



WOLKITE UNIVERSITY

**COLLEGE OF SOCIAL SCIENCES AND HUMANITIES DEPARTMENT OF
SOCIOLOGY**

**ASSESSING FARMER'S PERCEPTION AND ACCEPTANCE OF MODERN
FERTILIZER IN THE CASE OF SABOLA KEBELE , GETA WORADA, GURAGE
ZONE**

Researcher Done by:

Name

ID

1. Seid Nimane.....SSHR/715/11

2. Tadesse Melkmu.....SSHR/ 509/11

3. Mitin Desalgn.....SSHR/ 417/11

**A SENIOR ESSAY SUBMITTED TO DEPARTMENT OF SOCIOLOGY IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE BACHELOR ARTS DEGREE OF
FIELD OF SOCIOLOGY**

Adviser: Mr. Abinet Shiferaw

August,2021

Wolkite; Ethiopia

WOLKITE UNIVERSITY

COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

DEPARTMENT OF SOCIOLOGY

The research team has conducted a senior essay on to investigating the an assessing the farmer's perception and acceptance of modern fertilizer in the case of sabola kebele geta worda gurage zone.this work is completed with satisfactory evaluation of adviser and examiner as per the requirement of the university approved by;

Adviser Name

Signature

Date

Examiner Name

Signature

Date

Table of contents

List of Tables	iii
Acknowledgement	v
CHAPTER ONE:	1
INTRODUCTION	1
1.1. Background of the Study	1
1.2. Statement of the problem	3
1.3. Research Question	4
1.4. Objective of the Study	4
1.4.1. General objective	4
1.4.2. Specific objective	4
1.5. Significance of the Study	5
1.6. Scope of the Study	5
1.7. limitation of the study	5
1.8. Operational definitions	5
CHAPTER TWO:	7
REVIEW OF RELATED LITERATURE	7
2.1. Sociological view of perception	7
2.2. What is Traditional manure?	7
2.3. What is Modern fertilizer?	8
2.4. Existing perceptions about modern fertilizers	8
2.4.1. Farmers Perception towards Modern Fertilizer	8
2.4.2. Chemical Fertilizer	9
2.4.3. The Effects of Modern Fertilizer on Farmers Farmland	9
2.5. Fertilizer markets	10
2.5.1. Fertilizer Price and Profitability	10

2.6. Features and characteristics of livelihoods	10
2.7. Theoretical framework of the study: Social constructivism	11
CHAPTER THREE:	13
METHODOLOGY	13
3.1 Description of the Study Area	13
3.2. Research Design	13
3.3. The Study Population	13
3.4. Source of Data Collections	13
3.4.1. Primary Data source	14
3.5. Sampling Techniques and Sample Size	15
3.5.1 Sampling Techniques	15
3.6. Ethical consideration	16
3.7. Method of Data Analysis	16
4.1. Socio-demographic Back ground of respondents	17
4.1.1 Sex of respondents	17
4.1.2 The age of respondents	18
4.1.5. Family size of the respondents	18
4.1.6. The economic level of respondents	19
4.2. Farmers' perception towards modern fertilizer	21
4.13 Farmers' perception with modern fertilizers	22
4.3.1 Farmers 'using modern fertilizer on their farmland.	24
4.2.2. Level of farmers' acceptance of modern fertilizers	25
4.4.2. Farmers spending with modern fertilizers	25
4.3. The effects of modern fertilizers in the farmers' farmland.	27
Interviews focus group discussion (FGD).	29
CHAPTER FIVE:	31
CONCLUSION AND RECOMMENDATIONS	31
5.1 Conclusions	31
5.2. Recommendations	32
Reference	34
Appendix	38

List of Tables

Table 4.1: Distribution of sex the respondents.....	17
Table 4.2: Age distribution of the respondents	17
Table 4.3 Distribution of marital status of the respondents.....	18
Table 4.4 Distribution of the respondents' educational level.....	19
Table 4.5 Distribution of respondents' family size.....	19
Table 4.6 Distribution of respondents' Economic level.....	20
Table 4.7 Distribution of respondents' religion.....	20
Table 4.8 Distribution of respondents' livelihood features.....	21
Table 4.9 Distribution of respondents' kinds of manure traditionally used.....	22
Table 4.10 Distribution of respondents' purpose did farmers used more modern fertilizers.....	22
Table 4.11 Distribution of the respondents' perception of traditional manure.....	23
Table 4.12 Distribution of things that farmers 'perceptions about modern fertilizer	23
Table 4.13 Distribution of respondents' perception about modern fertilizes	24
Table 4.14. Distribution of type of fertilizers helpful for crop production.....	25
Table 4.15 Distribution of using modern fertilizer	25
Table 4.16 Distribution of using modern fertilizer for individual crop.....	26
Table 4.17 Distribution of respondents' level of accepting modern fertilizers.....	27

Table 4.18. Distribution of respondents' spending money with modern fertilizers.....	27
Table 4.20 Distribution of farmers' taking modern fertilizer	28
Table 4.19 Distribution of farmers spending with modern fertilizer.....	28
Table 4.21 Distribution of modern fertilizers effect on the farmers' farmland.....	29
Table 4.22 Distribution of modern fertilizer how affects farmlands.....	30

Acknowledgement

The study was finalized through the tireless effort of a few individuals. First and above we would like to thanks our Almighty God (Allah) who is the source of our strength and every achievement in our life. Second we would like to express our deepest gratitude to our advisor Mr. Abinet for his kind, critical and constructive advice throughout the paper. Third, we would like to thank our family who support both financially and morally from the beginning of our study up to the end. Finally, we would like to thank the participators under this study for their willingness.

Abstract

The study aimed to see the farmers 'perception and acceptance of modern fertilizer in Geta woreda in the case of Sabola kebele. The general objective of the study was to examine the farmers 'perception and acceptance of modern fertilizer. To conduct this study, the researcher was used cross sectional study design by considering the limited time given for this study. In order to achieve the objective of this research primary data collected from focus, group discussion, questionnaire and key informant interview. The secondary source of data was gathering from different written materials like books and internet source. In addition both probability and non-sampling technique was employed and 41 of respondents were selected from the total Kebele farmers. The gathered data was analyzed quantitatively by using different statistical tools and qualitatively by interpreted used table and explained by used appropriate statements. The study containing Introduction or Back grounds of the study, Review literature, methodology, data analysis and interpretation. Finally on the bases of the finding of the study the appropriate conclusions and recommendations for further action were forward for the perception and acceptance of modern fertilizer among farmers.the finding of the study were stat that the perception of modern fertilizer in study area were low this low perception leads to low acceptance of modern fertilizer.

Abbreviations

ATA- Agricultural Transformation Agency

DAPDi- ammonium phosphate

FAO- Food and agriculture organization

FGD- Focal group discussion

GDP -Gross Domestic Product

MOA- Ministry of Agriculture

MOFED - Ministry of Finance and Economic Development

NBE- National Bank of Ethiopia

CHAPTER ONE:

INTRODUCTION

1.1. Background of the Study

Agricultural production in developing country's often falls short of its potential. In sub-Saharan Africa, the majority of agricultural producers are relatively poor, small holder farmers with limited use of modern technologies such as adequate seeds and fertilizer (Gollin, Parent and Rogerson 2002, World Bank 2007, Minot and Benson 2009, Byerlee et al. 2013, Sheeh and Barrett, 2014). In Ethiopia, agriculture accounts about 41.6 percent of the GDP, employs about 83 percent of the labor force and contributes around 90 percent of the total export earning of the country, (MOFED 2005; RATE 2003; NBE 2007/08). The sector is dominated by about 11.7 million small holder cultivating about 95 percent of national agricultural production and large forms contributed to only 5 percent of the total production (MOA, 2011).

The agricultural Sector in Ethiopia is currently composed of 12.6 million small holder farmers (who operate farms averaging 1.2 hectares each) and several hundred commercial farms. The combined annual crop production of the set two groups of farms 31 million tones with 71% of this output comprised of grains (cereals, pulses, and oil crops): the remainder being vegetables, fruits, and cash crops (mainly coffee, sugarcane, chat and inset). Growth in the sector has been near 8 percent in recent year and in value terms the combined out of the agricultural sector is now worth an estimated birr 221 billion (\$13 billion) according to the latest GDP statistics (access capital research, 2012).

Chemical fertilizers and improved seed are the most important inputs adopted by Ethiopia farmers; even though extension packages are applied to live stock sector, high value commercial crops (example maize, wheat, tiff, barley, sorghum and millet) (Carless et al, 2005). Their search with regard to time and place utility but there is huge gap what the acceptance of modern fertilizer concept reaches now days and their cent practice of farmer acceptance of modern fertilizers in kebele. Despite the fact that Ethiopia government any kind of input subsidy starting from 1997/8/, the countries fertilize Consumption raised from 3,876 tons between the years 1995

and 1999, while the amount of improved seeds distributed to the farmers during the same year increase from 1.104 to 17.778 tons (Ibid 2005). On farmers' perception of returns to fertilizer we find that without controlling for any other covariates, there is a statistically significant relationship between farmers' perceived impact of fertilizer and its estimated marginal product.

Patterns of deviations between statistical estimates and farmers' perceptions of returns to fertilizer. Therefore conclude that farmers' perceptions of the current state of their soils and the expected returns to increased fertilizer use track laboratory and statistical estimates albeit with some systematic deviations. However, the role of errors of perceptions in discouraging fertilizer use appears small at best. The most significant implication is that the use of yields as a key indicator of soil fertility may introduce delays in perceiving these changes. Because farmers use yields as the key soil fertility indicator, they may be unable to perceive small but important soil fertility changes over time. This is especially true if yield changes lag behind that of soil fertility (especially considering factors such as soil organic matter), in which case they may delay in initiating soil fertility remedies. Such delays can lead to significant deterioration in soil quality, making it more costly to regenerate. By the time they perceive a permanent yield decline, with underlying soil fertility deterioration; they correctly begin to perceive the use of fertilizer as unprofitable. By relying on a slow indicator of soil fertility (yields), farmers may miss the best time for intervention (e.g. increased organic matter incorporation and fertilizer application) assuming of course that household liquidity and market supply constraints are not binding (Paswel M et al 2008).

Impediments for adoption can be multi-faceted including factors related to the capacity to adopt in terms of different livelihood assets, the knowledge or awareness about these land management strategies, and farm-related features. It is, therefore, necessary to explore these factors affecting use of fertilizer and manure; it is also equally important to examine how uses of fertilizer and manure are interrelated as use of one affects use of the other. In this regard, it is necessary for farmers to adopt inorganic fertilizers and organic manures, among others. Despite the fact that erosion undermines productivity in the highlands, efforts to adopt these fertility maintenance techniques are very minimal. It is, therefore, essential to look for agricultural practices that minimize degradation problem and at the same time increase agricultural productivity. Hence, improving soil fertility management among smallholder farmers is widely recognized as a critical aspect in addressing food security and poverty (TCHALE et al., 2004) through increasing

agricultural productivity and at the same time curbing problems of nutrient depletion. Since time immemorial, animal manure is the prime source of the soil fertility management to improvement way for many farmers of Ethiopia. Traditionally, it is used as fertilizer to ameliorate soil fertility depletion in any parts of Africa in general and Ethiopia in particular. For example, the study conducted by Elias (2002) reported that 87 percent of Kindo Koisha (Southern Ethiopia) farmers apply animal manure. This is because applying animal manure has residual effect in the soil (Tegene, 1998; Elias, 2002). The effect varies based on the amounts applied. However, it is dependent on the availability of livestock and family labor for transporting into their fields (Elias, 2002). But today it is also extensively used as source of household energy (Aseffa, 2005). In order to increase agricultural yields, the government of Ethiopia has launched an extension package which gives more attention to high external inputs and high yielding varieties (Yohannes, 1999; Elias, 2002). In Gurage zone most of the society engage in aggro-pastoral system due to this they were depend on traditional or local manure. The study were assessing the perception and acceptance of modern fertilizer in the case of Gurage zone geta wereda, sabola kebele.

1.2. Statement of the problem

According to Spielman et al (2013) less than 40% of farmers use fertilizer and those who do apply rates significantly below those recommended in Ethiopia. This low fertilizer use is primarily due to price being two to three times higher than prices on the world markets. This study tried to investigate whether fertilizer is delivered to farmers in an efficient way and at the lowest possible costs. As it is described repeatedly the farmers refers to spend much money for modern fertilizers, even organic fertilizers are the much amount of labor force for pre-portion.

According to Tillman (1999), only since three and half decades back from the beginning of 21st century fertilizers, 3.48 times increase in phosphorous use, 1.68-fold increase in size of irrigated and 1.1 fold increase in the size of crop land, however, the fertilizer creative impact on the soil and the farmers are forced to apply modern fertilizer even those fertilizers are cost and creative impact on the soil for the future. Another problem of modern fertilizers the soil adopts these fertilizers once and no yield can produce after (Handbook of Agricultural 2006), (Chamber 2012) identified on his research as transportation cost was the major contributor to increase for total cost of fertilizers. There was seasonal variation of demand of fertilizers and there is huge lack of information and communication among stakeholders in farmers' perception and acceptance of

modern fertilizers. Therefore, there is a gap in accepting modern fertilizer in the Geta worada Sabola kebele. Despite, modern fertilizer has effect on millions of farmers of the country, large number of farmers still feel modern fertilizer is not beneficial. There are many problems related to adoption and access the farmer is challenging due to expansiveness and transportation cost during fertilizer distribution, not only this but also there is incompatibility between cropping season and time of distribution. Farmers live in this kebele there way of life is depend on agro-pastoral system some time they use traditional manure due to this and different issue there is gap on perception and acceptance on modern fertilizer.also most of the research conducted around the global particularly on the matter however it has remain untouched.our researchs conducted specifically geta woreda sabola kebele. Therefore, there is gap in perceptions and acceptance of modern fertilizer.

1.3. Research Question

- What are the livelihood features/characteristics of the Sabola Kebele?
- What perceptions farmers had about existing traditional manure/fertilizer in Sabola Kebele?
- What is farmers' perception toward modern fertilizer in Sabola kebele?
- What degree of acceptance does modern fertilizer have among the farmers of Sabola kebele?
- What are the effects of modern fertilizer on farmer's farmland in Sabola Kebele?

1.4. Objective of the Study

1.4.1. General objective

The general objective of the study is to assess the farmer's perception and acceptance of modern fertilizer in the case of sabola kebele geta woreda gurage zone.

1.4.2. Specific objective

- To exploring livelihood features of Sabola Kebele
- To search existing perceptions about traditional manure in Sabola Kebele
- To assess farmer's perception about modern fertilizer in Sabola Kebele.
- To see degree of farmers' acceptance of modern fertilizers in Sabola Kebele

- To identify the effects of modern fertilizers on farmers farming and farmland in Sabola Kebele.

1.5. Significance of the Study

Provides information about modern fertilizer that exists in Gata woreda at Sabola kebele. To describe and determine effects of modern fertilizer with their farm land. This study will be used as a base line in formation as a source of material for other researcher who is interested in studying farmer's perception and acceptance of modern fertilizer and related issues. It gives same such acceptance farmers. More over the research will be increase the knowledge for the readers about farmer's perception and acceptance of modern fertilizer.

1.6. Scope of the Study

This study was conducted in Gata worada particularly at Sabola kebele to document and understanding about farmer's perception and acceptance for modern fertilizer. For the effectiveness of the research the researchers were selected one kebele from gata woreda known as Sabola because of this kebele is known by rural farm land and also this research will be information for the whole woreda.

1.7. limitation of the study

While the research was conducted the researchers comes across different problems of barriers. Among these barriers the first limitation is the problem of access to different facilities like book, internet and other related materials. When the research were prepared, there was also financial shortage problem to transport as the area was fair from our university. From all those barriers with researcher's good approach and ethical consideration the research was finished after scarifying a lot of energy.

1.8. Operational definitions

1. Manure/traditional dung: are fertility building crops, may be broadly defined as crops grown for the benefit of the soil. They have been used in traditional agriculture for thousands of years but conventional farming systems largely rejected them as the use of fertilizers and pesticides became more common. Although they have many roles they are still often under-utilized by today's organic farmers. However, recent emphasis on reducing the environmental impact of all farming systems (stimulated by new legislation) has led to a growing interest from the conventional sector.

2. Fertilizer: are substances used to add nutrients to the soil to promote soil fertility and increase plant growth are critical input for improving production technologies and increasing crop yields.
3. Perception: is the way you think about something and your idea of what it is Like or the way that you notice things with your senses of sight, hearing etc. and also is the natural ability to understand or notice things quickly.
4. Acceptance: the action of consenting to receive or under take something offered
5. Effect/impact: to have a strong and often bad effect on something or someone

CHAPTER TWO:

REVIEW OF RELATED LITERATURE

2.1. Sociological view of perception

Incidentally activated knowledge affects social judgment Knowledge that is incidentally activated during perception can influence people's judgments because it can guide the categorization of judgment-relevant stimuli. Social stimuli are often inherently ambiguous in that they are. Multiply categorizable (Bodenhausen, G.V. and Macrae, C.N. 1998). For instance, people can be judged according to their membership in any of numerous groups (e.g. race, sex, age, etc.), and social behaviors can usually be interpreted in multiple ways (e.g. is he acting in a conceited or shy manner?). Because there are always many categories into which a person or event can be placed, the ultimate classification of a stimulus will depend on the relative accessibility of the relevant categories (Higgins, E.T. 1996).

2.2. What is Traditional manure?

Since time immemorial, animal manure is the prime source of the soil fertility management to improvement way for many farmers of Ethiopia. Traditionally, it is used as fertilizer to ameliorate soil fertility depletion in any parts of Africa in general and Ethiopia in particular. For example, the study conducted by Elias (2002) reported that 87percent of Kindo Koisha (Southern Ethiopia) farmers apply animal manure. This is because applying animal manure has residual effect in the soil (Tegene, 1998; Elias, 2002). The effect varies based on the amounts applied. However, it is dependent on the availability of livestock and family labor for transporting into their fields (Elias, 2002). But today it is also extensively used as source of household energy (Aseffa, 2005). Crop residues include the above-ground biomass of plants remaining in the field after grains, tubers and other products have been collected. The crop residues are incorporated into the soil and /or left as mulch (Elias, 2002). It is a way of directly recycling nutrients into the soil taken by the plants from the soil earlier. It is used for soil protection and soil fertility improvement (Smith and Elliott, 1990). Normally in Ethiopia crop residues are removed for animal feed (Araya and Edwards, 2006; Elias, 2002). But according to a study by Elias (2002) about 42 percent of farmers in Kindo Koisha apply crop residues for improving their soil fertility. While others immediately plough fields to protect roaming of animals due to the free range grazing practices (Araya and Edwards, 2006).

2.3. What is Modern fertilizer?

Fertilizer is consumed primarily during the large me he seasons (roughly July to November), but also during the earlier belg (April to July). Most fertilizer is actually applied between March and July, all fertilizer consumed in a given season cannot be off loaded in the months immediately prior to distribution (steepened1998).

Chemical fertilizer was first introduced to Ethiopia under the freedom from hunger program of the FAO in the late1960s, (agricultural transformation agency (ATA). 2012.–unpublished) despite successful field demonstrations and several deliberate policy attempts to increase fertilizer use in of the late 1970s, and early 1980s, fertilizer application levels remained very low (agricultural transformation agency (ATA).2012-unpublished) at the nation level, total imports of fertilizer increased from about 3.500 tons in the early 1970s, to only34.00 tons in1985/86. With the introduction of the peasant agricultural development program (PADP)in 1986 total imports of chemical fertilizer reached about 140.000 tons by the time the central planning regime of Dreg collapsed in1991.In contrast, it grew from 140.000 tons in the early 1990s, to about 890,000 in tons in 2012(Rashid et al.,2013).

2.4. Existing perceptions about modern fertilizers

2.4.1. Farmers Perception towards Modern Fertilizer

The majority of the fertilizers are used for production of cereals, mainly applied to tiff, maize, enset, potato, wheat, barley and sorghum in that order. According to CSA estimates, about 90 percent of fertilizers are applied to these three major cereal crops (CSA, various years). Fertilizer use is concentrated on cereals followed by pulses as oil seeds respectively (CSA, various years). During 214/15 cropping seasons the national level amount of both DAP and urea fertilizers applied in cereals, pulses and soil seed were 769.940,9,29,55.5 and11.371.1 tons respectively (CSA2014). Tiff is the crop with the largest share in fertilizer use among the cereal (32%), followed by maize and wheat with respectively shares of 29% and25%in the period 2010/11 the use of modern fertilizer increases from year to year. For instance, in 2014/15, the application rate per hectare of cultivated land was177kg/ha for maize 147kg/ha for wheat and 110kg/ha for tiff. Fertilizer use is still lower than the blanket recommended rate of 200kg/ha (100kg of each urea and DAP for small cereals) and 200kg urea and 100kg dap for maize which in itself is also small. Besides this farmers land to use more DAP than urea. DAP fertilizer also contains nitrogen.

Which is created during the chemical manufacture process? DAP or Diammonium phosphate is a widely applied phosphorus fertilizer (CSA2014).

2.4.2. Chemical Fertilizer

A soil which has a high production potential and which at the same time is fertile can naturally produce high yields. Binna et al. (2004) found that farmers who are located in more fertile regions perform significantly better than those located in less fertile regions. Therefore, force the argument that improvement in soil fertility is crucial element in increasing productivity. Tchula and Sauer (2007) results also show that high levels of technical efficiency are obtained when farmers use integrated soil fertility options compared to the use of modern fertilizer only. Therefore, fertilizer appears to be the most important factories for the production.

2.4.3. The Effects of Modern Fertilizer on Farmers Farmland

Fertilizers are substances used to add nutrients to the soil to promote soil fertility and increase plant growth. Today fertilizer has become essential to modern agriculture to feed the growing population. Use of fertilizers, especially, the chemical fertilizers has brought in blessings on humanity, which helped contain hunger and death in different corners of the world. Though chemical fertilizers increase crop production; their overuse has hardened the soil, decreased fertility, strengthened pesticides, polluted air and water, and released greenhouse gases, thereby bringing hazards to human health and environment as well. It has already been proved how chemical fertilizers pose serious challenges to the balanced and sustainable growth. Accordingly, scientists and researchers are seen arguing in favor of organic fertilizers as the best solution to avoid soil pollution and many other threats to environment and life caused by overuse of chemical fertilizers. Continuous use of these chemical fertilizers depletes essential soil nutrients and minerals that are naturally found in fertile soil. (B. Asvini and Jithesh 2018) and also Artificially nitrogen fertilizers are typically synthesized using fossil fuels such as natural gas and coal, which are limited resources. Modern fertilizers that are produced by fertilizers for the production of crops. (A. K Vyas, 2008) Cause acidification of the soil, Pollute water bodies. Price costly and The soil adapted these fertilizers once and no yield can produce after (hand book of agriculture 28, 2006).

2.5. Fertilizer markets

Chemical fertilizer, a more obvious private good than seed, also possesses several features that complicate early stage of market development (Morris et al., 2007; Crawford et al., 2007). On the demand side the cost of creating fertilizer market is high where final consumers are widely dispersed geographically, and limited cash resources mean that they purchase only small quantity of fertilizer that are more costly for retailers to sell (Horrihan 2008; Jayne et al., 2003). Examine these issues in the context of Ethiopian fertilizer market focusing on; uptake of fertilizer, fertilizer price and fertilizer market structure. The uptake and use of chemical fertilizer in Ethiopia (primarily DAP and urea) can be assessed in several ways in terms of total fertilizer imported. The growth of total fertilizer consumption was more rapid than the average for sub-Saharan Africa over the same period (Crawford et al. 2006 Jayne et al., 2003).

2.5.1. Fertilizer Price and Profitability

Fertilizer price in Ethiopia is competitive. While the margin between domestic and international price is high in Ethiopia than in Asian and the price building up from port to farm gate is estimated at 26 percents (Rashid, personal communication 2009). Whereas fertilizer market structure, the retail market, the decline was even more dramatic: while private retailers held a majority share of the market in the early 1990s. The public sector and cooperative unions have become also the sole distributors of fertilizer since 2000 (DSA 2006).

2.6. Features and characteristics of livelihoods

The concept of livelihood was influenced by early development approaches (WTO, 1996). It was established, with growing legitimization, through several major international forums. The Brundtland Commission in 1987 first introduced Sustainable Livelihoods as an approach to enhance productivity, ownership, and accessibility to resources and income earning activities, ensuring adequate stocks and flows of food and cash to meet basic needs. In 1992, Agenda 21 of the United Nations Conference on Environment and Development (UNCED) expanded the concept by advocating a sustainable livelihoods for all as its priority theme.

A livelihood denotes the means of gaining a living. It also refers to employment and income-generating activities, seems to be synonymous with, and sometimes overlaps, concepts associated with terms such as employment and work. But, the concept of livelihood describes

more complex and diverse strategies for living than what is meant by employment (Chambers & Conway, 1991). Indeed according to Haan & Zoomers (2003), a livelihood is about individuals, households, or groups making a living, attempting to meet their various consumption and economic necessities, coping with uncertainties, and responding to new opportunities.

In the current study, livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living hence livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers & Conway, 1991). The livelihood of most people in Ethiopia depends on subsistence agriculture whose carrying capacity has decreased due to rapid population growth rate and farm size reduction. and also modern fertilizer have impact on production ,health and on natural environment so in this research we will try to see the livelihood of this society.

2.7. Theoretical framework of the study: Social constructivism

According to (Agbaney et al.2015) used modern fertilizer method to recognized the supply of fertilizer product as the result of the interaction of many institutions that need to be identify and their roles and relationship well described in order to understand the structure of fertilizer in this study major stake holder in farmers accept fertilizer of country invested to understands their roles and their performance measured method mainly in terms of cost ,time quality quantity, place ,farmers involvement in demand determination ,occurrence of stock out as independent variables and effective.

Concerning fertilizer, mainly used to improve the fertility of soil which is degraded because of and over production are of two types of fertilizer modern and traditional fertilizer traditional one is mainly dung and green manure which are available to farmers at his/her disposal. But the modern fertilizers are the purchased chemical fertilizer like urea and dap (Nigussie and Mulat 2003 and Federalal, 1985).

The theory of Social Constructivism calls attention to the significance of culture and the value of the social context for cognitive development (Brown, 2007). When individuals are focused on shared practices, they are actively constructing the cognitive tools needed for growth as human beings. Learning becomes primarily a process of enculturation into a community of practices, as social influences and the interactions with others generate the ability to advance and cultivate a shared meaning, thus transferring this meaning to each individual member of the group One of

the main proponents of Social Constructivism was Lev Vygotsky, who challenged the views of Jean Piaget that mainly focused on cognitive development as an individual process, rather than a collaborative effort (Martinez, 2010). Although Vygotsky's ideas acknowledged individual psychology in cognitive development, he shifted the focus to external forces that were entwined with the internal world in which Piaget centered his theories. These influences, outside of the self, have a crucial function, serving to shape how humans view the world, through the language they come in contact with and the personal reflection that is derived from that input. Perhaps Vygotsky's most well-known concept is the Zone of Proximal Development (ZPD). According to Martinez (2010), the ZPD, "recognizes that individuals often exhibit higher levels of skill through the assistance, encouragement, and coaching of other people" (p. 14). With the aid of others, such as parents, teachers, and even fellow students who are at a slightly higher level of development, individuals can increase their competence to a more advanced stage in any particular area of knowledge. By presenting challenges that lay just beyond the individual's range of skill, with a small amount of support, the learner will be able to succeed in completing the chosen tasks (Martinez, 2010). our theory related with our research titles by sharing information among farmers by interaction experience, knowledge, and understanding by constructive way.

CHAPTER THREE:

METHODOLOGY

3.1 Description of the Study Area

Gurage is a zone in Ethiopian Southern Nation Nationality and People's Regional State (SNNPR).this zone named for Gurage people, whose homeland lies in this zone Gurage bordered the southeast by Hadiya and Yem Special woreda and on the west ,north and east by Oromia region ,and southeast by silt'e. Welkite is the administrative center of the zone(Wikipedia). This study were conduct at Geta Woreda specifically at Sabola Kebele the woredas found in northern part of Wolikite town ,which located at distance about 82 kilometers north from Wolikite town, 232 kilometers from Addis Ababa capital city of Ethiopia and 50 kilometers from Hossan (Hadya zone) at southern .its astronomical location is 14.20 latitude and 39.27 longitude within one elevation 2457meter about sea level. Sabola Kebele has colder and highland area , peoples are smallholder farmers grows and use different types of enset, cereal, legumes, vegetable and also there is high production of potato. The total number population Sabola Kebele 3157 among these male 1157 and female 2000 from the total population. (From kebele administration).

3.2. Research Design

The researchers were used cross-sectional study design (Using mixed method), because cross-sectional study is type of observational study that can analysis data from the population or representative subset then, it takes account about researchers time and budget.

3.3. The Study Population

The total population of Sabola Kebele are 3157 among these male 1157 and female 2000 from total of Sabola Kebele and among this the total number of farmers household are 175 from this male 93 and female 82.

3.4. Source of Data Collections

The information require for the study would be collected from both primary and secondary source of data. The primary sources of data were collected through personal observation, survey Questionnaire, in-depth interview key informant and Focus Group Discussion. On the other hand,

the secondary source of data like book, journals, government reports, internet, and other related materials related to the topic would be reviewed.

3.4.1. Primary Data source

3.4.1.1 Household in-depth interview

Interview Guideline is one method of data collection which enables to gather qualitative data from respondents. In doing so, the researcher were used interview as an instrument of data collection because of its expected to full file those data which may not gathered by questionnaire and to support data which would be gather by questionnaire as well as to understand more about the response of the respondents.

3.4. 1.2 Focus group discussion

A group of individual who believed to have sufficient information about their societies would be selected for discussion in available and purposive way. They have the same socio cultural value and in number they are 6-8. in FGD discussion the researcher would under taken two focus group discussion with 6 participants for each group. In the first group, the discussions were hold with female farmers. On the other hand, the second discussion would be hold with male farmers. in order to get real information about traditional manure and modern fertilizer among farmers. the researchers were used 12 respondents purposively.

3.4.1.1.3. Key informant interview

The researchers were interview 6 (4 for men and 2 for women informants) who are proximity to issue experience and willingness to participants. Interviews with those selected key informants were about the general situation of farmer's perception and acceptance of modern fertilizer for expert in agricultural sector which have relation on modern fertilizer distribution at Geta woreda because they have information on the access as well as acceptance .

3.4.1.1.4. Observation

The researchers would have direct or face to face observation most of within the kebele where prostitutes (participants) or farmers perceptions and acceptance about the modern agriculture

doing observation is use to get exact information about the problem and also it is the main starter for the research as a chance data collection time is a cropping time on farmer field so we can see they use or not.

3.4.2.2. Quantitative data sources

3.4.2 .2.1. Household survey

It is important to collect large number of information for the target group. The paper prefer to use survey methods particularly questionnaire. Questionnaires were used as instrument of data collection because it facilitates the study to collect the data within short period of time. The questionnaire would prepare those targeted population because some of them are can read and write but for them who cannot read the researcher would read and questionnaire are prepared sub selection questions about the farmers perception and their acceptance for modern fertilizer from study area. Secondary source also used such as book, government reports, internet, and other related materials related to the topic were reviewed.

3.5. Sampling Techniques and Sample Size

3.5.1 Sampling Techniques

The researchers were used both probability and non-probability sampling techniques to collect information. From the probability the researcher would implies simple random sampling to make the inclusive and to get data different subject population. From non-probability sampling the researcher were used purposive [Judgmental] samplings in order to get accurate information by the purposive direct contact with people who are engaged in the sector on study area. Sample size determination formula for survey using Yamane formula (1967).

we would collect data 14% sample size of total households (175)

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

$$n = \frac{175}{1 + 175(0.0196)}$$

$$= \frac{175}{1 + 3.43}$$

$$n = 41$$

then we were used from total number of population 3157 from this 175 are number of farmer household in Sabola kebele the research were selected 41 respondent by simple random sampling.

3.6. Ethical consideration

Ethic is important to achieve the study successful. Permission to conduct the study would be obtained from Woliket university faculty of social science and humanity department of sociology .All participants 'right to self-determination and autonomy would be respected, they would give any information they needed, verbally and writing. Participations were voluntary and they could withdraw from the study at any time.

3.7. Method of Data Analysis

The researcher were analyzed data both qualitative and quantitative analysis method, data gather through questionnaire were analyzed for quantitatively. In the case of quantitative data analyzed table, percentage, and charter and frequently were used. Whereas, the data that gather through interview and focus group discussion were analyzed thematically and presenting central them that were relevant to the problem.

CHAPTER FOUR:

DATA, PRESENTATION, INTERPTTRETATION AND ANALAYZE

This chapter deals with the analysis and interpretation of obtained data. The data was taken from 53 respondents out of the total number farmers' in study area. In this part the findings which have been collected through questionnaire, key informant interview are presented.

4.1. Socio-demographic Back ground of respondents

4.1.1 Sex of respondents

Table 4.1: Distribution of sex the respondents

No.	Sex	No. of Respondent	Percentage
1.	Male	25	61%
2.	Female	16	39%
3.	Total	41	100%

Researchers own survey, 2021

The above table shows that 61% (25) Of respondents were male and the remaining of 39% (16) of respondents from the total sample were females. This indicates that most of participants in this study were males; it is about 61 % (25).Female were the least participants in this study. The table shows majority of respondents were male.

4.1.2 The age of respondents

Table 4.2: Age distribution of the respondents

No.	Age	No. of respondent	Percentage
1.	18-28	11	27%
2.	29-38	17	41%
3	39-49	8	20%
4.	50 and above	5	12%
5.	Total	41	100%

Researchers own survey, 2021

The above table shows that the most 39% (16) of respondents were illiterate, 36.6 % (15 of the respondents were from Grade 1-4 and, 14.6 % (6) of the respondents were from Grade 5-8 and 9.8%(4) of respondent were secondary level of education. As indicated above the table majorities 36.6%(15), 14.6% (6) and 9.8%(4) of respondents were educated. There for majorities of Kebele farmers were educated rather than illiterate

4.1.5. Family size of the respondents

Table 4.5. Distribution of respondents' family size

Family size	No. of respondent	Percentage
Between 1-3	11	26.8%
Between 4-6	20	48.8%
Between 7-9	8	19.5%
10 and above	2	4.9%
Total	41	100%

Researchers own survey, 2021

Above the table shows that from the total 41 respondents majorities 48.8% ,(20) of the respondents were between 4-6 family size, 26.8%(11) of the respondents were between 1-3 family sizes, 19.5% (8) of the respondents were between 7-9 family sizes and 4.9.% (2)of respondents were above 10 family sizes.

4.1.6. The economic level of respondents

Table 4.6 Distribution of respondents' Economic level

Economic level	No. of respondent	Percentage
Poor	22	53.7%
Medium	13	31.7%
Rich	6	14.6%
Total	41	100%

Researchers own survey, 2021

Regarding to economic level as indicated from the above table show that 22(53.7%) of respondents were live in poor economic condition whereas,13(31.7%) of respondents were live in medium level and others 6(14.6%) of respondents were live in rich economic conditions so in general by measuring it in absolute poverty measure most of respondents were live in poor economic condition due to this reason most of the farmers are poor.

Table 4.7. Distribution of respondents' religion

Religion	No. of respondent	Percentage
Muslim	20	48.8%
Orthodox	16	39%
Protestant	5	12.2%
Other	0	0%
Total	41	100%

Researchers own survey, 2021

The above table indicate that regarding to religion in the area 48.8% (20) of respondents were followers of Muslim and 39% (16) of respondents were follower of orthodox Christian and the remains 12.2 (5) of respondents were followers of protestant religion, therefore the majority of respondents were the followers of Muslim religion.

Table 4.8. Distribution of respondents' livelihood features

Livelihood feature of respondents	No. of respondent	Percentage
Only crop production	7	17%
Animal and crop production	30	73.2%
Only animal	4	9.8%
Others	0	0%
Total	41	100%

Researchers own survey, 2021

The above tables indicate that regarding to livelihood features of study area 73.2%%(30) of respondents were engaged in animal breeding and crop productions and the others 17% (7) of respondents were engaged by only crop productions and also the remaining 9.8(4) of respondents were engaged by only animal breeding, generally in this study area the livelihood features of the majority respondents were engaged in both animal breeding and crop productions. So the farmers in this area used both Agricultural production and Animal breeding.

Table 4.9. Distribution of respondents' kinds of manure traditionally used.

Kind of manure farmer traditionally use in the area	No. of respondent	Percentage
Green manure	2	4.9%
Compost	2	4.9%
Local or traditional manures	33	80.5%
Others(dry leaf or strew)	4	9.8%
Total	41	100%

Researchers own survey, 2021

Above the table showed that the majority 80.5%(33) of respondents were used local or traditional manures were helpful for crop productions 4.9%(2)of the respondents were used compost helpful for crop production, 9.8%(4) of them were used dry leaf or strew as mulch , 4.9%(2) were used Green manure for their crop production. Therefore the majority of 80.5% (33) of farmers in the kebele they know and perceive the function of local or traditional manure fertilizers .so the farmers used the traditional manure for Agricultural purpose.

Table 4.10. Distribution of respondents' purpose did farmers used more traditional fertilizers

For what farming purpose do farmers use traditional manure	No.of respondent	Percentage
Vegetable	6	14.6%
Cereals and Pulses	10	24.4%
enset	25	60.97%
Others	0	0%
Total	41	100%

Researchers own survey, 2021

Above the table show that the majority 60.97%(25) of respondents were use more traditional manure for the purpose of enset productions, 24.4%(10) of the respondents were use traditional manure for cereal and Pulses production and 14.6%(6) of respondents were used traditional manure for Vegetable production. Therefore the majority of the respondents in study area they used traditional manure for the purpose enset productions.

4.2. Farmers' perception towards modern fertilizer

Table 4.11. Distribution of the respondents' perception of traditional manure

What do you think about traditional manure	No. of respondent	Percentage
Positive(good)	25	61%
Negative (bad)	16	38%
Total	41	100%

Researchers own survey, 2021

Out of the total respondents, the majorities 61 %(25) of the respondents they have good awareness about the of traditional manur and the 39 %(16) of the respondents were does not have awareness about traditional manure. There for majorities of farmers in the Keble they have less awareness about the modern fertilizer.it concluded that the farmers have used traditional manure for their prodaction than modern fertilizer.

Table 4.12 Distribution of things that farmers ‘perceptions about modern fertilizer

What is your opinion about modern fertilizer	No. of respondent	Percentage
Increasing fertility	12	29.3%
Increasing crop production	18	43.9%
Decreasing production	11	26.8%
Others	0	0%
Total	41	100%

Researchers own survey, 2021

Above the table shows that, the majorities 43.9% (18) of the respondents were said that modern fertilizer in increasing crop production, 29.3 %(18)) of respondents were said that modern fertilizers increased soil fertility, and 26% (9) of the respondents were said that using modern fertilizers decreasing productions. There for majorities of farmers’ in the Keble believe and think modern fertilizer increase crop production

4.13 Farmers’ perception with modern fertilizers

Table 4.13. Distribution of respondents’ perception about modern fertilizes

What do you think about modern fertilizer	No. of respondent	Percentage
Positive(good)	19	46.3%
Negative (bad)	22	53.7%
Total	41	100%

Researchers own survey, 2021

The above table shows that the majorities 53.6% (22) of the respondents does not have good perception about modern fertilizers and 46.3% (19) of the respondents had good perception about modern fertilizer. So it can conclude that majority of farmers' in the kebele does not have good perceptions and understand about modern fertilizer.

Table 4.14. Distribution of type of fertilizers helpful for crop production

What kind of fertilizer do you think helpful for your farming	No. of respondent	Percentage
Dap	8	19.5%
Urea	5	12.2%
Local/traditional manure	19	46.3%
Compost	9	22%
Total	41	100%

Researchers own survey, 2021

Above the table shows that the majorities 46.3%(19) of the respondents were traditional fertilizers had helpful for crop production. and 19.5(8) of the respondents were think DAP fertilizer were helpful for crop production, 12.2% (5) of the respondents were think urea fertilizer helpful for crop production and 22%(9) of the respondents were think helpful for crop production. There for majorities46.3% of farmers in the kebele they know the function of local or traditional fertilizers. So it can conclude that in this kebele the farmers have good perception about traditional fertilizers than modern one. But they use DAP and Urea as well because they used together.

4.3.1 Farmers ‘using modern fertilizer on their farmland.

Table 4.15 Distribution of using modern fertilizer

Do you use modern fertilizer?	No. of respondent	Percentage
Yes.	16	39%
No.	25	61%
Total	100	100%

Researchers own survey, 2021

As indicated above the table majorities 61% (25) of the respondents were not using modern fertilizer when they were need and 39% (16) of them were using when the farmers modern fertilizer need. Generally as indicated above the table 61%(25) of respondents were not using modern fertilizer. So it can conclude that majority of farmers’ in the Keble were not using modern fertilizer. Because most of them used traditional manure and regarded to cost.

Table 4.16 Distribution of using modern fertilizer for individual crop

For what framing purpose do you use modern fertilizer?	No. of respondent	Percentage
vegetable	10	24.4%
Cereal	26	63.4%
Pulses	5	12.2%
other	0	0%
Total	41	100%

Researchers own survey, 2021

As indicated that the majority 63.4 %(26) of respondents were use more modern fertilizers for the purpose of cereal productions 24.4 %(10) of the respondents were use modern fertilizer for vegetable production purpose and 12.2 %(5) of respondents were use modern fertilizers for

pulse purpose. Therefore the majority of their respondents in this study area they use modern fertilizers for the purpose of cereal productions.

4.2.2. Level of farmers' acceptance of modern fertilizers

Table 4.17 Distribution of respondents' level of accepting modern fertilizers

What is your level of acceptance for modern fertilizers?	No. of respondents	Percentage
High	15	36.6%
Less	26	63.4%
No	0	0%
Total	41	100%

Researchers own survey, 2021

As it shows from the above the table most 63.4% (26) of the respondents were have low level of accepting modern fertilizers, 36.6% (15) of the respondents they have high level of accepting modern fertilizers. So it can conclude majorities of Keble farmers' low level of accepted modern fertilizer and majority of farmers accepted by force and also farmers participate with safety net program.

4.4.2. Farmers spending with modern fertilizers

Table 4.18. Distribution of respondents' spending money with modern fertilizers

Do you have enough money to spend for fertilizer in the current situation?	No. of respondent	Percentage
Yes	11	26.8%
No	30	73.2%
Total	41	100%

Researchers own survey, 2021

Above the table shows that, the majority 73.2% (30) of the respondents were stated that they did not have enough money to spend for modern fertilizer and 26.8 % (11) of the respondents were had enough money to spend for modern fertilizes. Generally the table shows that majority of

respondents does not have enough money to spend for modern fertilizer because price costly being two to time higher than that results of productivity and lees given by credit.

Table 4.19. Distribution of farmers spending with modern fertilizer

How often you spend with modern fertilizer?	No. of respondent	Percentage
Repeatedly	2	4.9%
Sometimes	7	17.1%
Once a year	19	46.3%
Twice a year	13	31.7%
Total	41	100%

Researchers own survey, 2021

From the above the table shows that the majorities 46.3% (19) of the respondents were once a year spending money with modern fertilizer, 31.7% (13) of the respondents were twice a year at all with modern fertilizer, 17.1% % (7) of them were sometimes spending with modern fertilizer, 4.9% (2) of the respondents were repeatedly spending money with modern fertilizer. Generally the table shows majority 46.6% of respondents were once a year spending money for modern fertilizer because the governments give modern fertilizer once a year and cash payment.

Table 4.20. Distribution of farmers' taking modern fertilizer

By what means governments enforce you to use modern fertilizers?	No. of respondent	Percentage
Through punishment	22	53.7%
Passing by warning	9	23%
Enforcement or quota	10	24%
Total	41	100%

Researchers own survey, 2021

Above the table shows those administrative bodies were punishing the majorities 53.7 % (22) of the respondents for taking modern fertilizer by force. 23% (9) of the respondents were offering advice by administrative for taking modern fertilizer and 24.3% (10) of the respondents were

passing by warning. Generally the table shows that majority 53.7% of respondents were take modern fertilizer by force or by punishment showed as they does not have interest to using modern fertilizer.

4.3. The effects of modern fertilizers in the farmers' farmland.

Table 4.21. Distribution of modern fertilizers effect on the farmers' farmland

Do you think that modern fertilizer has effect on farmland?	No. of respondent	Percentage
Yes	30	73.2%
No	11	26.8%
Total	41	100%

Researchers own survey, 2021

AS indicated above the table majorities 73.2 % (30) of the respondents were modern fertilizer had effect on farmland and 26.8% (11) of the respondents were modern fertilizer does not had an effect on the farmlands. Therefore the farmers' they understand about the advantage and disadvantage of modern fertilizers. But the majority 73.2% of the farmers in this area they perceive that the negative effect of modern fertilizer in the farmland.

Table 4.22. Distribution of modern fertilizer how affects farmlands

How modern fertilizer affects farmland?	No. of respondent	Percentage
Pollute water bodies	9	22%
No yield can produce after	24	58.5%
Decrease production	8	19.5%
Others	0	0%
Total	41	100%

Researchers own survey, 2021

Above the table shows that, the majorities of 58.5% (24) of the respondents were no yield can produce after, 22% (9) of the respondents were pollute water bodies, 19.5% (8) of the

respondents were the decrease production. There for majority's farmers' in the kebele they understand only negative side modern fertilizer.

4.4. Analysis for the qualitative research finding of interviews from key-informant, observations, and FGD.

Interviews from key-informant.

According to key informants the main challenges of farmers with regards to agricultural inputs and fertilizers in particular are high price of fertilizers, infrastructure problem like road network, late delivery and distribution, apply fertilizers not as per soil requirement(not as recommendation rate) , unavailability of credit facility, no appropriate storage facility in farmers association which make fertilizers liable for theft and spoilage, farmers apply fertilizers but productivity has been still low, other agricultural inputs like pesticides not ready at the appropriate time and very less distribution. Distribution chain weakness from stakeholder ministry of agriculture to kebele. Because there is no local manufacture which is mandatory to utilize that modern fertilizer for local farmer.

As informants state that in order to improve the social perception and acceptance of modern fertilizer the government and the Agricultural institutions should be work from farmers and also the agricultural institution workers give awareness for farmer's about the benefit of modern fertilizer Also the government take responsibility for facilitate proper storage near to farmers, decrease the price of fertilizer and other infrastructure that related to agriculture. as their experience and knowledge, on study area they prefer traditional manure rather than modern fertilizer because as their opinions traditional or local manure were best for soil fertility especially for enset and vegetables need better soil fertility than others and important food security crops like cabbage ,potato's and other food crops.

Generally, according to key informants, problems related to perception and acceptance of modern fertilizer in this area many of farmer's they haven't good awareness about modern fertilizers, And also still now some of the farmer's depend on traditional manure because due to price of modern fertilizer is very high or it is costly and problem listed should be solved by government and agricultural extension.

Interviews focus group discussion (FGD).

According to our focus group discussion, the perception and acceptance of modern fertilizer in this area is low, the reason that the farmer's more often depend on local or animal dung fertilizer, also our participants explained that many of farmers used animal dung because they have many reason in the first the price of modern fertilizer expensive so they have no money on time of cropping season, the quantity or amount of fertilizer distribution for individuals is not related to their production or area coverage mean that some of farmer have very small land they can produce small so they use small input related to their coverage but the government pushed them to take (100kg/) DAP and Urea independently.

During our focus discussion most of farmers were no clear production improvement or advantage of modern fertilizer. And also they have misgiving of no yield production after (an area which give fertilizer and next they use without fertilizer there is no yield) and adaptation or accepting of modern technology. Due to that the farmers have low perception and accepted for modern fertilizer.

As the FGD said know they have interest on modern fertilizer because they need to increase their production but need new agricultural extension services, regarding to clear recommendation rate of fertilizer, for which crop is more important for to be used and how much production is increase and also problem related to modern fertilizer use. Know farmers consumption become increasing year to year, but in this increasing due to government involvement or participating them by obligating. Now a majority of farmer were not use of new agricultural inputs like modern fertilizer as it is possible. Generally, According to our focus group discussion they said government should work more and more in the agriculture input specially on modern fertilizer distribution and utilization, create awareness, solve problems on cost, transport facility and lack of market should be alleviate by government intervene .

According to our observations, during data collection we were trying to see their livelihood almost all of farmers are depending on both animal and crop production. In the study area the main food is Koch mean (enset).this plant is known as false fruit which taken many year starting to nursery to produce edible part mean up to harvest. This plant is high resistance to drought in all time it need nutrient. The farmer uses it as food (kocho) and part of plant (koba) for animal feed so this lead to farmers used for animal manure (dung) for production of ensent. Not only this but also the residual (dry leaf) from ensent used for mulching for the production of potato. They need fertilizer

for barley, wheat, pea, bean and potato because they need more fertility at time of sowing. But there is not facility on time. Then they sow without fertilizer and applied fertilizer when the fertilizer is available especially pluses like pea and bean because the time of sowing time is before fertilizer distribution for local farmer. More or less they used modern fertilizer for barley, wheat and potato. but there were not any farmers use as recommendation rate they have not any idea about how much is to be used for a given area and also all farmer were sow its fragmented land used his or her capacity. There were high problem related to road or transport facility unless they used traditional way.

Generally, according to our observations farmers were poor their production is hand to mouth. They were face to different problem related to agricultural input it is not only modern fertilizer high cost, time of distribution or way transport, but also there is problem of improved varieties, willingness about modern fertilizer. Due to this and other reasons that are unaddressed lead to the perception and acceptance of modern fertilizer at study area were low.



Image taken during data collection on study area; Image1=bean, image2=enset, image4=cabbage, image5=potato and image6= barley

CHAPTER FIVE:

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

Based on the results retrieved from both primary and secondary data, the researcher makes the following conclusions:-

Modern fertilizer is considered the most important input for the achievement of increased agricultural productivity and food security status of farm households in Ethiopia. However, the perception and acceptance of modern fertilizers remains very low, especially among small-scale farmers in the country. The results of this study showed that the mostly used of traditional fertilizer like animal manure(dung)for major produced plant at study area like enset and plant straws. and also have understanding about the effect of modern fertilizer on their farm land which not give yield after. Accordingly, scientists and researchers are seen arguing in favor of organic fertilizers as the best solution to avoid soil pollution and many other threats to environment and life caused by overuse of chemical fertilizers. Continuous use of these chemical fertilizers depletes essential soil nutrients and minerals that are naturally found in fertile soil. (B. Asvini and Jithesh 2018) and farmers' expectations of rainfall conditions on the production is one or twice a year, small land fragment lead to small scale production then the amount or the quantity were low and farmers' perception of the price of fertilizer significantly affect the use and intensity of acceptance modern fertilizer in the study area. All those factors lead to farmers' perception and acceptance of modern fertilizer to be in very low in this study area. As the result showed majority 30(73.2%) of farmers in the study area complained with the high cost of fertilizers and it is too high to afford and unable to buy enough amount of fertilizers. Accordingly last research the demand side the cost of creating fertilizer market sit high where final consumers are widely dispersed geographically, and limited cash resources mean that they purchase only small quantity of fertilizer that are more costly for retailers to sell (Horrigan 2008; Jayne et al.,2003). However majorities 22(53.6%) of the respondents have negative perception about modern fertilizer for crop production.

The entire stakeholders do their activity only and they don't usually work together to streamline the movement of fertilizers the interest of farmers and the researcher result showed that lack of

integrations and coordination among stakeholders. Problems related to supply of fertilizers such as unavailability of fertilizers in stock throughout the year, Accumulation of surcharges while in transportation, deterioration of fertilizers quality and high chance for farmers to harvest without applying fertilizers.

Finally majorities of farmers are understanding important of modern fertilizer for crop production but there are problem which is challenged to use it and also the use other alternative for their production because the study area farmers are high depend on agriculture and animal production so they try to cover their problem for their farming system but there is low in production. This is major problem in crop production and productivity for sustainable agriculture and to fill our demand of population (food security) as considered as country.

5.2. Recommendations

Based on findings and conclusions, the following recommendations are made:

Based on the study in Geta woreda Sabola kebele farmers and analysis carried out on the farmer the following intervention measures could be recommended in order to make improve the perception and acceptance of modern fertilizer.

In order to make the perception and acceptance of modern fertilizer more effective and efficient it has to be designing by capable professional (economic, extension personnel, sociologist) etc who have the knowledge and experience about the issue, for the successful achievement of farmers for Acceptance of modern fertilizer. To increase production and productivity must need for addressing our food insecurity problem. From the research result and discussion can give the following measurement to be taken.

- There must be given continuously training for farmers' on application modern fertilizer on crop production improvement.
- Must create clear awareness from woreda and Keble extension workers on perceptions modern fertilizers on the benefit and effect on their farmland as well as environment pollination. Which lead to have clear information about advantage and disadvantage of modern fertilizer.
- Must be given training on integration use of traditional manure and modern fertilizer.
- Must be given training on crop rotation system for soil fertility and to reduce soil degradation with continuous use of fertilizer on specific crop

- Agricultural officials must give effective support for farmers in order to give good attention about modern fertilizer and sharing experience or showing clear difference between productions increasing by using modern fertilizer.
- Agricultural extension should organized as cluster which for minimizing input (used to reduce cost of modern fertilizer) and maxizing of production.
- Farmers' perception and acceptances of modern fertilizers are still lagging behind the recommended levels in crop production. Thus, farmers should be encouraged to increase use levels of these fertilizers in order to optimize the productivity of the crop. Moreover, the study revealed the importance of considering variations in location. Therefore, important cautions should be taken while advising and distributing modern fertilizers to farmers in various crop producing locations across districts.
- Finally, as the research showed as majorities of farmers' case of avoiding using fertilizer were due to high cost. Then government and private institutions have to work on local manufacture of fertilizers as there is evidence that Ethiopia has natural accumulation of nutrients of fertilizers by inviting local and foreign investors to extract the minerals and produce fertilizers. These does not only supply fertilizers with low cost but also could be taken as one export opportunity for the country. If not the government must be create situation with credit and control unnecessarily cost related to deterioration loss during transportation and unfair credit (over charge) on farmers.

Reference

- A,Kayas (2008) .introduction to agriculture 4th edition join brother (New Delhi).
- Access capital research 2012, Sector review agriculture. Addis Ababa Ethiopia.
- Araya, H. and Edwards, S. 2006. The Tigray experience: A success story in sustainable agriculture. Environment and Development Series 4, Third World Network, Penang. Available online at <http://www.twinside.org.sg/title/end/ed04.htm>
- B .Asvini and Jithesh 2018) Impact of Using Artificial Fertilizer in Soil. Volume 119 No. 17 2018, 47-55 ISSN: 1314-3395 (on-line version) url: <http://www.acadpubl.eu/hub/> Special Issue
- Barrett D.,T.S. Jayne, and R,Myers,2014.Managing food price risk and instability in the liberalization environment.
- Benaim, JN,ToneyJ, and Wandi.2004,Chemical fertilizer efficiency among farmers in the slash and burn agricultural zone of Cameroon. Institute of agricultural research for development[IRAD].Yaoundé Mesapublic of Cameroon.
- Bodenhausen, G.V. and Macrae, C.N. (1998) Stereotype activation and inhibition. In Advances in Social Cognition (Vol. 11) (Wyer, R.S., ed.), pp. 1–52, Erlbaum
- Brown, H.D. (2007). *Principles of language learning and teaching*. White Plains, NY: Pearson.
- Chambers,R.andG.R.Conway(1991),SustainableRuralLivelihoods:Practical.Carlson,F.,Koolin, G.,Mekonen,A., and Yusuf,M.2005.Areagricultural fertilizer packages what Ethiopian farmers want? A stated preference analysis.
- Crawford E,W,T,S,Jayne and V,Akeel, (2006),Alternative approach to promoting fertilizer use in Africa, Agriculture and Rural Development Discussion part22,Washington D,C World Bank.
- CSA(Central Statistics Agency), Federal Democratic Republic of Ethiopia. Various Years, statistical abstract and statistical Bulletins. Addis Ababa CSA. DAS [Development

- studies Associated) 2006,improving fertilizer market. Addis Ababa: Minister of agriculture and rural development Federal Republic of Ethiopia.
- CSA,2007.Central Statistics Agency of Ethiopia. Accessed on 30 /02 /2008 .
[http://www.csa.gov.et/text_files/national%20statistics%202007/Agriculture.p df](http://www.csa.gov.et/text_files/national%20statistics%202007/Agriculture.pdf).
- Elias, E. 2002. Farmers' perceptions of soil fertility change and management. ISD and SOS Sahel International (UK). EDM Printing Press. Addis Ababa, Ethiopia
- FAO,2007.Global Information and Early Warning System on Food and Agriculture WorldFood Programmed. Special report on FAO/WFPcrop and modern fertilizer assessment in Ethiopia.Accessedon02/03/2007fromftp://ftp.fao.org/docrep/fao/009/j9325e/j9325e00.pdf.
- Gollin, D.,S., Parent and R.,Rogerson,2002.Thee role of agriculture in development. American EconomicReview,92(2),160-164.
- Haan & Zoomers (2003) livelihood as a social practice –re –energizing livelihood research. Higgins, E.T. (1996) Knowledge activation: accessibility, applicability, and salience. In Social Psychology: Handbook of Basic Principles (Higgins, E.T. and Kruglanski, A.W., eds), pp. 133–168, Guilford Press
- Indian council of Agriculture Research(2006)hand of agricultural 5theditions NewDelhi.
- Jayne,T.S.,Kelly,V.,andCrawford,E.2003.Fertilizer consumption trends in Sub Saharan Africa. Food security II Policy synthesisNo69.
- JohannesU,I, Agbaney (2015) modern fertilizer awareness in Ethiopia structure important and performance policy analysis, Africa focus Journal, Volume28,PP,81-101.
- Martinez, M. (2010). Cognitive development through the life span. In (Eds.), *Learning and cognition: The design of the mind*. (pp. 1-31). Pearson
- Million.T (2014)Fertilizer adoption, credit access, and safety nets in rural Ethiopia. Agricultural FinanceReview74:290-310.
- Minot, N.and T., Benson, (2009). Fertilizer Sub sides in Africa: Are Vouchers the Answer?,

- MOA [Minister of agriculture Federal Democratic Republic of Ethiopia].2011Archive and modern fertilizer in Ethiopia agricultural productivity. Addis Ababa, Ethiopia.
- Morris, M,V, A, Kelly, R, Konicki and D, Byelee, (2007)fertilizer use African Agriculture. Lessons learned and good practices Guidelines. Washington, C World Bank.
- Nigussie (2011) study of Agriculture comparative Development in Ethiopia.ATA cooperative study diagnostic study. Addis Ababa Ethiopia.
- Paswel M, Christopher B, Barrett and Trudi G et al., (2008).Farmers' perception of soil fertility and fertilizer yield response in Kenya NY14853 USA
- Rashida, S. And M(2013) Source, extent and police to manage fertilizer price risk in Ethiopia: How does it fare with other developing country? Paper presented at the Ethiopian strategy support program2013 policy conference June6-8.In Addis Ababa Ethiopia.
- Smith, J.L. and Elliott, L.F. 1990. Tillage and residue management effects on soil organic matter dynamics in semiarid regions. Adv Soil Sci 13: 69–87
- Spielman, D.J.,D. Telework, and D.Alemu (2011).Seed, Fertilizer, and Agricultural in Ethiopia. ESSP II Working Paper 020.Washington,DC,US:International Food Policy Research Institute.
- Steepened, (1998).Lesson from Ethiopia high input technology promotion program: How the organization of modern fertilizer sub sector affect farmers farmland and their
- TCHALE, T., P. WOBST and K. FROHBURG (2004): Soil Fertility Management Choice in the Maize-Based Smallholder Farming System in Malawi. African Association of Agricultural Economists. Shaping the Future of African Agriculture for Development: The Role of Social Scientists. Proceedings of the Inaugural Symposium, 6-8 December 2004, Nairobi, Kenya productivity.
- Tegene, B. 1998. Indigenous soil knowledge and fertility management practices of the Southern Wello Highlands. SINET: Ethiopia J. Sci., 31(1): 123-158

Tillman, D.(1999).Agricultural food production increase in use of nitrogen fertilizer impacts of agricultural working: The need for sustainable and efficient practice. Proc. Natl. Acad.Sci. USA

World trade organization (1996) report of the committee on trade and environment; special studies.

Yohannes, G. 1999. The use, maintenance and development of soil and water conservation measures by small-scale farming households in different agro-climatic zones of northern Shewa and Southern Wello, Ethiopia. SCRP Research Report 44. Centre for Development and Environment, University of Berne, Switzerland

Appendix

WOLKITE UNIVERSITY

COLLAGE OF SOCIAL SCIENCE AND HUMANITIES DEPARTMENTS OF SOCIOLOGY

Questionnaires for respondents

This study focuses on assessing farmers' acceptance and perception of modern fertilizer at Geta woreda Sabola kebele. This questionnaire is designed to collect data on the issue from these respondents, so that the researcher is kindly asking you to cooperate by filling this question. We would like to thank you in advance for time and effort you devote to answer these questions.

Note: You are not expected to write your name.

Please circle the alternative one.

1 Socio-demographic background of respondents

1.1. Sex: A, Male B, Female

1.2. Age: A, 18-28 year B, 29-38 year C, 39-49 year D, 50 and above

1.3. Marital status: A, Never married B, Married C, Divorced D, Widowed

1.4. Educational level: A, Illiterate B, Grade 1-4 C, Grade 5-8 D, Secondary level education

E, Diploma and above

1.5. Family Size: A, 1-3 B, 4-6 C, 7-9 D, Above 10

1.6 Economic level: a) poor b) medium c) rich

1.7 What livelihood features does the Kebele A only crop production B animal and crop production C only animal D other

1.8 Religion: a) Muslim b) orthodox c) protestant d) If others please specify_____

2 What perceptions farmers have about existing traditional manure/fertilizer in Kebele?

2.1 What kind of manure do farmers traditionally use in the area?

A green manure B compost C local/traditional manure D dry leaf strew E other.....

2.2 For what farming purposes do farmers use more local/traditional manure (animal dung)?

A cereal B pulse C vegetable D Enset E other.....

2.3 What kind of perceptions do farmers hold about traditional manure/animal dung? -----

2.4 What is your perception about traditional manure?

A, positive (good) B, Negative (bad)

3. What is farmer's perception towards modern fertilizer in the study area?

3.1. What is your perception about modern fertilizer?

A, positive (good) B, Negative (bad)

3.2. If your answer for question number 1 is 'Yes' what is your opinion?

A, Increasing soil fertility B, Increasing crop production

C, Decreasing production D, Other.....

3.3. Do you have good perception or understanding about modern fertilizer A, Yes B, No

3.4. What type of fertilizer do you think helps most for crop production?

A, DAP B, Urea C, local or traditional manure D, Compost

4. What degree of acceptance does modern fertilizer have among the farmers of Sabola kebele?

4.1 Do you use modern fertilizer? A, Yes B, No

4.2 For what farming purposes do farmers use more modern fertilizers

A cereal B pulse C vegetable D other

4.3 What is the level of acceptance of modern fertilizer in your area?

A, High B, Less C, No

4.4 Do you have enough money to spend for modern fertilizer in the current situation?

A, Yes B, No

4.5. If your answer for question number 4 is yes how often do you spend with modern Fertilizer?

A, Repeatedly B, Same times C, Once a year D, twice a year

4.6. Do you think modern fertilizer is used by interest or by force? If by force what Administrative measures are taken?

A. Giving punishment B. Offering advice

C. Passing by warning D. Other.....

5 What are the effects of modern fertilizer on farmer's farm land in study area?

5.1 Do you think modern fertilizer has an effect on farmland? A, Yes B, No

5.2 .If your answer for question number 1 is 'yes' when affect?

A, Pollute water bodies B, No yield can produce after

C , Decreasing crop D, Other.....

INTERVIEW QUESTIONS FOR FARMERS/ RESPONDENTS

5.1. How long is the lead time of modern fertilizers in your area?

5.2. Which types of fertilizer do you prefer and why?

A. Modern fertilizer B. Traditional manure

5.3. Do you think that you are using modern fertilizer properly?

5.4. What are the main challenges of modern fertilizers in your kebele?

5.5 What is your suggestion to improve social perception and acceptance of modern fertilizers in Your kebele _____

5.6 Other problem related to perception and, acceptance on modern fertilizers and traditional manure

አባሪ

ወልቂጤ ዩኒቨርሲቲ

የማኅበራዊ ሳይንስ እና የሰው ልጅ የማኅበራዊ ክፍል ክፍሎች ስብስብ

መጠይቆች ለተጠሪዎች

ይህ ጥናት በጌታ ወረዳ ሳቦላ ቀበሌ የአርሶ አደሮችን ዘመናዊ ማዳበሪያ ተቀባይነት እና ግንዛቤ በመገምገም ላይ ያተኩራል። ይህ መጠይቅ በዚህ ጥያቄ ላይ በጉዳዩ ላይ መረጃን ለመሰብሰብ የተነደፈ ነው ፣ ስለሆነም ፈላጊው ይህንን ጥያቄ በመሙላት እንዲተባበሩ በደግነት እየጠየቀዎት ነው። እነዚህን ጥያቄዎች ለመመለስ ለሚያደርጉት ጊዜ እና ጥረት አስቀድመን ልናመሰግንዎ እንወዳለን።

ማሳሰቢያ - ስምዎን እንዲጽፉ አይጠበቅም።

እባክዎ ተለዋጭ አንዱን ክበብ ያድርጉ።

1 ምላሽ ሰጪዎች ማህበራዊ-ስነ-ሕዝብ ዳራ

1.1. ፆታ - ሀ ፣ ወንድ ለ ፣ ሴት

1.2 . ዕድሜ- ሀ ፣ 18-28 ዓመት ለ ፣ 29-38 ዓመት ሐ ፣ 39-49 ዓመት መ ፣ 50 እና ከዚያ በላይ

1.3. የጋብቻ ሁኔታ - ሀ ፣ በጭራሽ አላገባም ለ ፣ ያገባ ሐ ፣ የተፋታ መ ፣ ባልዋ የሞተበት

1.4. የትምህርት ደረጃ - ሀ ፣ ምንም ያልተማረ ለ ፣ 1-4 ሻ ክፍል ፣ ከ5-8 ሻ ክፍል ፣ የሁለተኛ ደረጃ ትምህርት

ኢ ፣ ዲፕሎማ እና ከዚያ በላይ

1.5. የቤተሰብ መጠን- ሀ ፣ 1-3 ቢ ፣ 4-6 ሲ ፣ 7-9 ዲ ፣ ከ 10 በላይ

1.6 የኢኮኖሚ ደረጃ ሀ) ድሃ ለ) መካከለኛ ሐ) ሀብታም

1.7 የቀበሌ ሀ፣ብቻ የሰብል ምርት ለ፣ እንስሳ እና የሰብል ምርት ሐ፣ ብቻ እንስሳ መ ሌላ ምን ዓይነት የኑሮ ባህሪዎች አሉት

1.8 ሀይማኖት ሀ) ሙስሊም ለ) ኦርቶዶክስ ሐ) ፕሮቴስታንት መ) ሌሎች እባክዎን ከገለጹ_____

2 ቀበሌ ውስጥ ስለ ነባር ባህላዊ ፍግ/ማዳበሪያ ገበሬዎች ምን አመለካከት አላቸው?

2.1 ገበሬዎች በተለምዶ በአካባቢው ምን ዓይነት ፍግ ይጠቀማሉ?

አረንጓዴ ፍግ ቢ ማዳበሪያ ሐ አካባቢያዊ/ባህላዊ ፍግ D ደረቅ ቅጠል ይፈስሳል E ሌላ

ገበሬዎች ለየትኛው የእርሻ ዓላማዎች የበለጠ የአካባቢ/ባህላዊ ፍግ (የእንስሳት እበት) ይጠቀማሉ

የእህል እህል B pulse c አትክልት D Enset E ሌላ... ..

ገበሬዎች ስለ ባህላዊ ፍግ/የእንስሳት እበት ምን ዓይነት ግንዛቤ አላቸው? -----

ስለ ባህላዊ ፍግ ያለዎት አመለካከት ምንድነው?

ሀ ፣ አዎንታዊ (ጥሩ) ለ ፣ አሉታዊ (መጥፎ)

3. በጥናቱ አካባቢ በዘመናዊ ማዳበሪያ ላይ የአርሶ አደሩ አመለካከት ምንድነው?

3.1. ስለ ዘመናዊ ማዳበሪያ ያለዎት አመለካከት ምንድነው?

ሀ ፣ አዎንታዊ (ጥሩ) ለ ፣ አሉታዊ (መጥፎ)

3.2. ለጥያቄ ቁጥር 1 መልስዎ <አዎ> ከሆነ የእርስዎ አስተያየት ምንድነው?

ሀ ፣ የአፈር ለምነትን ማሳደግ ፣ የሰብል ምርትን ማሳደግ

ሐ ፣ የምርት መቀነስ መ ፣ ሌላ

3.3 .ለዘመናዊ ማዳበሪያ ሀ ፣ አዎ ለ ፣ አይ ጥሩ ግንዛቤ ወይም ግንዛቤ አለዎት?

3.4 .ለሰብአዊ ምርት ምን ዓይነት ማዳበሪያ የተሞላ ይመስልዎታል?

ሀ ፣ ዳፕ ቢ ፣ ዩሪያ ሲ ፣ አካባቢያዊ ወይም ባህላዊ ማዳበሪያ ዲ ፣ ኮምፖስት

4. በሰብአዊ ቀበሌ ገበሬዎች መካከል ዘመናዊ ማዳበሪያ ምን ያህል ተቀባይነት አለው?

ዘመናዊ ማዳበሪያ ይጠቀማሉ? ሀ ፣ አዎ ለ፣ አይደለም

ገበሬዎች ለየትኛው የግብርና ዓላማዎች የበለጠ ዘመናዊ ማዳበሪያዎችን ይጠቀማሉ

ሀ፣የእህል ለ፣pulse ሐ አትክልት መ፣ሌላ

በአካባቢዎ የዘመናዊ ማዳበሪያ ተቀባይነት ደረጃ ምን ያህል ነው?

ሀ ፣ ከፍተኛ ለ፣ ያነሰ ሐ ፣ አይ

አሁን ባለው ሁኔታ ለዘመናዊ ማዳበሪያ የሚያወጡት በቂ ገንዘብ አለዎት?

ሀ ፣ አዎ ለ ፣ አይደለም

4.5. ለጥያቄ ቁጥር 4 መልስዎ አዎ ከሆነ ከዘመናዊ ማዳበሪያ ጋር ምን ያህል ጊዜ ያሳልፋሉ? ሀ ፣ ተደጋጋሚ

ቢ ፣ ተመሳሳይ ጊዜያት ሐ ፣ በዓመት አንድ ጊዜ ፣ በዓመት ሁለት ጊዜ

4.6 .ዘመናዊ ማዳበሪያ በወለድ ወይስ በኃይል ይመስልዎታል? በኃይል ከሆነ ምን የአስተዳደር እርምጃዎች ይወሰዳሉ?

ሀ ፣ቅጣት መስጠት

ለ / በማስጠንቀቂያ ማለፍ ሐ፣. ሌላ

በዘመናዊ ማዳበሪያ በአርሶ አደሩ የእርሻ መሬት ላይ በጥናት ቦታ ላይ ምን ተጽዕኖ ያሳድራል?

5.1 ዘመናዊ ማዳበሪያ በእርሻ መሬት ላይ ተፅእኖ አለው ብለው ያስባሉ? ሀ ፣ አዎ ቢ ፣ አይደለም

5.2 .ለጥያቄ ቁጥር 1 መልስዎ ከሆነ ተጽዕኖ ይኖረዋል?

ሀ ፣ ብክለት የውሃ አካላት ለ ፣ በኋላ ምንም ምርት ማምረት አይችልም

ሐ ፣ የሰብል መ፣መቀነስ ፣ ሌላ

ለአርሶ አደሮች/ ምላሽ ሰጪዎች የቃለ መጠይቅ ጥያቄዎች

5.1. በአካባቢዎ የዘመናዊ ማዳበሪያዎች የመሪ ጊዜ ምን ያህል ነው?

5.2. የትኞቹን የማዳበሪያ ዓይነቶች ይመርጣሉ እና ለምን?

ሀ / ዘመናዊ ማዳበሪያ ለ / ባህላዊ ፍግ

5.3. ዘመናዊ ማዳበሪያን በአግባቡ እየተጠቀሙ ነው ብለው ያስባሉ?

5.4. በቀበሌዎ ውስጥ የዘመናዊ ማዳበሪያዎች ዋና ተግዳሮቶች ምንድናቸው?

5.5 የማህበራዊ ግንዛቤን እና የዘመናዊ ማዳበሪያዎችን ተቀባይነት ለማሻሻል የእርስዎ ሀሳብ ምንድነው?

የእርስዎ ቀበሌ _____

5.6 ከአመለካከት ጋር የተያያዘ እና በዘመናዊ ማዳበሪያዎች እና በባህላዊ ፍግ ላይ ተቀባይነት ያለው ችግር