

Addis Ababa University School of Commerce

**Impact Assessment of Interventions on
Agriculture Commercialization Cluster Program:
A Case Study of Malt Barley Cluster in Oromia Region**

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School of Commerce

Project Management

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Examiner	Signature	Date

Declaration

I hereby declare that the project entitled “Potential Impact Assessment of Interventions on The Success of Agriculture Commercialization Cluster Program: A case study of Malt Barley Cluster in Oromia Region” is my original work and has not been presented in Addis Ababa University or another University, and that all sources of material used for the project have been duly acknowledged

Emenet Ephrem (The Researcher)

Statement of Certification

I certify that Emenet Ephrem has carried out her research under my guidance on the topic of “The Success of Agriculture Commercialization Cluster Program: A case study of Malt Barley Cluster in Oromia Region”. This work is suitable for submission as a partial fulfillment requirement for the award of master’s degree in project management.

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Abstract

The objective of this study was to analyze the potential impact of interventions on Agricultural Commercialization Clusters (ACCs) of malt barley in Arsi Zone, Oromia region. It also had a specific objective of investigating analyzing the impact that were observed after the smallholder farmers participated in the ACCs through descriptive analysis. This research used quantitative approach and followed descriptive research approach on the analysis of ACC that is a relatively new concept in Ethiopia. The findings of this study indicate that more than half of the participants (62%) have observed an impact on their livelihood after participating on the ACCs. This impact observed was analyzed in the aspect of crop quality, production quantity, productivity, cost of production, and investment. Based on the findings of this study it is recommended that; ATA should give attention to creating awareness about the importance of market linkage amongst the value chain actors of the ACCs and work on improving the network of suppliers and consumers while maximizing the coverage of the beneficiaries within ACCs. The stakeholders involved in the ACC value chain should also work together to ensure on time supply of quality products to maximize the impact of the interventions on the ACCs. Finally, significant attention and support should be provided to improve the collaboration of the government institutions. Further study is also recommended on the correlation of the interventions individually with the different components of the results of ACCs. The level of commercialization should also be investigated to understand to what extent the intervention is helping the Agricultural clusters in the commercialization process. This could be achieved through longitudinal, multidimensional, and comprehensive analysis.

Key words: Agricultural Commercialization Cluster, Malt Barley, ATA, Smallholder farmer

Acronyms/Abbreviations

ACC: Agriculture Commercialization Cluster

ATA: Agriculture Transformation Agency

FDI: Foreign Direct Investment

HCl_i: Household commercialization index for household number i, HHi: Household number i

GTP: Great Transformation Plan

FAO: Food and Agriculture Organization

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Chapter One: Introduction

1.1. Background of the study

An agriculture-based cluster is simply a geographic concentration of producers, agribusinesses and institutions engaged in the same agricultural or agro-industrial sub-sector, that interconnect and build value networks when addressing common challenges and pursuing common opportunities (FAO, 2010). In Ethiopia, there are eight clusters of different agricultural products in 211 woredas across the four major regions, Oromia, Tigray, SNPP, and Amhara, the largest being the malt barley cluster in Oromia region over 15 woredas covering 93,932 households (ATA, 2016/17).

Commercialization of agricultural production is an endogenous process and is accompanied by economic growth, urbanization and withdrawal of labor from the agricultural sector (FAO, 2010). By exploiting comparative advantages, agricultural commercialization enhances trade and efficiency, leading to economic growth and welfare improvement at the national level (Calogero, 2017). But as is it could be seen from the current situation in Ethiopia, majority of the agricultural products produced are used for household consumption compared to commercial use. With the population growth comes, increasing food, urbanization and employment demand. This coupled with the low commercial production, primary agricultural production at household level cannot continue providing half of the employment in the country without increasing production and productivity. Once these are attained, agriculture commercialization could be achieved.

The concept of the Agricultural Commercialization Clusters (ACC) initiative was introduced during GTP- I as a mechanism to integrate the interventions prioritized in the Transformation Agenda within specific geographies targeting a limited number of high-value commodities (ATA, 2015). Extensive stakeholders' consultation has been conducted to develop and refine the Agricultural Commercialization Clusters approach through the review of the different experiences of other countries with similar initiative. This minimizes the learning curve starting from the project initiation up to implementation and achieve the desired results within a short period of time. Workshops with regional stakeholders and follow up discussions with federal stakeholders and regional senior leadership bodies have also been conducted (ATA, 2015). This creates a sense of ownership in the stakeholders as they are involved in the critical parts of the project which gives close attention to inclusiveness of the parties involved. Nine priority crop

commodity value chains have been identified for focus by the ACC initiative in the last two years of GTP-II. These are wheat, maize, sesame, malt barley and horticulture crops – tomato, onion, banana, mango and avocado (ATA, 2015). These high-value commodities are expected to have a great impact on the stakeholders and the economy of the country. ACCs go beyond marketing what is produced by identifying what to produce for profit maximization before starting to produce any crop. The ACC program developed and led by ATA aims to increase the income of the small holder farmers productivity, production and product quality through interventions like facilitation of timely and easily accessible quality inputs (seeds and fertilizers), access to finance, market linkage, and training and coaching in order to increase exports, substitute imports and develop domestic market and eventually the income of the farmer. In line with this, increasing industrialization, and creating off-farm employment opportunities are also the results of the project.

This research tried evaluating whether the intervention is bringing the intended impact on the smallholder farmers life or not. The findings are expected to help the cluster member farmers along with the other stakeholders involved in the value chain from government as well as private sector side to allocate the necessary resource in a focused manner. It would also bring light on the rationale behind prioritizing these components according their level of impact on the ACCs. This study will also give recommendations for further study to encourage future studies since the ACC is relatively a new concept in Ethiopia.

1.2.Statement of the Problem

Impact assessment is the key component of any project management process. It is the component where the goal of the project comes to live by ensuring the project deliverables are in line with the project objective. The ACC initiative was designed to assist the implementation process by incorporating recommendations from researches to identify and solve the systemic bottle necks. According to the Great Transformation Plan- Two (GTP II). It involves the largest public extension service system in the world that provides seed, fertilizer, mechanization, and market service to farmers in the agriculture sector (Khalid Bomba, 2013). The major problem faced on the agriculture sector during the implementation process was limitation of implementation capacity at different levels to achieve the targets set for different sectors. This problem is expected to cascade down to the agriculture commercialization cluster program as it is one of the government’s initiatives designed to improve Ethiopia’s agriculture sector. For

this reason, allocating the available resource for a specific part of an intervention that is going to bring the highest impact is important more than ever. According to the briefing document by ATA, there is also poor alignment and integration with other stakeholders, programs and activities. In relation to this, a program as big as the Agriculture Commercialization Cluster requires a significant involvement of the private sector. Their involvement could be, but not limited to in input supply and distribution, input storage and transportation, processing and value addition, marketing and export, and training and coaching. The limited involvement of the private sector on these aspects has reduced the impact of the ACC program.

On the other side, according to the farmers visited by the researcher, there is poor collaboration and coordination amongst the stakeholders involved in the value chain. The efforts the project designers and implementers are not reaching the beneficiaries and the concerns and suggestions from the beneficiaries are not reaching the project designers and implementers. In addition to this, the long communication line between the national level and regional level coordinators could potentially contribute to this collaboration gap. This is expected to result in late supply of inputs that have poor quality. The trainings and coaching provided to the stakeholder farmers might also not address the needs and concerns of the beneficiaries since there is poor communication.

1.3. Basic questions

- Which intervention is considered to be important by the smallholder farmers? Is this service being provided to them?
- What is the quality level and timeliness of the interventions in the eyes of the smallholder farmers?
- Which service provider stakeholder is the most collaborative?
- Is there any impact that resulted from the ACC that is observed through change in the livelihood of the smallholder farmers after participating on the ACC program?

1.4. Objective of the study

1.4.1. General Objective

The main objective of the study was to examine the potential impact of interventions on the success of the Agriculture Commercialization Clusters (ACCs)

1.4.2. Specific objective

- ✓ To identify which intervention the small holder farmers consider important and if that service is being provided to them
- ✓ To assess the quality and timeliness of the interventions in the eyes of the smallholder farmers
- ✓ To assess which service provider stakeholder is the most collaborative so that future interventions could be coordinated by them
- ✓ Examine the impact of the ACC program through evaluation the improvement of the livelihood of the smallholder farmers

1.5. Operational Definition of Terms

Agriculture: growing of crops and/or raising animals for own consumption and/or sale.

Agriculture household: a household where at least one member is engaged in growing crops and /or raising livestock in private or in combination with others.

Cluster: geographically proximate firms in vertical and horizontal relationships, involving a localized enterprise support infrastructure with a shared developmental vision for business growth, based on competition and co-operation in a specific market field.

Cooperative: Collaboration of farmers that have formed a formal entity

Intervention: Service given to improve the situation

Livelihood: it is the capabilities, assets (resources, claims and access) and activities required for a means of living according to the UNDP definition,

Small holder farms according to CSA's definition; these are farms that are have less than 25.2 hectares of farmland

Union: an entity formed by the collaboration of cooperatives

1.6. Significance of the study

The first reason for this is because of the 93,932 smallholder farmers in this cluster which indicates the importance and significant impact of the malt barley cluster to Ethiopia's economy. The increasing local demand of beer producers also gives it a huge importance as it would have a large contribution to Ethiopia's economy. The members of the ACC who took survey conducted by ATA indicated that being part of the program is very useful. But according to the literatures reviewed by the researcher, neither the members nor ATA have indicated which specific part of the initiative had the biggest impact on commercialization of the farmer's cluster; which is the measure of the success of the ACCs. Furthermore, there is a gap on how the life of the smallholder farmer has improved because of ACCs. Analyzing the impact of ACC initiative will identify this and suggest specific intervention areas to maximize its impact by allocating more resource and attention. Moreover, this study contributes to the limited knowledge available on the ACC program in the local context. This research will also try to fill this gap by identifying specific study areas and recommending further investigation.

1.7. Scope and limitation of the study

The study focused on the impact assessment of the ACC program specifically the malt barley cluster in Assela, Oromia region. This study considered only the stakeholders in this value chain, and the lessons and the gaps would also be identified only from this cluster. On the other side, Oromia region, specifically Assela, is chosen to be the focus of this study because of the large number of smallholder farmers involved in the cluster within the region and because the region has given the malt barley maximum focus compared to the other regions out of the eight commodities of the geographic commercialization clusters; maize, coffee, teff, wheat, dairy livestock and horticulture crops. There is also large quantity of malt barley production compared to the other regions. Moreover, it is also considered to be a pilot crop for agro-processing and market linkage. This also goes in line with GTP II, which focuses on high-value crops like malt barley.

The major limitation of the study was the language barrier between the participants and the researcher. This constraint was alleviated with the help of Development Agents (DA) and regional officers and consultants who spoke the local language, Oromifa. Since they were already working closely with the ACC members, it was easier to collect the necessary data and collaboration from the study participants.

1.8. Organization of the paper

Chapter 1 of this research paper reviews the problem to be addressed and its relationship with impact assessment in the area of project management and defines the scope and limitation of the research. Chapter 2 explores literatures that are relevant researches and reports associated with the topic addressed in this study. Chapter 3 shows the methodology and procedures used for data collection and analysis. Chapter 4 illustrates the analysis of the data and discusses the results in a detailed manner. Finally, Chapter 5 discusses the implications of the results from the point of view of the research questions raised and the formulated hypothesis and ends with recommendations for further study.

Chapter Two: Literature review

2.1. Introduction

This part of the paper tries to explore the theoretical and empirical literature review and lays the conceptual framework. It explains why the research was conducted, establish the relationship between the variables; agriculture commercialization, input (seeds, and fertilizers), training and coaching, financial support, stakeholder collaboration, and market linkage. Finally, it supports the points raised with an actual relevant data.

2.2. Theoretical literature review

2.1.1. Agriculture

Since the existence of human beings, agriculture has been part of their life directly or indirectly. The development and the progress made is not that satisfactory compared to its existence. However, because of standardization, globalization, the need for high value production, productivity and efficiency, continuous growth of demand, and innovation, agriculture is reinventing itself to be a global business in order to meet these requirements. When considering the situation in Ethiopia, agriculture has a great importance economy of the country as it creates 85% of employment and accounts to 39% of overall GDP (UNDP, 2016). Transforming this sector will improve the lives of a large portion of the total population by changing the lives of over 15 million smallholders who produce about 95% of the national agricultural production (CSA, 2017/18). These farmers are directly influenced by the agriculture sector while the rest of the stakeholders involved in the value chain and the rest of the population who are dependent on agricultural products are indirectly affected by the sector.

2.1.2. Agriculture Cluster (AC)

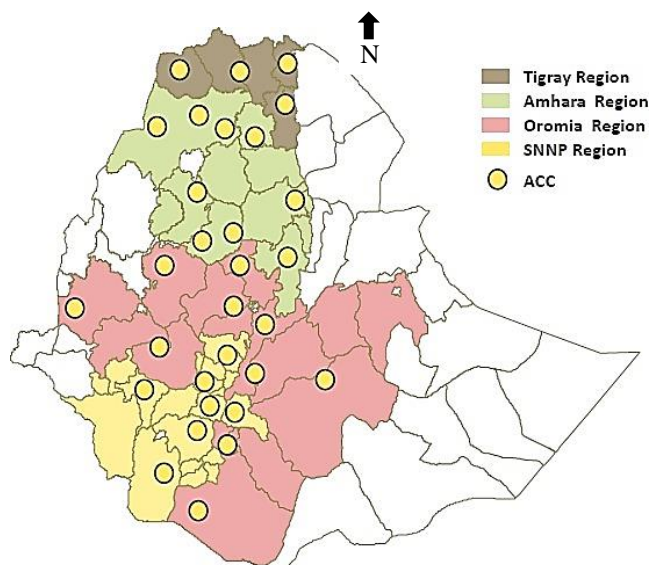
Many literatures show that agriculture is dominated by informal organization and weaker linkage of stakeholders, traditional way of doing things, lower value addition and unsatisfactory result. Modernizing and improving the agriculture sector is important more than ever. ACs are increasingly being recognized as an efficient way to develop and stabilize agriculture and agro-industry and to create an environment that improves the competitiveness of agribusiness, particularly small- and medium-scale companies (FAO, 2010). They also provide the focus that is needed for agro-enterprises, governments and institutions to align and concentrate their efforts to achieve competitiveness and performance targets. Accordingly, governments can improve the effectiveness of their support for the establishment and improvement of agricultural value chains “by promoting the development of and organizing their assistance around clusters”. These

eventually bring equitable benefits for agri-food chain participants, particularly in developing countries; and to establish favorable business environments, where policies, institutions and services are conducive to sustainable. During GTP I, the transformation agenda has included 84 deliverables that have been prioritized as critical to addressing the systemic bottlenecks in the agriculture sector. Overall, 53% of these deliverables were considered to be on track, with 35% “Slightly delayed” and 12% “Significantly delayed” (ATA, 2016/17).

2.1.3. Agriculture Commercialization Clusters

Encouraging ACCs is one of the strategies identified by FAO to support agriculture as a business and develop agro-industry. ACCs raise the competitive advantage of agribusiness and farmers firms by increasing their production and productivity, improving access to local and global markets, improved seeds and location-specific fertilizers. Promoting ACCs in developing countries is very challenging by informal organization and weaker linkage of stakeholders, and traditional way of doing things. This is one of the reasons agencies like ATA has a critical role on programs like ACCs because these agencies have the capacity to involve international donors, influence government agencies, and mobilize large amount of capital and human resources. At the beginning of GTP II, commodities with high value and suitable geographical clustering were conducted to identify 24 ACCs across the four main regions for implementation, Amhara, Oromia, Tigray, SNNP, during GTP-II period two of which are found malt barley clusters found in 15 Woredas of Oromia region covering over 60,520 hectares of cultivated land and 93, 932 farmers (ATA, 2016/17). Ethiopia is the second largest producer of barley in Africa next to Morocco, accounting for about 26% of the total barley production in the continent (FAO, 2014) and Oromia Region covers 53% of barley production in the country followed by Amhara Region which is 31% (CSA, 2018).

Figure 1: Agricultural Clusters in Ethiopia



Source: (ATA, 2015)

As shown in figure one, there are agricultural clusters in the four regions of Ethiopia, Tigray, Amhara, Oromia, and SNNP. Commodities with high value and suitable geographical clustering were conducted to identify 24 ACCs across the four main regions for implementation

2.1.4. Determinants of Success of Agriculture Commercialization Clusters

The success of the ACCs is determined by the success of the individual members in commercializing their produces. Even though there are some similarities to some level, different clusters in different countries have different needs and requirements. Which is why one-size-fits-all approach to commercialize the ACs will not work. For this reason, ATA has identified five components of interventions to commercialize the ACs through consultation with well educated, and experienced experts, analysis of other countries experiences relevant to Ethiopia, and different workshops with farmers. These components are farm inputs, training and coaching, facilitation of financial support, stakeholder collaboration, and market linkage.

2.1.5. Output of the ACC program

ACC has direct and usually positive impact on value chain actors such as input suppliers, output traders, transporters, processors, financiers and others. The positive impacts could be due to economies of scale created from increased demand and supply that tend to decrease average cost per unit of operation. The ACC program has four major outputs

- ✓ Increasing farmers' income by increasing production and productivity

- ✓ Substituting imports by locally produced quality products
- ✓ Developing domestic market
- ✓ Creating more off-farm employment opportunities
- ✓ Increasing the ease of doing business

2.2. Empirical Literature Review

The grape producing cluster created, Maharashtra State Grape Growers' Association (MRDBS) started by 25 grape producer farmers in India had high rejection rate, up to 80 %, in the export market due to the failure to attain export standard which resulted in a loss up to 400, 000 USD (Roy, 2008). This research confirms that they were able to decrease the rejection rates down to 10 % by giving a significant emphasis to quality and timely farm inputs.

2.2.1. Stakeholder Collaboration

Formalizing institutions like laws, constitutions, rules, regulations, contracts, property rights, and legal frameworks facilitate the playing ground for economic actors (North 1991; Kharellah and Kristen 2001). These could be the manifestation of ACCs that create enabling environment for smallholder farmers. The development of agricultural support services such as agricultural extension linking smallholder farmers with new farm practices, and institutional arrangements such as agricultural marketing and service cooperatives, are designed to help link smallholders with input and output markets (Lerman 2004 and (ILRI, 2009). According to the 2016/17 annual report by ATA, in order to coordinate and govern the ACC initiative, Regional Transformation Councils (RTCs) was established chaired by regional presidents. Project Management Office was also established to oversee successful implementation of the ACC initiative. These two platforms are projected to create information symmetry while giving emphasis to accountability. The horizontal collaboration between the farmers organized under cooperatives and unions found under the same cluster is also helping the farmers get farm inputs, better price of their produces, working capital, and access to industrial buyers. (McDermott, 2005) and (Visser, 2004) strongly argue that Latin American wine clusters have significantly improved through the collaborative institutionalized support to given to wine clusters by public agencies, universities, research and development institutions, etc. and joint actions undertaken by cluster stakeholders. Moreover, a research conducted by FAO indicates that through promotion of alliances and networks to coordinate initiatives linked to the development of suppliers the establishment of public-private

coordination gave the spring ball effect to the Chilean salmon cluster to become the second leading producer in the world (FAO, 2010).

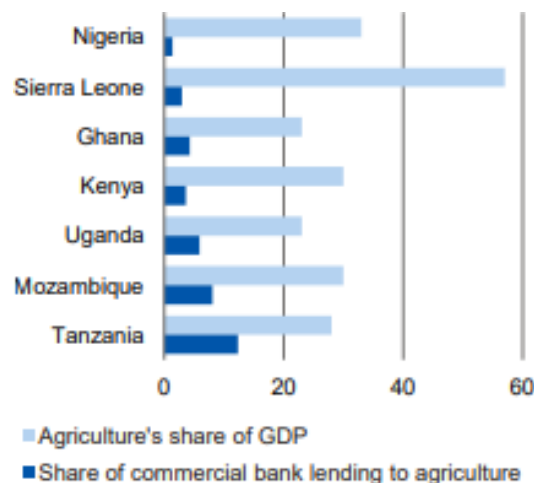
2.2.2. Training and coaching

All the activities in ACCs are driven by the member farmers. Higher capacity of these farmers results in better management skills which in turn results in better ACC performance. It is recommended that attention should be given to training farmers to view farming as a business, equipping farmers with marketing and negotiation skills and provision of affordable draft power in order to increase the degree of commercialization (Guveya, 2016). Farmers who have received agricultural extension training are 5.5% more likely to commercialize when compared to farmers with no agricultural extension training. The importance of improving knowledge base and aiding the implementation and application of new knowledge was very high in decreasing Indian grape export rejection from 80% to 10% in three years (Roy, 2008). Supplemental trainings were given to the members of the ACCs through development agents in the case of the malt barley cluster in Oromia region. It is expected to result in better commercialization of this cluster.

2.2.3. Financial Support

Even though agriculture has the lion's share on the GDP of sub Saharan Countries, the financial loan from domestic commercial banks to the sector is still low and has a small growth rate. For example, it is only 6% in Uganda, 4% in Kenya, and 12% in Tanzania (FAO, 2012). This could be because of the unavailability of collateral, the risky nature of agriculture with comes from diseases, pests, weather and market instability, the gap that exists between investment needs and expected revenues.

Figure 2: Lending from domestic banks



Source: Deutsche Bank, 2014

Figure two indicates, commercial banks give very small loan amount for individuals in the agriculture sector even though the sector has a high contribution to the economy of the countries.

One of the innovative solutions that are surfacing are credit guarantee schemes, public-private partnerships, and agricultural insurance schemes. This is suggested to be done through micro-finance institutions. In the case of Ethiopia, pre-financed input credit was arranged for malt barley farmers by agro-processors, with four companies providing input credit of 36 million ETB (ATA, 2016/17). Financial support as big as this to the ACs this needs contribution from great investment. One of the recommendations to the restructuring and modernization of ACs in developing countries could come from FDI (FAO, 2010).

2.2.4. Market Linkage

Market incentives appear to be of great importance, as seen in the cases of the Colombian, Kenyan and Ecuadorian flower clusters (FAO, 2010). Ricardian trade theory also indicates that farmers engage in the market principally to derive various bundles of consumption and welfare by specializing in the production of products for which they have comparative advantage (Shiozawa, 2015). Oromia has comparative advantage relative to the other regions as the region is relatively suitable for malt barley cultivation. The new breweries in Ethiopia have also created a big demand for malt barley, which is one of the ingredients for beer production. The vertical market linkage between these malt barley clusters and the breweries, input suppliers, governmental and non-governmental institutions, and other donors have been identified as one of the drivers of commercialization of the cluster. Therefore, platforms that bring together buyers and sellers, usually farmer cooperatives, have been set-up in all regions to create incentives for producing marketable surplus and to ensure a better match between supply and demand. As a result, cooperative unions and malting and brewing industries have started working in partnership through market linkage to see that nearly half a million quintals of malt barley produced by farmers was bought by locally-based actors which accounts for 84% of ACC malt barley sales across the country (ATA, 2016/17).

2.2.5. Farm Inputs

All the ACCs start with the production process during which the inputs like seed and fertilizer are critical. On time availability of these inputs at the desired quality level is one of the drivers of the success of the ACCs. Improved seed and chemical fertilizers suitable to the specific

farm soil are critical components of farm input service that would result increased production and productivity. This in turn results in creating marketable produce surplus which increases the number and success of ACCs.

On-time availability of these services at an acceptable quality level is crucial as the success of farming activity highly depends on it. Providing high quality seed and fertilizer after the planting period has passed has no contribution to success of the smallholder farmer just as providing low quality of the above inputs on time. Similarly, providing training smallholder farmers about negotiation with customers after they have sold all their produces will not be as effective as getting the training earlier.

2.2.6. Measuring Commercialization

Measuring the degree of commercialization is used as an indicator of the success of the ACCs. It also shows if the interventions towards ACCs are working or not and if it is, the success can be quantified. This will in turn give more focus and effort on the commercialization intervention that is working well.

The degree of commercialization goes beyond analyzing the amount sold from the gross value of all crop produced. It does not focus on marketable crop that is sold because of unplanned surplus production or that is leftover after household consumption. It focuses on the crop that was produced by deliberate contemplation on comparative advantage like high market demand and better price value. It also considers the input allocated for producing marketable crops and the effort to market the crops after production on the output side. From the market side, degree of commercialization could show the strength of the market linkage. This household-to-market linkage could relate to output or input markets either in selling, buying or both (ILRI, 2009). This ratio is similar to what has been developed earlier by different authors (Abercrombie 1961; Cleave 1974; Ruthenburg 1980 as cited in Randolph 1992; von Braun et al. 1994) as the percentage of agricultural output sold to total agricultural production.

$$HCLi = \frac{\text{Gross value of crop sold by hh a in year b} \times 100}{\text{Gross value of all crop produced by hh a in year b}} \dots \text{ (Muhammad-lawal A., 2014,)}$$

Where HCLi = Household commercialization index for household I, hhi = ith household, Year j = jth year Scale for Commercialization

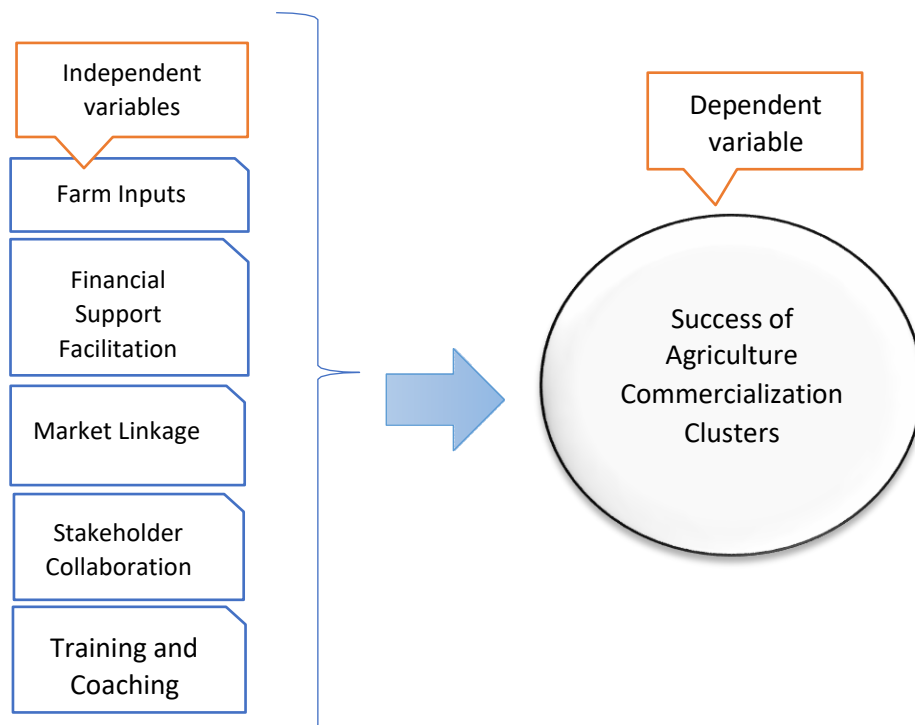
0% – 30%: Not Commercializing

31% – 50%: Moderately Commercializing

51% – 100%: Fully Commercializing

Y= f (farm inputs, training and coaching, financial support, stakeholder collaboration, market linkage)

Figure 3: Schematic diagram of research theoretical model



Source: Developed by the researcher

Figure three summarizes the linkage between dependent and independent variables of the research that were discussed in detail on the literature review. It tries to show how the interventions have direct contribution on the ACCs. Improved seed and chemical fertilizers suitable to the specific farm soil are critical components of farm input service that would result increased production and productivity.

Chapter three: Methodology

3.1. Introduction

This chapter deals with the specific techniques of research approach, research design, sources of data, sampling techniques, sources of data, data collection, and instruments, data analysis, and research ethics.

3.2. Research Approach

This research used quantitative approach to analyze the impact of interventions on ACCs. According to (Amaratunga, Baldry, Sarshar, & Newton, 2002) it is also possible to generate subjective comparison and replication is possible through quantitative approach.

3.3. Research design

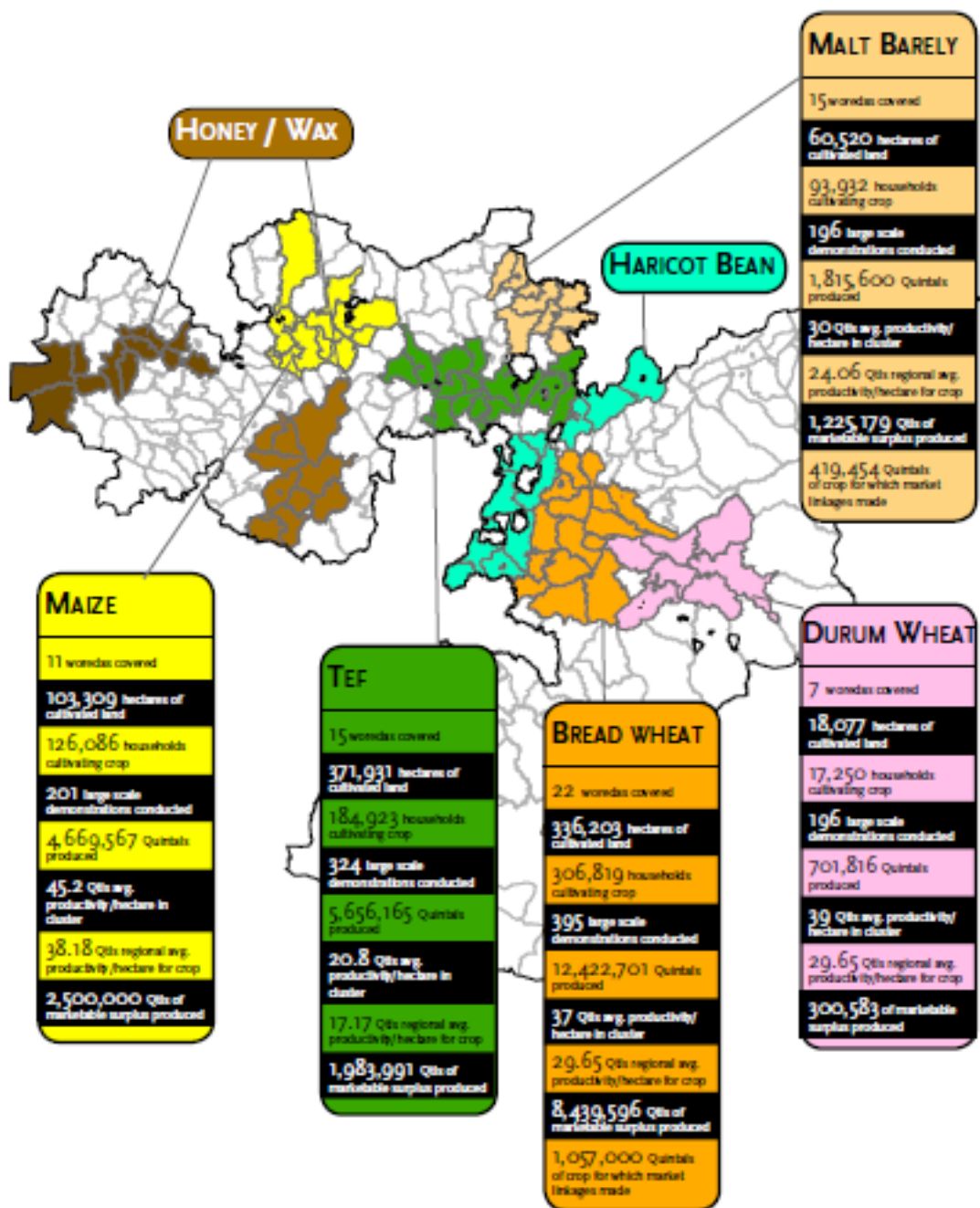
The research followed descriptive research approach on the analysis of ACC that is a relatively new concept in Ethiopia. Since there is limited research on the topic in the local context, there is potentially uncertainty about the level of the delivery of the interventions and the impact the different components of these interventions have on the program. This research tried to investigate the potential impact of interventions on the ACCs. This investigation was conducted through impact assessment of the five components of the ACC initiative which are, farm input, training and coaching, financial support facilitation, stakeholder coordination, and market linkage which are expected to result on the success of the program.

3.4. Sources of Data

3.4.1. The study sites

The study was conducted in Arsi Zone of the Oromia region, specifically in Assela town. Oromia Region covers 53% of barley production in the country (CSA, 2018). Assela is located 130 kilometers away from Addis Ababa in the Southern part of Ethiopia. It is the hub of malting as the major malting factory, Assela Malting Factory, is found in the region. The factory has an annual production of 520, 000 quintals. The major source of secondary data was the owner of the ACC program, ATA. Other additional data from CSA, FAO, and ILRI were also used for cross-checking.

Figure 4: Schematic description of the agricultural clusters in Oromia region



Source: ATA, 2016/17)

Figure four shows the different commodity clusters in Oromia region. These clusters are distributed in different areas of the regions to leverage competitive advantage that comes with the specific location.

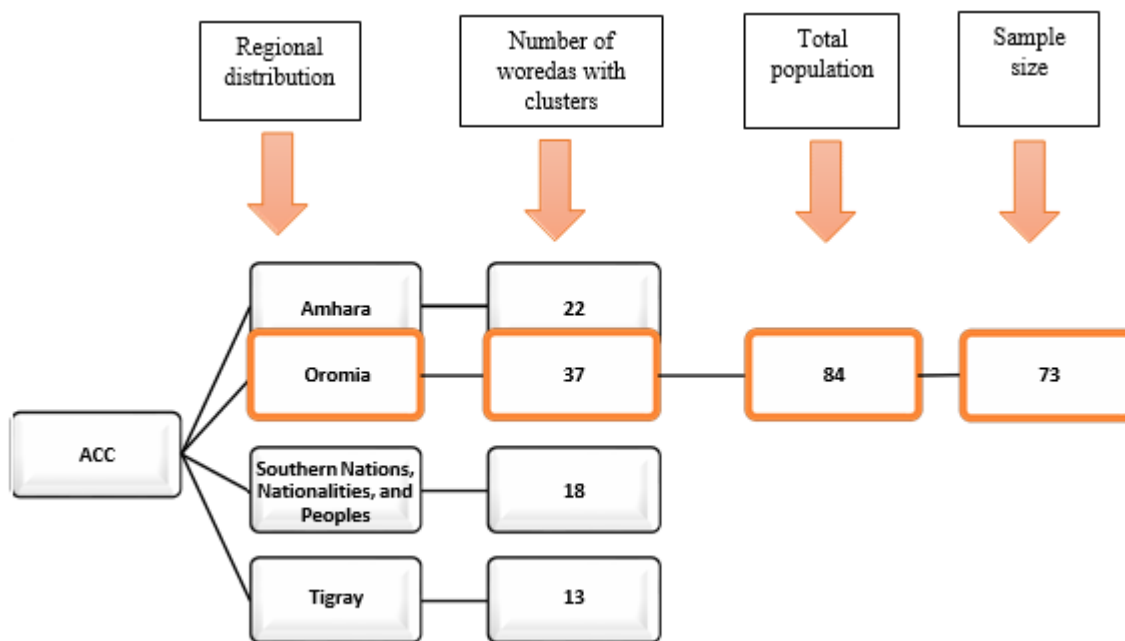
3.5. Population and Sampling Design

3.1.1. Target population

The target population for this study were farmers in the malt barley ACCs in Oromia region specifically in Assela town. This region is chosen because it is the largest agricultural region in the country and the largest ACC region where majority of the clusters (63%) are in full implementation mode (ATA, 2016/17). Assela also covered the largest malt barley cluster in the region since it is the largest producer of malt barley. It is also the city which has made significant progress with the collaboration of the breweries and the other value chain actors.

3.1.2. Sampling Frame

Figure 5: Sampling Frame



Source: Developed by the researcher

Figure five ACCs are present in all the four major regions of Ethiopia. From these, different woredas have different ACCs specific to malt barley that is; 22 in Amhara, 37 in Oromia, SNNP 18 and 13 in Tigray. The figure also shows that out of the total population of 84 smallholder farmers in the malt barley cluster, 69 were chosen for the study based on table value developed by Research Advisors (2006). To insure that the required sample size is maintained, extra four samples were added to 75 in case there are some questionnaires that are not filled and returned to the researcher or not properly filled.

3.6. Sampling Technique and size

From the total 84 population in the malt barley clusters, 75 household farmers found in Assela town were chosen randomly using table value of sampling. The research used probability sampling, specifically disproportionate stratified sampling to collect the samples.

3.7. Data Collection Instrument

Qualitative data collection was conducted through a well-structured questionnaire close ended (Appendix 1) developed by the researcher. It had four parts. The first part collects general information about the background of the respondent and the service he/she got. The second part of the questionnaire evaluates how important the service provided to the clusters is to the smallholder farmers. The third part evaluates quality and timeliness of the service provided for clusters which are an important component of a farming activity. The fourth part assesses each intervention individually. Finally, the fifth part of the questionnaire assesses the change the farmers encountered after participating on the ACC.

3.8. Reliability

The reliability of the instrument was tested through Cronbach's Alpha 0.805. A reliability analysis was carried out comprising of 37 items. Cronbach's alpha showed that the questionnaire had an acceptable reliability, $\alpha = 0.805$. Most items observed to be worthy of retention, resulting in a decrease in the alpha if deleted except the item "Working on my business is easier before" and "The content of the training provided so far is not clear". Deleting these two items would raise the alpha to $\alpha = 0.810$. Since this increment was not significant, the items were kept.

3.9. Validity

Consultation with ACC specialists and experts was conducted to understand to what degree the instrument measures what it is supposed to measure.

3.10. Data Analysis Methods

Descriptive data analysis was used to present the data in a frequency, percentages, graphic and tabular form based on the type and appropriateness of the finding. And inferential data analysis was used to analyze the determinates of success the ACCs. SPSS software was used to ensure the best analysis is followed and significant error was avoided.

3.11. Pilot test

The pilot test was conducted using the smallholder farmers who are part of ACCs by selecting 15 participants using random sampling. During the pilot study, the objective of the study was clearly stated for the participants along with instructions on how to fill the questionnaire. Based on the feedback from them, some difficult words were changed and two questions on section four (Participation on the market linkage process and market linkage with other farmers) were merged as they had similar idea. Cronbach's alpha showed that the questionnaire had an acceptable reliability, $\alpha = 0.805$.

Table 1: Position in the cluster

Position in the cluster	Frequency	Percentage
Member only	2	13.3
Employee	8	53.3
Manager	2	13.3
Other	3	20.0
Total	15	100.0

Source: Own survey, 2019

From table 1, it could be observed that 53.3% were employees within the cluster. The choice "Other" in the position in the cluster was not specific or indicative of the specific role of the participant in the cluster. In order to clear this confusion, "please specify" was added to the revised questionnaire.

Table 2: Service received through ACC

Service	Frequency	Percentage
Farm Input	9	60
Market Linkage	3	20
Training and coaching	5	33
Stakeholder coordination	3	20
Financial Support	4	40

Source: Own survey, 2019

From table 2 it could be seen the ACC intervention services, farm input, market linkage, training and coaching, stakeholder coordination, and financial support, 60% of the participants got farm input.

3.12. The main study

3.12.1.Data Collection Procedure

The data for the main study was collected with the help of Development Agents (DA) who spoke the local language, Oromifa. The purpose of the questionnaire, instructions on how to fill it, and confidentiality of the information they give was clearly stated to the participants. Out of the 75 questionnaires distributed, 73 were filled properly and returned to the researcher in time. The data was analyzed using descriptive analysis.

3.12.2.Ethical Considerations

The purpose of the study was clearly communicated to the participants. The researcher has also informed them that the information they provide on the survey will not be shared with a third party and that their participation study is voluntary. They were assured that they could withdraw from participating in this survey at any time if they did not feel comfortable with filling the questionnaire.

The data collected through the questionnaire was used confidentially. Any information that could potentially indicate respondents' identities was handled carefully.

Chapter four: Results and Discussion

4.1. Introduction

This chapter of the paper tries to present the quantitative data obtained through the questionnaire. It is organized into five sections. The first section presents demographic description of the study participants. The second section describes the importance of the services provided to the smallholder farmers. The third section presents the quality and timeliness of the interventions. The fourth section describes collaboration and helpfulness of the service provider stakeholders. The most important and final part of this this chapter presents the change that came after the smallholder farmers participated on the ACC program along with the discussion indicating the impact on ACC. On the discussion that follows the tables, “strongly agree” and “agree” were added together to indicate how many of the participants agree with the statement on the questionnaire.

4.2. Results

4.2.1. Demographic description of the study participants

Table 3: Demographic description of the study participants

Variable		Frequency	Percentage
Educational background	<10th grade	42	57.5
	12 complete	19	26
	diploma or TVET certificate	12	16.5
	Total	73	100
Position in the cluster	Member only	58	79.5
	Manager	15	20.5
	Total	73	100
Support received through ACC	Farm input	51	69.9
	Market linkage	20	27.4
	Training and coaching	62	84.9
	Stakeholder coordination	47	64.4
	Financial Support	32	43.8
	Total	73	100

Source: Own survey, 2019

Based on table 3, from the 73 smallholder farmers who participated on the survey, 57.5% of the participants had an educational level completion of less than 10th grade while 26% have completed 12th grade. The position in the cluster shows that 79.5% were members only and the rest 20.5% were managers while none of them were employees. From the support provided through the ACC 85% of the participants got training and coaching while 20% got market linkage. This implies there is service imbalance between the interventions.

4.2.2. Importance of the intervention provided

Table 4: Importance of the support provided

Intervention		Strongly disagree	Disagree	Agree	Strongly Agree
Stakeholder coordination	Frequency	1	1	50	21
	Percentage	1.4	1.4	68.5	28.8
Financial support	Frequency	0	7	52	14
	Percentage	0	9.6	71.2	19.2
Market linkage	Frequency	1	26	45	1
	Percentage	1.4	35.6	61.6	1.4
Farm input service	Frequency	3	1	54	15
	Percentage	4.1	1.4	74	20.5
Training and coaching	Frequency	1	3	40	29
	Percentage	1.4	4.1	54.8	39.7
Total mean	Frequency	1	3	49	20
	Percentage	1.6	10.4	66	21.9

Source: Own survey, 2019

It is observed from table 4 that a total of 87.9 % of the study participants believe that the services provided to the ACCs are important. From these, 97 % & 95% of them agree that stakeholder coordination and farm input service is the most important service to them respectively. Only 43% of the participants received financial input even though 90.4% indicated that this service was important to them. On the other side, 63% believe that market linkage is important to them.

4.2.3. Quality and timeliness of the ACC interventions

Table 5: Quality of the service provided

Service quality	Strongly disagree		Disagree		Agree		Strongly Agree	
	Freq	Percentage	Freq	Percentage	Freq	Percentage	Freq	Percentage
Farm input (seed and fertilizer) had good quality	0	0	39	53.4	30	41.1	4	5.5
Training and Coaching had good quality	1	1.4	9	12.3	60	45.2	3	4.1
Financial support (grant, loan, or credit) had good quality	2	2.7	33	45.2	33	45.2	5	6.8
Stakeholder coordination had good quality	1	1.4	33	45.2	37	50.7	2	2.7
Market linkage had good quality	11	15.1	25	34.2	32	43.8	4	5.5
Total mean	3	4.1	27.8	38.1	38.4	45.2	3.6	4.9

Source: Own survey, 2019

From table 5, it is observed that 50.12% agree that the service provided had good quality. From all the services provided, 53.4% of the participants agreed that stakeholder coordination had good quality. On the other side, 46.6% of them agreed that the input supply had good quality.

Table 6: Timeliness of the service provided

Service provision timeliness	Strongly disagree		Disagree		Agree		Strongly Agree	
	Freq	Percentage	Freq	Percentage	Freq	Percentage	Freq	Percentage
Farm input (seed and fertilizer) is usually provided on time	3	4.1	36	49.3	34	46.6	0	0
Training and Coaching is usually provided on time	2	2.7	50	68.5	20	27.4	1	1.4
Financial support (grant, loan, or credit) is usually provided on time	5	6.8	58	79.5	9	12.3	1	1.4
Stakeholder coordination is usually provided on time	0	0	32	43.8	38	52.1	3	4.1
Market linkage is usually provided on time	23	31.5	37	50.7	8	11.0	5	6.8
Total mean	7	9	42.6	58.5	21.8	29.9	2.0	2.7

Source: Own survey, 2019

On table 6, it is presented that a total of 32.6 % of the participants believe that the service is provided on time. On the other hand, 67.4% disagree that the service is provided on time. 13.7% and 17.8 % of the participants indicated that the financial support and market linkage were provided on time respectively.

4.2.4. Collaboration and helpfulness of the service provider stakeholder

Table 7: Service provider stakeholder the smallholder farmer worked with

Service provider stakeholder the smallholder farmer worked with	Freq	Percentage
Government entity	35	48
Union	24	34
Cooperative	46	63
Private companies	73	100
Total	73	100

Source: Own survey, 2019

From Table 7, it is evident that all the smallholder farmers worked with private companies while 32.9% worked with Unions.

Table 8: Service provider stakeholder collaboration

The most collaborative stakeholder	Freq	Percentage
Government	1	1.4
Union	9	12.3
Cooperative	34	46.6
Private	29	39.7
Total	73	100.0

Source: Own survey, 2019

The smallholder farmers also indicated in the questionnaire that Cooperatives were the most collaborative service provider stakeholder as indicated on table 8.

4.2.5. Change observed after the smallholder farmers participated on the ACC program

Table 9: Change observed after the smallholder farmers participated on the ACC program

Change observed on the smallholder farmer	Strongly disagree		Disagree		Agree		Strongly Agree		Undecided /Neural	
	N	%	N	%	N	%	N	%	N	%
Cope production has increased	1	1.4	1	1.4	52	71.2	18	24.7	0	0
Production cost has decreased	9	12.3	32	43.8	26	35.6	5	6.8	0	0
Quality of the crop produced has increased	2	2.7	1	1.4	64	87.6	6	8.2	0	0
Investment on my business has increased	2	2.8	4	5.5	57	78.1	10	13.7	0	0
I have sold the entire crop produced	1	1.4	55	75.3	14	19.2	2	2.7	0	0
Working on my business is easier than before	7	9.6	38	52.1	26	35.6	1	1.4	1	1.4
Income has increased	2	2.7	8	11.0	18	24.7	43	58.9	2	2.7
Number of my employees has increased	7	9.6	18	24.7	46	63.0	1	1.4	1	1.4
Total mean	4	5	23	32	34	47	11	15	1	1

Source: Own survey, 2019

Table 9 shows that a total of 62% of the participants agreed that they have observed change after participating on the ACCs. On the other side, 95.9 % indicated that crop production has increased and 95.8% indicated that the quality of the crop they produced has increased in quality while 21.9% agree that they have sold the entire crop they produced.

4.2. Discussion

4.2.1 Importance of the service

The first question of this study was to analyze the importance of the service provided to the smallholder farmer and if they are getting the service they consider as the most important. The result of this study indicated almost all the participants believe that stakeholder coordination and farm input service is important to them that 97% agree that stakeholder coordination is important and 95%. From the demographic description of the participants, it is evident that only 69% got farm input service and 64.4% got stakeholder coordination. On the other hand, only almost half of them think market linkage is important to them. This is in line with the fact that only a quarter of the participants (27.4%) got the market linkage service. This is alarming because household-to-market linkage could relate to output or input markets either in selling, buying or both (ILRI, 2009) which indicates that majority of the crop produced is not being sold due to lack of market linkage. Consistent with this the study has indicated that only 21.9% have sold all the crops they have produced. Likewise, only 43% of the participants got financial input even though 90.4% indicated that this service was important to them

4.2.2 Quality and timeliness of the ACC interventions

The second question this research tried to answer was the quality and timeliness of the ACC interventions. The result has generally indicated that 50.1% of the participants generally believe that the service had good quality while 32.6 believe that this service was provided on time. This indicates that the service provided has better performance with regards to quality rather than timeliness. This study also indicated that only 50.12% agree that the service provided had good quality and only less than half of them (46.6%) agree that farm input supply had good quality and only 21.9% have sold the crop produced which shows that the lack of on time availability of quality farm inputs has increased the amount of product sold in the market. This result is consistent with the result reported by Roy, (2008) that reported that quality of farm inputs has a significant contribution to the commercialization of agricultural products. Alarmingly, only 36% and 46.6% of the participants indicated that that market linkage and farm input service had good quality. This challenges the 84% malt barley sales reported by ATA, 2016/17. Similarly, 13.7% of the participants indicated that the financial support was provided on time. This result is in line with FAO, 2012 report that indicated that the domestic financial support is low in sub-Saharan countries. Similarly, only 17.8 % of the participants indicated that they have received market linkage. This result questions the effectivity of the platform that was set to bring

together buyers and sellers to ensure better match between demand and supply as reported by ATA, 2016/17.

4.2.3. Collaboration and helpfulness of the service provider stakeholder

The third objective of this study was to investigate which service provider stakeholder was the most collaborative and helpful. This study agrees with Lerman, (2004) who indicated that institutional arrangements such as agricultural marketing and service cooperatives help small holder farmers as 46.6% of the smallholder farmer agreed that Cooperatives were the most collaborative and helpful service providers.

4.2.3. Change observed after the smallholder farmers participated on the ACC program

The last question this research tried to answer was the change in the lives of the smallholder farmers after they became members of the ACC program. The result is similar with (FAO, 2012) which has identified ACC to support agriculture as a business and develop agro industry. The study has indicated that more than half of the smallholder farmers who participated on the study have seen improvement in their livelihood to varying degrees. Almost all the participants indicated that they have seen improvement in quality crop production after participating in the clusters which is similar to the result the grape producing clusters in Maharashtra State Grape Growers' Association (MSGGA) in the study by Roy, (2008). This result is consistent with ATAs report (2018) that has indicated that there was 76% increment in malt barley production from 1.9 million metric tons produced in 2015 to 3.34 million metric tons produced in 2018. The productivity has also increase from 29 quintals per hectares in 2015 to 44 hectares in 2018 after the smallholder farmers participated in ACCs. The study also confirmed that there was a decrease in the cost of production as indicated by the 42.5% of the study participants. This result is parallel with the expected output of the ACC program indicated by ATA, (2015) which planned to decrease average cost per unit of operation.

One of the outputs of the ACC program was to increase the income of the smallholder farmer (ATA, 2015). This is expected to increase the investment of the smallholder farmers on their business. This study has confirmed the achievement of this result as 92% of the study participants have indicated that their investment on their business has increased. But on the contrary, the study indicated that only 22 % of the smallholder farmers have indicated that they have sold all the product they produced which should go against the increase in income they reported. The study tried to indicate the reason this mismatch by showing that the increase in

income came from the decrease in production cost and the increment in investment on the business.

Kharellah and Kristen, (2001) indicated that formalizing institutions facilitated the playing ground for economic actors which is also one of the manifestations of the ACC that create enabling environment for smallholder farmers. This study revealed a major deviation from Kharellah and Kirsted (2001) as it indicated that working on their business for the smallholder farmers is not easier than before. In relation to this, one of the outputs of the ACCs is increasing off-farm employment opportunities (ATA, 2015). This study sanctions with the expected output as 64.4% of the smallholder farmers have indicated that the number of their employees have increase. This employability increment is also expected to cascade to the other members of the ACC value chain actors like input suppliers, Cooperatives, and Unions. This result is commendable as it has been not long since the ACC initiative has started in Ethiopia.

Chapter Five: Summary Conclusion and Recommendations

5.1. Summary

The result of this study indicated almost all the participants believe that stakeholder coordination and farm input service is important to them that 97% agree that stakeholder coordination is important and 95%. From the demographic description of the participants, it is evident that only 69% got farm input service and 64.4% got stakeholder coordination. This study has indicated that only 50.12% agree that the service provided had good quality and a total of 32.6 % of the participants believe that the service is provided on time. The smallholder farmers also indicated in the study that Cooperatives were the most collaborative service provider stakeholder. All in all a total of 62% of the participants agreed that they have observed improvement in their livelihood after participating on the ACCs.

5.2. Conclusion

This study analyzed the impact of interventions on the success of agricultural commercialization clusters (ACCs). The study indicated that majority of the smallholder farmers got training and coaching along with farm input. This indicates that the objective of the ACC program is being achieved. On the other hand, very limited number of the smallholder farmers received market linkage which is the backbone of the ACC initiative. The manifestation of this gap in service was also seen on the amount of crops sold by the smallholder farmers as only 21.9 % have sold the entire crop they produced. This is very alarming because it indicates that the program has major weakness on the intervention which is the core element of the program. Only less than half of the participants (43%) got financial input support even though almost all the participants (90.4%) indicated that this service was important to them. Moreover, the amount of the financial support they received was also not enough as indicated by more than half of the participants indicated. Unavailability of the capital required for farm input service has a snowball effect as the farmers progress from production to market supply. In line with this it can be concluded that the small farmers considered the services provided did not have good quality and were not provided in time. On time unavailability of the services like farm input, training and market linkage is going to delay the production process. Since farming in Ethiopia is highly dependent on season, time is a crucial element that needs significant attention. When assessing the impact of the interventions on the ACCs, the findings revealed that roughly more than half of the smallholder farmers who participated on the study (62%) have seen improvement in their livelihood after they became members of ACCs. The biggest improvement was observed in the volume and the quality of the crop produced. This indicates that there would be enough commercial products to be sold in the

market. On the other hand, the smallest improvement was observed in the quantity of the crop sold and ease of working on their business. This is concerning because low quality could potentially result in lack of buyers of the products and a decrease of the number of individuals in the sector.

5.3. Recommendation

Based on the findings of this study the following recommendations are forwarded. All the recommendations are expected to maximize the impact of the interventions of the ACCs. This impact is measured by evaluating the improvement on the livelihood and the production process from beginning which is the input supply like seed and fertilizer until the end which is the point where the produce is sold in the market and reaches the primary consumer and or the agro processor.

First, having less than 25% of the members of the ACCs selling the entire crop they produced is alarming as the major component of agriculture commercialization is creating market linkage between producers and consumers which in turn will increase economic growth and welfare improvement at the national level. Consequently, it is suggested that ATA should give attention on creating the importance of market linkage amongst the value chain actors of the ACCs. This could be achieved through the training and coaching that already had a good participation from the smallholder farmers. ATA should also work on improving the network of suppliers and consumers.

Second, through the study it was evident that the support provided through ACCs is reaching a limited number of the members. Maximum number of smallholder farmers got training and coaching while the minimum was recorded to financial support even though they consider them very important indicating the need for the services. Therefore, it is highly recommended that ATA maximize the coverage of the beneficiaries within ACCs.

Third, as indicated in the literature, timely provision of quality service, specially farm input, had the biggest impact on the success of the ACCs. But a significant gap was observed from the analysis in the quality and timeliness of the service provided, especially in financial support and farm input service. When comparing quality and timeliness of the service provided, more gap was observed on the timeliness of the service provided. This could be a result of the long communication and operation line amongst the stakeholders involved in the value chain.

Therefore, it is recommended that the stakeholders involved in the ACC value chain work together to ensure timely supply of quality products to maximize the impact of the interventions on the success of the ACCs.

Finally, from the analysis of the collaboration and helpfulness of the service provider stakeholders involved it was evident that, Cooperatives were the most collaborative and government institutions showed the least collaboration. Consequently, it is highly recommended that significant attention and support should be provided to improve the collaboration of the government institutions. Since there is a good result through working with Cooperatives, these institutions could be used to improve the collaboration of the other government and private institutions.

5.4. Suggestion for further study

Further study on the correlation of the interventions individually with the different components of the results of ACCs to understand which specific intervention has the highest impact on the success to the ACCs. This would be helpful to focus on the component of the intervention that is bringing a big difference since resource is limited. The level of commercialization should also be investigated to understand to what level the intervention is helping the Agricultural clusters in the commercialization process. This could be achieved through longitudinal, multidimensional, and comprehensive analysis. Finally, similar studies should be conducted in other cities in Oromia region as well as other regions to compare the results and understand how one could learn from the other.

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Appendix 1- Questionnaire

Addis Ababa University School of Commerce

Department of Project Management

This research is conducted to analyze the impact of interventions on agriculture commercialization clusters. Your reply is a critical part of this research as you are an important participant of the agriculture commercialization cluster. All the information you provide on the survey will not be shared with a third party. Your participation in this research study is voluntary. You can withdraw from participating in this survey at any time if you don't feel comfortable. Thank you for your time and cooperation.

Part one: The following section contains 3 items that collect general information about your background and the service you get. Read each statement and put "v" mark in the box that best describes your answer. You can select more than option for each question.

1. Educational background
 <10th grade 12 Complete Bachelor's Degree
 Diploma or TVET Certificate Postgraduate

2. Position in the cluster Member only Employee Manager Other

3. Service/services you got
 Farm input (seed, fertilizer and mechanization)
 Training and coaching
 Financial support (grant, loan, or credit)
 Stakeholder coordination
 Market linkage

Part two: This section measures the importance of the service you got for your business. Read each statement and put “v” mark in the box that best describes your answer. Select only one for each statement. You can skip the question that does not apply to you or your business.

SD= Strongly disagree

D= disagree

U=Undecided

A= Agree

SA=Strongly agree

S.no		SD	D	U/N	A	SA
1	Farm input service I got was very important					
2	Training and Coaching was important					
3	Financial support (grant, loan, or credit) was not important					
4	Stakeholder coordination was not important					
5	Market linkage was important					

Part three: This section measures the quality and timeliness of the service you got. Read each statement and put “v” mark in the box that best describes your answer. Select only one for each statement. You can skip the question that does not apply to you or your business.

SD= Strongly disagree

D= disagree

U=Undecided

A= Agree

SA=Strongly agree

S. No	Service quality	SD	D	U/N	A	SA
1	Farm input (seed and fertilizer) I got had poor quality					
2	Training and Coaching I got had good quality					
3	Financial support (grant, loan, or credit) I got had good quality					
4	Stakeholder coordination had poor quality					
5	Market linkage had good quality					

S. No	Timing of the service you got	SD	D	U/N	A	SA
1	Farm input (seed, fertilizer and mechanization) service was on time					
2	Training and Coaching was late					
3	Financial support (grant, loan, or credit) was late					
4	Stakeholder coordination was on time					
5	Market linkage was late					

Part four: This section measures each service individually. Read each statement and put “v” mark in the box that best describes your answer. Select only one for each statement. You can skip the question that does not apply to you or your business.

SD= Strongly disagree

D= disagree

U=Undecided

A= Agree

SA=Strongly agree

S. No	Farm input (seed, fertilizer and mechanization)	SD	D	U/N	A	SA
1	The farm input I got suitable for my business					
2	The farm input I got did not help my business					

S. No	Training	SD	D	U/N	A	SA
3	The training I got was relevant and applicable to my business					
4	I did not understand the content of the training I got					

S. No	Financial service	SD	D	U/N	A	SA
5	The amount of the financial service I got was enough					
6	Getting the financial service was not easy					

S.No	Stakeholder collaboration	Government	Union	Cooperative	Private (traders, transporters)	Other (Please specify)
7	With which stakeholder did you work with?					
8	Which stakeholder was the most collaborative and helpful					

S. No	Market linkage	SD	D	U/N	A	SA
10	Was the market linkage useful?					
11	Did you participate on the market linkage process?					
12	Do you have market linkage with other farmers?					

Part five: This section measures each service individually. Read each statement and put “v” mark in the box that best describes your answer. Select only one for each statement. You can skip the question that does not apply to you or your business.

SD= strongly disagree

D= disagree

U=Undecided/neutral

A= Agree

SA=strongly agree

After participating on the agriculture commercialization cluster:	SD	D	U/N	A	SA
My malt barley production has increased					
My production cost has increased					
The quality of the malt barley has decreased					
Has your investment increased?					
Has the number of your employees increased?					
Working on my business is more difficult than before					
My income has increased					

Thank you very much for participating on the survey. Your contribution is highly appreciated.

To: Agricultural Transformation Agency (ATA)

My name is Emenet, a student at the Addis Ababa University, School of Commerce in the Master of Art in Project. I am currently doing my thesis on "Impact assessment of ACCs, the case of malt barley cluster in Oromia Region" for my master's degree in project management. I am mainly focusing on analyzing the impact of the interventions through the evaluation of the livelihood of the smallholder farmers and the component of the value malt barley value chain. I would like to ask assistance from ATA and it's staff with providing the required data for the analysis regarding but not limited to the number of households in each cluster, annual revenue, production, reports on the support provided including financial, training, coaching, market linkage, seed and fertilizer supply, and stakeholder collaboration.

I have attached my student ID for your reference.

With best regards

Emenet Ephrem