factors of AGP



(Source; survey, 2023**)**

In the Normal Probability Plot (Figure No. 4.1), we observed that our points have lie in a reasonably straight diagonal line from bottom left to top right. This would no major deviations from normality. In the Scatter plot of the standardized residuals (Figure No. 4.2) we observed that the residuals were roughly, rectangular distributed, with most of the scores concentrated in the center (along the 0 point). Standardized residual displayed in the scatter plot of more than 3.3 or less than - 3.3.

Normality assumption is around the mean of the residuals is zero and used to determine whether a data set is well modeled by a normal distribution or not and also to indicate un underlying random variable is to be normally distributed (Gujarati,2009). In this study, a histogram method of testing the normality of the data was used in addition. If the residuals are normally distributed about its mean of zero, the shape of histogram should be a bell-shaped and regression

standardized residual plotted between -3.3 and 3.3. From the figure 4.3 data normality were meet the normality assumption.

Table-4.4: Residuals Statistics- Project Success

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.5431	4.6864	4.1371	.19438	254
Residual	-.07884	.10019	.00000	.03431	254
Std. Predicted Value	-3.056	2.826	.000	1.000	254
Std. Residual	-2.271	2.886	.000	.988	254
a. Dependent Variable: Project Success					

(Source; Own survey, 2023**)**

Residual statistics are examined for extreme cases.99.00percentage case should fall under the limit of standardized value of +2.886 to -2.271. The statistics predictability becomes critical if the values are not in the range of +3 to -3. The other information in the output concerning unusual cases is in the Table titled Case wise Diagnostics. This presents information about cases that have standardized residual values above 3.0 or below -3.0. In a normally distributed sample, we would expect only 1 per cent of cases to fall outside this range. Outliers can substantially affect by distorting the statistical test. Therefore, a researcher must identify outlier and its impact on our results.

No case appeared as per the case wise diagnostic. According to Tabachnick and Fidell (2001, p. 69), cases with values larger than one, are a potential problem. In Critical Success Factors of AGP, data are not violating of assumption of normality, linearity, Multicollinearity, Outlier, Homoscedasticity, and Independence of Residual and fit for multivariate analysis.

4.6 The Combine Effects of Independent variable (Critical Success Factors of AGP) on Project Success

After the model, assumption was checked presentation and interpretation of the analysis output is mandatory. The prediction or estimation of the value one variable (the dependent or the predicted variable; called as Y from one or more independent or predictor variables (Keith, 2006).

The seventh objectives were to establish the extent to which combined project critical success factors influence AGP success in Jimma Zone. The study set out the following hypothesis.

H7: Combined project critical hindering factors significantly influence AGP success in Jimma Zone.

Multiple regressions are an extension of simple (bi-variate) regression. The result of multiple regressions is the development of a regression equation (line of best fit) between the dependent variable and several independent variables. There are several types of multiple regression analyses (e.g., standard, hierarchical, and stepwise) which type of analysis is conducted depends on the question of interest to the researcher.

In this study standard, multiple regressions were used in testing the hypothesis to answer a different question.

Table 4.5 Variables Entered/Removed

Variables Entered/ Removed[a]			
Model	Variables Entered	Variables Removed	Method
1	External Environment Related Factors, Organization Related Factors, Human Related Factors, Project Related Factors, Project Phase Related Factors, Stakeholder Related Factors[b]	.	Enter
a. Dependent Variable: Project Success			
b. All requested variables entered.			

(Source; Own survey, 2023)

Table 4.6 the Combine Effects of Independent variables on Project Success

Model Summary[b]							
Model	R	R Square	Adjusted R Square	Df	F	Sig.	Std. Error of the Estimate
1	.985[a]	.970	.969	6	1321.451	.000[b]	.03472
a. Predictors: (Constant), External Environment Related Factors, Organization Related Factors, Human Related Factors, Project Related Factors, Project Phase Related Factors, Stakeholder Related Factors							
b. Dependent Variable: Project Success							

(Source; Own survey, 2023)

Table 4.7 the ANOVA of Combine Effects of Independent variables on Project Success

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.559	6	1.593	1321.451	.000[b]
	Residual	.298	247	.001		
	Total	9.857	253			
a. Dependent Variable: Project Success						
b. Predictors: (Constant), External Environment Related Factors, Organization Related Factors, Human Related Factors, Project Related Factors, Project Phase Related Factors, Stakeholder Related Factors						

(Source; Own survey, 2023)

Table 4.8The Coefficients of Combine Effects of Independent variables on Project Success

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.292	.009		469.927	.000
	Human Related Factors	.329	.004	.497	52.183	.000

	Project Related Factors	.190	.005	.446	35.190	.000
	Stakeholder Related Factors	.191	.006	.468	39.255	.000
	Organization Related Factors	.172	.005	.427	32.689	.000
	Project Phase Related Factors	.156	.008	.225	16.157	.000
	External Environment Related Factors	.127	.028	.064	5.677	.000
a. Dependent Variable: Project Success						

(Source; Own survey, 2023)

The multiple regression coefficient was .985, indicating approximately 97% of the variance of the project success could be accounted for by Human, Project, Stakeholder collaboration, Organization, Project phase and External Environment related factors.

The variables in the study (HRF, PRF, SCRF, ORF, PPRF and EERF) explained 97% of the variation on project success. Based on the participants' perception therefore the results confirmed and accepted the hypothesis and concluded that there is statically significant influence of combined project critical success factors on agricultural growth project in Jimma Zone. The study also showed that HRF had the highest statistically significant (B =0.32, t = 52.183, P < 0.001) influence on Project success. The highest practical significance of HRF (β = 0.49) also implied the fact that it is perceived as the most influencing factor of project success.

The study also showed that SCRF had the second statistically significant (B =0.19, t = 39.255, P < 0.001) influence on Project success. The second practical significance of SCRF (β = 0.46) also implied the fact that it is perceived as the second influencing factor of project success. The study in addition showed that PRF had the third statistically significant (B =0.19, t = 35.190, P < 0.001) influence on Project success. The third practical significance of PRF (β = 0.44) also implied the fact that it is perceived as the third influencing factor of project success.

The study also showed that ORF had the fourth statistically significant (B =0.17, t = 32.689, P < 0.001) influence on Project success. The fourth practical significance of ORFF (β = 0.42) also implied the fact that it is perceived as the fourth influencing factor of project success. Similarly, the study showed that PPRF had the fifth statistically significant (B =0.15, t = 16.157, P < 0.001) influence on Project success. The fifth practical significance of SCRF (β = 0.22) also implied the fact that it is perceived as the fifth influencing factor of project success. Likewise, the study showed that EERF had the six statistically significant (B =0.12, t = 5.677, P < 0.001) influence

on Project success. The six practical significance of EERF (β = 0.06) also implied the fact that it is perceived as the six-influencing factor of project success.

Based on ranking the main pressures on project success in this study were human related factors at beta value 0.49, which implies that when their perception towards the contribution of human related factors on project success increases by one unit, their perception towards project success increases by .49 units. Stake holder collaboration related factors at beta value .46, which implies that when their perception towards the contribution of stakeholder collaboration related factors on project success increases by one unit, their perception towards project success increases by .46 units. Project related factors at beta value .44 which implies that when their perception towards the contribution of project related factors on project success increases by one unit, their perception towards project success increases by .44 unit.

Organization related factors at beta value .42 which implies that when their perception towards the contribution of organization related factors on project success increases by one unit, their perception towards project success increases by .42 unit. Project phase related factors at beta value .22 which implies that when their perception towards the contribution of project phase related factors on project success increases by one unit, their perception towards project success increases by .22unit. External environment related factors at beta value .06 which implies that when their perception towards the contribution of external environment related factors on project success increases by one unit, their perception towards project success increases by .06 unit.

The present findings in line with a study by (Chandu, Sheetal, and Bhalerao 2016)(Salunkhe 2018)(Pawar 2016) in their studies identifies critical success factors of projects like; Material related, labor and equipment related, design related, consultant related, contractor related, owner related, project related and external related success factors. In other words shortage of construction material and mistakes in design documents, inappropriate organizational structure linking all parties involved in the project, mistakes and discrepancies in design documents and discrepancies in contract document , delay caused by subcontractors and lack of communication between these parties hinder the success of project(Management 2018).

Separately study carried out by Altarawneh, Thiruchelvam, and Samadi (2017)identifies from the presented literature review and many other studies, five identified as common in different

geographical areas and for various types of construction industry. The selected five success factors were no change in scope, design, and specifications, material access, financial performance (cash flow), strong productivity/availability of labor, and excellent communication and coordination among parties

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings, conclusions, recommendations and areas for further research.

5.2 Summary of Findings

The following was the summary and key findings on examination of the influence of project critical success factors and success of Agricultural Growth Projects in Jimma Zone as per the set of objectives.

The Agricultural growth project in Jimma Zone has not been efficient and effective in projects delivery. Projects are costly and high-risk undertakings that need to be accomplished by certain date, for a certain amount of money and within some expected level of performance. Considerable percentages of projects are failing behind schedule. This informed the purpose of study, which was to examine the influence of project critical success, factors and success of Agricultural Growth Projects in Jimma Zone.

The study used a mixed method approach, which embraced both qualitative and quantitative approaches including hypothesis testing. The target populations for the study were seven woredas of Jimma Zones, which benefited from the Agricultural Growth Program. Goma, and Gera woredas that sample 254-sample representative of total population was drawn. The used a questionnaire and an interview schedule as the main instruments of data collection. Quantitative data was analyzed using descriptively and inferentially statistics and presented in frequency tables while qualitative data was presented in narrative form. Based on the ranking, the highest

success factors of project performance/success of AGP in the study area were Human related factors at mean score of 4.34, Stakeholder collaboration related factors at mean score of 4.21, Project related factors at mean score of 4.17, Organization related factors at mean score of 4.12, Project phase related factors at mean score of 4.06 and External environment related factors at mean score of 4.02.

Hypotheses were tested using multiple linear regressions at 0.05 levels of significance to determine the degree and direction of relationships among variables. The study attained Cron bach Alpha of coefficient of 0.96 for all items implying that the instrument was reliable.

The results showed that statically significant influence of combined critical success factors on project success. The multiple correlation coefficient was .98, indicating approximately 97% of the variance of the project success could be accounted for by Human, Project, Stakeholder collaboration, Organization, Project phase and External environment related factors. Therefore, confirmed and accepted the hypothesis and concluded there is significant influence of combined project critical success on agricultural growth project in Jimma Zone.

Based on ranking the main pressures on project success in this study were human related factors at beta value 0.49, which implies that when their perception towards the contribution of human related factors on project success increases by one unit, their perception towards project success increases by .49 units. Stakeholder collaboration related factors at beta value .46, which implies that when their perception towards the contribution of stakeholder collaboration related factors on project success increases by one unit, their perception towards project success increases by .46 units. Project related factors at beta value .44 which implies that when their perception toward the contribution of project related factors on project success increases by one unit, their perception towards project success increases by .44 units.

Organization related factors at beta value .42 which implies that when their perception towards the contribution of organization related factors on project success increases by one unit, their perception towards project success increases by .42 units. Project phase related factors at beta value .22 which implies that when their perception towards the contribution of project phase related factors on project success increases by one unit, their perception towards project success increases by .22 units. External environment related factors at beta value .06 which implies that

when their perception towards the contribution of external environment related factors on project success increases by one unit, their perception towards project success increases by .06 unit.

The importance of each critical success factor is to guarantee success of agricultural growth projects. The study recommends the ministry of Agricultural and Natural resources should provide policy guideline integrating critical success aspects that influence agricultural growth projects completion /performance.

5.3 **Conclusions**

Based on research findings from descriptive statistics, it sufficed to conclude that the highest success factors of AGP in the study area were Human related factors at mean score of 4.34. Next Stakeholder collaboration related factors at mean score of 4.21, Project related factors at mean score of 4.17, Organization related factors at mean score of 4.12, and Project phase related factors at mean score of 4.06 and External environment related factors at mean score of 4.02.

There exists statically significant positive influence of combined project critical success factors on success of agricultural growth projects in Jimma Zone. The explanatory analysis which aimed at examining how jointly and individually influenced project hinder in the study area a multiple linear regression were employed and based the finding, the study have concluded that: The variables in the study (HRF, PRF,SCRF,ORF,PPRF and EERF) explained 97% of the variation on participants perception on project success. Therefore, confirmed and accepted the hypothesis and concluded there is statically significant influence of combined project critical success on agricultural growth project in Jimma Zone.

Based on ranking Human related factors at beta value .49, Stakeholder collaboration related factors at beta value .46, Project related factors at beta value .44, Organization related factors at beta value .42, Project phase related factors at beta value .22 and External environment related factors at beta .06 are critical success factors, which are success agricultural growth project performance in Jimma Zone. This calls for develop project manager's technical expertise, commitment, timely communication and consistence to project work. In addition, top management approval of project plan and allocate sufficient resources for the project on time and fully involved in project work to enhance project performance are important. In order to carried

out project within schedule in adherence to budget, in the required quality and satisfy customers timely availability of funds, materials and equipment are a prerequisite. To enhance right personnel for the project, quality and affordable materials and equipment procurement procedures should follow competitively. Continuous agricultural growth projects audit of funds allocated to guide proper usage of project funds and avoid pilferages. Policy guideline integrating critical aspects that, influence agricultural growth projects completion / success performance are the suggested strategies.

To guarantee success in performance of agricultural growth projects, critical success factors in this study need to put in focus.

5.4 **Recommendations**

The following were recommendations made from the study

1. Project manager's technical expertise, commitment and consistence to project work are crucial for project completion. Any person managing agricultural growth projects should get technical competencies.
2. Top management should approve project plan and allocate sufficient resources for the project on time. Top management need to be fully involved in project work to enhance its performance.
3. Interpersonal skills such as good relationship among the project team and community are necessary for project completion. Effects of inflation on a project can be mitigated by the project team if the project is done within schedule. All stakeholders to enhance project completion /performance must fight corruption in agricultural growth projects. Involving community in agricultural growth projects enhances of ownership and promotes good will that is required for project completion.
4. Timely availability of funds, materials and equipment is a prerequisite for completion of projects on time, in the required quality and cost and would satisfy customers.
5. Projects should be carried out within schedule in adherence to budget. Urgent projects need to focus on good results.
6. Procurement procedures should be followed to enhance right personnel for the project, quality and affordable materials and equipment that are acquired competitively. There is need to

have continuous agricultural growth projects audit of funds allocated to guide proper usage of project funds and avoid pilferages.

7. The ministry of Agricultural and Natural resources should provide policy guideline integrating critical aspects that influence agricultural growth projects completion /performance.

5.5 Suggestions for Further Research

The following were suggestions for further research;

1. The study was carried out in Agricultural Growth Projects in Jimma Zone. Future studies are encouraged to cover other zones and countries to confirm whether the findings are consistent.
2. The research was restricted to Agricultural sector; Future studies encouraged covering other sectors and comparing the findings

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APPENDICES

Appendix 1: Letter of Transmittal

Dear Sir/Madam

My name is Muktar Aba Murti. I am currently doing my MA.In Project Management and finance at Jimma University, school of Business and Economics. I have finished my course work and now I am doing my MA. Project entitled Critical Success Factors of Agricultural Growth Project in Jimma Zone

I believe your experience and educational background will greatly contribute to the success of my research. Therefore, it is with great respect that I ask you to fill this questionnaire. I guarantee that your identity will be kept confidential and the information you provide only be used for academic purposes. I will be happy to share the findings of this research when it is completed

Thank you in advance for taking your precious time to fill this questionnaire. Please try to answer all the questions openly, as your answers will have an influence on the outcome of the research. Your 30 minutes or less will greatly contribute to the growth and advancement of knowledge in the Agricultural Growth Program/Projects.

If you have any questions or comments, please do not hesitate to contact me. You can reach me by;

- Mobile: +251917156602
- E-mail: muktarurgessa1@gmail.com

With Regards

Muktar Aba Murti

Appendix 2: Questionnaire for Agricultural Growth Project Respondents of Jimma Zone

The purpose of this questionnaire is to examine Critical Success factors of Agricultural Growth Program in Jimma Zone. Please respond to the questionnaire as honesty as possible. The answers you provide used for academic purpose only and kept confidential and anonymous. Do not indicate your name anywhere. Indicate your response by filling the blank or by putting mark in the appropriate box.

SECTION I: Background Information

1. Name of Company/Project currently you manage or work _____
2. Sex of the respondents: 1=Male ☐ 2=Female ☐
3. Age of the respondents: _____Years
4. Education level of the respondents: 1=Certificate ☐ 2= Diploma ☐
   3=1st Degree 4=☐ Degree and above ☐
5. How many years have you worked in the power sector projects
   Less than 5 ☐ between 5-10 between10-☐ etween15-20☐ ☐
   More than20 ☐
6. Respondent Designation in the AGP

Please tick the appropriate responses by using this sign **(√)**

Lakk	Respondents	Responses (√)
1.	Owner/Clients	
2.	Project Manager/ AGP coordination unit	
3.	AGP focal person	
4.	AGP irrigation expert	
5.	Stakeholders Expert	
6.	AGP Technical Committee,	
7.	AGP Stream Committee	
8.	Common Interest Group (CIG),	

SECTION II: Critical Success Factors of Agricultural Growth Project Related Questionnaires.

Instruction: Rank the items presented in the table from fist to sixth based on their contribution in project success. You may leave item/s unranked that you believe have no contribution for success of project.

Question: To what extent do you think the following factors are critical to projects success in AGP?

Where the scale of extent: **5**=Very great extent **4** =Great extent **3** = Medium extent **2=** Small extent **1=** No extent at all

Sr.no	Factors Groups	Rank
1.	Human Related Factors,	
2.	Project Related Factors	
3.	Stakeholders Collaboration Related Factors	
4.	Organization Related Factors	
5.	Project Phase Related Factors	
6.	External Environment Related Factors.	

The following factors relate to questions on project Critical success factors and performance/success of AGP in Jimma Zone

Please kindly indicate your level of agreement of disagreement on **five-point Likert scale from 1-5,** where strongly agree (SA) = 5, Agree (A) =**4**, Note sure (NS) =**3**, Disagree (D) =**2** and Strongly Disagree (SD) =**1**

No	Human Related Factors	Agreement scale				
	Statements	**SA**	**A**	**NS**	**D**	**SD**
1	Agricultural Growth Project managers ability to delegate authority is strong					
2	Agricultural Growth Project manages ability to tradeoff matters a lot					
3	Agricultural Growth Project managers competence and ability to coordinate is strong					
4	Agricultural Growth Project managers communication skills and commitment increase project performance					
5	Agricultural Growth Project manager's perception of his role & responsibilities is strong					
6	Prior experience of Agricultural Growth Project manager is increase project performance					
7	Involving community members in a project leads to client satisfies to project design.					
8	Owner commitment and approval of payment increase project performance.					
9	Agricultural Growth Project client commitments to the goals/objectives are strong					
10	Agricultural Growth Project client commitment to the quality standards and owner's standards are of desired quality					
11	Prevention of accidents and hazards of Agricultural Growth Project is strong					
12	Prior experience of team/ technical background of Agricultural Growth Project is increase project performance					
13	Employee clearly and precisely understand definition of project objectives (Goal, task)					

14	Commitment and troubleshooting of Agricultural Growth Project team is increase Project performance					
15	Sufficient availability of workers for Agricultural Growth Project affect project work					
	Project Related Factors	**SA**	**A**	**NS**	**D**	**SD**
1.	Agricultural Growth Project process or procedure are time consuming					
2.	Agricultural Growth Project procurement method increase project performance					
3.	Agricultural Growth Project tendering method and strategies hinder project performance					
4.	Size & value of Agricultural Growth Project affects project out come					
5.	Uniqueness of Agricultural Growth Project activities affects project performance					
6.	Agricultural Growth Project have clear and realistic goals					
7.	Agricultural Growth Project has satisfactory budget controlling					
8.	Agricultural Growth Project has satisfactory planning& scheduling					
9.	Agricultural Growth Project managerial skills coordination & communication are strong					
10.	Problem solving abilities of agricultural growth project managersare strong					
11.	Monitoring performance, project risk management and feedback are strong					
12.	Agricultural Growth Project isstrong utilization of up-to-date technology					
13.	Sufficient availability of funds for Agricultural Growth Project is influence performance					
14.	Adequate management of resources in Agricultural Growth Project					
15.	Sub-contractors' capability/efficiency increase Project performance					
16.	Agricultural Growth Project implementation process has been in continues improvement					
17.	Agricultural Growth Project has proper utilization of resources					
18.	Predictability of time, cost and risk for Agricultural Growth Project are strong					
19.	Management commitment to benefit realization and collective utility is strong					
	Stakeholders Collaboration Related Factors	**SA**	**A**	**NS**	**D**	**SD**
1	Presence of Common vision and effective communication of Agricultural Growth Project stakeholders are increase performance					
2	Clearly understanding of the project design and implementation approach between stakeholders increase project performance					
3	Clearly defined roles & continuity of relationships between Agricultural Growth Project stakeholders leads to project success					
4	Supportive environment and feedback mechanism of Agricultural Growth Project stakeholders are strong					

5	Stakeholder commitment to benefit realization and collective utility is strong					
	Organization Related Factors	**SA**	**A**	**NS**	**D**	**SD**
1	Top management's efficiency and timely approval of sufficient funds for projects is achieved with scheduled					
2	Agricultural Growth Project has Visible organizational structure					
3	Functional managers effectively support for Agricultural Growth Project					
4	Top management has ability to use both formal and informal communication to achieve desired goals					
5	Use of 360-degree reporting and feedback success Agricultural Growth Project					
6	Top management level of involvement and commitment success Agricultural Growth Project					
	Project Phase Related Factors	**SA**	**A**	**NS**	**D**	**SD**
1	Clear understanding of project environment for Agricultural Growth Project is necessary					
2	Compatibility with development priorities for Agricultural Growth Project is crucial					
3	Effective consultations with stakeholders are valuable for projects					
4	Duration of agricultural growth project that take long duration are influence project performance					
5	Having compatible regulations and standards success Agricultural Growth Project					
6	Inadequacy of project closure activities leads to project fail					
	External Environment Related Factors	**SA**	**A**	**NS**	**D**	**SD**
1	Belief systems and practices, customs and traditions in a project area affect project performance					
2	Marginalized groups included and have opportunities to participate in Agricultural Growth Project					
3	The implementation process creates a sense of ownership in the community					
4	Building and maintaining healthy, strong communities and social inclusion are vital for projects					
5	Bureaucracy, corruption level, tariffs and trade control affect projects performance					
6	Presence of technological advances in production systems and logistics are success Agricultural Growth Projects					
7	Organizational law, security law, government procurementlaw, contract law is affected project performance					
8	Securities against hazard terminations of employees are important					
9	Availability of natural resources (farm land, fisher's) in the project area are crucial for project success					
10	Climate change can be hinder Agricultural Growth Projects					
11	Supply chain efficiency and ensuring business continuity are necessary for Agricultural Growth Projects					

12	Effective management of sub-contractors is necessary for project performance					
	Project Success	**SA**	**A**	**NS**	**D**	**SD**
1	Project are completed on schedule					
2	Projects arecompleted within budget					
3	Project are of the desired quality					
4	Project are completed according to specifications					
5	Customers are satisfied with the projects					
6	Project was financially feasible					
7	Project was socially useable					
8	Project was politically achievable					
9	Project environmentally sustainable					
10	Agricultural Growth Project was completed without disturbing the main work flow of the organization.					
11	Agricultural Growth Project financially desirable					
12	Agricultural Growth Project socially adaptable					
13	Agricultural Growth Project continuous improvement of quality					
14	Agricultural Growth Project politically practicable					
15	Agricultural Growth Project environmentally serviceable					

Other opinion of respondents:

4.1 If you have other opinion/experience on Critical success /hinder factors of AGP rather than mentioned above kindly requested to add here

a) _____

b) _____

c) _____

Thank you again for your cooperation!

Appendix 3: Interview Schedule

This will used to collect proceedings of the key informant interview that shall be AGP coordination unit, financier, focal person and heads of woredas agricultural offices. They shall interview on critical success factors and success of AGP in Jimma Zone. Notes shall be extensive and reflect accurately on the content of discussion as well as any notable observation of nonverbal behavior such as fiscal expression, hand movement etc.

1) What is the relationship between duration of project, scope and its quality? Explain
2) Doe the cost, schedule and scope of project affect its quality. Explain
3) How does the project related success affect AGP? Explain
4) Explain how project manager and team member's related factors success AGP
5) How does the access to resources / adequate management of resources influence project performance? Explain

6) How does top management commitment and support approval of project plan and allocation of resources affect the project performance? Explain
7) Explain hoe time allocation of funds, materials and equipment affect the performance of AGP
8) Do misunderstanding among team members and stakeholders affect project performance? Explain
9) Do you think proper utilization of project funds can lead to project success and customer satisfaction?
10) Do you think involving community in the project is important for the quality of an AGP? Explain
11) Which criteria do you use to measure your project success (or failure)? (Cost, Time,Quality Client satisfaction, Other specify)
12) How your projects tied to the organizational structure?

- ✓ The project is separated from the rest of the parent firm
- ✓ It is part of a functional division of the firm
- ✓ It is a pure project organization overlaid on the functional division of the parent firm (matrix form)